
Preface

Thank you for buying DCZ75 series cutter machine. The Cutter uses the high performance control system to reach high speed and high precision operation. It can cut all kind of card paper、craft paper、plastic materials and so on ,and also can be plot equipment。

In order to insure the cutting quality and the productive effect, You should read the user's manual carefully before use it.

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Ensure security and rightly to use

- You need to read this manual carefully before using this machine,
- Please put away this manual after reading.
- Don't keep kid to touch this cutter.
- Please obey the following rules.

The rules to use manual

The machine must only be used as described in this manual. Give great care to the following warning signs on the plotter:



Danger

Operation person will be dangerous if neglect those note signs.



Warning

Operation person will be dangerous if neglect those warning signs.



Note

Operation person will be dangerous and machine will be damaged if neglect those note signs.

Security sign explanation



This sign means especially to note (Include warning) .



This sign means stop movement.



This sign means execute movement.

Security attention

Warning

Don't touch platform, beam and other parts in motion of the machine while it is working.

- It's dangerous and will injure people.



禁止触摸

Insure to install the grounding

- The operational person will get an electronic shock when it's creep age if haven't grounding.



接地

Keep your head, hands away from panel and other parts in motion of the machine. For example, even if the machine has stopped, the holder will begin to move when it receive some data



远离

- It's dangerous and will injure people

- It will cause electronic shock or fire once creep age if you disassemble, mend and change the cutter.

- Any repair needing please contact the dealer or AOKE sales and support office.



禁止拆卸

Don't connect cutter to any unlimited power supply parts.



禁止使用

- It will cause electronic shock or fire once creep age if use different voltage.

Cutter can't work in the place that has water, rain or snow.

- It will cause electronic shock or if liquid flow into cutter.



避免水



注意电击

fire

You must to stop work and switch off supply, then draw the supply cable from supply socket when cutter work unusually because of smoke, the temperature too high or stink.

It will cause



禁止

Keep dust or metal away from socket.

- It will cause electronic shock or fire once creep age if use sordid supply socket.



禁止



注意电击

electronic shock or fire if continue to work in the case. ● Please contact dealer after confirm the cutter haven' t smoke	
Don' t set or use cutter in the place of exposal and humidity ● It will weaken capability of cutter in this situation。 	Don' t install and use cutter in the place of shake or noise ● It will weaken capability of cutter in this situation 
Don' t put any liquid or water vessel above of cutter ● It will cause electronic shock or fire once liquid flow into cutter 	Don' t put any heavy thing on the platform ● It will affect cutting quality as the transfiguration of cutter.

Maintenance

■ daily maintenance

You must to note something during the cutter operation.

- Carry out a periodical cleaning of the working surface, of the runway and of the shaving suction unit. Make sure that no tailings fall into the slots of the basic working surface.
- Add lubricant oil periodically to gear case, it can reduce physical abrasion and noise.
- Keep the indoor air clean, Don' t mix it with acid and alkali things in one room.

- You should set every parameter according to the description in software strictly. Then it can make sure the machine work normally.

■ cutter maintenance

The following instructions explain how to maintain the cutter during the time of no work.

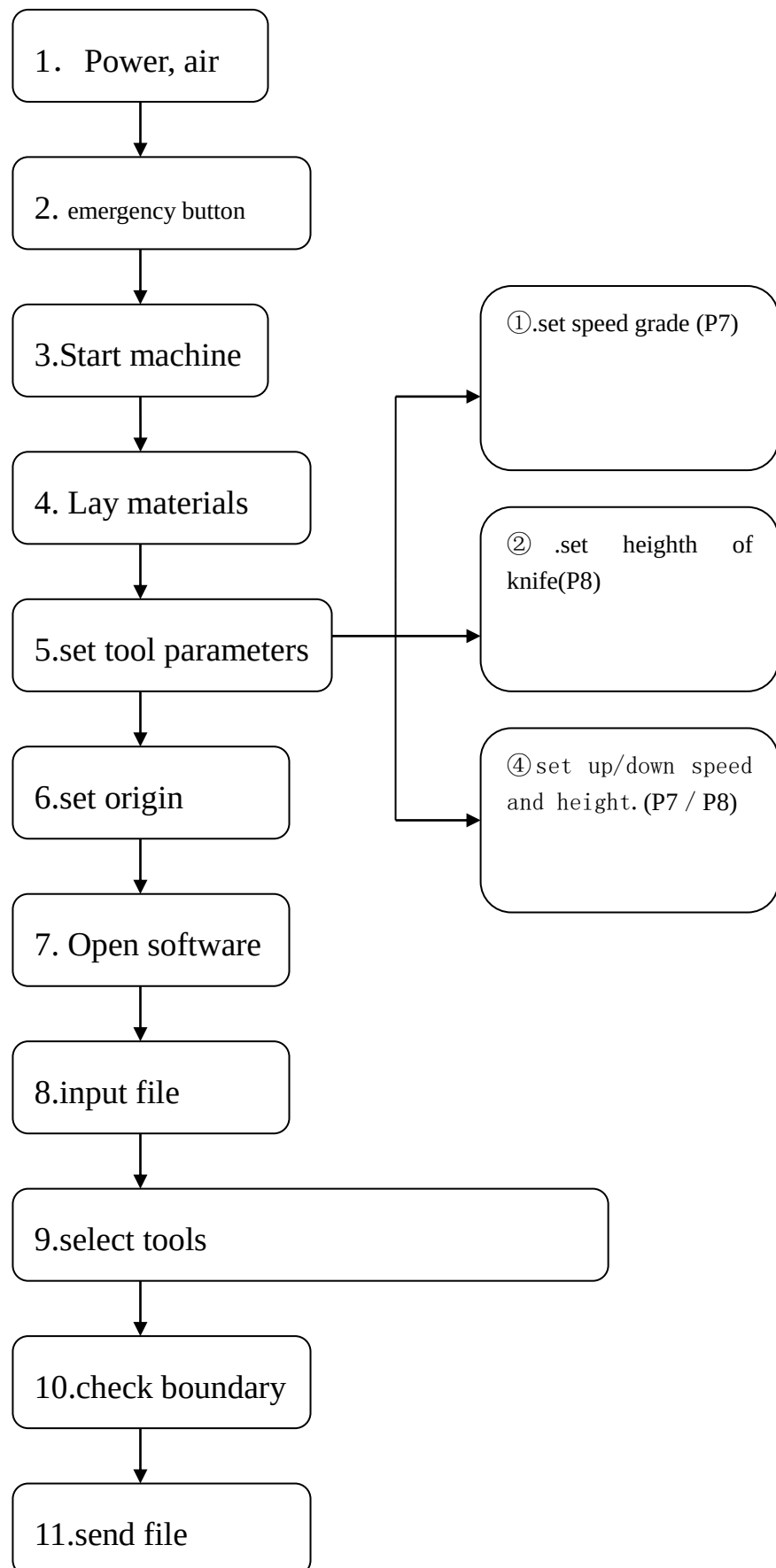
- dismantle knife holder、creasing tool or the pen, then put away.
- Use cloth to cover cutter and avoid the dust.
- Avoid strong sunshine and high temperature.

