introduction

Changzhou Leyu Automation Technology Co., Ltd. (CHANGZHOULEYU Automation Technology Co., Ltd.) Founded in 2017, founded in Changzhou, Jiangsu Province, it is a high-tech private enterprise.

Company since its establishment, adhere to the independent research and development, innovation, integrity, pragmatic core values, adhering to the professional, focus, research work idea, understanding the customer demands and opinions, innovative products, with high technology and new technology and efficient management to create economic benefits, is committed to provide quality service for customers, a contribution to China's advanced manufacturing industry.

The company is mainly engaged in CAD / CAM CNC automation in the field of product research and development and system sales, with independent research and development capabilities in non-metallic flexible material cutting process, but also the pioneer of domestic advertising industry edge CCD.

Relying on the company's independent research and development ability, we have independently developed Leyu CNC cutting software, Leyu advertising visual positioning software, clothing and shoes industry discharging software, with independent research and development, experience accumulation, customer experience of analysis and selection to create a complete closed-loop ecology.

Companies can provide customers with personalized customization services of cutting software functions.

Welcome to choose our products, and thank you for your trust and support!

This specification will help you to get familiar with and understand the system composition, setting, operation of the

company's products.

In order to use our system better and more safely, please read the instructions in detail before debugging or using the machine carrying the system. This description details the system components, setting and operation information.

Due to the increasing update of the software and hardware, the products you receive may be slightly different from this description.

LeYu official website: WWW.LEYUCUT.COM

catalogue

1 Overview

1.1 Introduction to the system

The system is a customized system independently developed by the company, which can be compatible with a variety of display equipment and operating systems. It can provide a complete industry cutting scheme, mainly carried in the engraving machine, cutting machine and other models. This description takes the ordinary computer host as an example, connecting the computer host, motion control card and industrial camera with network cable connection to control the machine to operate normally.

1.2 Technical characteristics

1.3 Application field

2 Wiring method

2.1 Description of the LYC control card terminal

The detailed wiring diagram of the LYC control card is shown in Figure 2-1:

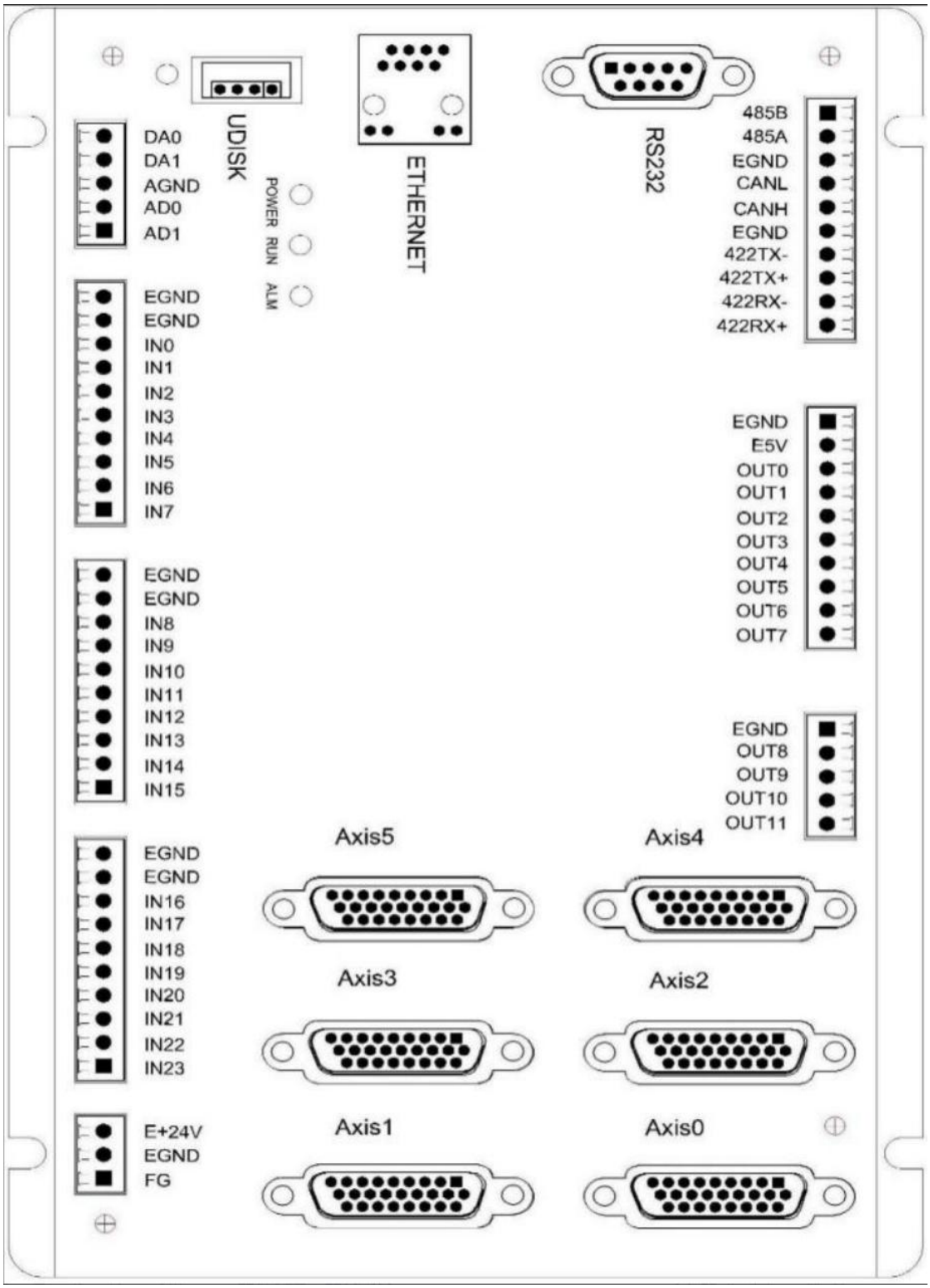


Figure 2-1-1 The LYC control card

Detailed explanation of control card terminal pin signal is shown in Table 2-1-1:

name	explain	Default port definition
UDISK	USB mouth	*
ETHERNET	internet access	*
DA0	The 0-10V analog output port is 0	*
DA1	0-10V analog output port 1	*
AGND	Simulated mouth GND	*
AD0	0-10V Analogue input port 0	*
AD1	0-10V Analogue input port 1	*
EGND	External power supply	*
EGND	External power supply	*
IN 0	Enter 0	The X-axis origin signal
IN 1	Enter 1	The Y-axis origin signal
IN 2	Enter 2	Z1 axis origin signal
IN 3	Enter 3	The W1-axis origin signal
IN 4	Enter 4	Z2 axis origin signal
IN 5	Enter 5	The W2-axis origin signal
IN 6	Enter 6	X the limit
IN 7	Enter 7	Y the limit
IN 8	Enter 8	suspend
IN 9	Enter 9	safety protection device
IN 10	Enter 10	Mesa calibrator

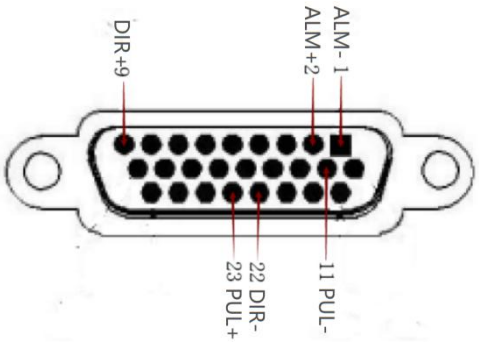
IN 11	Enter 11	To the knife signal point
IN 12	Enter 12	jerk
IN 13	Enter 13	suspend
IN 14→IN23	Enter the number of 1423	user-defined
485B	485-	*
485A	485+	*
CANL	CAN differential data	*
CAHN	CAN differential data	*
422TX-	422 TX Send-	*
422TX+	422 TX Send +	*
422RX-	422 RX Send-	*
422RX+	422 RX Send +	*
E5V	The 24V is converted to 5V power supply	*
OUT0~7	output 0~7	subregion
OUT8	output 8	Adsorbed wind pump
OUT9	output 9	vibrating blade
OUT10	output 10	pay-off
OUT11	output 11	Feed cylinder
E+24V	Power supply with a 24V input	*
EGND	landing	*
FG	Pick up the shield	*
AXIS0	Axis interface 0	X axle
AXIS1	Axis interface 1	Y axle
AXIS2	Axis interface 2	Z axle

AXIS3	Axis interface 3	W axle
AXIS4	Axis interface 4	Z1 axis
AXIS5	Axis interface 5	W1 axis

Detailed explanation of the output port signal in Table 2-1-1

2.2 Axis interface signal

Both 0V and + 5V output are provided, which can provide a 5V power supply for the encoder. Before using the axis, you should configure how to use the axis through the AT Y PE parameter.(Figure 2-1-1-1 is the common interface)



graph 2-1-1-1

Needle foot number	signal	explain
1	EGND	External power supply
2	IN 24-29/ALM	general IO statement, Recommended drive alarm
3	OUT 12-17/ENABLE	General output, recommended drive enabled
4	EA-	Encoder input
5	EB-	Encoder input
6	EZ-	Encoder input
7	+5V	power output
8	reserve	reserve
9	DIR+	The drive-direction output is positive
10	GND	Digitally
11	PUL-	Drive pulse output is negative
12	reserve	reserve
13	GND	Digitally

14	OVCC	+24V output (Recommended for servo IO only)
15	reserve	reserve
16	reserve	reserve
17	EA+	Encoder input
18	EB+	Encoder input
19	EZ+	Encoder input
20	GND	Digitally
21	GND	Digitally
22	DIR-	Drive-direction output is negative
23	PUL+	Drive pulse output is positive
24	GND	Digitally
25	reserve	reserve
26	reserve	reserve

2.3 Power supply input interface

⏚The + 24V power input interface is an external 24V power supply to the user, and the pin is defined as shown in Figure 2-1-1. It is connected to the ground copper plate of the machine tool, that is, connected to the earth.

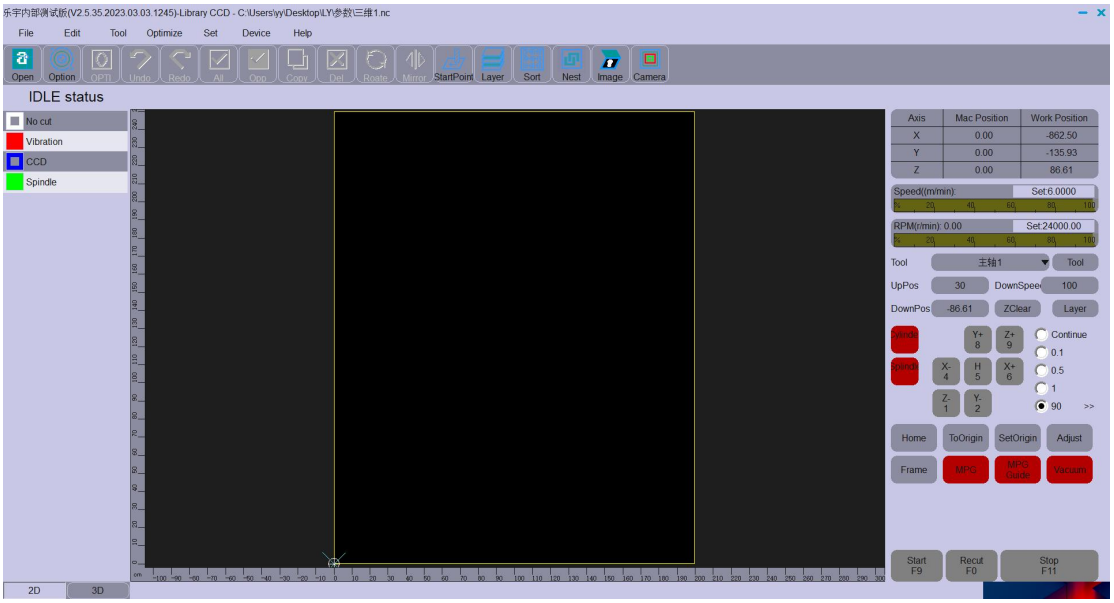
2.4 Network interface

The "ETHERNET" network interface is used to connect to the computer host machine.

The "EtherCAT" network interface is used for drive bus connection.

3. Introduction to the system operation interface

The system interface is composed of some custom Windows, such as menu bar, toolbar, status bar, layer bar graphic display area, control operation area, artifact coordinate bar, mechanical coordinate bar, and output button, as shown in Figure 4-1 below.



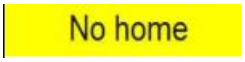
graph 3-1

3.1, and the status bar

Device is not successfully connected:

Device was connected successfully:

Equipment is not returned to zero:



Equipment is back to zero:

idle condition:

.23 Menu bar

3.2.1 Document

key	function
open	To open the target file
leading-in	Do not delete an open file and then import a file
save as	Save the open file
search	Search for processing files
Milling table	For machine adjustment of countertop flatness
process	Run cutting
Choose processing	Choose processing
Import gallery 1	Seal ring industry graphics library
Import gallery 2	Custom image gallery import and export
Uninstall processing files	Uninstall processing files
image processing	image processing
Generate the cut	Generate the cut
withdraw from	Exit software program

3.2.2 for editing

key	function
cancel	Return to the previous step
repeat	Return to the next step
Invert Selection	Select the pattern outside of the selected pattern
check all	All the patterns are selected
delete	Remove the selected pattern
duplicate	Copy the selected pattern
shift	Move the pattern to the set coordinate point
revolve	The angle of the rotation pattern

acoustic image	Mirror the pattern left and right
cluster	cluster
deblocking	deblocking
array	array
dotted line	Make the selected pattern solid line into a dotted line
Limit the rotation Angle	Limit the rotation Angle
Automatically divide layers	For double head cutting
Clear the cut mark	Clear the cut mark
Removal has been cut	Remove the cut path

3.2.3 Tools

key	function
select	select
curve	curve
Multisense line	straight line
circle	circle
arc	arc
rectangle	rectangle
Node editing	Node editing
Creature origin	Creature origin
break	Line interrupt
Specify the starting point	Specify the knife point
Manually sorted	Manually graphic sorting
measure	measure

3.2.4 Optimization

key	function

Optimize all	Make the path press, all items, set the optimization
Extract the shards	Extract the shards
Straighten treatment	Reduce the node
Close to coordinates	The selected pattern is close to the origin coordinates
zoom	Scale the scale of the selected pattern
Cut	The end point is cut
Midpoint cutting	Midpoint cutting
Rectangular	Make the path a rectangle
Intelligent recognition	Intelligence to identify the layer of mark points
Set up the knife	Set the position of the starting point
option	Secondary menu for all the optimization options

3.2.5 Setting-up

key	function
Print sorting	Arrangement of the cutting order
Layer management	Management of layer tools and import file settings
PDF pigment	PDF pigment
DXF pigment	DXF pigment
Show / hide the ruler	Show or hide the software ruler
Show / hide the grid	Show it or hide the grid
Show / hide the starting point	Show or hide the point
Show / hide the capture point	Show or hide the capture point
Show / hide the cut	Show or hide the cut path identity
Cut the flag on /	Whether the cut path can be cut repeatedly

off	
Coordinate system setting	Setting of amplitude height width and coordinate system type
Projector Settings	The projector projection parameter setting

3.2.6 Equipment

key	function
upgrade	System firmware upgrade
Import parameters	Import all of the machine parameters
Export parameters	Export all of the machine parameters
parameter	All of the parameters of the machine
IO test	Test of the input and output points
IP set up	Board card IP setting and system simulation setting
Log records	Log records
write Enter the software parameters	Import software parameters
Read software parameters	Read software parameters

3.2.7 Help

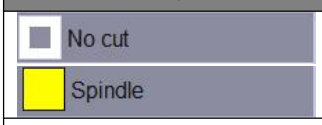
key	function
about	About software information
Version information	Version information
Authorization management	Vound Authorization Management
skin	Software skin settings
simplified Chinese	Simplified Chinese Settings

English	English setting
traditional Chinese	Traditional Chinese character setting
Set a new password	Set up a new administrative password
The reset password	Reset to the default management password

3.3 Toolbar

key	function
open	Open the target file
option	Optimize the options
optimize	Optimize the graphics
cancel	Return to the previous step
repeat	Return to the next step
check all	All selected
Invert Selection	Select the currently unselected drawings
duplicate	duplicate
delete	delete
revolve	revolve
acoustic image	acoustic image
Knife	Set up the knife point
layer	Layer tool management
option	Optimize the options
sort	Cut order setting
set type	set type
picture	Take photos of the figure
take a picture	take a picture
subregion	Mesa adsorption partition

3.4 Layer module

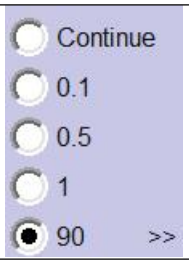
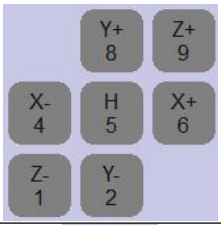
key	function
	White lines represent no cut, and small squares represent no output
	Yellow lines represent the main axis
	Blue lines represent CCD and small squares represent no output

Supplementary Note: The layer modules represent different

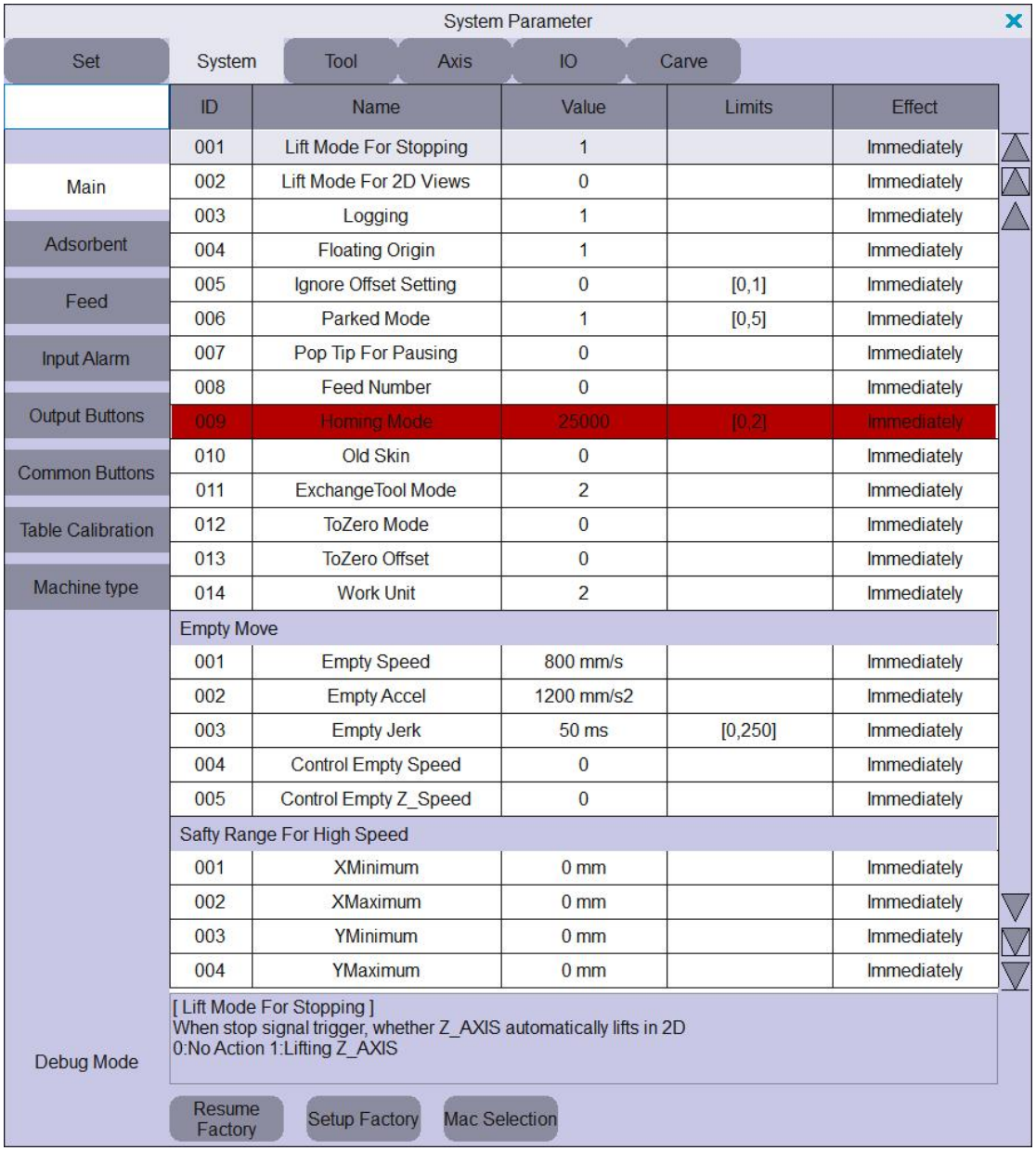
tools with different colors (available in the layer management, Select what tool to cut the graph to cut click the corresponding layer color. Check the representative output, do not check the representative does not output).

3.5 Control module

key	function
cease	Stop machine action
process	Run cutting
Back to zero	The machine back to zero
Heavy cut	Reprocessing the current stopped processing path or all
tool selection	tool selection
Lift the knife height	Safety height setting
depth of cut	depth of cut
Under the knife speed	Under the knife speed
Z zero clearing	Record the current Z-axis coordinates as the cutting depth
lamination	Hierarchical processing setting
cutter	Secondary menu for the tool parameter settings
check	Secondary menu for the correction parameter settings
charge-in	Even cut feed
return of material	Even cut back
Set the starting point	Fixed cutting starting point
To the starting point	To cut the starting point
Material	○ No Feed ◉ FeedForw ○ FeedBacl

delivery Settings	
	Axial point movement and continuous switching, Point moving distance setting
	Control machine movement
	Output button

4 Parameter description



ID	Name	Value	Limits	Effect
001	Lift Mode For Stopping	1		Immediately
002	Lift Mode For 2D Views	0		Immediately
003	Logging	1		Immediately
004	Floating Origin	1		Immediately
005	Ignore Offset Setting	0	[0,1]	Immediately
006	Parked Mode	1	[0,5]	Immediately
007	Pop Tip For Pausing	0		Immediately
008	Feed Number	0		Immediately
009	Homing Mode	25000	[0,2]	Immediately
010	Old Skin	0		Immediately
011	ExchangeTool Mode	2		Immediately
012	ToZero Mode	0		Immediately
013	ToZero Offset	0		Immediately
014	Work Unit	2		Immediately
Empty Move				
001	Empty Speed	800 mm/s		Immediately
002	Empty Accel	1200 mm/s2		Immediately
003	Empty Jerk	50 ms	[0,250]	Immediately
004	Control Empty Speed	0		Immediately
005	Control Empty Z_Speed	0		Immediately
Safty Range For High Speed				
001	XMinimum	0 mm		Immediately
002	XMaximum	0 mm		Immediately
003	YMinimum	0 mm		Immediately
004	YMaximum	0 mm		Immediately

[Lift Mode For Stopping]
When stop signal trigger, whether Z_AXIS automatically lifts in 2D
0:No Action 1:Lifting Z_AXIS

graph 4-1

Manage the password

Open parameter password: 7698

Debugging mode password: 76980

Only the base parameters are open when the password is not entered.