Content

Chapter 1 DCZ75 Series Fast Operation Instruction	1
Chapter 2 usage of control panel &parameter setting	2
2.1 function of keys introduction	
2.1.1 control panel	2
2.1.2 selection key	2
2.1.3 direction key	3
2.1.4 usage of function key	3
2.1.5 usage of composite key	5
Chapter 3 operating flow chart of each menu	6
3.1 tool menu	6
3.2 general menu	7
Chapter 4 parameter setting in general menu	8
4.1 first class of General Menu	8
4.1.1 correction	8
4.1.2 selection of adjusting knife position	10
4.1.3 selection of Vacuum Range	10
4.2 second class of General Menu	11
4.2.1 Clear Buffer operation	11
4.2.2 parameter setting of serial port	12
4.3 third class of General Menu	13
4.3.1 Delay of Vacuum & Display of Coordinate	13
4.3.2 software function setting	15
Chapter 5 tool menu setting	18
5.1 the first class of tool menu	18
5.1.1 selection of cutting tool	18
5.1.2 speed grade setting	19
5.1.3 head & end push value setting	19
5.2 the second class of tool menu	22
5.2.1 tool depth adjustment	22
5.2.2 tool angle adjustment	23
5.2.3 tool arc push adjustment	24
5.2.4 tool height adjustment	25
5.3 the third class of tool menu	26
5.3.1 X axis deviation value setting	26
5.3.2 Y axis deviation value setting	27
5.3.3 knife lift speed setting	28
5.3.4 knife lower speed setting	29
5.4 the fourth class of tool menu	29
5.4.1 knife lift value setting in the processing	29

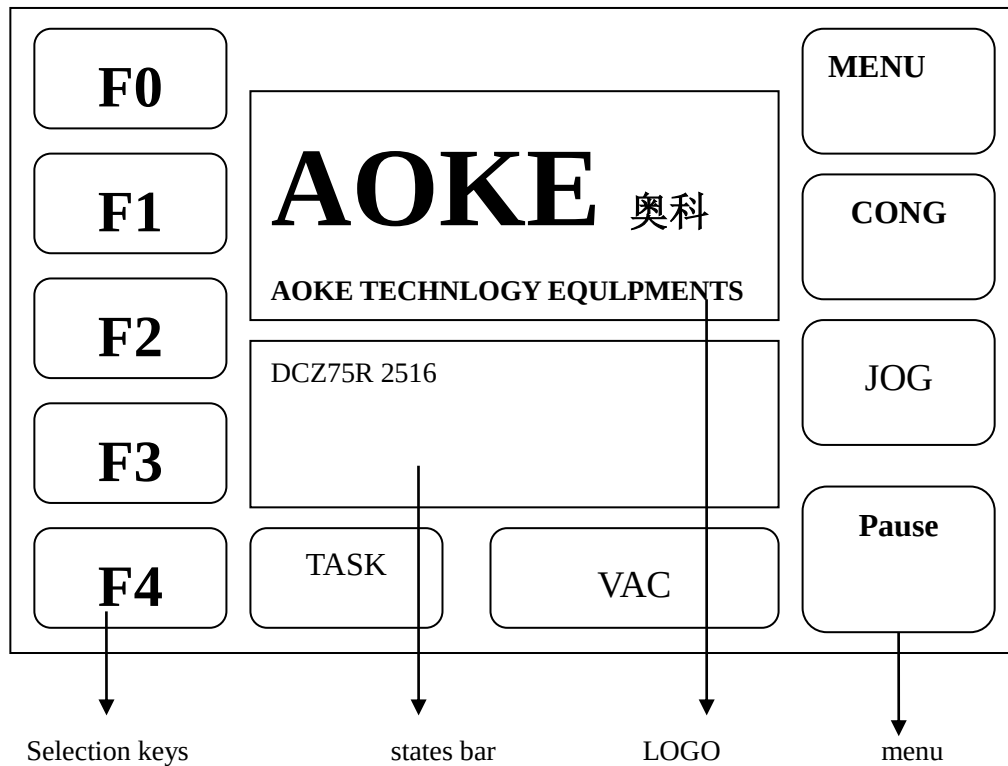
5.4.2 creasing wheel pressure setting in Y direction	31
Chapter 6 the control software introduction.....	32
6.1 install software and requirements.....	32
6.2 how to save as plt or DXF file.....	32
6.3 windows of the software	33
6.4 menu introduction	33
6.5 tool bar introduction	40

Chapter 1 DCZ75 Series Fast Operation Instruction



Chapter 2 Usage of Control Panel & Parameter Setting

2.1 function of keys introduction

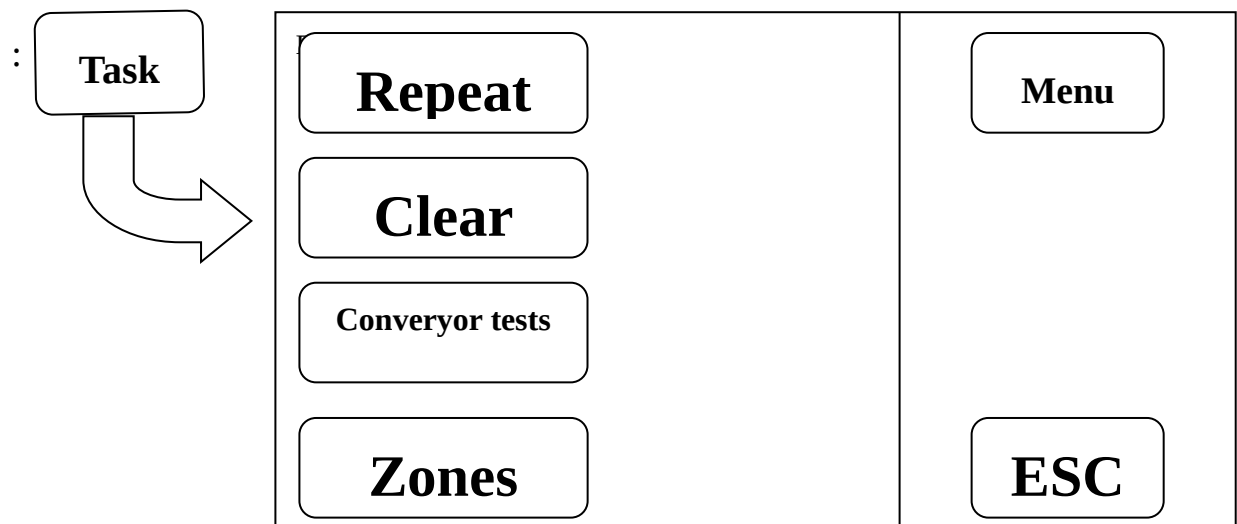


2. 2 Tool key



They are used to switch the present tools under Pause conditions.

2. 3 task key

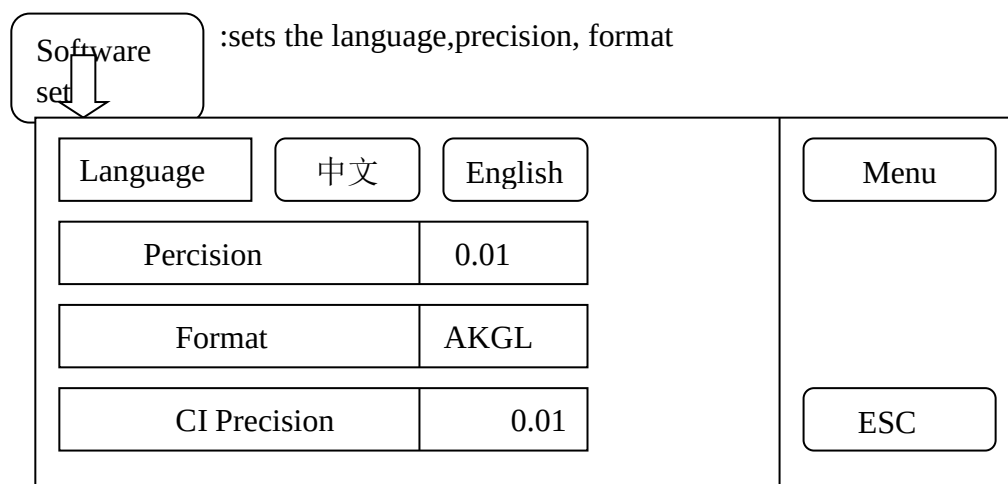
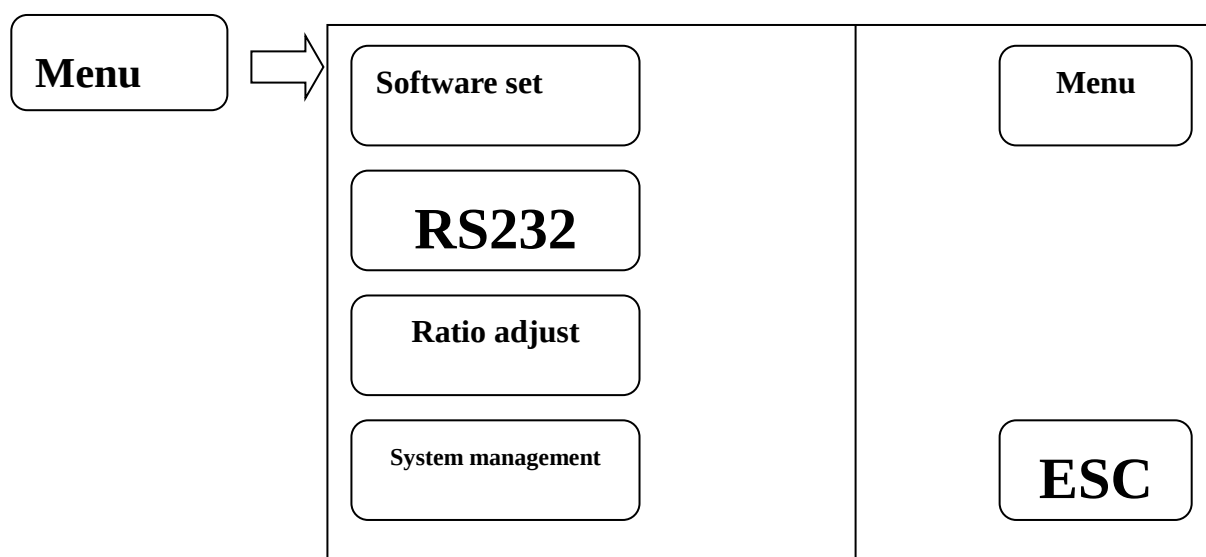


Repeat	:repeat process
Clear	:stop and clear all of the data.
Conveyor blet	:operate the belt function
Zones	:on/off means automatically vacuum zones or not.

2.4 Vacuum

VAC	: on/off vacuum pump
------------	----------------------

2.5 Menu



Language: optional Chinese and English

Precision: set the software's resolution ratio. Default value is 0.01

Format: files' format, default is AKGL

CI precision: set the arc's precision

RS232 : Default set. Don't change

↓

Baud rate	57600	Menu
Data bit	8	
Stop bit	1	
Parity bit	None	
		ESC

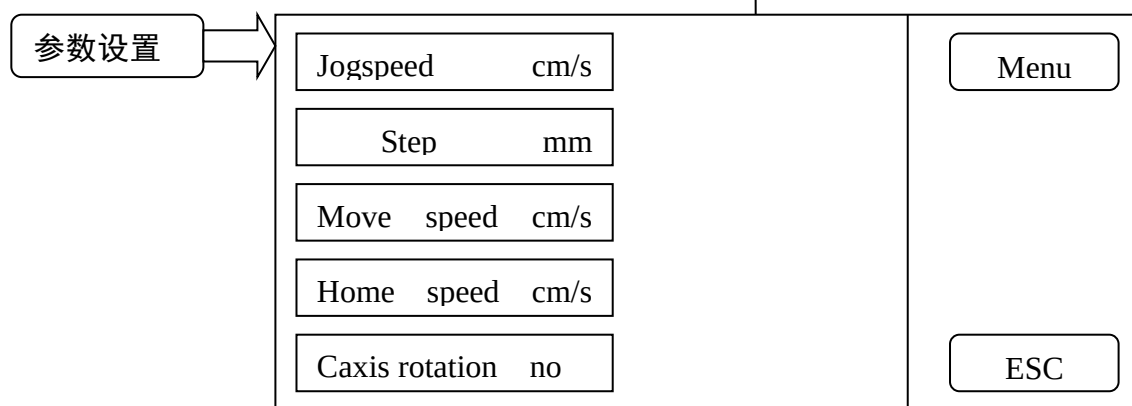
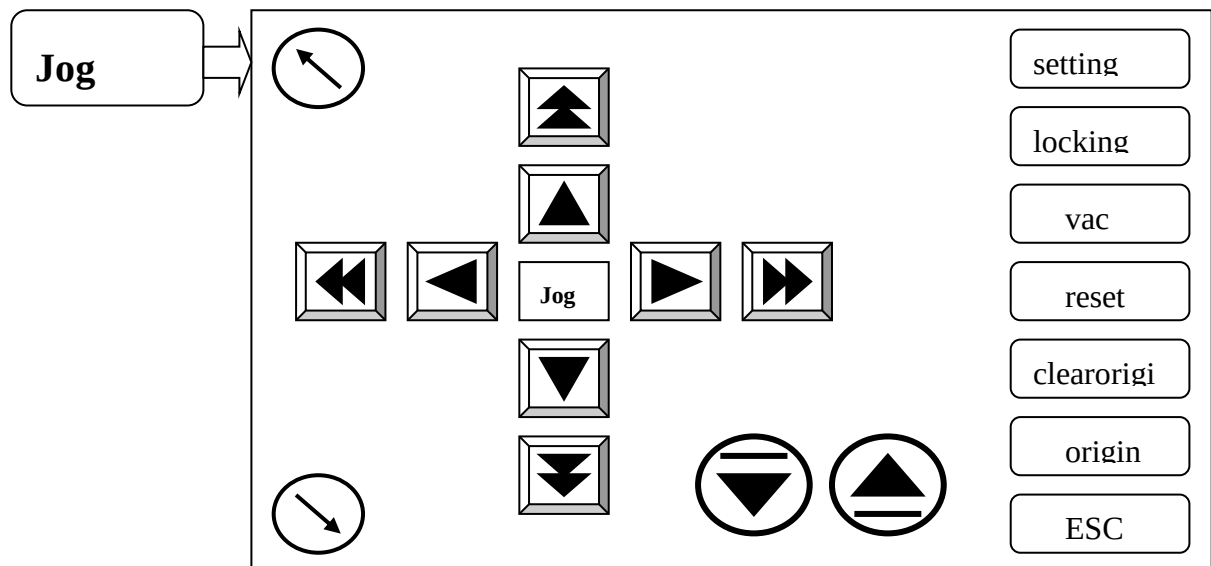
Ratio adjust : used to adjust the mechanical difference.