4.1 System parameters

4.1.1 Main

parameter	meaning	Set the scope
Stop moving and lift the knife	Click Stop whether to lift the knife during processing	1. knife 0 not lift knife
Interface switch lift knife	Whether to lift the knife when closing the interface	1. knife 0 not lift knife
Log records	Log records	1 open 0 is not open
floating zero	Floating origin mode Function during direct processing	0 Normal floating origin 1 Manual float of the origin 2 Always the origin 3 Do not prompt to set the start point when cutting
Ignoring offset settings	Whether each process offset value is ignored	0 Do not ignore 1 Ignoring
Parking mode	After cutting is complete, Machine X axis and Y axis parking state	0 Parking in situ 1 Back to parking space
The number of heavy negative cuts	Generally used in demonstration cutting	*
Back to zero mode	Back to zero mode	0 power cut back to zero 1 Software restart Back to zero 2 Automatic power back to

		zero (disabled)
Old and new interface	Old and new interface	0 Mainstream interface 1 The old version of the interface
Switch tool mode	When switching tools Machine action	0 No switch action 1 All Z-axes Lift to the highest point 2 All Z axes lift to the highest point and drop the current tool cylinder
To the starting point mode	To the starting point mode	0 All cylinders and axes are lifted to the highest point 1 Reference tool for cylinder work 2 Reference tool The cylinder works and Z axis to lift the knife position
To the starting point offset	To the starting point offset	0 Back to the reference tool starting point 1 Back to the current tool

		starting point
Processing speed unit	Units showing the processing speed	0 mm / s 1 mm / min 2 Meter / cent

Empty range speed

parameter	meaning	Set the scope
Empty range speed	Maximum speed in	*
Empty range acceleration	Acceleration during empty-range movement	*
Empty-range acceleration	Acceleration during empty-range movement	0～250

Change the knife position

parameter	meaning	Set the scope
Change the knife position X	Change the knife position coordinate X	*
Change the knife position Y	Change change position coordinate Y	*

port

parameter	meaning	Set the scope
Number of input	Number of input points	0～100
Number of output points	Number of output points	0～126
Number of analog quantity outputs	Number of analog output points	0～2
Number of output buttons	Number of output buttons	0～20
Enter the number of alarms	Enter the number of alarms	0～20
Input point filtering	In a disturbed environment, The input point will be disturbed to destabilize the input	2～500

	signal, Need filtering time to enhance interference, the greater the filtering time, The better the anti-interference, However, the lower the sensitivity.	

axle

parameter	meaning	Set the scope
Number of axis	Total number of axes	0～13
X-axis port	The X-axis pulse wiring port	Default 0
Y axis port	The Y-axis pulse wiring port	Default 1
The knife follows the movement	When manually moving the XY axis, If the current knife number has a rotation axis, Follow the movement.	0 Do not open 1 Open
Key direction	Key direction setting	0: Left X-right X + Upper Y + bottom Y- 1: Left Y + right Y- Upper X + Lower X- 2: Left X-right X + Upper Y-Lower Y + 3: Left Y + right Y- Upper X-Lower X +
No shortcuts	No shortcuts	0 Open 1 Prohibit

tool

parameter	meaning	Set the scope
Number of tools	Total number of tools	0～20
Reference tool	Set with that as the reference tool,	-1～20

	generally with the spindle or vibratome as the reference tool, set with the same value as the tool pen number	
Manual positioning tool	The settings are the same as for the manual positioning tool pen number	-1～20
Z-axis output port interlock	Z-axis output port interlock	0 does not open 1 to open
Cylinder switching mode	Cylinder switching mode	0 does not open 1 to open
Turn on the tool ahead of time	Turn on the tool ahead of time	0 Do not open 1 During the CCD positioning Open the spindle 2 Spindle start and The empty range works together

CCD

parameter	meaning	Set the scope
CCD tool	Generally, the value set by the CCD tool is the same as the pen number of the process parameters	-1～20 Default 5
The CCD port output mode	The CCD port output mode	0 Do not move 1 Automatically open 2 Automatically shut down 3 Auto-on and off
CCD output port	The CCD output port serial number	-1～125
Number of CCD locations	Default minimum number of points If the actual number of location points Less than that value The machine does not cut cutting	0～8
Turn off duplicate localisation	Turn off duplicate localisation	0 Do not open 1 Open
CCD positioning accuracy	CCD repeat localization accuracy	0.001～10mm
CCD localization delay	CCD localization pause time Default: 800	2～10000ms
CCD repeated time delay	CCD localization pause time Default: 500	2～10000ms

compression roller

parameter	meaning	Set the scope

Pressure roller direction	Pressure roller direction	0 No 1 Y direction 2 X direction A 2-bit detectable height 3 bit manual automatic down
Output port 1	Front pressure roller cylinder output port	-1～99
Minimum value 1	Min. coordinate of the front pressure roller	*
Maximum 1	Maximum coordinate of the front pressure roller	*
Output port 2	Rear pressure roller cylinder output port	-1～99
Minimum 2	Rerear roller	*
Maximum 2	Maximum coordinates of the rear pressure roller	*
Z-axis safe position	The current Z-axis exceeds this value, The roller does not work	*

Search for files

parameter	meaning	Set the scope
Search files are locate located	Search files are locate located	0 Disable 1 Turn on the automatic patrol point
X axis movement distance	Relative to the current location point displacement distance	*
X axis movement distance	Relative to the current location point displacement distance	*

grab

parameter	meaning	Set the scope
Clip on mode	Clip on mode	0 Do not open 1 It is automatically opened or not automatically closed 2 Automatic open and automatic close
The number of clamp	The number of clamp	*

Tool switching range

parameter	meaning	Set the scope
X axis minimum	X axis minimum =X axis maximum, switch in place	*
Maximum X-axis	X axis minimum =X axis maximum, switch in place	*
Y axis minimum	Y axis minimum =Y axis maximum, in-situ switch	*
Maximum value of Y axis	Y axis minimum =Y axis maximum, in-situ switch	*

4.1.2 Adsorption

parameter	meaning	Set the scope
Adsorption opening mode	Adsorption-on mode during cutting (2-setting)	The 0-bit automatically turns on adsorb 1 bit is automatically turned on subregion The 2-bit is automatically turned on Pressure relief valve and Left and right sub-areas 3 Follow the partition
Adsorption shutdown mode	Adsorption closing mode during cutting (2-setting)	The 0-bit is automatically closed adsorb One bit is automatically closed subregion The 2-bit is automatically closed atmospheric relief valve
Adsorption drawing mode	Adption closing mode during drawing (2-setting)	The 0-bit is automatically closed adsorb One bit is

		automatically closed subregion The 2-bit is automatically closed atmospheric relief valve
Subdivision adsorption number	Total number of partition adsorption	0～100
Adsorption partition reverse	Adadsorption ption is reverse setting (2-setting)	The 0-bit partition is reversed The 1-bit adsorption output Retreat
Adsorption port	Port number of the main pump for adsorption	The-1 indicates that there is no
Auxiliary valve mode	Auxiliary valve mode (2-setting)	0-Position pressure relief valve 1 Left countertop Two right countertops
Pressure relief valve port	Pressure relief valve port	-1～125
Left countertop port	Left countera valve output port	-1～125
Right countertop port	Right countertop valve output port	-1～125
Adsorption repetition distance	Adsorption repetition distance	*

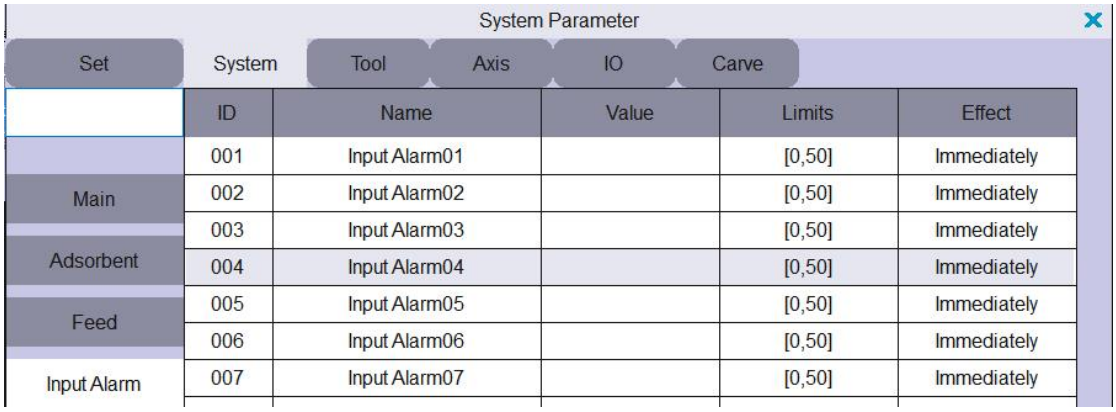
4.1.3 Feed materials

pay-off	Feed opening and its mode	0 No 1 Long version of feed 2 duplicate feeding (feeding length and feeding times should be set) 3 long version and duplicate version feeding
Feed speed	Speed of feeding and returning material after cylinder pressing	*
Feed segmentation	Feed material segmentation mode setting	0 Keep integrity 1 Split cutting method 2 Strict segmentation
The number of supplies	At the time of duplicate cuts, Number of repetitions required	*
The length of the feed	During the duplicate cuts Length of material required	*
Material delivery compensation	When feeding, the current length and the value are equal to the actual feeding length	*
The starting point of the feed is offset	Starting offset distance relative to the maximum at feeding	0～1000

The end point of the feed is offset	End point offset distance of relative minimum at feeding	0～1000
The delivery shaft is delayed	During the duplicate cuts Wait time after each feed delivery	*
Delivery method	Transmission operation mode	0 The beam 1 Cross beam and auxiliary shaft 2 Auxiliary axis 3 Auxiliary shaft and fixed clip
feed direction	The default feeding direction is the X-axis direction	The 0 the X-axis direction 1 The Y-axis direction
Paid shaft	Auxiliary shaft port	-1～19
Piping port	Port number of the feed and pressure material	-1～125
Piping fixed clip	Press fixed clip port number	-1～125
The feeding reverse	The direction of feeding movement switches positively and inversely	0 Default 1 Reverse

4.1.4 Input the alarm

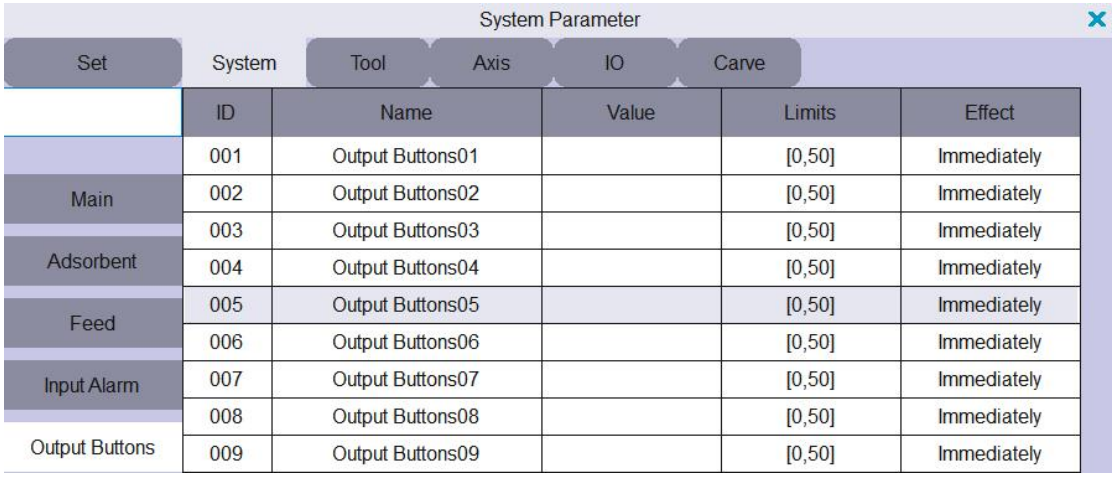
Enter the alarm 1~20 to modify the input alarm name with "input port number + custom name".(The number of input buttons should be set in the Main Area. Set by the required quantity.)



graph 4-1-4

4.1.5 Output button

The output buttons 1~20 display the output button separately in the lower left corner of the open interface with "Output port number + custom name". (The Number of Output buttons needs to be set in the Primary setting.)



graph 4-1-5

4.1.5 General Button

parameter	meaning	Set the scope
Button mode	Button operation mode (2-setting)	0 Pause for 1 back to zero 2 To start the 3 oil pump 4 To the starting point 5 Locate cutting
Pause port	Pause the input signal port number	-1～99
Back to zero port	Return to the zero input signal port number	-1～99
Start the port	Start the input signal port number	-1～99
Adsorption port	Port number of the adsorption input signal	-1～99
To the starting port	Enter the signal port number to the starting point	-1～99
CCD localization cut	CCD location cut input signal port number	-1～99

4.1.6 Countertop calibration

parameter	meaning	Set the scope
open	Open the table for calibration	0 Do not open 1 Open
Mesa size	Subdivision of table size	40～200
Induction signal	Induction switch signal Enter point port number	-1～99
Return height	After calibrating the lowest point of the current knife Up knife height (relative height)	*

descent speed	Calibrate the current knife speed	*
X deviant	The X offset value when adjusting the table	*
Y deviant	The Y offset value when adjusting the table	*
maximum change	Above the maximum error value, the table adjustment fails	*

4.1.7 Machine type

parameter	meaning	Set the scope
type	Type of nose	0 Single machine head 1 The common X axis is not the common Y axis 2 Coaxis is not common X axis 3 X is not coaxial
Coordinate system 2X-axis serial number	The X-axis serial number of the second coordinate system is in the forward direction of the first coordinate system	-1～19
Coordinate system 2Y-axis serial number	The Y-axis serial number of the second coordinate system is in the forward direction of the first coordinate system	-1～19
The X-offset value of the host header	The X-offset value relative to the host header	*
The Y-offset value of the host header	The Y-offset value relative to the host header	*
Aynchronous cut offset mode	Aynchronous cut offset mode	0 shows the overall offset 1 indicates only offset processes requiring asynchronous cutting

4.2 Process parameters

4.2.1 Main ones

parameter	meaning	Set the scope
state	state	0 Close 1 Open
name	Process name customization	*
The pen number	Tool identification pen number	1～20
Z axis serial number	Z axis connection wire axis slogan, -1 means no	-1～19
W axis serial number	W axis connection wire axis slogan, -1 means no	-1～19
Z output	Z-axis output wiring number, -1 indicates no	-1～19
W output	The w-axis output wiring number, and-1 indicates no	-1～19
The knife Angle	V knife Angle, 0 is a straight knife	-85～85

4.2.2 Speed

parameter	meaning	Set the scope
Stop the Angle	When the path angle is greater than this value, Enable the semicircle minimum speed, Vibrating knife and other tools lift knife steering.	0～180
The deceleration Angle	When the path angle is greater than this value, Enable the minicircle speed.	0～180
Small round speed	When being less than or equal to the small circle radius, Enable that speed.	*
Large circle radius	Large circle speed is enabled when the segment radius is less than or equal	*

	to the radius.	
Small circle radius	The small circle speed is enabled when the segment radius is less than or equal to the radius.	*
Large circle speed	This speed is enabled when it is less than or equal to the radius of a large circle	*
Small round speed	Turn this speed when less than or equal to the small circle radius	*
No knife speed	Stop the angle speed without lifting the knife	*
Lift the knife speed	Z-axis knife mode is set to 1. If set to 0, call the small circle minimum speed	*
Under the knife speed	Under the knife speed	*
running speed	Maximum running speed during cutting	*
Run the acceleration	Acceleration during the cutting process	*
Run the acceleration	Acceleration during cutting	0～250
Speed mode	0 can manually adjust the speed, greater than 1 based on the set speed multiplied by the current automatic speed ratio 1 speed selection	0～5
low speed	Low speed speed value	*
Medium and low speed	Medium and low speed value	*
intermediate speed	Medium speed value	*
In the high speed	Medium-high speed value	*

high speed	High speed value	*
maximum speed	Max. cutting speed of the current pen number tool	*

4.2.3 Position

parameter	meaning	Set the scope
Lift the knife height	Lift height during machine cutting	*
depth of cut	Depth of cutting during machine cutting	*
Smooth distance	When the turning angle is less than the stop angle, the smooth transition between two lines. If the value is set to 0, the smooth transition is not made, generally set to 4mm, according to the equipment hardware and process	≧0 Default 4
Knife offset X	Position difference between the X-axis and the calibration tool	*
Knife offset Y	Position difference between the Y-axis and the calibration tool	*

4.2.4 Compensation

parameter	meaning	Set the scope
Lift the knife extension	Lift the knife for extension compensation	*
Knife compensation	Start extension compensation	*
The knife partial	Tool side offset compensation	*
The tangential compensation	Tool forward direction offset compensation	*
Reverse compensation	Reverse cutting distance	*
The knife to the origin	Origin bias angle	*
Blade width	Blade width compensation	*
The inside corner of the knife	The inside corner of the knife	0 Close 1 Open
Blade deep compensation	Blade deep compensation	*
No knife distance	No knife distance According to the actual knife type setting, positive and negative values	*
Free knife to mode	Whether ade compensation without W axis Generally used for the lettering knife	0 Close 1 Open
Free knife to compensate	Knife direction compensation without the W axis Generally used for the lettering knife	*

4.2.5 Access knife

parameter	meaning	Set the scope

Cut way	Cutting mode when cutting	0 Unilateral cutting 1 Bilateral cutting
Cutting mode parameters	Cutting mode parameters at cutting	*
Hierarchy type	Tiered cutting mode type	0 No stratification 1 Number of stratification 2 Highly stratified 3 Bottom stratification 4 Spiral under the knife
Hierarchical parameters	Set the current value according to the hierarchical type, When the parameter is 4, Is the horizontal distance of the oblique knife	*
Material height	Material height	*
Slant line under the knife speed	The speed when the knife under the the line	*

The 4.2.6 port

parameter	meaning	Set the scope
output signal	Output signal port, -1 indicates no	-1～250
Analog output signal	Analog output signal port The-1 indicates that there is no	-1～1
Analog output value	Analog output value	*

X axis serial number	X-axis serial number, wiring port	-1～19 Default 0
Y axis serial number	Y-axis serial number, wiring port	-1～19 Default 1
Close the output	Whether to turn off the output off	0 No output 1 output
Close the analog output	Whether to turn off the analog volume output	0 No output 1 output

4.2.7 Action

parameter	meaning	Set the scope
Is there a trajectory	Whether the cut has a trajectory	0 No 1 Have
Z axis lift knife mode	If the turn is greater than the stop angle	0 Lift the knife 1 Don't lift the knife
The Z-axis auxiliary port mode	If there is both Z axis and Z auxiliary port case	0 When cutting and lifting the knife Z output linkage up and down 1 When cutting and lifting the knife The Z output is not up and down
Empty range Z axis culmination	When machining, whether the no-range motion Z axis needs to lift the knife to the origin before moving the XY axis	0 Lift it to a safe height 1 Lift to the origin
Follow tool mode	In the machining run, whether any other tool follows the tool to run, the Z axis and the W axis of the following tool must be the same	*

Follow the tool pen number	Follow the tool pen number	*

4.2.8 to the knife

parameter	meaning	Set the scope
tool setting	The knife mode	0 No 1 Floating to knife 2 Fixed to knife The 2-bit X axis shakes The 3-bit Y axis shakes The 4-bit open output is enabled
The signal port	Input point to the knife signal	-1～99
bias in affine function	The difference between the knife position and the table position	*
velocity	The knife drops to the slow drop position The rate of decline after	*
Slow down position	Position of the critical point for the high speed descent of the knife	*
position coordinates X	The coordinate X position of the fixed knife	*
position coordinates Y	The coordinate Y position of the fixed knife	*
deviant	Offset value of knife depth	*
number of times	Number of repeats of the knife	*
Repeat height	The height of the Z-axis knife when there is "times"	*
output signal	Output point signal to the knife	-1～125
Shake the distance	Shake distance against the knife	*

4.2.9 PWM control

parameter	meaning	Set the scope
control	It is used in the glue industry	0 Open 1 No feedback Real-time point glue 2 Fixed frequency point glue 3 Sound coil motor
port	Output port controlled by the PWM	-1～125
frequency	PWM control frequency, according to the hardware, the dispensing industry is below 2000	*
duty cycle	At a width of the PWM wave, the port closes the bandwidth	*
Minimum duty cycle	Under real-time control, when the duty is less, the duty is 0	*
Open the distance	In the case of a lower knife compensation, open the distance of the PWM	*
Close the distance	Close the PWM distance in case of knife compensation	*

4.2.10 Auxiliary Z-axis

parameter	meaning	Set the scope
open	open	0～2
Auxiliary Z-axis serial number	Auxiliary Z-axis serial number	-1～19
Auxiliary Z axis lower	Auxiliary Z axis lower knife position	*

knife position		

4.2.10 Cloth lamp

parameter	meaning	Set the scope
open	open	0 does not open 1 to open
Induction input signal	Induction input signal	-1～99
Drop cylinder output	Drop cylinder output	-1～125
Flyshear cylinder output	Flyshear cylinder output	-1～125
Feed shaft number	Feed shaft number	-1～19
Speed control ratio	Speed control ratio	*
The minimum speed of receiving	The minimum speed of receiving	*
Pressure plate delay	Pressure plate delay	*
Cut extension	Cut extension	*

4.2.10 Rotary punch rod

parameter	meaning	Set the scope
Spin the punch mode	Spin the punch mode	0 Do not open -1 Inversion-1 positive turn
Rotate the punch shaft	Rotate the punch shaft	-1～19
rotor speed	rotor speed	*