↓

X ratio	0.9983	Cut test	Menu
Y ratio	0.9991		
X measure	600.00		ESC
Y measure	600.00		

Calculate: set present value as X_1 , Y_1 , the real measure value is M_x , M_y 's unit is mm, factor is X , Y , formula : $X = X_1 * M_x / 600$ $Y = Y_1 * M_y / 600$
X measure value and Y measure value: used to measure the range of the factor. General, they are 600mm. The machine will plot a square, size, 600*600mm, then measure the distance, and calculate the ration as above way.

2.6 Jog



locking : Lock the control panel. Buttons are null.

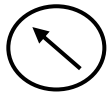
Vac :on/off the vacuum pump

Reset :restart the control panel

origin : set the present place as the new original point.

Clearorigin :clear the present original point.


  : up/down arrow is the direction arrow. Double arrow is fast move.

: fast to the left up corner



: fast back to the original point



: pull up the tool



: pull down the tool

2.7 Pause

On line / pause

①、 click, Pause state, click again, on line。

②、 pause first, then you can set the parameters

Chapter 3 set parameters on Menu

This Chapter explains how to set the parameters for all of the tools.

Function: different cutting requirements, should select different tools with prefect settings.

How to set:

Press Pause Key, they machine is on pause state.

Press **F1** 、 **F2** 、 **F3** or **F4** to select the tools. Then enter into the setting page.

3.1、 Menu

1st page

Tool type	EOK	Test	Menu
Vector level	8		1
Lift speed	10		2
Lower speed	10		3
			4
			ESC

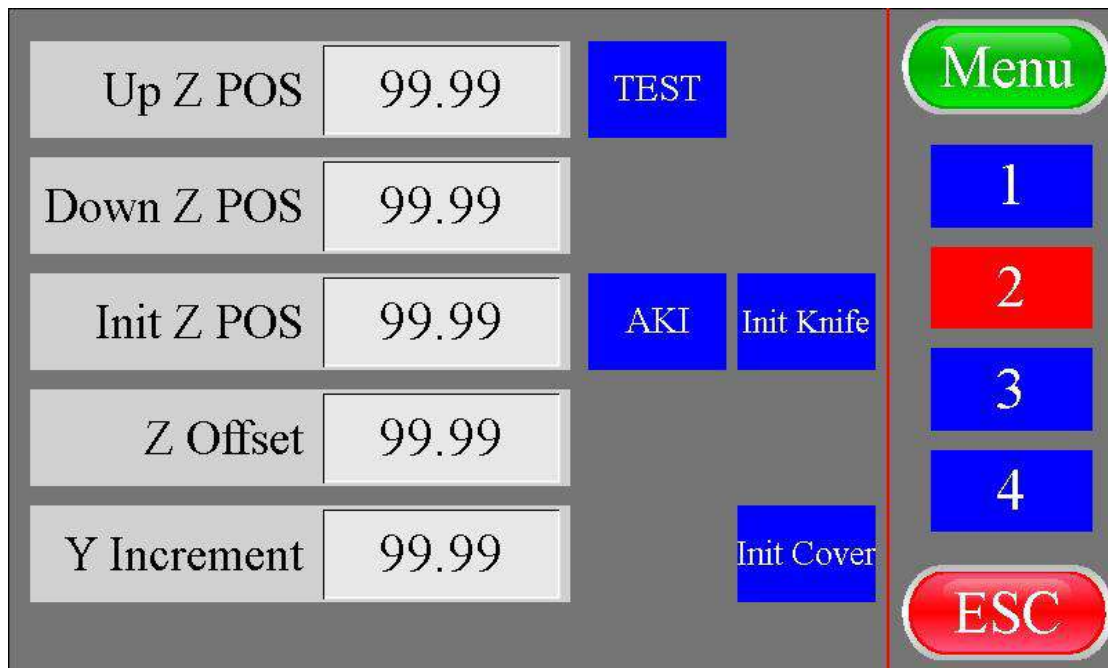
①.**Tool Type:** different cutting requirements, need to select corresponding tools. And settings.

②.**vector level:**different materials, need to selector different cutting speed.
Level one is the lowest speed and level 12 is the fastest.

③**lift speed:** set the pull up speed in the cutting process.

④.**lower speed:** set the pull down speed in the cutting process.

3.2、 The second page of tool setting menu



①. **Up Z POS:** set current tool's lift value, the working efficiency will be impacted if the value is big; the "Up Z POS" value should be set as a little bigger than the material's thickness, the unit is mm.

②. **Down Z POS:** this cutting depth means that the depth of the material will not be cut. For example: while we do cutting on 4mm material sheet, if we just want to cut 1mm on the material, then we can set the cutting depth as 3mm, it means the 3mm depth will not be cut. the setting is the same while half cutting is needed. Press **TEST** key to test, repeat this procedure until the cutting is correct.