4.3 Axis parameters

4.3.1 Main ones

parameter	meaning	Set the scope
state	Whether to open	0 Close 1 Open
name	Custom axis name	*
Encoder feedback	Position of the actual feedback signal	0 Open the ring 1 Closed loop
encoder	encoder	1 Pulse + direction actuator 2 Simulation quantity control 3 The servo in the pulse + direction with feedback 4 Mixed step in 65 EntherCAT
rotation direction	Adjust the rotation direction of the motor, Pulse + direction, please choose between 0-3, Double pulses, please choose between 4-7	0～7
pulse equivalency	How many pulses are required to exercise the 1mm Pulse = motor ring * Speed ratio * speed ratio / guide range 120	1～50000
maximun-frequency	Maximum output frequency, Generally set to 2000000, If it is a servo motor below 500K, set 100000~300000	100～8E+006

4.3.2 Return to zero

parameter	meaning	Set the scope
Whether back to zero	Do you need to go back to zero	0 Need 1 Do not need
Back to zero level	Back to zero priority Larger values, and a higher priority	*
Back to zero direction	Back to the direction of zero	The motor is in the right direction Back to zero 4. Negative direction of motor Back to zero
Back to zero position	After zero success, Set the coordinate value for the current position	*
Back to zero port	Origin induction signal back to zero	-1～99
Back to zero offset	After the zero trigger to the zero induction signal, the machine moves the offset value Back to zero position	*
Back to zero fast	Fast movement speed back to zero	*
Back to zero slow	The speed of the origin signal back to zero	*
Back to zero acceleration	Acceleration back to zero Generally, the setting value is larger	*
Back to zero acceleration	Acceleration of the back to zero The proposal is set to 0	0～250
Back-to-zero response time	When the origin switch is touched at zero,	0～3000

	Waiting time when turning to a low speed, Because the servo has a response time. The default time is 0.	
Back to zero to determine the origin signal	The machine is ready to return to zero, Determine whether the return to zero signal is triggered.	0 Do not prompt function 1 The origin signal triggers the prompt
Secondary back zero mode	Second back to zero	0 Close 1 Open
Secondary back to zero direction	The direction of the secondary return to zero	3. in the positive direction of the motor Back to zero 4 the negative direction to the motor Back to zero
Secondary back to zero port	Secondary back to zero port	-1～99
Secondary back to zero enabling	Secondary return to the zero enabling port	-1～125
Secondary back zero offset	After the secondary zero trigger to the zero induction signal, the machine moves the offset value Back to zero position	*

4.3.3 Speed

parameter	meaning	Set the scope
Point move high speed	High speed, as achieved during manual operation, The high speed of the corresponding button	*
Point move low speed	Low speed speed during manual operation, Low speed of the corresponding button	*
Point movement acceleration	Acceleration during manual operation	*
Point movement acceleration	Acceleration rate during manual operation	0～250
Automatic speed	Maximum speed during automatic motion	*
Automatic acceleration	Acceleration during the automatic motion	*
Automatic acceleration	Acceleration during automatic motion	0～250
Urgent stop acceleration	Reducedown acceleration when the machine is abnormal	*
Jump speed	Start speed upon axis initiation The servo motor is set to 0 Stepper motor is according to the actual situation	*

4.3.4 Position

parameter	meaning	Set the scope
least value	After returning to zero, the minimum software limit stroke value	*
crest value	After returning to zero, the software limit travel	*

	maximum value	
Parking location	After the automatic operation of the machine, The axis needs to be moved in a position that, If the value is not valid	*
Position cycle	Cycle period at the current position	0 has no periodic actual position 1-The cycle distance to the + cycle distance, 2 0 to + cycle distance
Cycle distance	If the position period is set to 1 or 2, this parameter works and the rotation axis is set to 180	*
Gear ratio • Mole cular	Set the pulse equivalent of the molecular denominator ratio, the molecule value, must be an integer	1～65535
Gear than denominator	Setting the molecular denominator ratio of the pulse equivalent of the axis, the denominator value, must be an integer	1～65535

The 4.3.5 port

parameter	meaning	Set the scope
Forward limit	Machine forward limit induction switch port number	-1～99
Negative limit	Machine negative limit induction switch port	-1～99
Enable port	The current axis enables the output signal	-1～125
Lock port	Current shaft holding lock	-1～125

	output signal	
Outputs the lock port	Outputs the lock port	-1～125

4.3.6 Multi-axis control

parameter	meaning	Set the scope
Forward interference axis pattern	Set the forward interference axis mode	0 Do not open 1 Open
Forward interference axis order number	Sernumber the forward interference axis	-1～19
Forward interference axis safe distance	Set the forward interference axis Safe distance from the axis	-1～19
Negative interference axis pattern	Set the reverse interference axis mode	0 Do not open 1 Open
Negative interference axis order number	Set the sequence number of the reverse interference axis	-1～19
Negative interference axis safe distance	Set the reverse interference axis Safe distance from the axis	*
Synchronous axis mode	Set the current axis to be a synchronous axis (follow the axis)	0 Do not open 1 Synchronous axis 2 Follow the axis
Synchronous shaft port	Set the corresponding synchronization axis	-1～19

number	(following axis) Axis serial number	
Manual button mode	Whether the manual signal movement is turned on	0 Do not open 1 Open
Manual forward signal	Set up the manual forward signal	The-1 indicates that there is no
Manual reverse signal	Set up the manual reverse signal	The-1 indicates that there is no

4.4 The IO parameter

.1 4.4 IN (input)

parameter	meaning	Set the scope
state	Whether to open the state	0 Do not open 1 Open 2 Mapping output
FC	FC	0 No prompt 1 Early warning 2 Urgent stop (Pause is 1)
polarity	Often open or often closed	0 Often open 1 Often closed 2. Special IO points (Back to zero and limit)
Mapping output	Map the output port number	The-1 indicates that there is no
Detection delay	Set the timeout time when the input point is associated with the output port	*

.2 4.4OUT(output)

parameter	meaning	Set the scope
state	Whether to open the state	0 Do not open 1 Open 2 Mapping output
FC	FC	0 No prompt 1 Early warning 2 Pass 3 Open normally 4 Run hold For example, the three-color lamp The yellow light

		is 3 The red light is 2 The green light is 1
Turn on the delay	After opening the output point, How many milliseconds after the delay to execute the next action	*
Close the delay	After closing the output point, How many milliseconds after the delay to execute the next action	*
Mapping output	Map the output port	The-1 indicates that there is no
Output interlock status	Set the output interlock state	0 Do not open 1 Open
Outputs the interlock port	Output interlocking port serial number	The-1 indicates that there is no
Enter the interlock state	Set the input interlocked state	0 Do not open 1 Open
Enter the interlock port	Enter the interlocking port serial number	The-1 indicates that there is no
Close the in signal condition	Set the in-off signal state	0 Do not open 1 Open
Turn off the signal in place	Close the signal terminal interface in place	The-1 indicates that there is no
Open the in signal	Set the on signal	0 Do not open

state	state	1 Open
Turn on the signal in place	Open the place signal terminal interface	The-1 indicates that there is no
Detection timeout time	When the shutdown signal is enabled or the shutdown signal is enabled, when the signal detection time is exceeded, there is a timeout alarm	*
Take reverse operation delay	When this value is greater than zero, After opening the port, After this time delay, Close the port	*

.34.4 A OUT (Analog output)

parameter	meaning	Set the scope
state	Whether to open the state	0 Do not open 1 Open
scale	The analog output scale value is between 0 and 4096 (The corresponding voltage is 0~10v and the hardware is fixed) For example, setting the parameter is 0～20000 Then the proportional value is 20000 / 4096=4.88 a minimum value is 0.1	* (Default: 5.85)
least value	The minimum value set	*
crest value	The maximum value set	*
Turn on the delay	After opening the analog output point, the delay is how many milliseconds to perform the next action	*
Close the delay	After closing the analog output point, delay the next action	*

.44.4 Zoning

parameter	meaning	Set the scope
Whether to open	Whether to open	0 Do not open 1 Open
output port	output port	-1～125
X axis minimum	Partition X coordinate minimum value	*
Maximum X-axis	Partition X coordinate maximum value	*
Y axis minimum	Partition Y coordinate minimum value	*
Maximum value of Y axis	Partitioned Y coordinates have the maximum value	*

4.4.5 Clamp clamp

parameter	meaning	Set the scope
Whether to open	Whether to open	0 Do not open 1 Open
output port	output port	-1～125
X axis minimum	Clamp partition X coordinates least value	*
Maximum X-axis	Clamp partition X coordinates crest value	*
Y axis minimum	Clamp partition Y coordinates least value	*
Maximum value of Y axis	Clamp partition Y coordinates crest value	*

4.5 Carving parameters

4.5.1 Spindle

parameter	meaning	Set the scope
graver	G code engraving tool	* (Process pen number)
Optimize the parameters	Optimize the G code Generally, 0.05 is more appropriate	*
F Directive enabled	Whether the F instruction is enabled	1 is Enabled and 0 is not enabled
The S instruction is enabled	Whether the S instruction is enabled	1 is Enabled and 0 is not enabled
The T instruction is enabled	Whether the T instruction is enabled	1 is Enabled and 0 is not enabled
The G00 Z-axis speed single-axis control	When running G00, Z-axis speed control 0 is not open (indicating calling X-axis empty range speed) 1 enable (call the knife speed or knife speed in the process parameters)	1 Open 0 Do not open
G00 speed ratio	Control the speed ratio when running G00	1 Open 0 Do not open
The G01 Z-axis speed single-axis control	When running G01, Z-axis speed control 0 is not open (indicating call running speed) 1 enable (call the knife speed or knife	1 Open 0 Do not open

	speed in the process parameters)	
Stop moving and lift the knife	Process time or click to stop Whether to lift the knife	1 Is 0
Interface switch lift knife	Whether to lift the knife when closing the interface	1 Is 0
Pine knife output port	Output port of the jackknife pine knife	-1～125
The clip knife steps up the signal	Clip knife input signal	-1～99
Zero speed detection signal	Zero speed detection signal	-1～99
Lubrication output signal	Lubrication output signal	-1～125
Blowing running state	Whether it is automatically opened during processing	1 Open 0 Do not open
Blowing output port	Blowing output port	-1～125
Cutting fluid running state	Whether it is automatically opened during processing	1 Open 0 Do not open
Cutting fluid output port	Cutting fluid output port	-1～125
Operating status of the vacuum hood	Whether it is automatically opened during processing	1 Open 0 Do not open
Vacuum hood output port	Vacuum hood output port	-1～125
Start output status	Whether it is automatically opened during processing	1 Open 0 Do not open
Start the output port	Start the output port	-1～125

.24.5 Handwheel

parameter	meaning	Set the scope
Open mode	Whether to turn on the wheel	0 Do not open 1 Open 2 Four-axis handwheel Can be moved by the software
Axis serial number	The shaft serial number to which the hand wheel is connected	-1～19
attended mode	Hand wheel connection mode	0 Positive handover method 1 Pulse hair
The 1-gear rate port number	1-rate input signal	-1～99
The 2-gear rate port number	Input signal at the 2nd gear rate	-1～99
The 3rd gear rate port number	Input signal of the 3-gear rate	-1～99
The 1-gear rate port number	In gear at the 1st speed Actual doubling rate	*
The 2-gear rate port number	When gear at 2 speed Actual doubling rate	*
The 3rd gear rate port number	In gear at the 3rd gear speed Actual doubling rate	*
Shaft 0 controls the port number	Input point signal for the control axis 0	-1～99
Axis 1 controls the port number	Input point signal for the control axis 1	-1～99
Shaft 2 controls the port number	Input point signal for the control axis 2	-1～99

4.5.3 Knife library setup

parameter	meaning	Set the scope
Change the knife way	Change the knife way	0 No 1 Straight row change knife 2 straight-line beam replacement knife 3 Disk change knife
Number of knife bank	Number of knife bank	0～50
Dao library output serial number	Kbank output cylinder port, In a straight row	-1～125
Change the knife Z output	Whether Z output is on during knife change	1 Open 0 Do not open
Change knife A axis serial number	Some change the knife structure Other axis assistance is required	-1～19
Change the knife speed	Running speed from warehouse entering into storage to warehouse delivery	*
Change the Z-axis speed	Z-axis speed from warehousing to warehouse	*
Change the knife to slow down the height	The slow drop distance of the Z axis contacts the knife library, the Z axis is within this height range, Calling slow down speed	*
The rehousing buffer distance is X	The distance between the X-axis direction	*

	and the blade position, to this position, enable the blade change speed	
The rehousing buffer distance is Y	The distance between the Y axis direction and the blade position, to this position, enable the blade speed	*
The housing buffer distance Z	The distance between the Z axis direction and the blade position, to this position, enable the blade speed	*
Outbound buffer distance: X	The distance between the X-axis direction and the knife change position, leaving the position, to enable the running speed	*
Outbound buffer distance: Y	The distance of the Y axis direction and the blade change position, leave the position to enable the running speed	*
Outbound buffer distance Z	The distance between the Z-axis direction and the blade change position leaves the position to enable the running speed	*
Safe distance X	The safe distance between the X-axis direction and the knife change position	*
Safe distance from the storage: Y	The safe distance between the X-axis	*

	direction and the knife change position	
Safe distance from storage Z	The safe distance between the X-axis direction and the knife change position	*
Change change coordinate system minimum X	Change the knife coordinate system X-axis minimum soft limit	*
Maximum X of knife coordinate system	Change the knife coordinate system X-axis maximum soft limit	*
Change change coordinate system minimum Y	Change the knife coordinate system Y-axis minimum value soft limit	*
Change change coordinate system maximum Y	Change the knife coordinate system Y-axis maximum soft limit	*
Change change coordinate system minimum Z	Change the knife coordinate system Z-axis minimum soft limit	*
Maximum Z of knife coordinate system	Change the knife coordinate system Z-axis maximum soft limit	*
Absolute position of knife knife	Z axis after returning or holding knife, absolute value	*

4.5.4 T1

parameter	meaning	Set the scope
Change the knife position X	X-axis coordinates of the knife position	*

Change the knife position Y	Y-axis coordinates	*
Change the knife position Z	Z axis coordinates	*
Change the knife position A	Change change position A axis coordinate	*
velocity	Processing speed	*
speed	Spindle rotation speed during machining	*

4.5.5 knife length compensation for knife

parameter	meaning	Set the scope
The knife mode	Current tool number X-axis coordinates of the knife position	0 No 1 indicates the floating knife 2 indicates the fixation knife
The knife signal	Input signal to knife	-1～99
The knife speed	The knife drops to the "slow drop position" The rate of decline after	*
Slow down position of the knife	The knife drops at a high speed The critical point position	Less than or equal to 0
On the knife position coordinate X	Coordinate X position at the lower knife depth	*
On knife position coordinate Y	Coordinate Y position at knife depth	*
The number of knife	Number of repeats of the knife	*
Repeat height to knife	The height of Z axis return when the number of knives is greater than 1	*
Output signal to knife	Output point signal to the knife	-1～125

4.5.6 Customization function

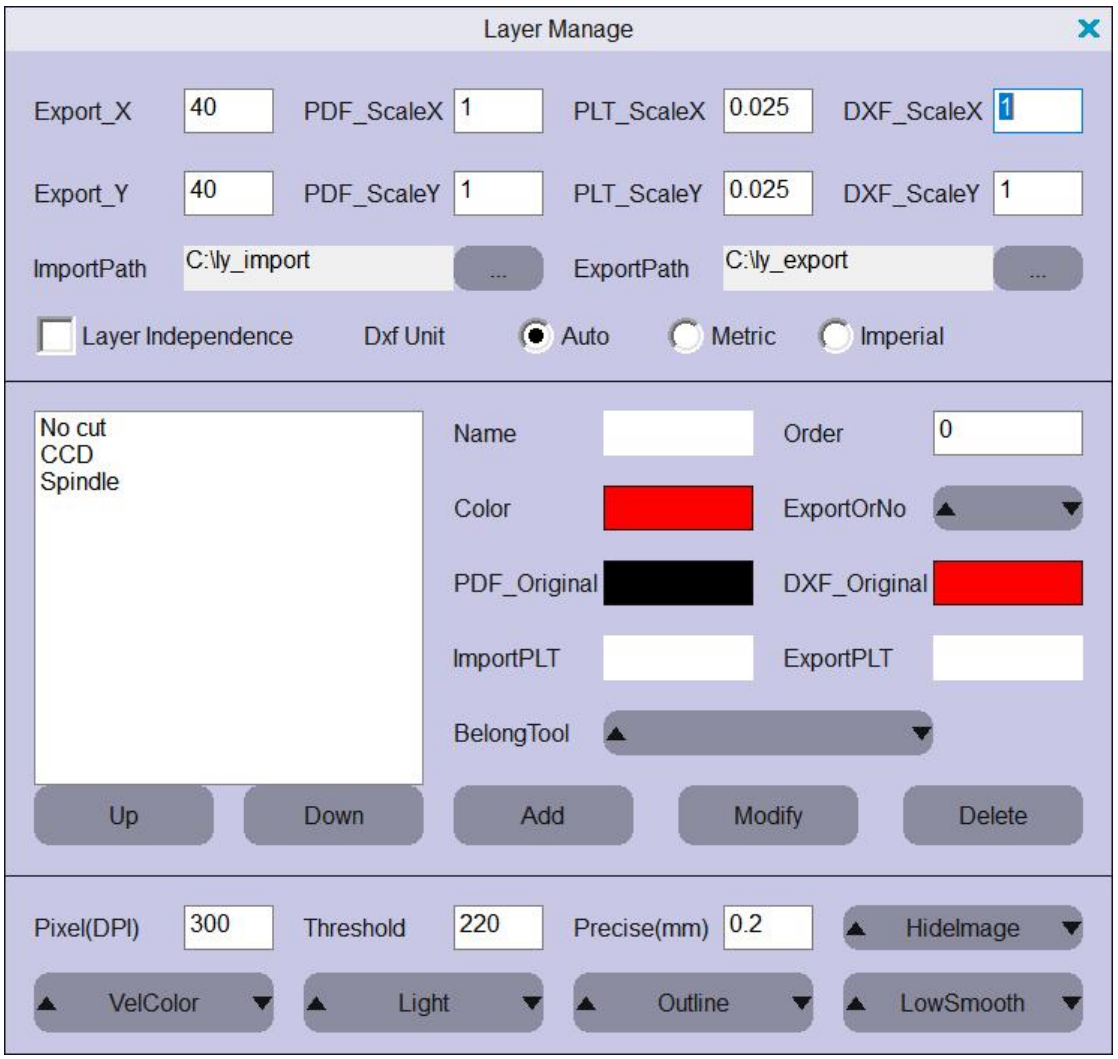
parameter	meaning	Set the scope
open	open	0 Do not open 1 Open
Fixed tools	Fixed tools	*
Spindle tool	Spindle tool	*
Spindle tool left	Spindle tool left	*
Spindle tool right	Spindle tool right	*
Free tools	Free tools	*

4.6 Layer management

parameter	meaning	Set the scope
Export scale X	Export the X-axis scale of the PLT	40
Export scale Y	Y axis scale of PLT	40
PDF scale X	The X-axis scale for importing the PDF	1
PDF scale Y	The Y-axis scale for importing the PDF	1
PLT scale X	The X-axis scale for importing the PLT	0.025
PLT scale Y	The Y-axis scale for the import of the PLT	0.025
D X F Scale, X	Import the X-axis scale of the DXF	1
D X F Scale, Y	Y-axis scale of DXF	1
Import path	Import path	*
Export path	Export path	*
Layers are expanded separately	Whether each layer expands the edges separately	*
DXF unit	The DXF unit selection	Automatic metric system
The PLT input is the pen number	The imported PLT file pen number	*
The PLT outputs the pen number	Export the PLT file pen number	*
Resolution (DPI)	Import the image resolution of an image format file	Advice 300
accuracy (mm)	accuracy	0.02
gray threshold	gray threshold	200-250

push-button	meaning	
name	Can give the tool in this box define name	*
sequence	Current layer processing order	*
pigment	Layer corresponds to color	*
Is the output	The tools set Is there an output	*
Associated hardware	Corresponding process parameters	*
Line circle V	Cut way Cutting, punching, and V-punch	*
shift up shift down	Change the layer display order	*
increase	Edit Add Layer	*
revise	Edit and modify the layer properties	*
delete	Delete layer	*
Balanced color Manual color Automatic color	The way to take color	*
Light background color Deep background color	Color of the cutting bottom plate	*
outer contour The inner loop	Do you are required when importing an image format file	*
Hidden image Show the original picture Displays the hollow figure	When importing files Show the effect	*

Shows the grayscale Displays the edge diagram		
smoothing	Select the path smoothing type	*