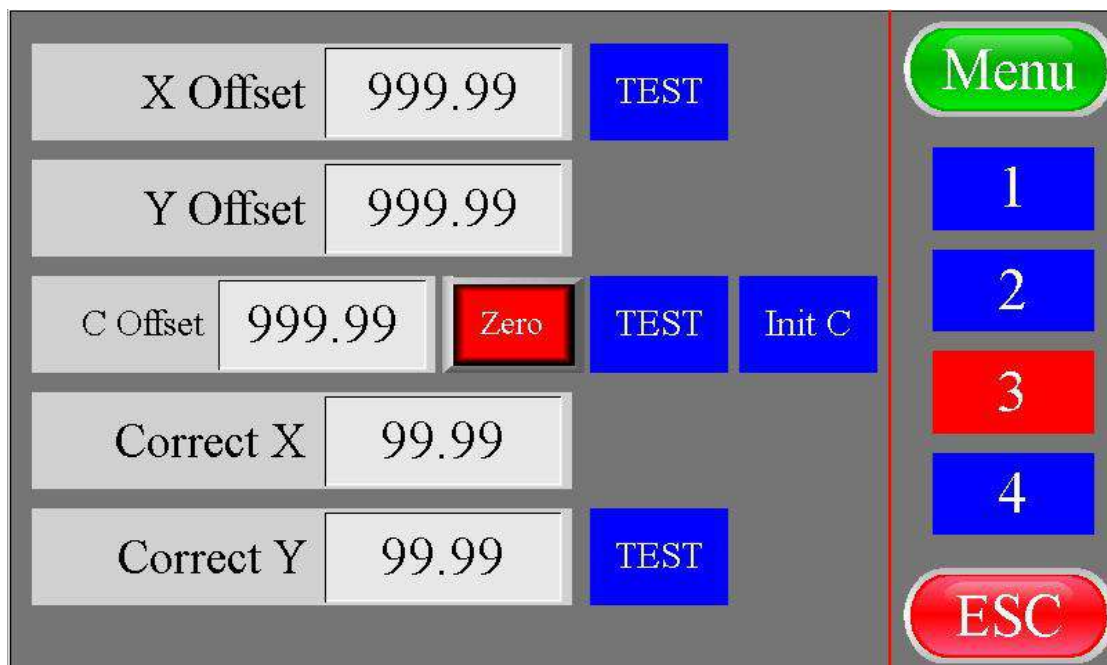
③. **Init Z POS:** set different tools' height value and make the current tool's height value within the reasonable limits. Init Z POS means the distance between knifepoint and the surface of cutting table. Press **Init Knife** key to set value of tool height dynamically, it is correct while adjusting the tool to just touch the surface of cutting table.

④. **Z Offset:** cutting knife's oscillating frequency or cutting process ask

for extra offset.

- ⑤. **Y Increment:** this setting just works for creasing wheel, it is used to set the current creasing wheel to crease some mm depth more in Y axis direction, this setting works for creasing different materials or different corrugated board, For example, “Y 0.50” means the creasing depth in Y direction to increase 0.50mm.this function just works for creasing wheel and not available for pen and knife tool.

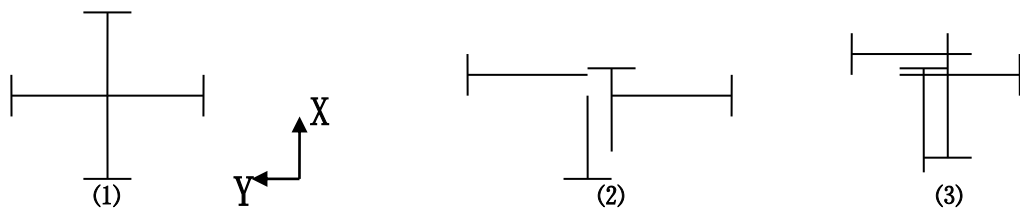
3.3、 The third page of tool setting menu



- ① **X Offset:** Adjust alignment of the current tool and laser lamp in X axis direction.
- ② **Y Offset:** Adjust alignment of the current tool and laser lamp in Y axis direction.
- ③ **C Offset:** Adjust the cutting angle of different tools to ensure tools' cutting angle in proper direction, in this case customer need to make tool matching setting.

④ Correct X and Correct Y:

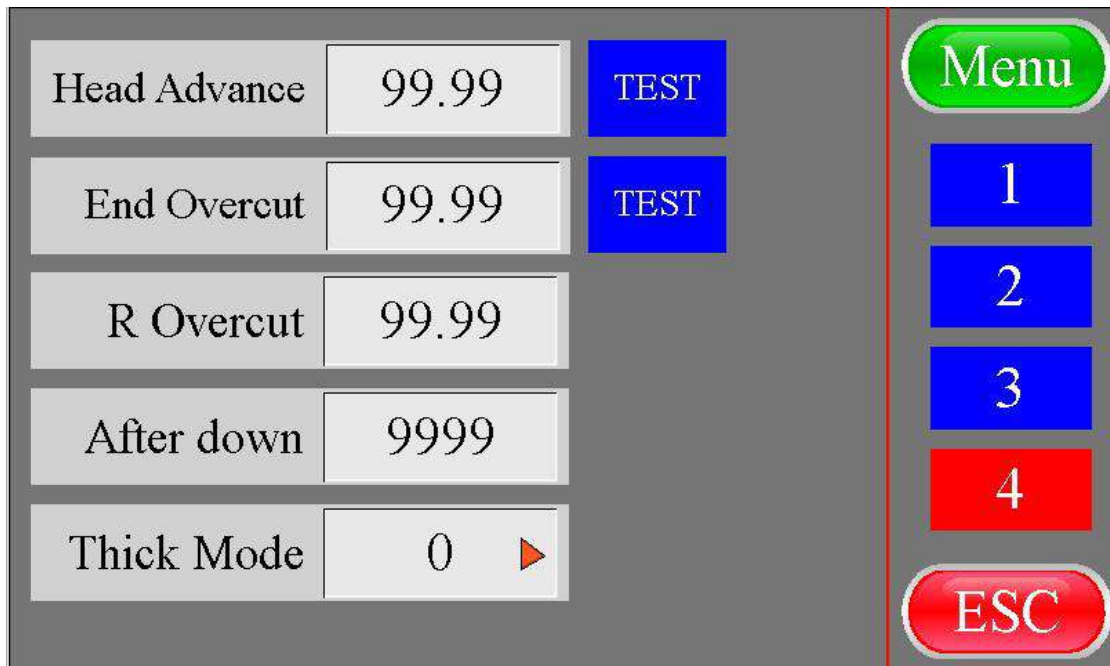
It is used to adjust the cutting accuracy of the V knife. The V knife's forward cutting and backward cutting should be in one straight line. While doing V groove cutting, it means the position where the knife point moves to should be the same while moving down the V knife and doing V cutting. Activate "Correct X" and "Correct Y", and then press **TEST** to test the cutting performance.



if X and Y direction are aligned well, the cutting performance would be the same as Figure①. If the value of "Correct X" and "Correct Y" is big, the cutting performance would be the same as Figure②, if so the value of "Correct X" and "Correct Y" should minus to be half of the value which you measured. If the value of "Correct X" and "Correct Y" is small, the cutting performance would be the same as Figure③, if so the value of "Correct X" and "Correct Y" should plus to be half of the value which you measured.

Note: the material which is used to test this setting should be 1mm paper board.

3.4、The fourth page of tool setting menu



“Head Advance” and “End Over cut” positive &negative value’s concept and amending method

Amend “Head Advance” and “End Over cut” value, the customer need to adjust the related over cut value according to different thick materials and Model of cutting blade to satisfy the cutting accuracy require.