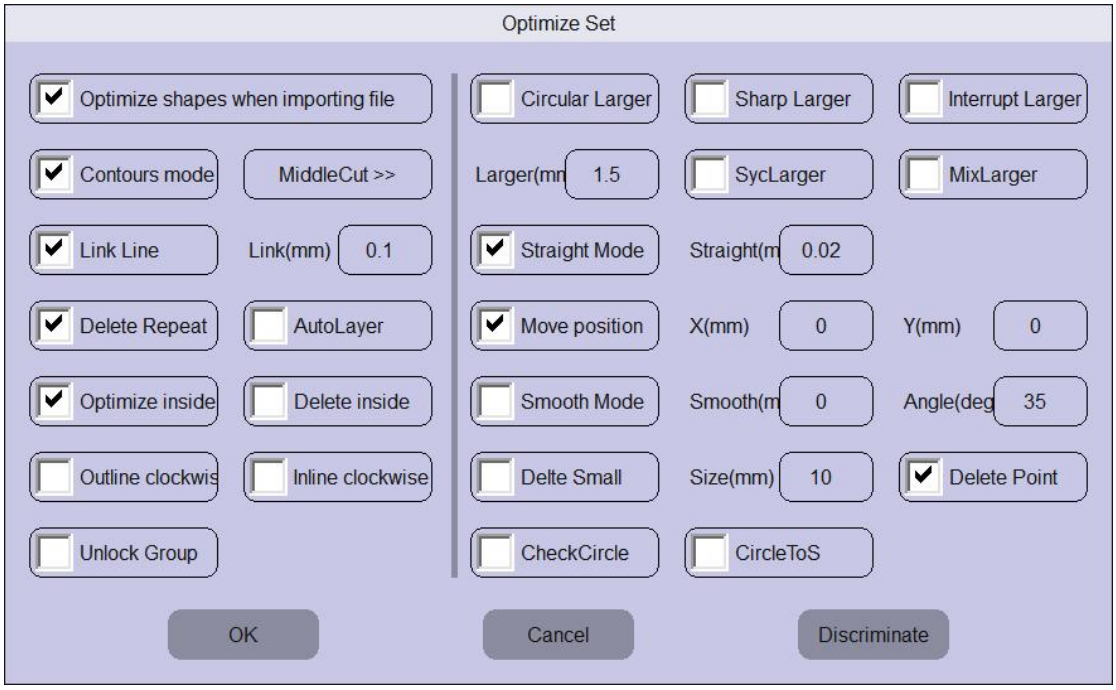


graph 4-6-1

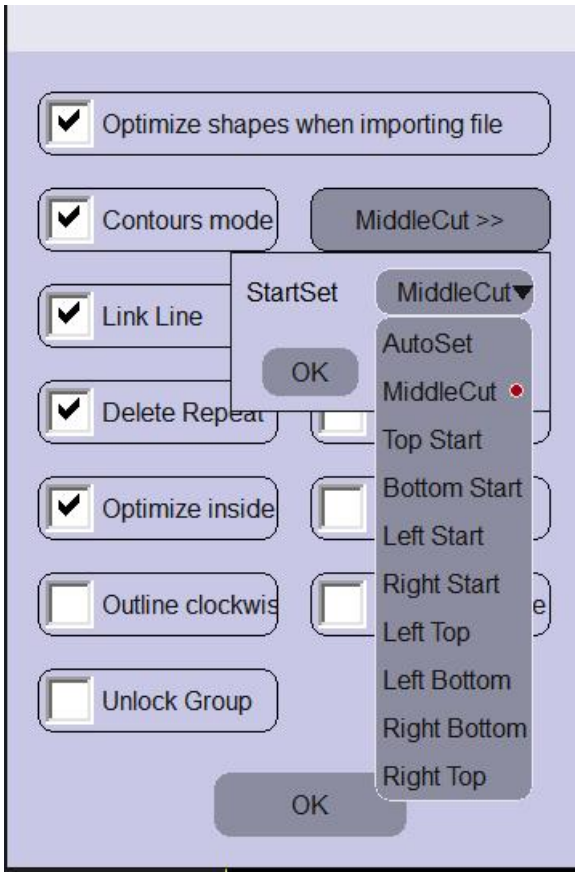
4.7 Optimization (option)

Parameters / buttons	meaning	Set the scope
Automatically optimizes the selection of items when importing a file	Auto-optimize and check the optimization option before importing the file	*
Shard mode	Graphic closure function	*
Starting point setting	Cut starting point setting	*
Connect lines	Make the breakpoint segment import for automatic connection	*
interlinkage	Graphics connection distance	*
Remove duplicate lines	Delete duplicate, overlapping lines	*
Double head stratification	Automatic divided into left and right process layers	*
Inside optimization	Internal loop optimization	*
The inside delete	Remove the inner loop	*
Outlines clockwise	The outer contour is cut clockwise (Not check the default counterclockwise)	*
The inner outline is clockwise	The inner contour is cut clockwise (Not check the default counterclockwise)	*
Round Angle expansion	Sharp corners expand the edges and pour into rounded corners	*
The edge of the sharp Angle	The sharp angle is maintained after edge	*

	expansion	
Expand the edge	Distance of expansion edge (knife radius)	*
Straight mode	Adjust the node size	*
flare-out	Minimum distance between the two nodes	0.02-0.3
Close to coordinates	The path is close to the set coordinate value	*
Smooth mode	The line segment performs the circular arc setting	*
smoothing	Straight line section The distance set by the circular arc	*
Smooth Angle	The angle of the smooth circular arc	*
Delete a small picture	Delete the small figures from the path	*
size	Small figure size	*
Remove the isolated point	Delete a single-node drawing	*
Intelligent recognition	Smart selection layer	*

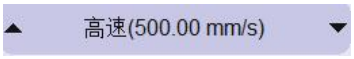
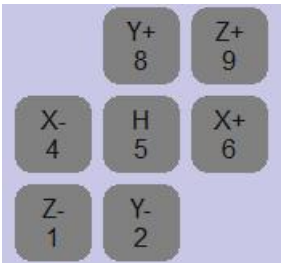


graph 4-7-1

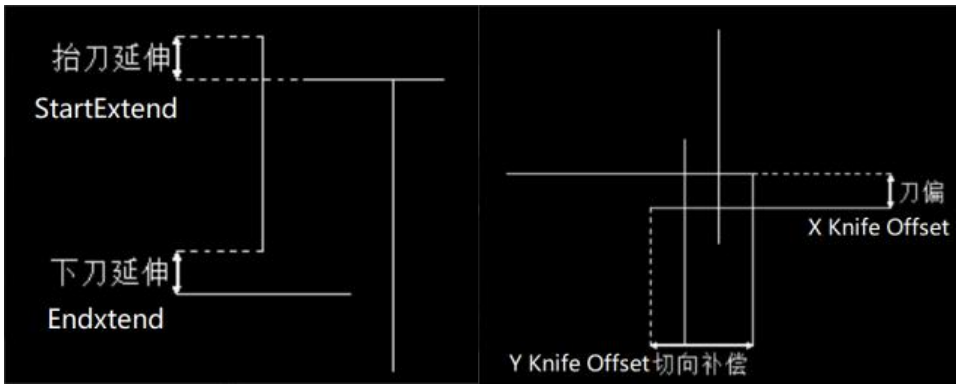


graph 4-7-2

4.8 Knife

Parameters / buttons	meaning	replenish
set up	Save parameters	*
cease	Machine action stopped	*
adsorb	adsorb	*
	Manual continuous / click switching	*
	Run the cutting speed conversion button	There are high speed, medium and high speed, medium speed, medium and low speed, vulgar five gear, or custom
	Z +: Z-shaft tool lifting cutter Z-: Z-shaft cutting tool and lower cutting tool W-: W axis forward W +: W-axis reversal	*
The knife extension	Start extension compensation	See Figure Figure 4-8-1
Lift the knife extension	Lift the knife for extension compensation	See Figure Figure 4-8-1
depth of cut	Depth of cutting during machine cutting	*
To the knife depth	The Z-axis to the cut depth	*
Lift the knife height	The height of the knife lift during machine cutting	*
Under the knife speed	Speed of the Z-axis during machine cutting	*

The knife to	The starting direction of the tool	*
The knife to the origin	Back to the starting direction of the tool	
The knife partial	Cutting tool eccentric compensation	See Figure Figure 4-8-1
The tangential compensation	Under the knife extension compensation	See Figure Figure 4-8-1
speed	Spindle rotation speed	*
Output enabling	Output enabling	*
Z output	The auxiliary cylinder is opened	*
The knife signal	Input signal to knife	*
Rectangular test	Rectangular test	*
Cross test	Cross test	*
tool setting	Automatic to knife	*
Feed forward	Feed forward	*
Feed back	Feed back	*
The feed is on	The feed is on	*



graph 4-8-1

4.9 Correction

4.9.1 Offset knife setting

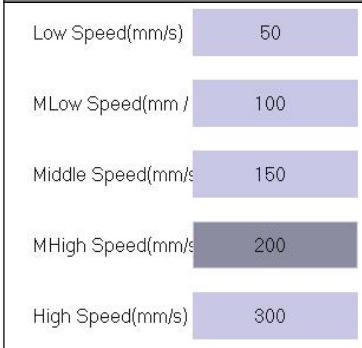
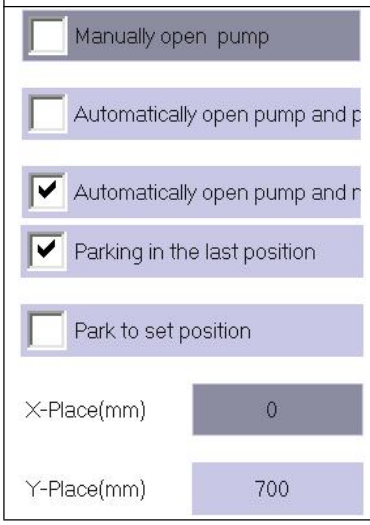
Parameters / buttons	meaning
X deviant	Position difference between the X-axis and the calibration reference tool
Y deviant	Position difference between the Y-axis and the calibration reference tool
Reverse compensation	Reverse cutting distance
Large circle radius	When the line segment radius is less than this radius, the large circle speed limit is enabled.
Large circle speed	This speed is enabled for less than the large circle radius.
The output enables the runtime Whether to open	Whether the machine is running on the spindle rotation or Vibrating knife, circular knife vibration
Z output delay	Z output delay
Do not mention whether the knife cutting is open or not	Do not mention whether the knife cutting is open or not
Output enabling	Manual to open the spindle rotation or Vibrating knife, circular knife vibration
Rectangular test	Cutter rectangle cutting
Cross test	Knife cross cutting
Mesa test	Mesa test
fatigue test	fatigue test
CCD	Open the CCD interface

4.9.2 Scale setting

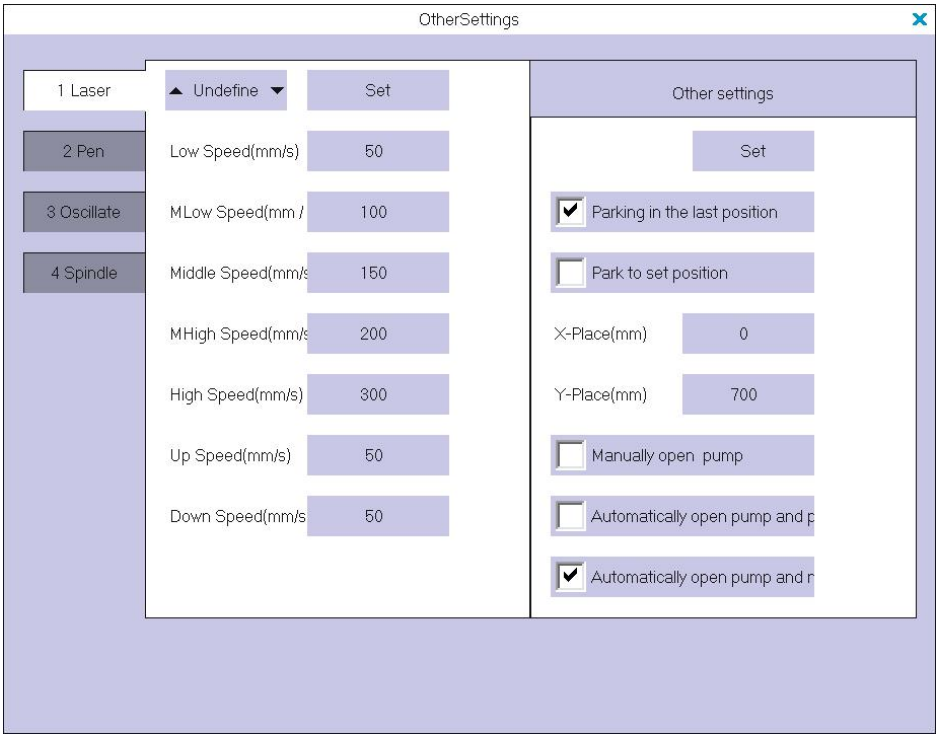
Parameters / buttons	meaning
X scale	Adjust adjusted X-axis pulse equivalent
Y scale	Adjust adjusted Y-axis pulse equivalent
X reality	Actual measurements of the X-axis
Y reality	Actual measurements of the Y-axis
Test size	Test the side length of the rectangle

Note: If the cutting diagram caused by the wrong pulse equivalent in the cutting process is inaccurate, you can cut a rectangle with the corresponding side length by testing, and by measuring the actual value to fill in the box, the system can automatically calculate the accurate pulse equivalent.

4.9.3 Other settings

Parameters / buttons	meaning
	Modify each gear speed
	Cut off the parking position


Manually open pump
Automatically open pump and p
Automatically open pump and r
Custom adsorption partition mode


OtherSettings
1 Laser
2 Pen
3 Oscillate
4 Spindle
Undefine
Set
Low Speed(mm/s)
50
MLow Speed(mm /
100
Middle Speed(mm/s
150
MHigh Speed(mm/s
200
High Speed(mm/s)
300
Up Speed(mm/s)
50
Down Speed(mm/s
50
Other settings
Set
Parking in the last position
Park to set position
X-Place(mm)
0
Y-Place(mm)
700
Manually open pump
Automatically open pump and p
Automatically open pump and r

graph 4-9-3-1

5. System debugging

Basic system configuration of the LYC

internal storage	128M
Flash	256M
indicator	no requirement
computer system	The WINDOWSXP system is not supported

5.1 System operation and preparation for operation

(Take a single spindle as an example)

5.1.1 Computer Settings

Step 1: Connect the card correctly and use the switch to connect the camera, motion control card and computer correctly.

the second step:

Set the computer IP address (as shown in Figure 5-1-1-1):

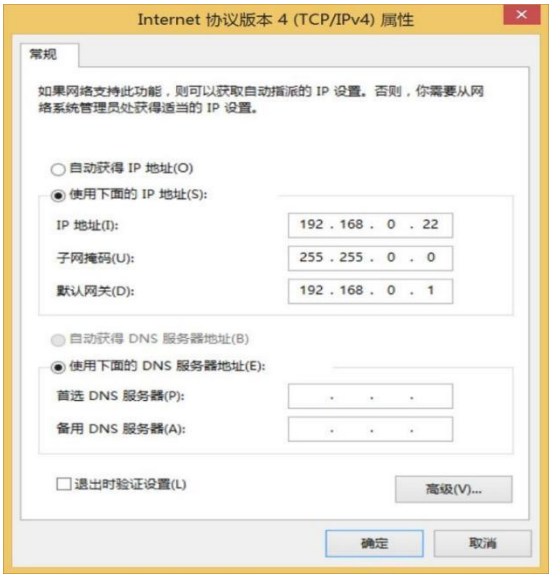
Set the Local Connection (WIN 10 as Ethernet) IP address;

Internet Agreement Version 4 (TCP \ IPv4);

IP address: 192.168.0.22 (not consistent with motion control card IP: 192.168.0.11)

Subnet mask: 255.255.0.0

Default gateway: 192.168.0.1



graph 5-1-1-1

Step 3: Install the camera driver

"With the lucky camera drive" is available in the CCD patrol side folder.

Before installing the camera driver, be sure to turn off the firewall and anti-virus software before installing it.

Open the "Leyu Camera Drive", as shown in Figure 6-1-1-2.

graph 5-1-1-2

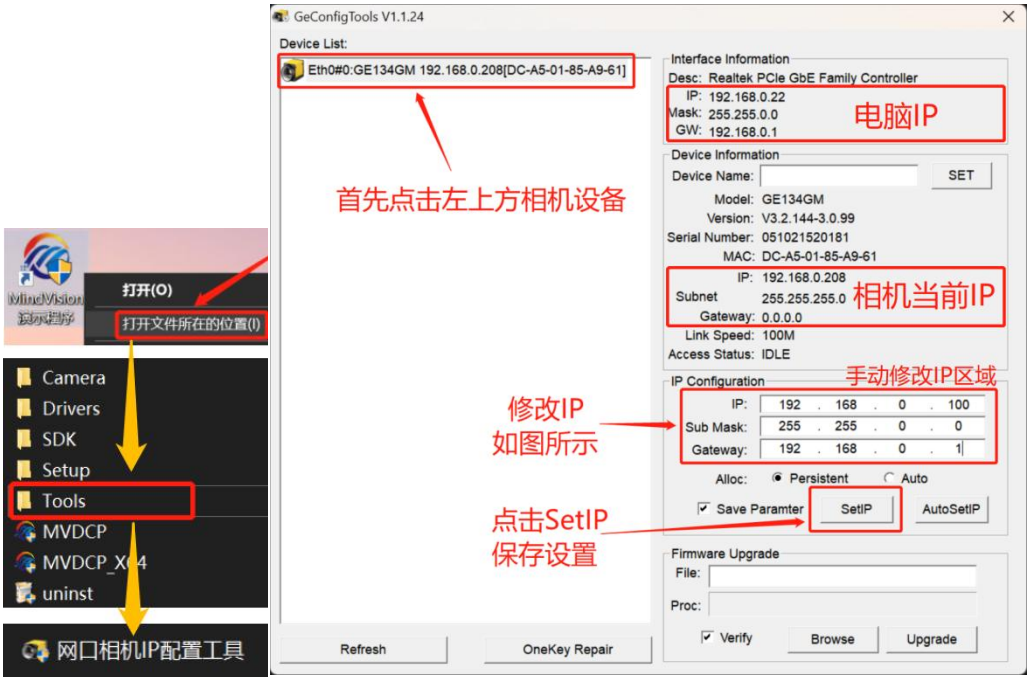
Click "OK" to do the next step according to the prompts, and the installation process popup can click "Always install", "allow" and "Trust".

After installation, the Presator icon appears on the desktop.

Note: The camera is an electronic product, which is not resistant to high temperature. The temperature shall not exceed 50℃.

Open "Demonstration ator" to see whether the camera is successfully connected, prompt "no available device" to check the connection of camera power supply and network cable;

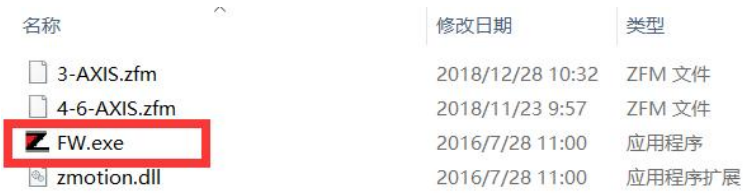
If prompt need "set camera IP", right mouse click "demonstration program" icon, open the file location open Tools folder, open gigabit network camera configuration tool, click the page, the upper left corner is a camera equipment icon, the right will appear the camera current IP, will appear computer local connection IP, camera set IP: 192.16.18.0.100, subnet mask and default gateway consistent with computer IP, click "SetIP" to save.


GeConfigTools V1.1.24
Device List:
Eth0#0:GE134GM 192.168.0.208[DC-A5-01-85-A9-61]
首先点击左上方相机设备
Interface Information
Desc: Realtek PCIe GbE Family Controller
IP: 192.168.0.22
Mask: 255.255.0.0
GW: 192.168.0.1
电脑IP
Device Information
Device Name:
SET
Model: GE134GM
Version: V3.2.144-3.0.99
Serial Number: 051021520181
MAC: DC-A5-01-85-A9-61
IP: 192.168.0.208
Subnet 255.255.255.0
Gateway: 0.0.0.0
相机当前IP
Link Speed: 100M
Access Status: IDLE
手动修改IP区域
IP Configuration
IP: 192 . 168 . 0 . 100
Sub Mask: 255 . 255 . 0 . 0
Gateway: 192 . 168 . 0 . 1
修改IP
如图所示
Alloc: Persistent Auto
Save Paramter
SetIP
AutoSetIP
点击SetIP
保存设置
Firmware Upgrade
File:
Proc:
Verify
Browse
Upgrade
Refresh
OneKey Repair
打开(O)
打开文件所在的位置(I)
Camera
Drivers
SDK
Setup
Tools
MVDCP
MVDCP_X64
uninst
网口相机IP配置工具

graph 5-1-1-2

Step 4: Firmware upgrade (as shown below)

graph 5-1-1-1



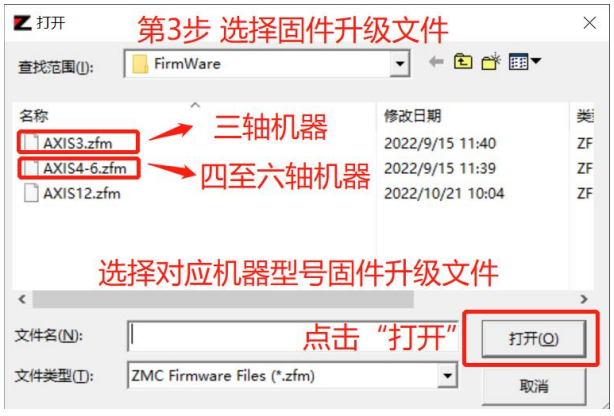
graph 5-1-1-2

Open Leyu system software folder, open "FirmWare" folder and open " FW.exe" order.

graph 5-1-1-3

Step 1: Click on the "link" in the second line.

Step 2: After the prompt link is successful, click "Browse Selection".



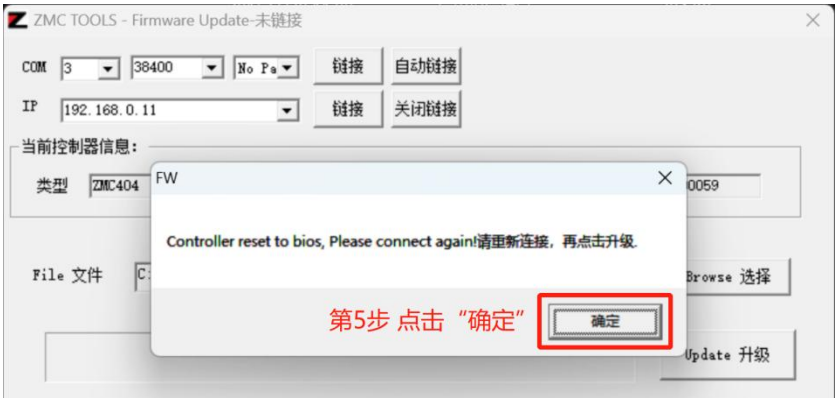
graph 5-1-1-4

Step 3: Select the firmware upgrade file for the

corresponding machine model, and click "OK".

graph 5-1-1-5

Step 4: Click on "Update Upgrade".



graph 5-1-1-6

Step 5: After prompting "Please reconnect, click Upgrade". Click "OK"

Note: If "firmware mismatch" is prompted, the firmware upgrade file selected does not correspond correctly to the machine model.

graph 5-1-1-7

Step 6: Click on the "link" in the second line.

Step 7: Click "Update Upgrade".

graph 5-1-1-8

Step 8: Wait for the upgrade, click "OK".

Step 9: Click "Exit".

(Note: Do Firmware Upgrade after setting the computer IP address.)

The single-spindle three-axis machine selects the "AXIS3.zfm" upgrade file.

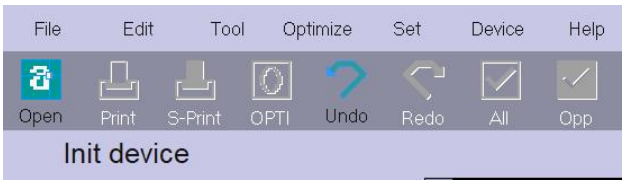
The vibratome machine selects the "AXIS4-6.zfm" upgrade file.