The positive &negative concept of “Head Advance” value M:

When M is positive, machine start processing according to M distance of starting point’ s positive direction.

When M is negative, machine start processing according to M distance of starting point’ s negative direction.

The positive &negative concept of “End Over cut” value N:

When N is positive, machine stops by shortening N distance between starting and ending point.

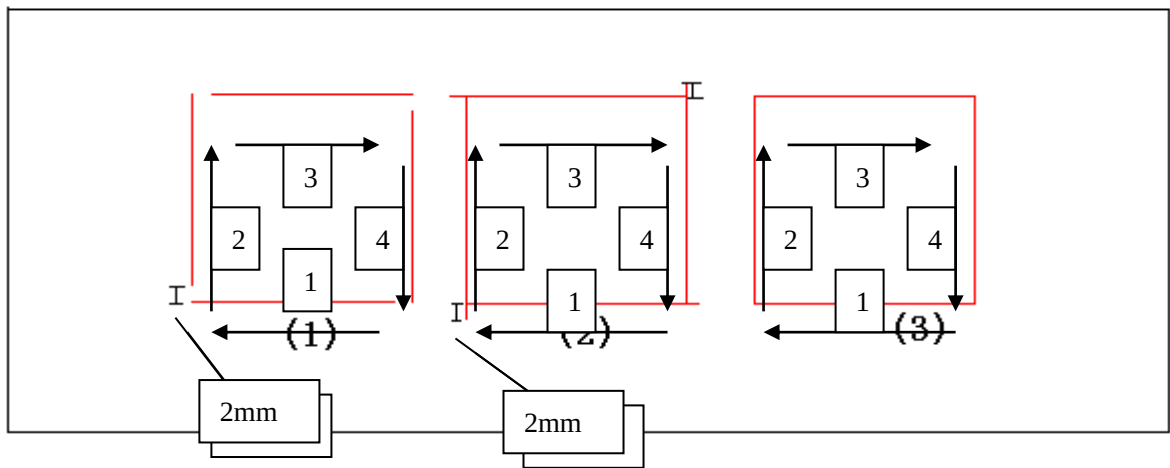
When N is negative, machine stops by prolong processing at negative direction of ending point’s N distance.

When “End Over cut” is positive value, machine start processing according to M

distance of starting point's positive direction.

When “End Over cut” is negative value, machine stops by prolong processing at negative direction of ending point's N distance. Generally speaking, it is positive value.

① “Head Advance” Figure



figure(1): the “Head Advance” value is big, you should minus it. For example, if we measure the uncut distance is 2mm, you should add 2mm to original value.

figure (2): the “Head Advance” value is small, you should plus it. For example, if we measure the uncut distance is over 2mm, you should reduce 2mm from original value.

figure (3): the “Head Advance” value is correct, the figure is a perfect square.

Note: arrow is the process direction, and it indicates the direction of the figure, the mark in the arrow is the order of process.

② “End Over cut” Figure

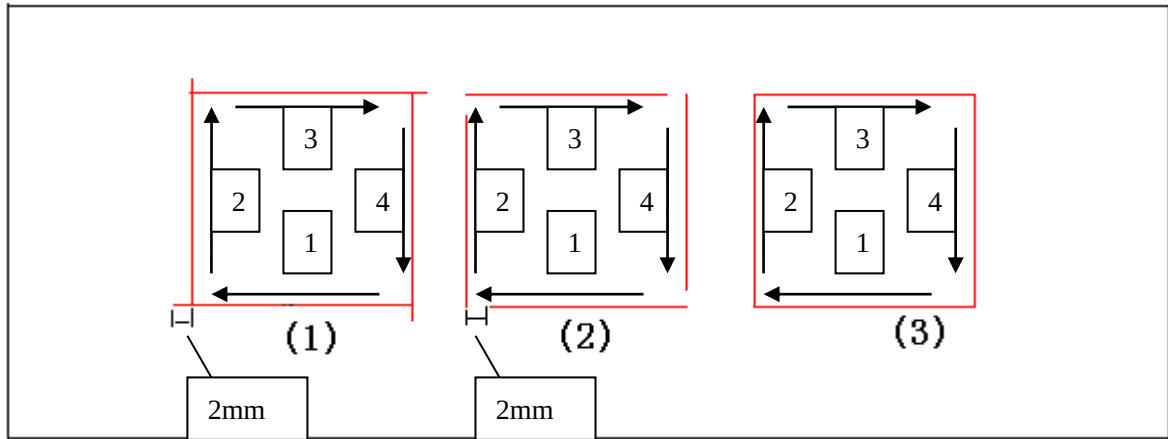


figure (1): the “End Over cut” value is big, you should minus it. For example, if we measure the uncut distance is 2mm, you should reduce 2mm to original value.

figure (2): the “End Over cut” value is smaller, you should plus it. For example, if we measure the uncut distance is over 2mm, you should increase 2mm from original value.

figure (3): the “End Over cut” value is correct, the figure is a perfect square.

Note: arrow means the process direction, and it indicates the direction of the figure, the mark in the arrow is the order of process.

③**R Over Cut:** Adjust different tool’s arc cutting offset value to ensure the arc cutting performance, under this case the tools matching setting is needed.

Chapter 4 CutCenter User Manual

User’s Manual Version: v1.14.4

This software is used to convert or edit HPGL、DXF、AI、PDF、ISO format file and send it to the cutter to do cutting.