Step 5: Open the software "LY" to see whether the software is successfully connected. If prompted, "Device is currently connected", as shown in Figure 5-1-1-9,

graph 5-1-1-9

At this time, you need to check whether the computer IP is set correctly and check whether the network connection and the communication is normal, and whether the "Connection mode" is "Machine mode" in the "IP Settings" of the software.

When Figure 5-1-1-10 is displayed:

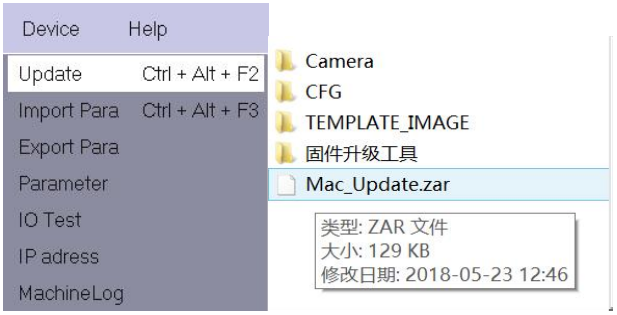


graph 5-1-1-10

5.1.2 Software Settings

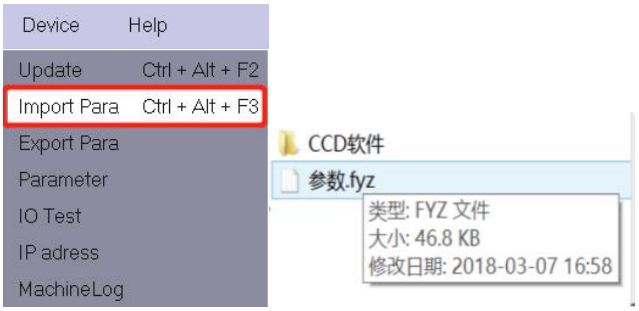
Step 1: Equipment upgrade and import parameters

Open the main software interface, open "Device" and click "Upgrade" as shown in Figure 5-1-2-1.(Upgrade file in the software folder, file: Mac_Update.zar):



graph 5-1-2-1

Open Device and click Import Parameters (the suffix is. File of fyz), see Figure 5-1-2-2.(The new control card has no parameters and requires external import):



graph 5-1-2-2

(Note: When upgrading, please confirm the upgrade file "Mac_U pdate. Whether the zar " belongs to the folder where the software is currently located.)

(In some cases, the upgrade and import parameters are mandatory during the software device initialization.)

Force import parameters: Ctrl + Alt + F3,

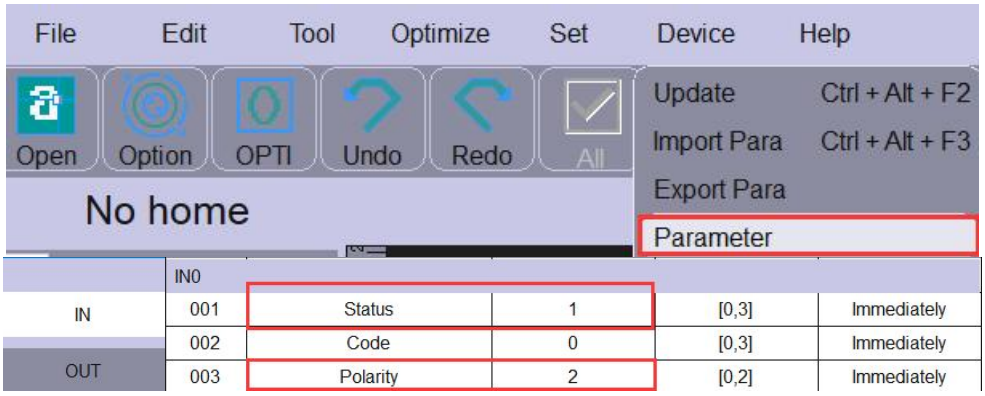
Forced upgrade: Ctrl+Alt+F2

Step 2: Check the I \ O

Open the software main interface "Device" and click "Parameters".

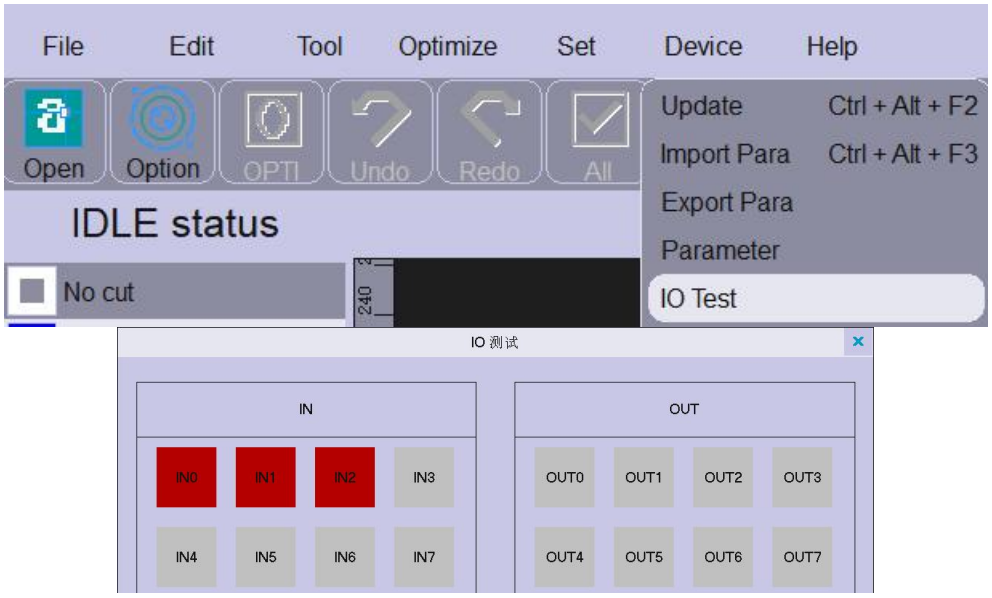
Click "IO parameter" to open the corresponding limit input signal, "state" to 1,

"Polarity" is set to 2 and 1 according to the limit polarity used.



graph 5-1-2-3

Open the "IO Test" in the "Device" menu, as shown in Figure 5-1-2-3. Check the I \ O to see if the wiring is correct.



graph 5-1-2-4

IN 0- -X, IN 1- -Y, IN 2- -Z origin: manually trigger the origin limit of each axis of the device, check the color change of IN signal, trigger the color change indicates that the signal is correct and the reason for not changing.

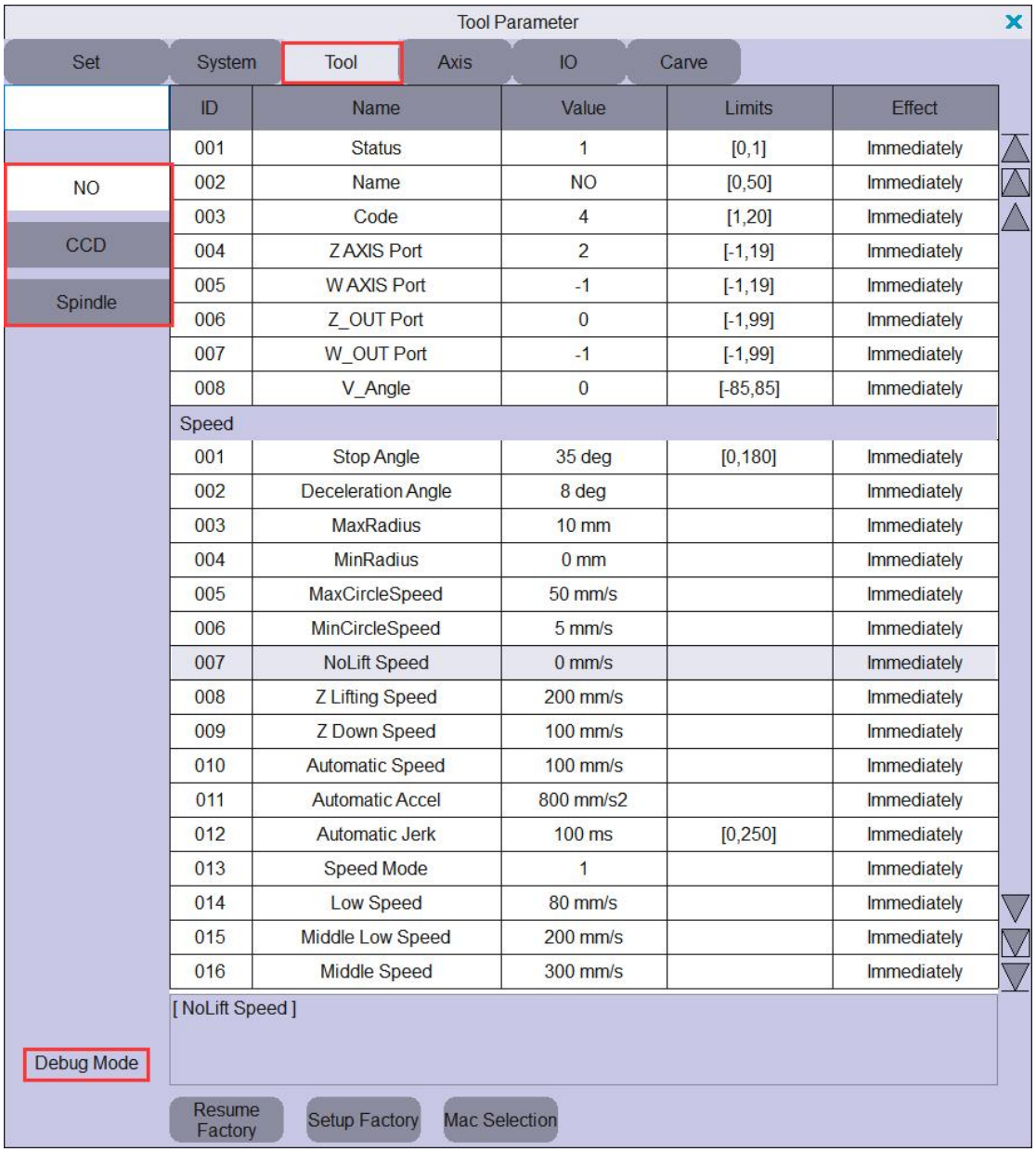
OUT 11-Spindle output signal: click the OUT 11 red box to

check whether the spindle rotates, no response to check whether the wiring is correct, and whether the analog parameters are set.(OUT 9 Vibrator Tool)

(Specific ports according on the manufacturer's wiring method)

Step 3: axis parameter setting

(First, enter the management password: 76980 in the lower left corner of the parameter interface, and enter the debugging mode.)



ID	Name	Value	Limits	Effect
001	Status	1	[0,1]	Immediately
002	Name	NO	[0,50]	Immediately
003	Code	4	[1,20]	Immediately
004	Z AXIS Port	2	[-1,19]	Immediately
005	W AXIS Port	-1	[-1,19]	Immediately
006	Z_OUT Port	0	[-1,99]	Immediately
007	W_OUT Port	-1	[-1,99]	Immediately
008	V_Angle	0	[-85,85]	Immediately
Speed				
001	Stop Angle	35 deg	[0,180]	Immediately
002	Deceleration Angle	8 deg		Immediately
003	MaxRadius	10 mm		Immediately
004	MinRadius	0 mm		Immediately
005	MaxCircleSpeed	50 mm/s		Immediately
006	MinCircleSpeed	5 mm/s		Immediately
007	NoLift Speed	0 mm/s		Immediately
008	Z Lifting Speed	200 mm/s		Immediately
009	Z Down Speed	100 mm/s		Immediately
010	Automatic Speed	100 mm/s		Immediately
011	Automatic Accel	800 mm/s2		Immediately
012	Automatic Jerk	100 ms	[0,250]	Immediately
013	Speed Mode	1		Immediately
014	Low Speed	80 mm/s		Immediately
015	Middle Low Speed	200 mm/s		Immediately
016	Middle Speed	300 mm/s		Immediately

graph 5-1-2-5

Calculcalculate the pulse equivalent of X, Y and Z axes:

The "pulse equivalent" of this software is: the number of pulses of the driver * deceleration ratio / the stroke of the machine. The pulse equivalent of this software must be greater than or equal to 120. If it is less than 120, the number of pulses per turn of the drive must be changed.

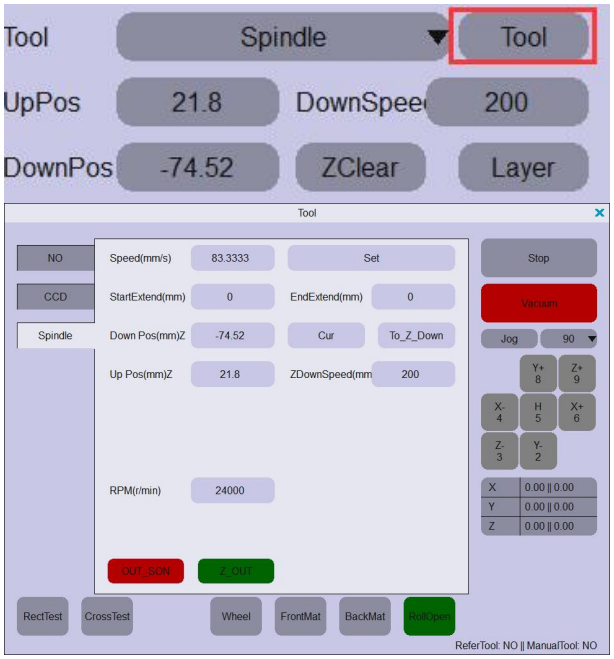
Low speed: X and Y axis are set to 20, Z axis is set to 10.

If the equipment does not return to zero, the machine will not move when the X, Y and Z axes are not set.(Low speed movement is adopted when the equipment is not returned to zero, and the specific speed value is set according to the requirements.)

Maximum value: Set this parameter according to the actual running stroke of each axis of the machine.(Note that the Z axis stroke is 0 and the minimum value is negative)

Step 4: Equipment back to zero

Open the "tool" button on the right side of the software main interface, and check whether the running direction of axes X, Y and Z is correct by clicking the machine control button inside the "tool". If incorrect, please change the rotation direction of the software axis parameter or the motor rotation parameter of the driver. After the correct running direction can return to zero.



graph 5-1-2-6

Step 5: CCD camera Settings

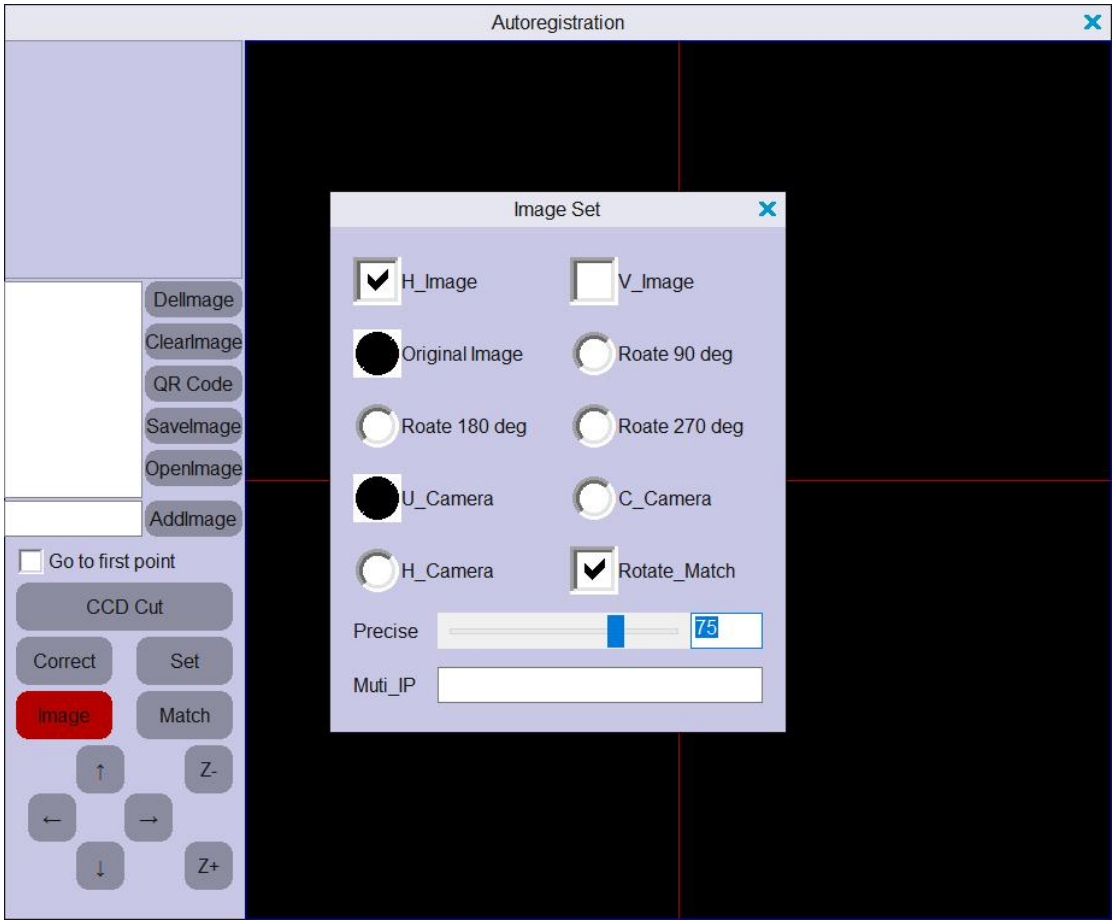
(The recommended camera positioning height is 10cm-20cm)

Display direction: Open "CCD", click "Settings" button, select the camera type (select the common camera) and adjust the camera display direction through the setting interface option. The accuracy setting range of 50-90 is generally set to 70.

Image: Click the "Image" button to change from red to green, put the mouse on the camera display screen, press the keyboard Ctrl key + mouse wheel (or direct mouse wheel) to adjust the size of the positioning circle template in the camera screen. The size of the positioning circle template is adjusted according to the size of the Mark point (the red circle should be slightly larger than or equal to the Mark point size). After the adjustment, click "Image" again to restore red.

Calibration: manually move the camera to the material Mark point position, click "Add template" (template naming area can set the template name, such as "1"), click "calibration", the machine moves the camera to automatically match. After the calibration, the mouse clicks the upper right corner of the display screen and observe whether the camera moves to the click.

At the bottom left of the CCD interface, the steering wheel is a fine tuning button (different software version, up and down and left and right movement is normal).



graph 5-1-2-7

Note: When using the camera light source, it is necessary to ensure that the light in the CCD display area is uniform, but the light can not vertically illuminate the camera display area to prevent the reflective material from reflecting light, resulting in the failure of the camera positioning.

5.1.3, and the offset value setting

Step 1: Click the machine motion control button "Z-" on the right side of the software main interface to bring the knife tip to the material surface. Click "Z Zero" on the right side of "Cutting depth" to set the knife depth.

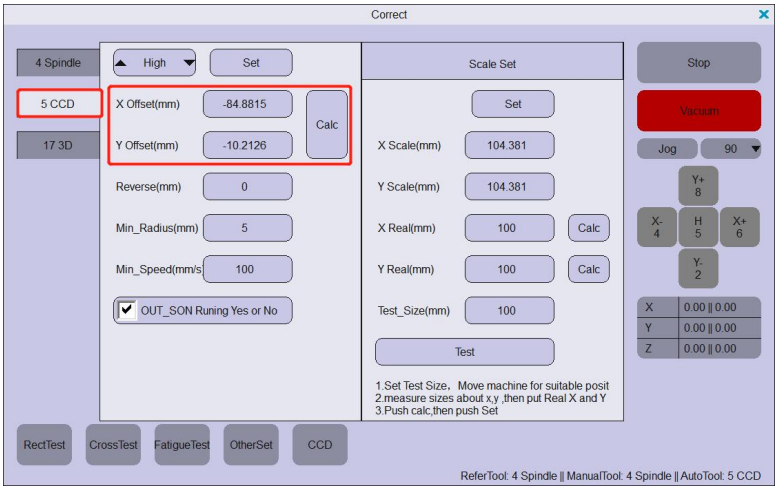
The "Lift knife height" is the safety height and the empty range height. (Enter the numbers manually.)

"Spinlock" click to make the spindle rotation.

graph 5-1-3-1

Step 2: Click the "Correction" button on the right side of the main interface. The password is 76980. Select the "CCD" on the far left of the correction interface (the default spindle is the reference tool, so the X and Y offset value of the spindle must be 0, all tools refer to the spindle to set the offset value), move the device to the appropriate position (note: do not near the limit of the X and Y axis), click the "CCD" button at the bottom of the interface to the spindle, start the spindle, cut the cross, and align the center. After completion, click "Computing" on the right side of "X" Offset Value "and" Y "Offset Value" on the "Correction" page, and the system will

automatically calculate the offset value. Finally, click the "Settings" button above to save, and the setting is successful. (After the offset value setting is saved, it is recommended to move to another position and repeat the "cross test" to determine if the offset value is accurate)



graph 5-1-3-2

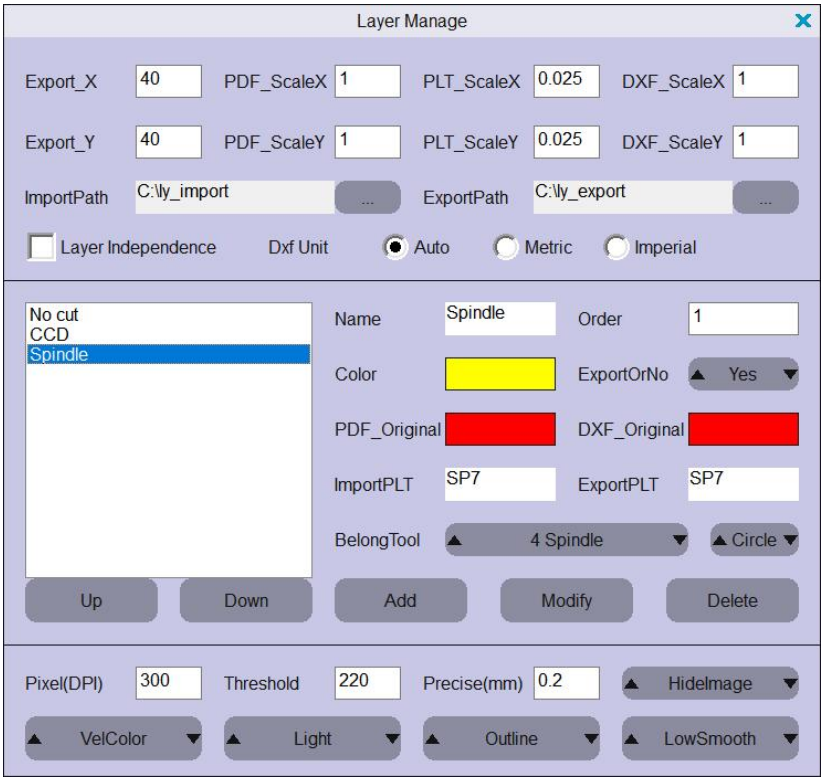
Supplement: Scale setting is used to test whether the pulse equivalent is correct

Operation process: Move the device to the appropriate position, enter the required cutting square dimension in the "Test Size", and click "Test". After cutting, measure the actual walking size of the X axis and Y axis with a ruler, input the actual size into the "actual X" and "actual Y", and click the "calculate" button. At this time, the system automatically calculates the accurate pulse equivalent, and then click the set to save.