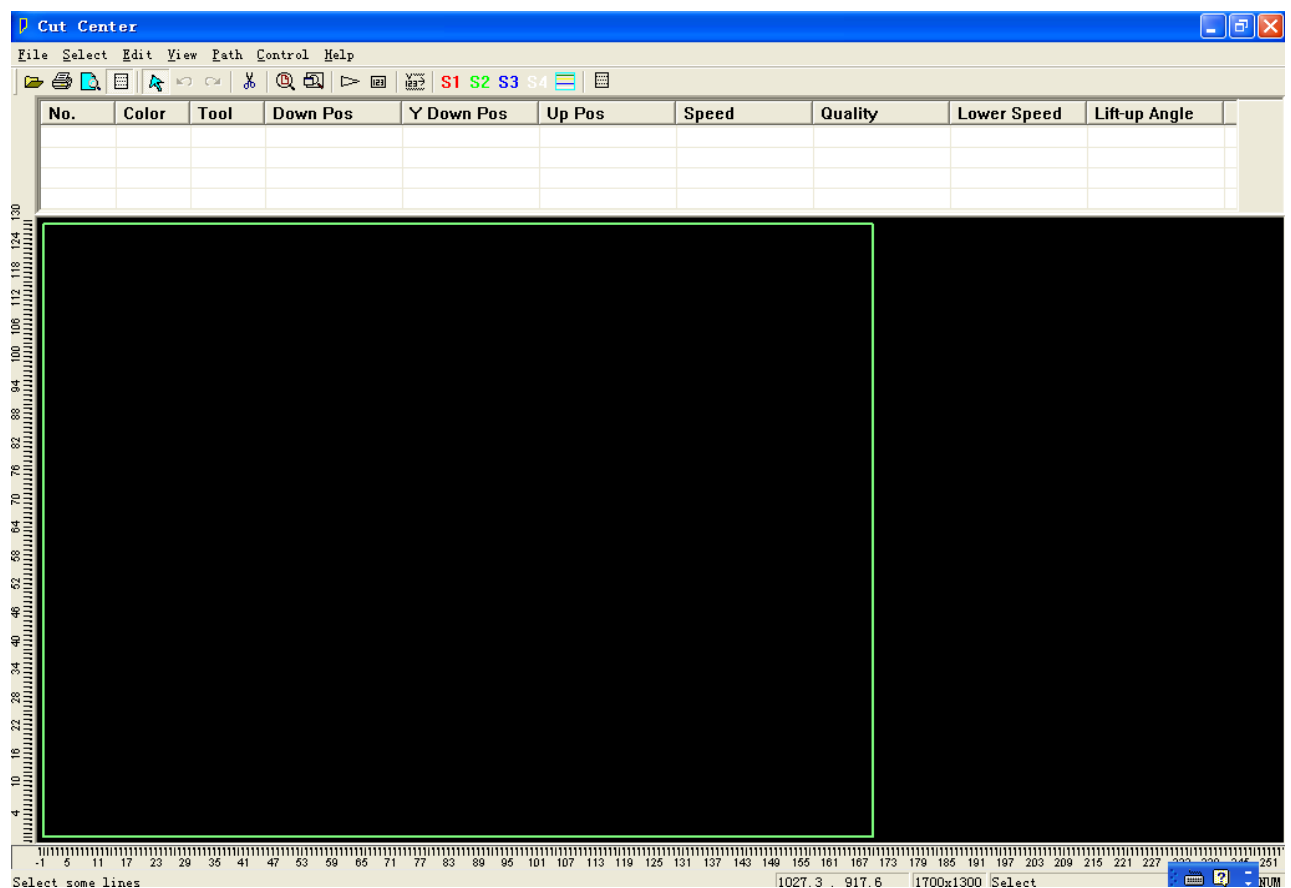
4.1、 Installation and Start

①Installation: double click setup.exe on the CD and select the installation directory.

②Start: double click the shortcut image  on desktop, this software must connect Software Dog.

The first Starting must do port setting by communicating with cutting machine to know the model of the machine and the cutting size of the machine.

4.2 Introduction of “Cut center” window

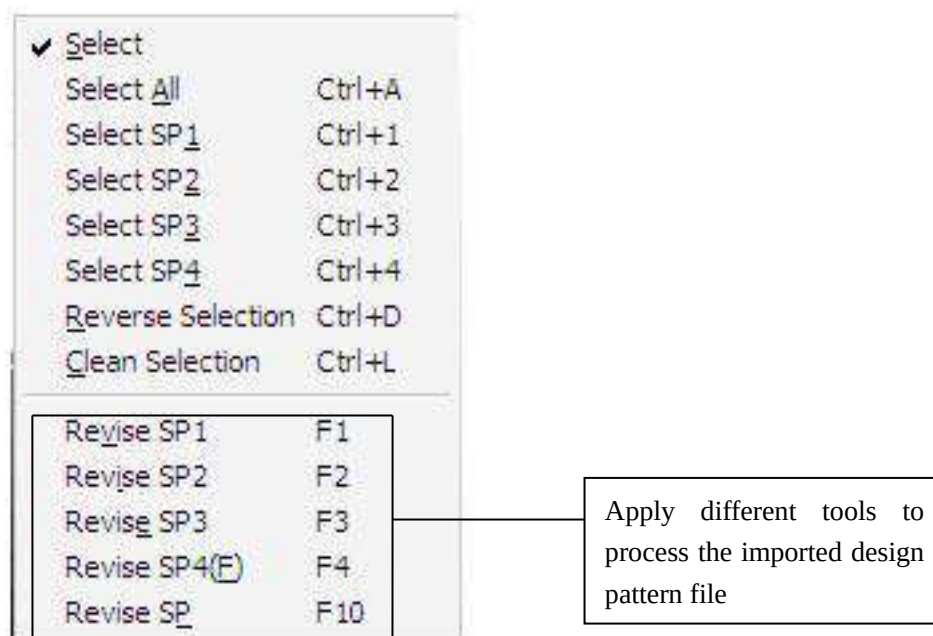


4.3 File Menu



- (1) New: create a new file
- (2) Open: open a file, format as (.DXF) or (.PLT)。
- (3) Save: save the present file, the file name extension is “*.cut”.
- (4) Save AS: save the file as another name, the file name extension is “*.cut”
- (5) Import: import the PLT、DXF、AI、PDF file into the software.
- (6) Exit: exit the software.

4.4 Select Menu



- ① Select: select some figure
- ② Select All: select all of the file
- ③ Select SP1: select the SP1 tool
- ④ Select SP2: select the SP2 tool
- ⑤ Select SP3: select the SP3 tool
- ⑥ Select SP4: select the SP4 tool
- ⑦ Reverse Selection: select the rest figures
- ⑧ Clean Selection: no selection

4.5 Edit Menu

(1).Undo Ctrl+Z 

(2).Redo Ctrl+Q 

(3).Move Ctrl+M  Move the selected section;Drag:click on the left to determine moving point and drag the cursor to the appropriate location and click on the left. Move: select, then press the Shift+left to move. A better method is clicking on the right in the internal graph then hold on and drag to the appropriate location and then release.

(4).Copy Ctrl+C  Copy the selected section;Drag:click on the left to determine moving point and drag the cursor to the appropriate location and click on the left.Move: select, then press the Shift+left to move.

(5).Rotation Ctrl+Q  Rotate the selected section;Drag:take the left click

point as the base and take the release point as the reference point, then drag the cursor. Move: select, then press the Shift+left to rotate

(6).Erase Del  Delete the selected section; Select and then delete, or do this in the opposite way.

(7).Mirror X Take the horizontal center line of the box covering by the selected section as the shaft, slip up and down.

(8).Mirror Y Take the horizontal center line of the box covering by the selected section as the shaft, turn left and right.

(9).Cut ctrl+X Cut the selected section to the clipboard.

(10).Copy Ctrl+C Copy the selected section to the clipboard.

(11).Paste Ctrl+V Insert the graph from the clipboard.

(12).Join Ctrl+J Connect the lines with same color, type and endpoint into one line automatically, even the lines with opposite direction. Connect all the lines without selected section otherwise connect the selected section.

(13).Break Ctrl+B Break one line into some lines at the point of inflection (must lift knife when meet large angle). Break all lines without selected section. Break at any nodes in line: choose one line, then select the node you want to break, or press Alt+left to break at any nodes. Break at intersection: first choose the line you want to break, then choose the intersecting line.

(14).Delete line Delete when fully overlap. No connect at first. Tolerance of Coincidence line usually is 0.01

(15).Piece Identification Take the closed line and containing objects as sample section. Refer to (sample methods). Connect firstly and automatically.

4.6 View Menu

- (1).Zoom All Ctrl+A  Show all the area
- (2).Zoom Platform Ctrl+P  Show the platform area
- (3).Zoom Ctrl+F  Zoom in by a single clicking on left;Zoom out by a single clicking on right.
- (4).Redraw Ctrl+R  Refresh the screen.
- (5).Indicate Direction F6  Show the direction of graph processing or not.Show an arrow sign at beginning point of graph processing.The direction of arrow is the direction of processing.
- (6).Reverse F7 Turn the processing direction to the opposite
- (7).Clockwise or anti-clockwise Change the processing direction into clockwise or anti-clockwise.
- (8).Show Sequence  Show the sequences of processing graph or not.
- (9)Measure Measure the distance between two nodes.

Measure distance between two nodes:Single left clicking on two nodes one by one to show the distance and the distance between X and Y.

Measure distance between node and line:Single left clicking on the node,then press Shift and single left clicking on the line,it will show the linear distance.

Measure distance between two lines:Press Shift and single left clicking on one line,then single left clicking on another line,it will show the linear distance.

Measure the torsional angle:Ctrl+single left clicking on nodes of the graph to show torsional angle.Alt+single left clicking to move the nodes.

(10).Label Add labels to the graphs on the platform.

(11).Show Toolbar Show or hide the toolbar.

(12).Show Status Bar Show or hide the status bar.

(13).Show Ruler Show or the ruler.

4.7 Path Menu

(1).Simulation F9  Simulate the orders.Simulate selected orders firstly or simulate all files.Press Esc to cancel,Press up arrow to speed up and down arrow to slow down.

(2).Order F8 Arrange the process order manually.Take the order from the first line and press Esc to complete.

(3)SP Sequence  When take this command,take the order from tool 1to next one completely.

(4).Start Point Change the first point of the closed line.First choose the line then execute the command,at last singly click the point.

(5).Smooth Data Optimize the files automatically to get a better cutting performance.Usually be used on HPGL pattern.

4.8 Control Menu

(1).Plot F5  Cut

(2).Check Boundary Check the size of the file.

(3)Config F11  Set the parameter.

(3.1)[System] Set the relative parameter and options about before and after cutting.

Language: Choose English or Chinese language

Machine: The type of the machine

Positioning by camera: Use the camera or not, must be installed camera system

Format: The cutting area

Size: The size of the machine

Port: Choose the port connected to machine

Port-setting: particular parameter match the particular port

Communication: Communicate with machine, read the type, format and tools inserted in each pattern group.

Before Cutting: Preparation before cutting

Transmission: Transmit or not after cutting. Must be installed transmission device

Continuous Cutting: Continuous cutting automatically in beds controlled by files. Must enter the bed length.

Transfer: Transmitted bed by bed

Length: The size of material in each bed.

Automatically Transfer: Transmit automatically when complete. But the size of material should be max size of graph plus 14#parameter of the [option].

Automatically Cut-off: Have a cross cutting to cut off the material or not when complete.

+X : The length of X with crosscutting is max length of the graph and offset distance

Min Y:Minimum Y coordinate crosscutting

Max Y:Maximum Y coordinate crosscutting

Stop:The stop position of machine after cutting

Automatically Pause:Automatically pause or not after complete

3.2[Import] Set the parameter of importing files

Proportion:The change of the X and Y

Original Offset:The change of up and down position

No Deviation:Means the files is in the default position

X mm:The X distance from the default point to the new original point

Y mm:The Y distance from the default point to the new original point

Line type Unit:Setting as 0,export the full line,export dotted line if the setting is not 0.

DXF Unit:Two kinds of unit for selection while import the file

Optimization:The imported file will be optimized while the file format is not correct

Piece Identification :Identify automatically

SP Sequence:The tools' working order as per SP

Tools:The number at the last of the sequence

Add File:Import a new file without clean the previous file

Remove Zero>Delete the repeat point for better performance

Remove Same>Delete the repeat lines for better performance

Repeat Tolerance:The tolerance of the repeat lines is 0.01

Import the Setting Files:for next using.

(3.3)[Cutting]Set the plot files

Tools Numbers refer to (3.6)

Tools Types:The input tools' type,blade and parameter.

When tool is creasing tool, “Crease Z offset-Y” is designing for the addition value of the crease wheel in the Y direction,and for the parameter of cutting depth.

Special blade type refers to lifting value of the inflecting point.

Router type refers to diameter of the router.

V-cut type refers to double lines cutting.

The other showing parameters of the craftwork just for better remember.

((Attention))Choose the right tools and input the right parameter before processing.

Passes:Cutting the materials by different layers,at the same time ,you can set the depth of the knife.

Layer+ means increase one layer;Layer- means decrease one layer.

((Attention))When cut by different layers, different layer has different ‘depth’.

Speed’ and ‘Quality’ can use the ‘Tools Distribution Number’ parameter.

Plot Setting Files:save the files which always need to process.

(3.4)[Materials] Increase or modify the parameters related to different materials.

Materials list:Parameter files on list

Build:Build a new parameter file.

Copy:Copy a new parameter file from selected materials list.

Erase>Delete files from selected materials list.

Save:Must be saved after modifying the parameter.

Parameter:Show cutting parameter,different layers allowed.

Annotate:The related annotation.

(3.5)[Locate] For setting parameters of camera registration system.

(3.6)[Current Tools Number Assignment] Show or hide the bar.Set the related tool number and parameter.The SP command of HPGL format and the color of DXF format all can have different setting.

No.	颜色	工具	刀深 mm	抬刀位 mm	速度 cm/s	品质	落速 cm/s
SP1		1# 笔					
SP2		2# 压轮					
SP4		3# 振动刀					

“No.” show the SP command of HPGL format or color of DXF format.

“Color” show relative color.

Followings are relative parameters,blank means using the parameter setted on the machine.

“Tools” The machine module number.

“Cutting Depth” The depth of cutting,the unit is millimeter.Show the remained material counted from platform.

“Lifting Hight” Show the hight of tools above platform,the unit is millimeter.

“Speed” Cutting speed, unit is centimeter per second.

“Quality” The class the processing speed.From 1 to 4,bigger number faster speed.

“Falling Speed” The speed of tools go down,unit is centimeter.

“Lifting Angle” Must lift the tools when come to an angle bigger than the setting angle.Almost is blank.

((Attention))



Setting cutting parameters. Click on the relative "No." at right to pop the "material list", then choose "materials cutting files"

Change the cutting sequence of the graph. Press at left on relative "No." then drag, or singly click at right to pop the menu then choose "up" or "down", the cutting sequence will change.

Choose the same color graphs, click the relative "No." at left to select the graph with the color.

4.9 Help Menu

(4.1).[Help introduction] Show the introduction of shortcut keys.

(4.2).[About] Show the details about software.