5.2 Plane cutting edge finding operation

5.2.1 Layer setting

Click the "Layer" button in the toolbar, set the "DPI" in the layer (the value is consistent with the actual resolution DPI, pixel unit inch, recommended image resolution 300 DPI), select "outer outline" or "inner loop" (select "outer outline" will only extract picture peripheral outline, select "inner loop" will extract the outer outline and inner outline of the picture, choose according to the requirements).



graph 5-2-1

The grayscale threshold is generally set at 200-250, which is adjusted flexibly adjusted according to the picture.

The higher the gray threshold, the higher the extraction accuracy, the higher the picture quality requirement.

PLT, DXF export unit mm (mm)

Edit the Layer tool:

Add layer tool: As shown in Figure 5-2-1, click the "Main axis" of the left layer tool, edit the name, color, associated hardware, and then click Add.

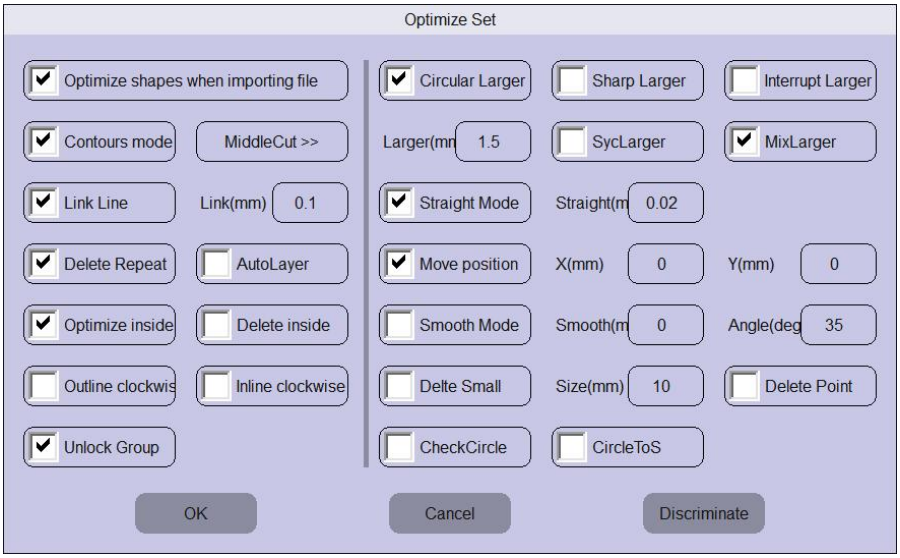
Modify layer tool: Figure 5-2-1, click the "Main axis"

of the left layer tool, edit the name, color, associated hardware, and then click modify.

Delete layer tool: As shown in Figure 5-2-1, click the "Main axis" of the left layer tool, and then click Delete. (The layer tool cuts the upper left layer bar of the main interface, as shown in Figure 3-1, page 13)

5.2.2 Optimize the setting

Click "Options" in "Optimize" in the menu bar, and the Optimization Settings interface appears.



graph 5-2-2

Straightening mode: "straightening" of JPG, TIF, PNG, BMP: "0.04-0.3"; "0.0" 0.02-0.05 ".

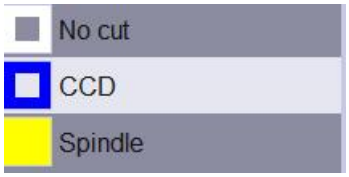
Edge expansion: set the "edge expansion mode", the edge expansion distance is set to the radius value of the tool according to the size of the tool used (the value can be negative, the path will shrink);

Cutting direction: the default cutting direction of the system is counterclockwise cutting, if necessary, clockwise check "outer contour clockwise" and "inner contour clockwise".

Note: The drawing cannot add an external box. Changing any value in the optimization option needs to re-import the file to take effect. To change the value, click Enter, and then click OK to save.

5.2.3 Map setup

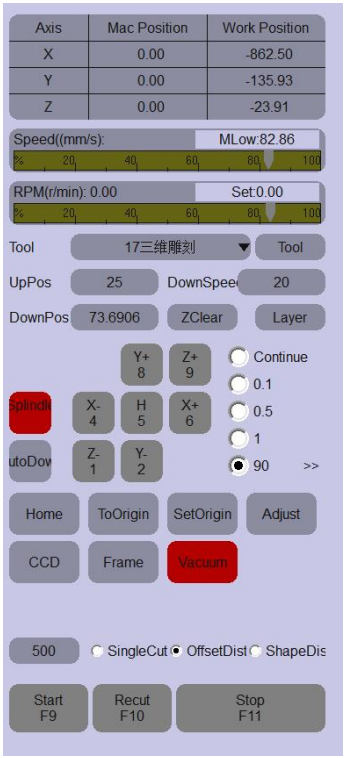
Click the "Open" button in the main interface toolbar to select the file to be opened. After the file is opened, select 3~4 Mark points to modify the CCD layer color; then select the drawing to be cut to modify the corresponding tool layer color.



graph 5-2-3

5.2.4 Set the knife depth

Click the machine motion control button "Z-" on the right side of the main software interface, to bring the knife tip to the table surface, and click "Z Zero" on the right side of "Cutting depth" to set the knife depth. The height of the knife is set according to the requirements (the height of the knife is the height of the relative cutting depth, which should be greater than the material thickness) and click to set the saving parameters.

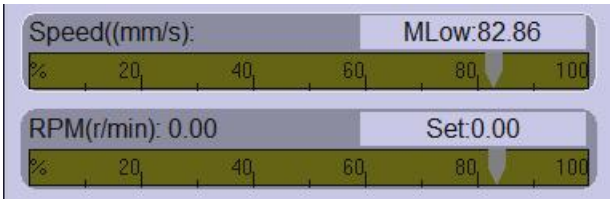


graph 5-2-4

5.2.5 Set the cutting speed

Software main interface, tool selection corresponding tool to input the speed value in the "speed" degree bar.

The "spindle" is the cutting and processing speed, and the "CCD" is just the speed of the camera looking for the location point (mark point).

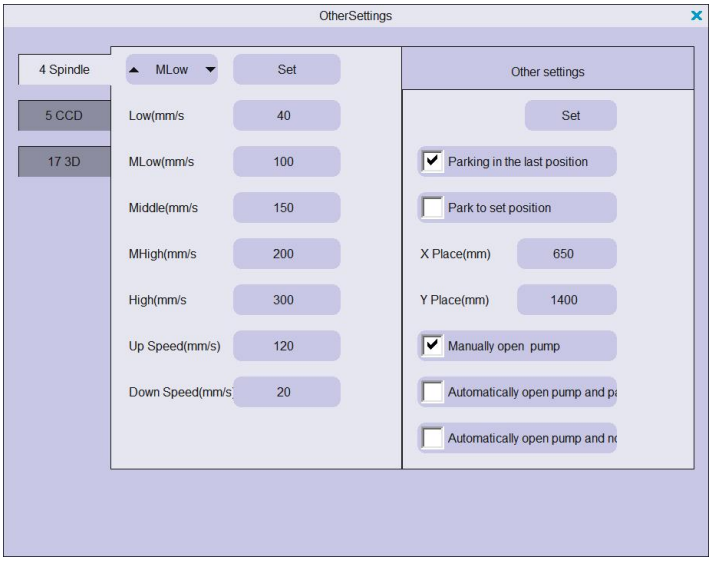


graph 5-2-5-1

(When the speed mode is changed to 1 for the corresponding process parameters, the speed bar becomes five fixed speed gears. Click the "other setting" button at the bottom of the correction interface, can set the gear speed, 5 segment gear "low speed", "low" in medium speed "," medium speed "," "high speed", according to the need of speed to set, and then through the corresponding tool above the "speed" up and down arrow switch cutting speed, select after complete click set to save.)

In "Other Settings", you can set the parking position of the nose after cutting, and set it according to the actual requirements.

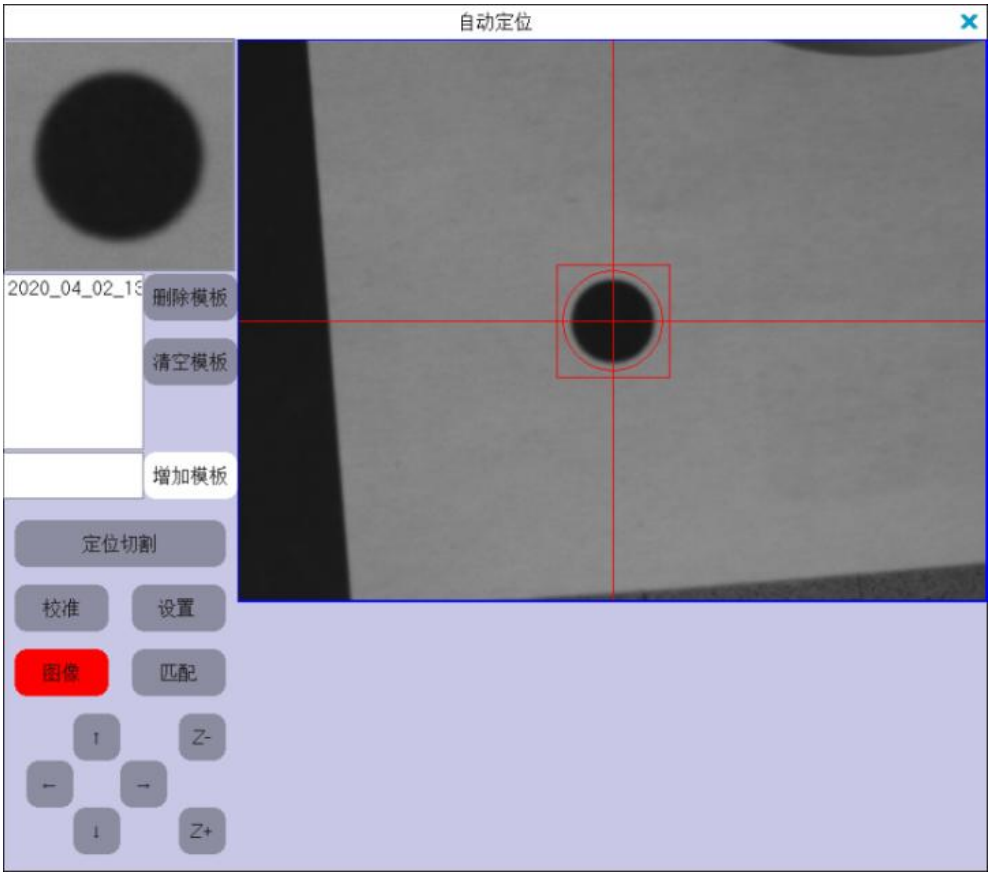
Enter the knife speed and click "Set".



graph 5-2-5-2

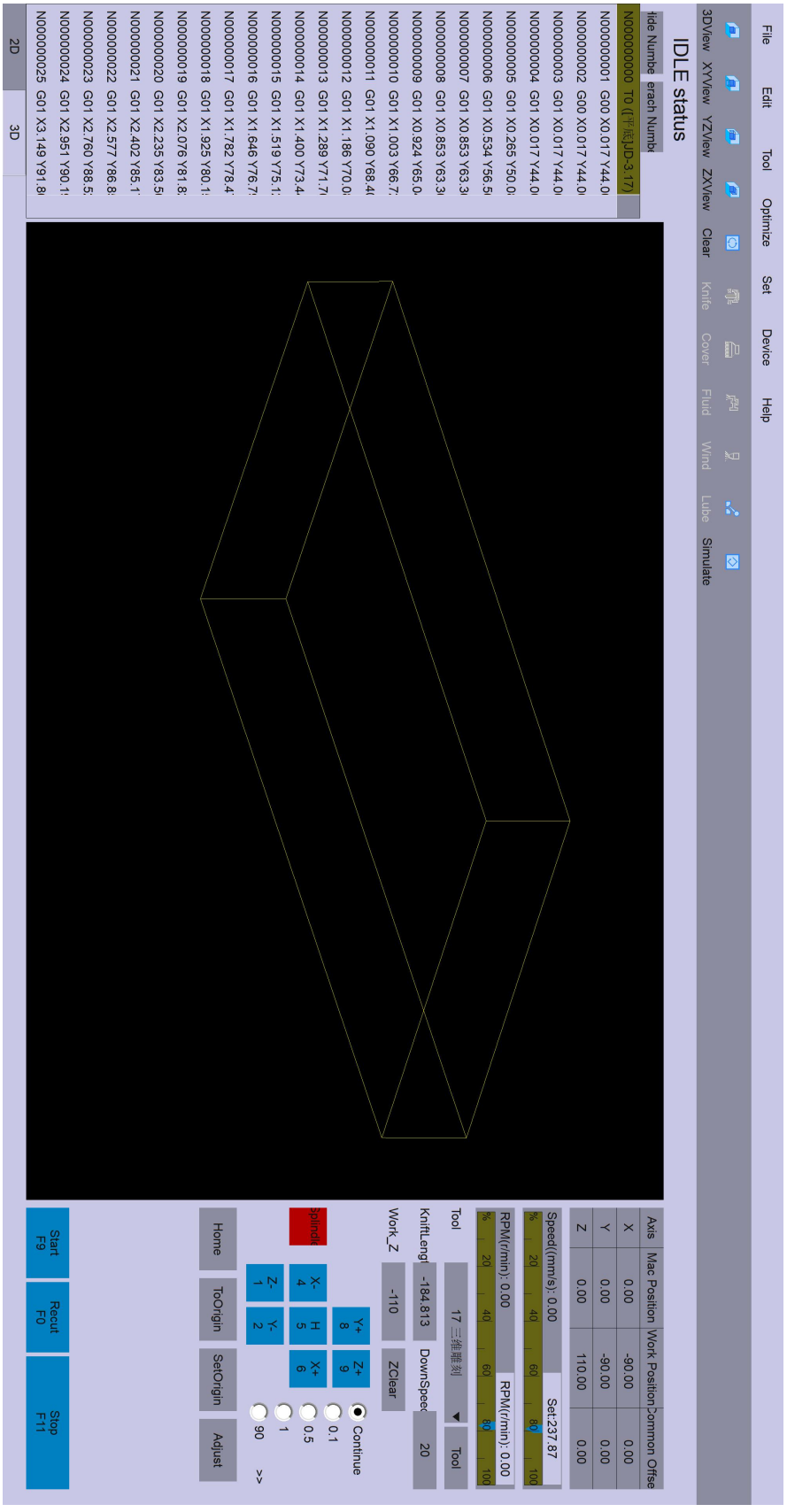
5.2.6 CCD positioning and cutting

Open the "CCD" in the main interface operation area, move the machine to the bottom of the left Mark point to increase the template, as shown in Figure 5-2-6 (the red circle in the camera template frame is not too large or too small, as shown in Figure 5-2-6, set to 5.1.2 Step 5: CCD camera Settings), click the positioning cut, the equipment will automatically look for several other Mark points, Mark point positioning after the spindle start to cut the graphic position for cutting.



graph 5-2-6

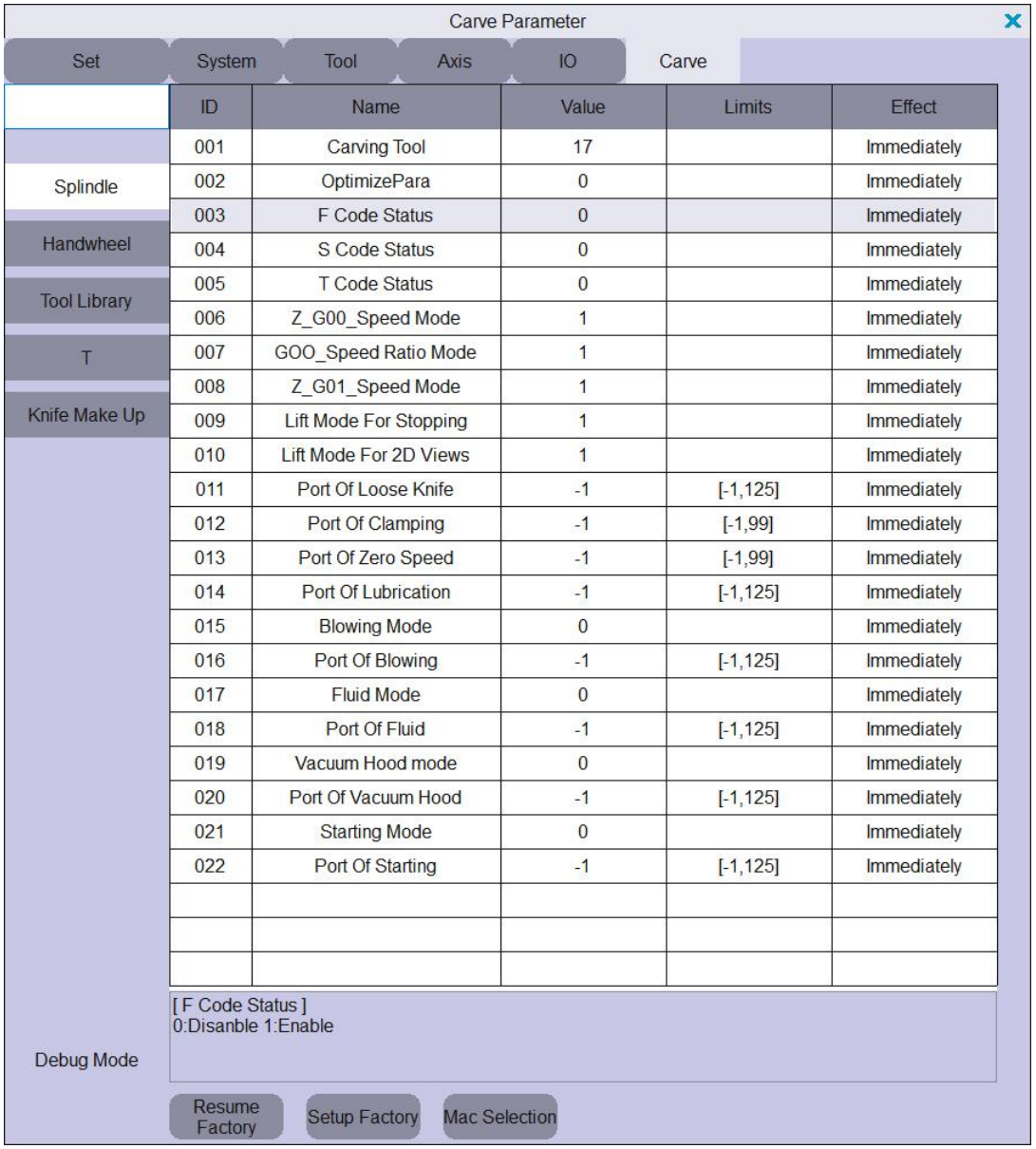
5.33 D engraving operation



graph 5-3-1

5.3.1 Parameter setting

Step 1: Click "Parameters" in "Devices" in the menu bar of the main interface, and click "Carving Parameters" column.(Enter the management password: 76980 in the lower left corner of the parameter interface to enter the debugging mode.)

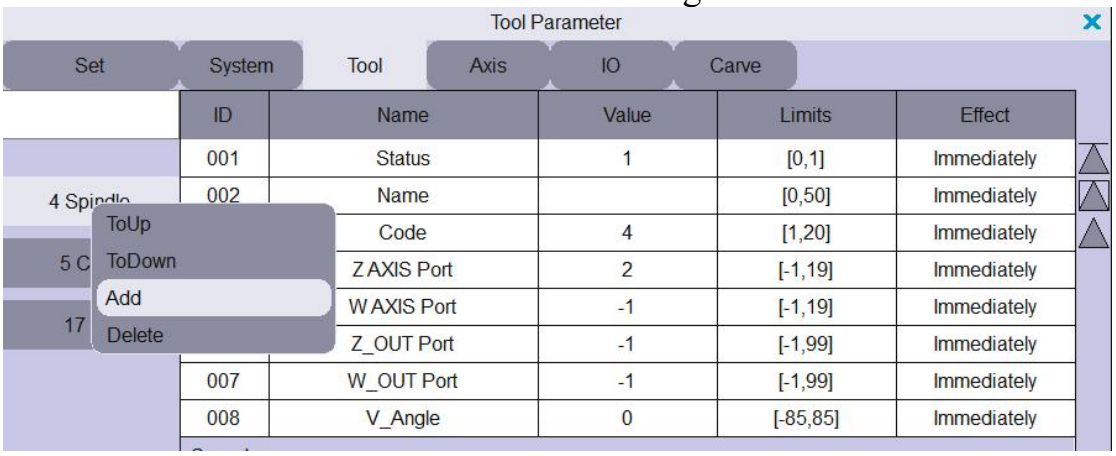


ID	Name	Value	Limits	Effect
001	Carving Tool	17		Immediately
002	OptimizePara	0		Immediately
003	F Code Status	0		Immediately
004	S Code Status	0		Immediately
005	T Code Status	0		Immediately
006	Z_G00_Speed Mode	1		Immediately
007	GOO_Speed Ratio Mode	1		Immediately
008	Z_G01_Speed Mode	1		Immediately
009	Lift Mode For Stopping	1		Immediately
010	Lift Mode For 2D Views	1		Immediately
011	Port Of Loose Knife	-1	[-1,125]	Immediately
012	Port Of Clamping	-1	[-1,99]	Immediately
013	Port Of Zero Speed	-1	[-1,99]	Immediately
014	Port Of Lubrication	-1	[-1,125]	Immediately
015	Blowing Mode	0		Immediately
016	Port Of Blowing	-1	[-1,125]	Immediately
017	Fluid Mode	0		Immediately
018	Port Of Fluid	-1	[-1,125]	Immediately
019	Vacuum Hood mode	0		Immediately
020	Port Of Vacuum Hood	-1	[-1,125]	Immediately
021	Starting Mode	0		Immediately
022	Port Of Starting	-1	[-1,125]	Immediately

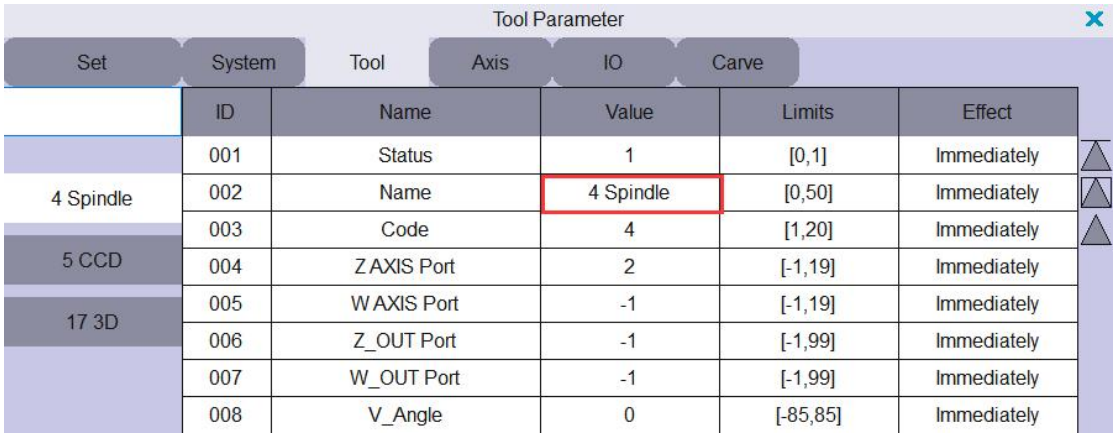
graph 5-3-1-1

Step 2: Set the pen number corresponding to the "17" of the engraving tool, and then set whether to enable F, S, T instructions according to the requirements, the speed control mode and whether there is a knife action when switching the interface and stop.(All "ports, signals" are set to "-1" and "Status" is "0". Set the parameters according to Figure 5-3-1-1)

Step 3: Add a process parameter to the process parameters. Open "Process Parameters" first, right-click "spindle", click "Add", and then click Yes. Then click on the new added spindle to change the "pen number" to "17" and the name to "173 D carving"



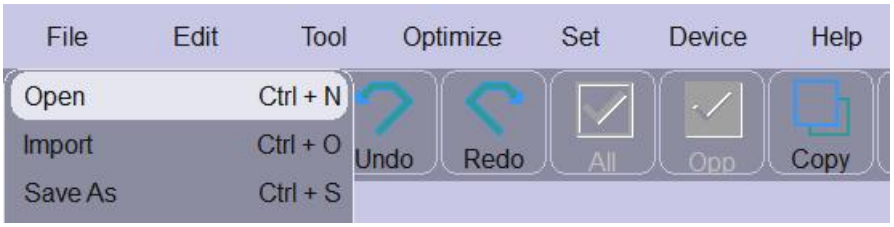
graph 5-3-1-3



graph 5-3-1-3

5.3.2 Carving and processing setting

Step 1: Click "Open" in the "file" in the menu bar to import the G code file (suffix ".nc" document).



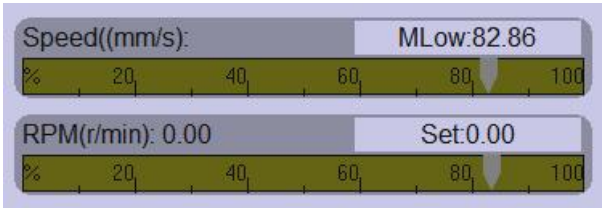
graph 5-3-2-1

Step 2: Move the origin of the machine workpiece (processing starting point), left-click the "workpiece coordinates" area, and clear the workpiece coordinates.

Axis	Mac Position	Work Position
X	0.00	-862.50
Y	0.00	-135.93
Z	0.00	71.40

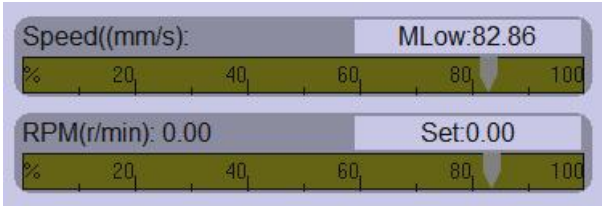
graph 5-3-2-2

Step 3: Open the tool tool interface and set the maximum machining speed.



graph 5-3-2-3

Step 4: Adjust the drag speed, rotation speed and feed bar.



graph 5-3-2-4

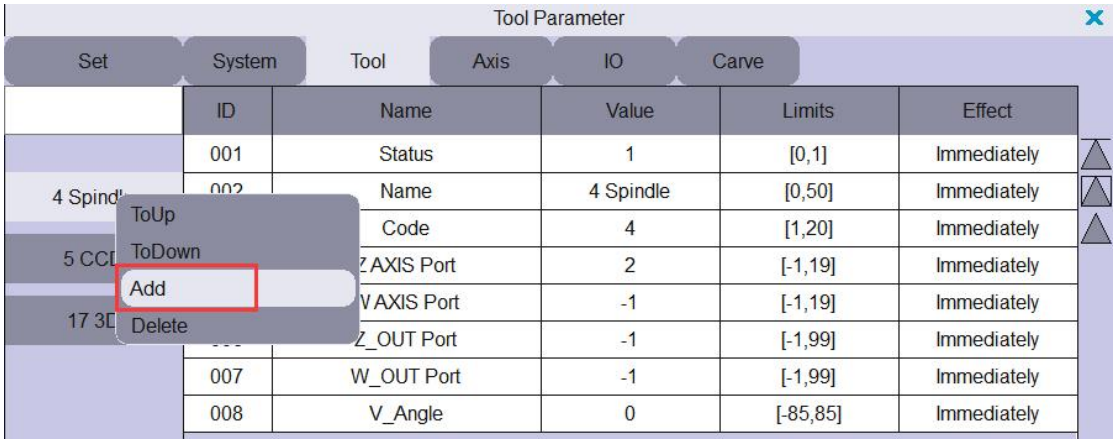
Step 5: Click "Processing".

6 Vibrator knife debugging process

Take the single spindle plus cylinder auxiliary vibrating knife Z-axis cutting machine, four-axis system as an example. (First, enter the management password: 76980 in the lower left corner of the parameter interface, and enter the debugging mode.)

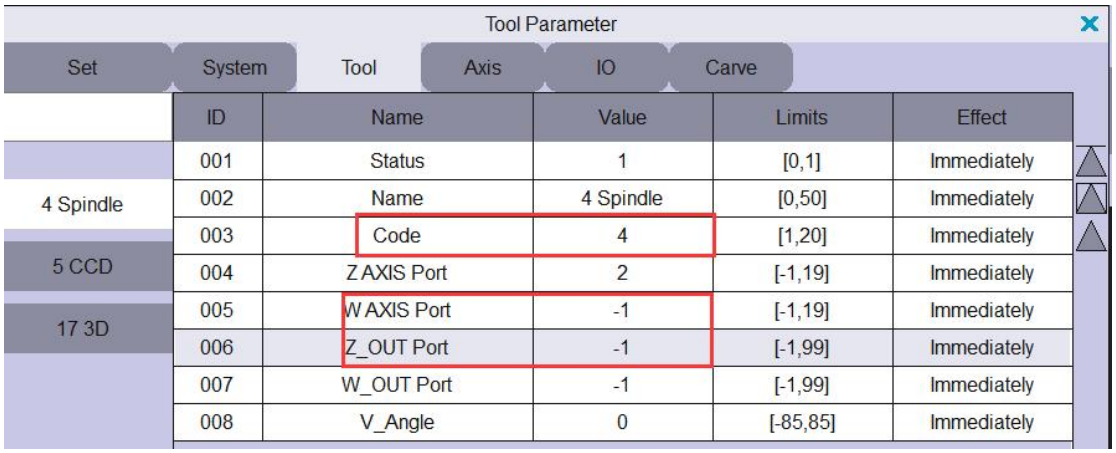
6.1 Add the process parameters

Step 1: Add a new vibratome parameter to the process parameters. Open "Process Parameters" first, right-click "spindle", click "Add", and then click Yes.



graph 6-1-1

Step 2: Click the newly added "4 spindle" process parameters to change the corresponding parameters: pen number, Z axis number, W axis number, Z output and output signal. (Below figure 6-1-2 and Figure 6-1-3 parameters are general Z-axis cylinder auxiliary vibratome cutting machine)



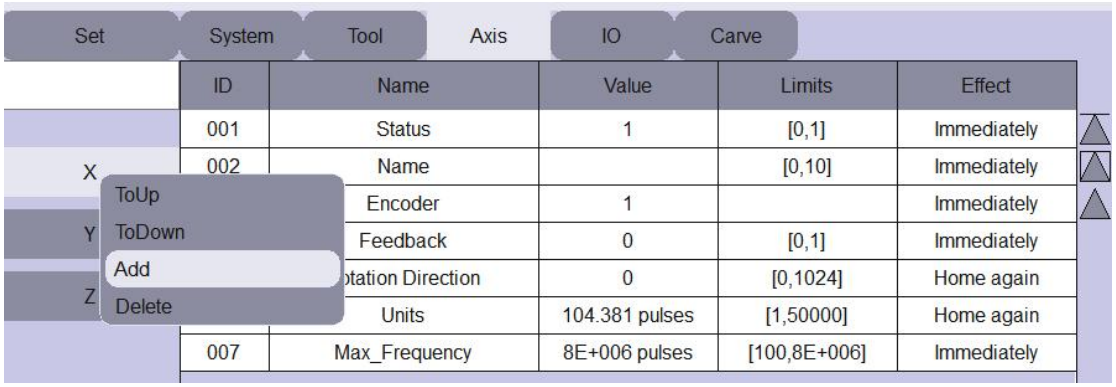
graph 6-1-2

Port				
001	OUT Port	11	[-1,125]	Immediately
002	AOUT Port	0	[-1,1]	Immediately
003	AOUT Value	0 RPM		Immediately
004	X AXIS Port	0	[-1,19]	Immediately
005	Y AXIS Port	1	[-1,19]	Immediately
006	Closing OUT	1		Immediately
007	Closing AOUT	1		Immediately

graph 6-1-3

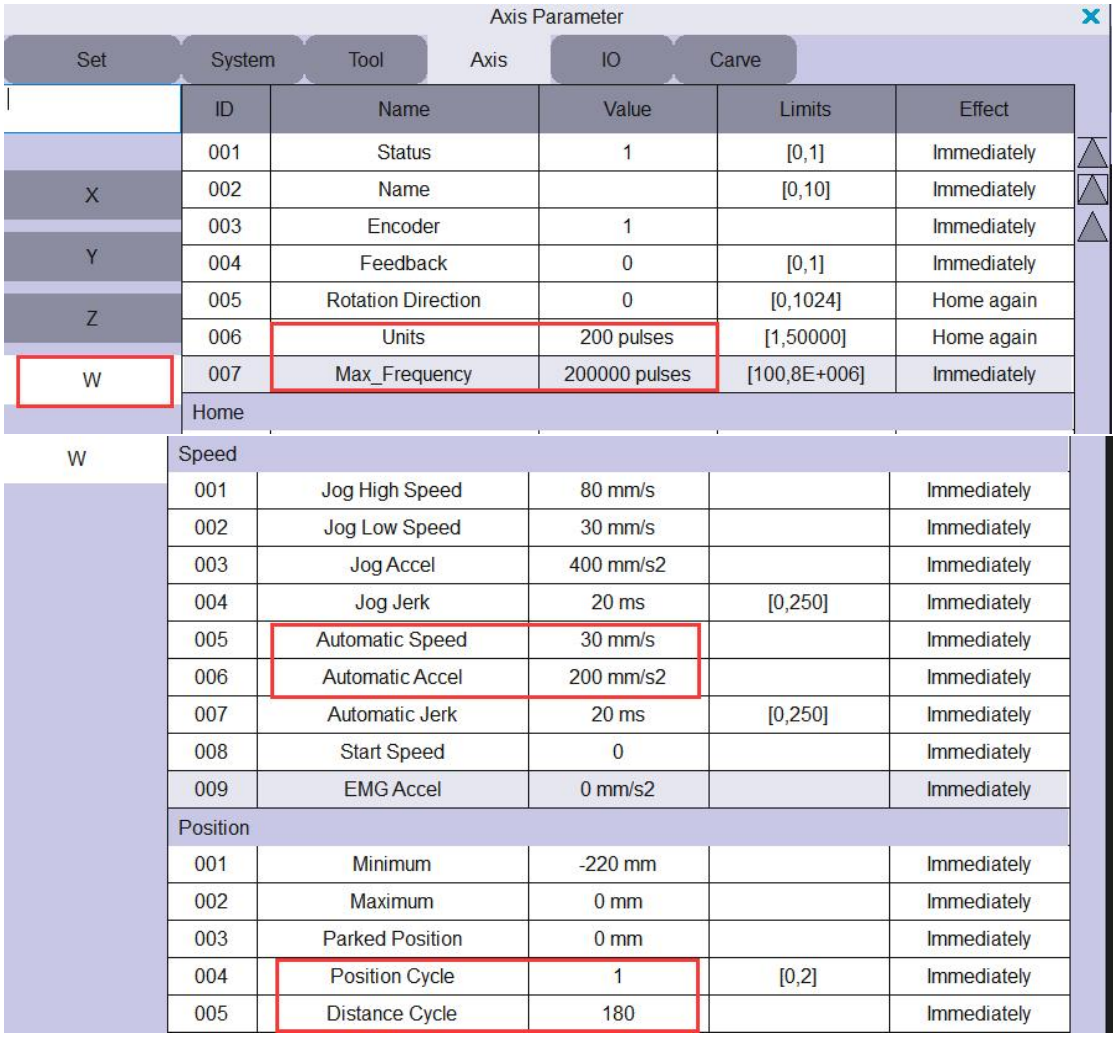
6.2 Add the axis parameters

Step 1: Add a parameter for an axis to Axaxis Parameters. First open "Axis parameters", right-click "Spindle", click "Add", and then click Yes.



graph 6-2-1

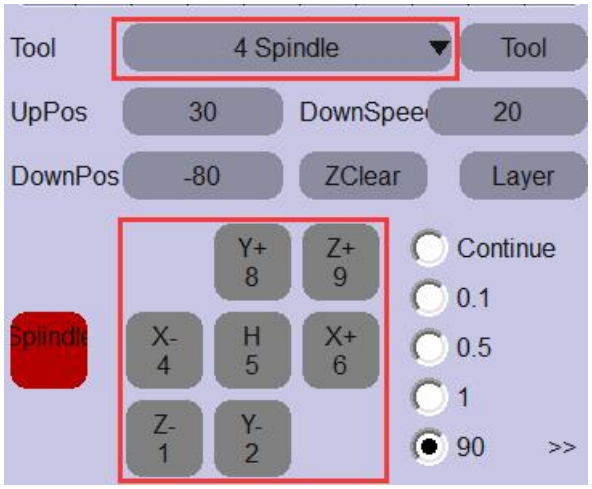
Step 2: Click the newly added "W" axis parameters and change the corresponding parameters: pulse equivalent, maximum frequency, return to zero port, automatic speed, automatic acceleration, empty-range speed, empty-range acceleration, maximum, minimum, position period, cycle distance. Finally, click "Set up" to save the parameters. (It can be set according to figure 6-2-2 below, and the specific parameters will be different.)



ID	Name	Value	Limits	Effect
001	Status	1	[0,1]	Immediately
002	Name		[0,10]	Immediately
003	Encoder	1		Immediately
004	Feedback	0	[0,1]	Immediately
005	Rotation Direction	0	[0,1024]	Home again
006	Units	200 pulses	[1,50000]	Home again
007	Max_Frequency	200000 pulses	[100,8E+006]	Immediately
Home				
Speed				
001	Jog High Speed	80 mm/s		Immediately
002	Jog Low Speed	30 mm/s		Immediately
003	Jog Accel	400 mm/s2		Immediately
004	Jog Jerk	20 ms	[0,250]	Immediately
005	Automatic Speed	30 mm/s		Immediately
006	Automatic Accel	200 mm/s2		Immediately
007	Automatic Jerk	20 ms	[0,250]	Immediately
008	Start Speed	0		Immediately
009	EMG Accel	0 mm/s2		Immediately
Position				
001	Minimum	-220 mm		Immediately
002	Maximum	0 mm		Immediately
003	Parked Position	0 mm		Immediately
004	Position Cycle	1	[0,2]	Immediately
005	Distance Cycle	180		Immediately

graph 6-2-2

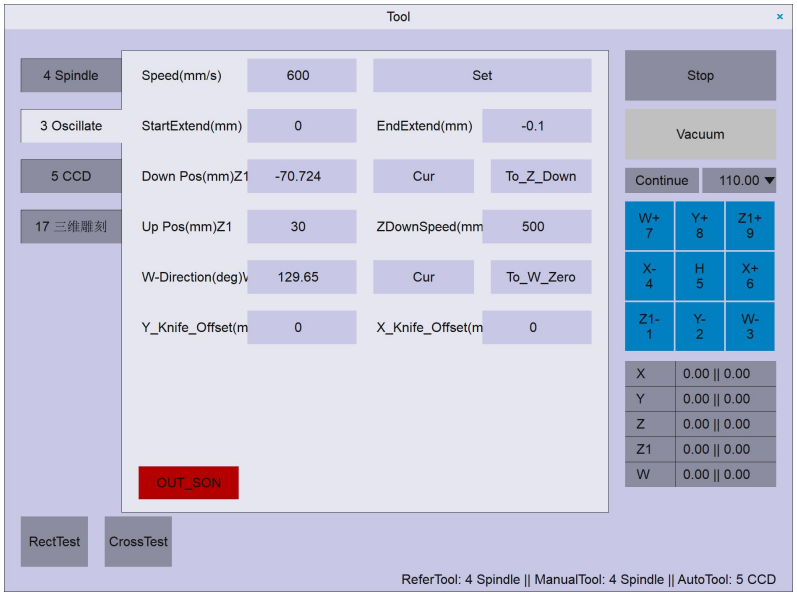
Step 3: Open the main interface of the software, select "3 vibration external knife" tool, click "W-" (clockwise), "W +" (counterclockwise), to see whether the direction of rotation is correct. If not, modify the W axis parameter Rotation Direction parameter.



graph 6-2-4

6.3 Knife-direction setting

Step 1: After the machine returns to zero, open the main interface "tool", select "3 vibration external knife" tool ", click" W- "(clockwise)," W + "(counterclockwise), rotate the blade to make the blade parallel to the X axis and toward the X axis, click the" Current "button on the right side of" knife direction "," Set " to save the parameters.

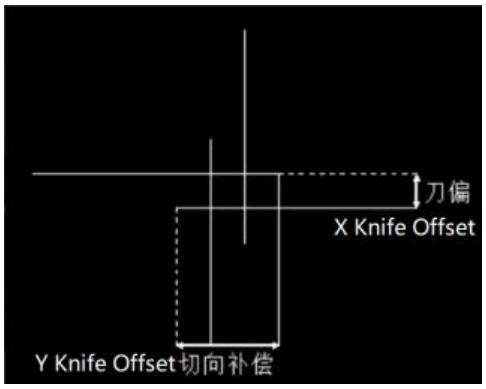


graph 6-3-1

Step 2: Click "Z-" to adjust the "cutting depth" to the material surface. Conduct a "cross test". Observe whether the "cross" is bent, and fine tune the "knife" value to make the "cross" line smooth.

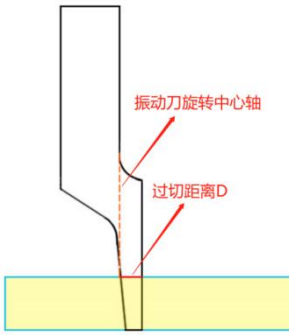
Step 3: knife bias and tangential compensation

Open the "tool" on the main interface, select the "3 Vibrating external knife tool", and click "Cross Test". If the cutting effect is shown in Figure 7-3-1 (for the amplification effect), please fill in half of the offset distance into the parameter box of knife bias and tangential compensation. Until the cut "cross" is complete and closed.



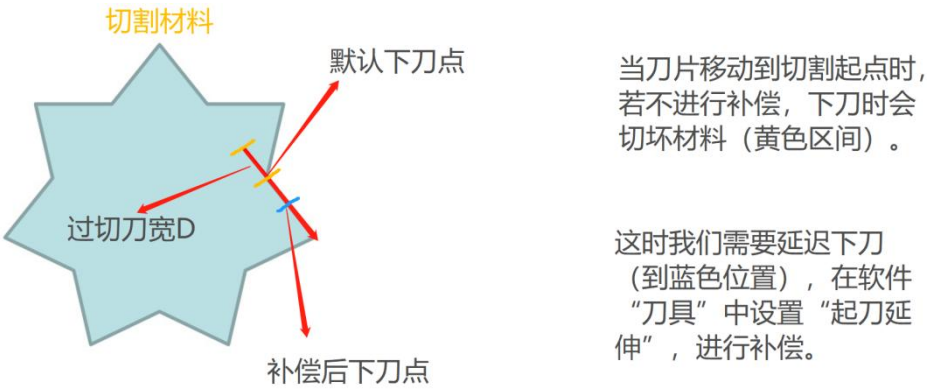
graph 6-3-2

6.4 Start extension



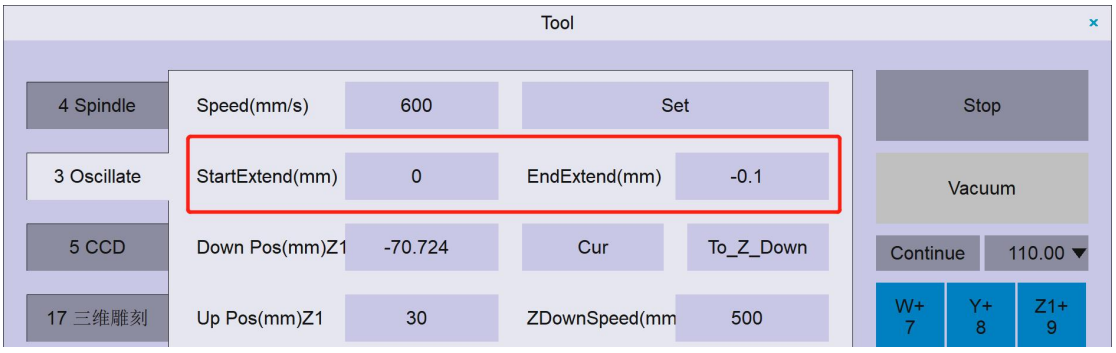
graph 6-4-1

For example, the back of the horn knife is behind the center of the rotating shaft of the vibrating knife, and the back of the knife will cause overcut. As shown above in figure 6-4-1, the overcut distance D.



graph 6-4-2

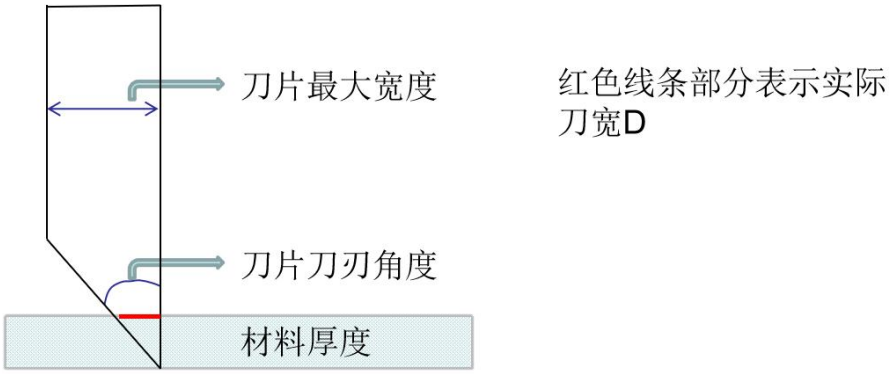
When the cutting figure has an internal angle, and there is no "knife extension" compensation, in Figure 6-4-2, the default cutting will overcut D and break the material. You need to set Start Extension to-D in the Tool. The knife will delay the distance of D to cut (blue position).



graph 6-4-3

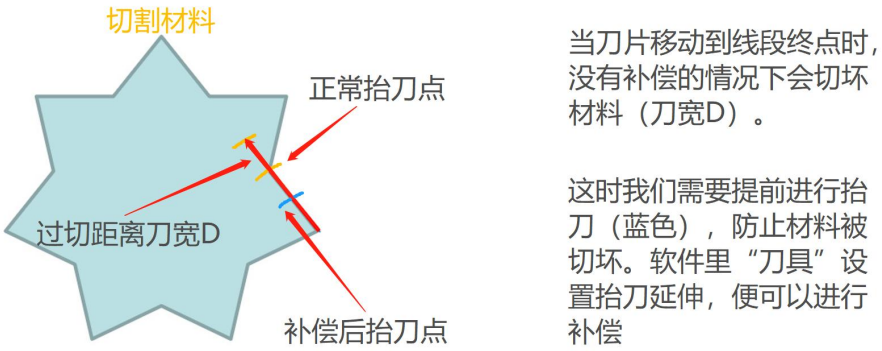
6.5 Lift the knife for extension

The vibratome blade is in front of the center of the rotating shaft, and the blade will cause overcut. See Figure 6-5-1 overcut distance D. The thicker the material, the larger the cut.



graph 6-5-1

When the cutting figure has an internal angle, and there is no "knife extension" compensation, the default knife in Figure 6-5-2 will cause overcut D and break the material. The Extension Extension is-D in the Tool. Cutting raises the knife to advance the distance of D (blue position).



graph 6-5-2

In the actual debugging, "knife extension" and "knife extension" need to be coordinated to achieve the best cutting effect.

6.6 Offset value

The default "4 spindle" is the reference tool, open the correction and select "3 vibration external knife" tool for cross test. At this point, the spindle will draw a "cross" after the cutting, move the machine to point the tip of the vibrator at the center of the spindle cutting cross, point

"calculate" and then point "Settings". Make sure that the operation is repeated again accurately, and then the vibrator will automatically move to the upper end of the spindle "cross" and cut the cross that coincides with the spindle "cross".(The default ″4 spindle″ is the reference tool, so the X and Y offset values of ″4 spindle″ must be 0, and all tools set the reference spindle offset value)

6.7 Add the layer

Add layer: click any tool on the left side of layer management, modify "Name", "Color" (not used color), "associated hardware"), and then click "Add".

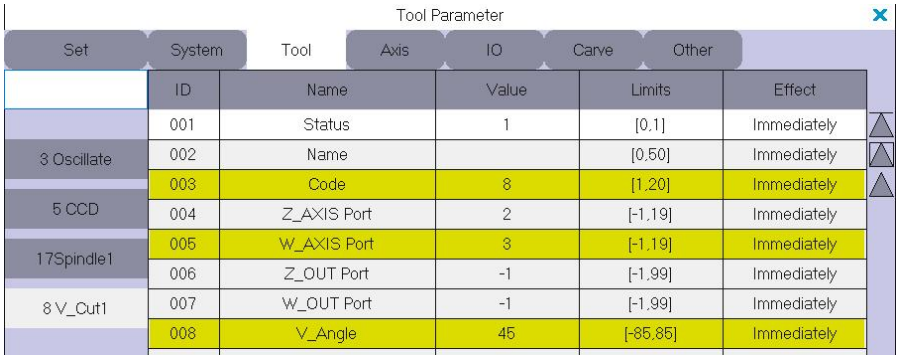
graph 6-7-1

7 V knife debugging process

(First, enter the management password: 76980 in the lower left corner of the parameter interface, and enter the debugging mode.)

7.1 Knife-direction setting

Step 1: Add the V knife parameter in the process parameter book, "pen number" is 8, "knife Angle" to fill in the blade installation Angle.



ID	Name	Value	Limits	Effect
001	Status	1	[0,1]	Immediately
002	Name		[0,50]	Immediately
003	Code	8	[1,20]	Immediately
004	Z_AXIS Port	2	[-1,19]	Immediately
005	W_AXIS Port	3	[-1,19]	Immediately
006	Z_OUT Port	-1	[-1,99]	Immediately
007	W_OUT Port	-1	[-1,99]	Immediately
008	V_Angle	45	[-85,85]	Immediately

graph 7-1-1

Step 2: Click the newly added "W" axis parameters and change the corresponding parameters: pulse equivalent, maximum frequency, return to zero port, automatic speed, automatic acceleration, empty-range speed, empty-range acceleration, maximum, minimum, position period, cycle distance. Finally, click "Set up" to save the parameters. (It can be set according to figure 6-2-2 below, and the specific parameters will be different.)

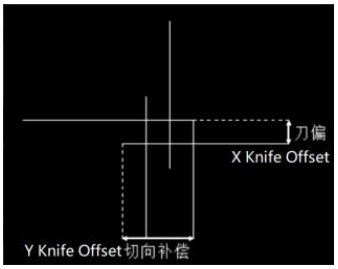
Step 3: After the machine returns to zero, open the tool, select the V knife tool, rotate the blade to make the blade parallel to the X axis and toward the X axis, click calculate, and save after setting.

Step 4: Open the tool to select the V knife tool, adjust the depth to the material surface for cross test. Observe whether the "cross" has a rough edge phenomenon, if there is fine tuning the Angle until the "cross" line is smooth. If the next step is not taken.

Step 5: knife bias and tangential compensation

Open the tool to select V knife tool for cross test. If the

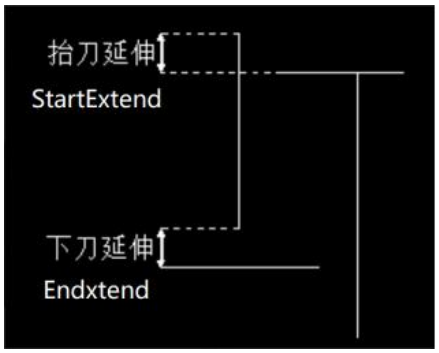
effect is shown in Figure 7-1-3, please fill in half of the offset distance into the parameter box of knife bias and tangential compensation. Until the cut "cross" is complete and closed.



graph 7-1-3

7.2 Lower knife extension and knife extension

Open the tool to select V knife tool for rectangle test. If the effect is shown in Figure 7-2-1, please fill the extended distance in the corresponding parameter box until the cut "rectangle" is closed and not cut.



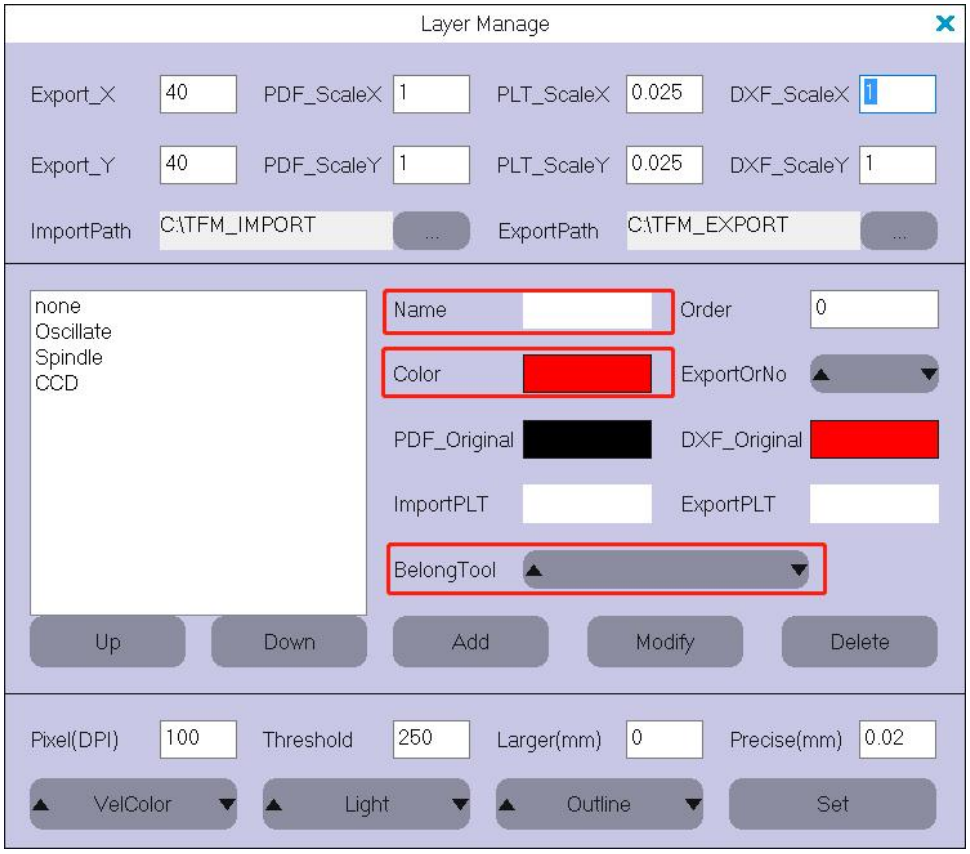
graph 7-2-1

7.3 Offset value

The default spindle is the reference tool, open the correction selection V knife tool for cross test. At this point, the spindle will draw a "cross" and after the cutting, move the machine to point the V blade to the center of the spindle cross, and the current point is set. Make sure that the operation is repeated again. At this time, the V knife will automatically move to the upper end of the spindle "cross" and cross cut with the spindle "cross".

7.4 Layer settings

Add layer: click any tool on the left side of layer management, modify "Name", "Color" (not used color), "associated hardware"), and then click "Add".



graph 7-4-1

7.5 Processing Settings

Step 1: "Import" graphics change the graphics you want to process V knife to the color of V knife in the layer.

Step 2: Set the workpiece coordinates, click the processing.

8 Single axis vibrator with laser lamp

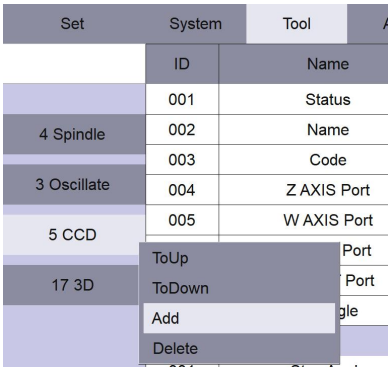
(First, enter the management password: 76980 in the lower left corner of the parameter interface, and enter the debugging mode.)

8.1 Vibrator knife debugging

For details of vibrator debugging, see "6". (No offset value adjustment first)

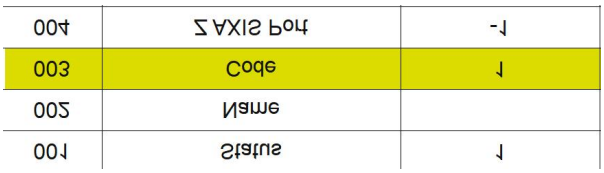
8.2 Commissioning of the laser lamp

Step 1: Add a new vibratome parameter to the process parameters. Open "Process Parameters", right click "Spindle" and click "Add".



graph 8-2-1

Step 2: Click the newly added "5 CCD" process parameters to change the corresponding parameters: pen number, Z-axis serial number. (See Figure 8-2-2)



graph 8-2-2

8.3 System parameter setting

Open the "System Parameters" and click the "Main" bar to change the corresponding parameters: reference tool, manual positioning tool.

001	TOOL Number	4	[0,20]
002	Reference Tool	1	[-1,20]
003	Manual Tool	4	[-1,20]

graph 8-3-1

8.4 Offset value setting

As a manual positioning tool, the laser lamp needs to adjust the offset value of laser lamp and vibrator, so to the spindle offset value and vibrator offset value. At this point, with the vibratome as a reference tool, open the correction selection laser lamp for cross cutting. At this time, the vibrator will cut the cross, after the laser light cross move with the overlap click calculation, set. ("3 vibration knife" is a reference tool, so the X and Y offset values of "3 vibration knife" must be 0, and all tools should set the offset value according to "3 vibration knife") To ensure the accurate and repeated test, the laser light cross will automatically overlap. Offset value calibration completed laser lamp as a manual positioning tool can cut the figure at the fixed point.

9 The projector is adjusted

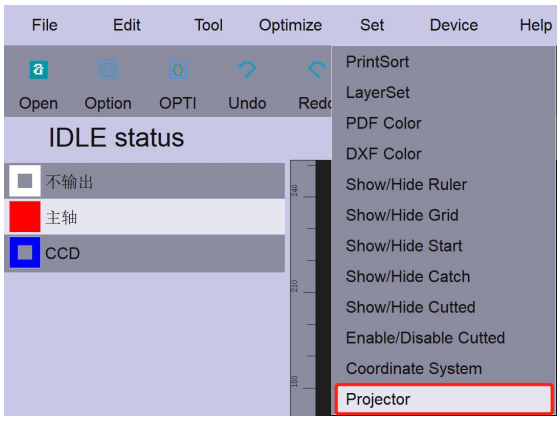
Step 1: the computer link the projector, make the projector display the desktop expansion content, set the display resolution according to the resolution of the projector, as shown in Figure 10-1 and 10-2.

graph 9-1

graph 9-2

the second step:

Adjust the projector, position and height, so that the projection can cover the whole table, open the software and click "Settings-projector Settings", as shown in Figure 9-3.

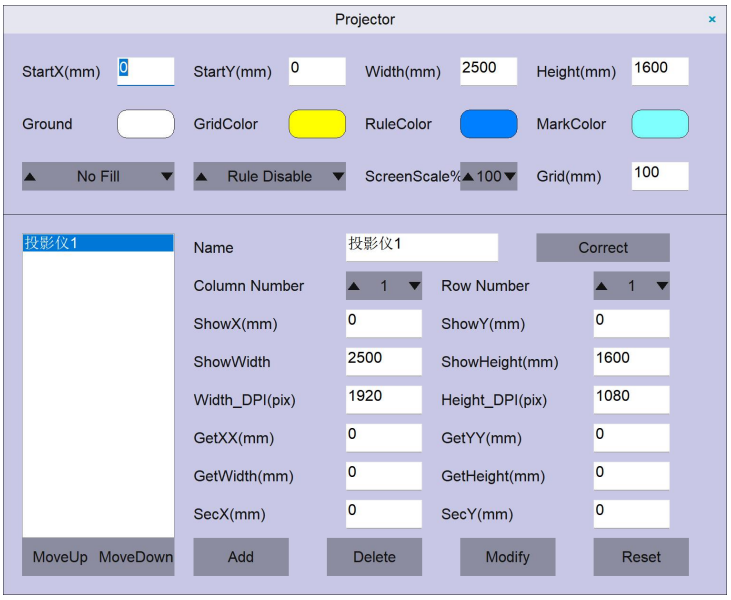


graph 9-3

Set the projector name, projector starting coordinates, projection size and projector resolution, click increase.

Click "Calibration" moves the mouse to the projection interface. Click the four corners (nodes) of the projection box to pull to the relative size mark.(The direction key switches the nodes, and the ctrl + direction key fine-tunes the size.)

Note: Before drawing the projector, the corresponding coordinate size marking point should be made on the machine table surface for projection calibration.



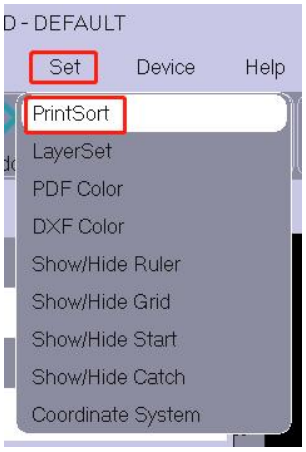
graph 9-4

10 Introduction of the application functions

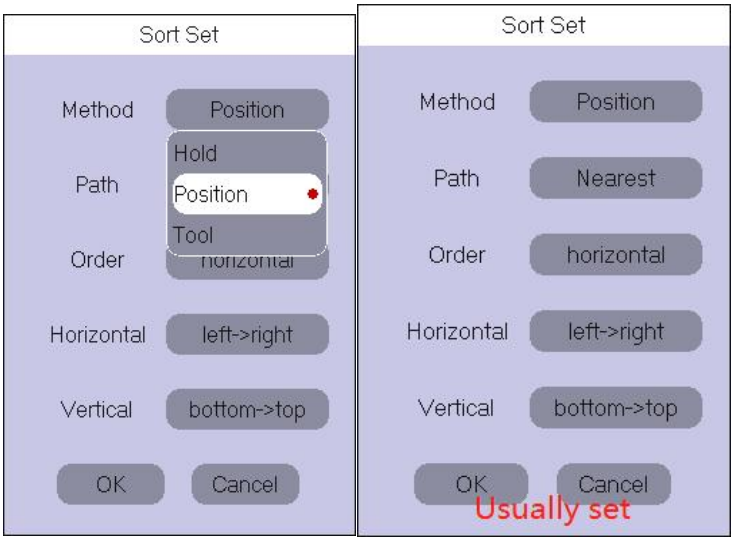
10.1 Processing sorting

10.1.1 Automatic processing and sorting

Select the processing sort in the software main interface, select "Location" in the "Method" option, and then set the processing path, order and direction as needed. Click on "OK".



graph 10-1-1-1

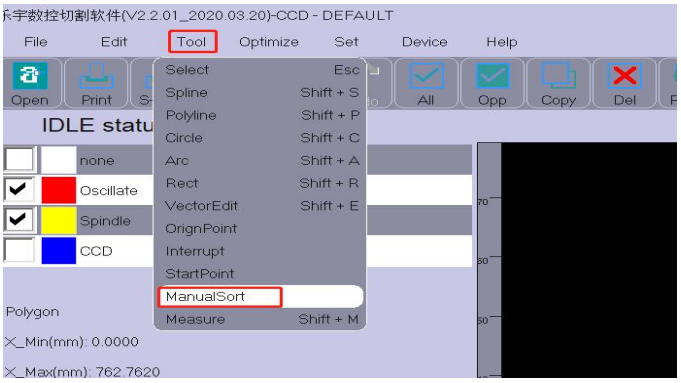


graph 10-1-1-2

10.1.2 Manual processing and sorting

Step 1: In the main interface of the software, set the processing sorting (as shown in Figure 10-1-1-2 on the previous page), select "Original path" in the "Method" option, and click "OK".

Step 2: Select the tools in the main software interface to sort manually, click the blue dot number (the number is the processing order) in Figure 10-1-2-2 according to the requirements, and change the processing order. After completion, press the Esc key to complete the manual sorting.

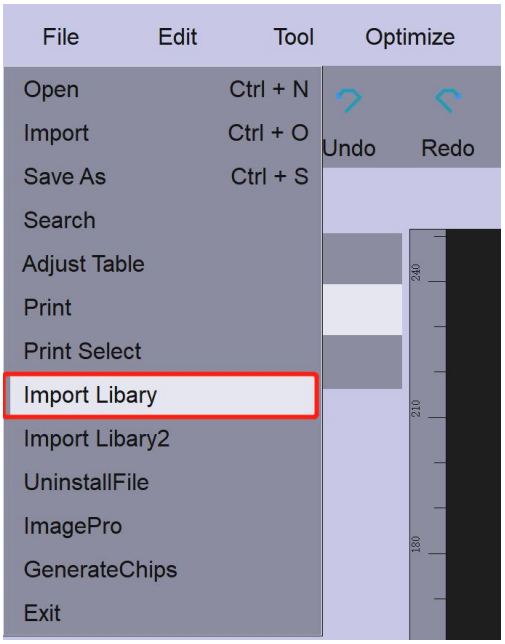


graph 10-1-2-1

graph 10-1-2-2

10.2 Import into the drawing gallery (sealing ring)

Open the file import gallery in the software main interface Set the dimensional parameters as indicated in Fig.



graph 10-2-1

After entering the dimension parameter, click "Add" to add graphics, and multiple figures can be nested. The length and width of materials are set at the bottom of the interface. Click "Import" to automatically typesetting.

graph 10-2-2

11 Shortcuts

Shortcuts	Meaning
HO ME	Close to coordinates
CTRL+A	check all
CTRL+C	duplicate
CTRL+G	Invert Selection
CTRL+D/DELETE	delete
CTRL+M	acoustic image
CTRL+Z	cancel
CTRL+Y	Repeat / restore
CTRL+ALT+F2	Force the U pdate upgrade
CTRL+ALT+F3	Force import parameters
CTRL+ALT+P	Display encrypted code
CTRL+ALT+B	Displays the VE time
F 9	process
F 10	Heavy cut
F11	cease
F12	update information
CTRL+1-9	layer
space bar	Select the graphic display zoom-in
PAGE UP	The path is rotated by 90 degrees counterclockwise
PAGE DOWN	The path was rotated by 90 degrees clockwise

12 Warm tips

(1) The debugging machine first enters the "management password": 76980 in the lower left corner of the parameter interface, and enters the debugging mode

(2) "E nter" is required to save.

(3) Note: the camera is an electronic product, which is not resistant to high temperature. The temperature shall not exceed 50℃.

(4) Le Yu official website: WWW.LEYUCUT. The COM has detailed instructional videos.

(5) If there are any software problems, please refer to the Leyu CCD Common Problems and solutions.