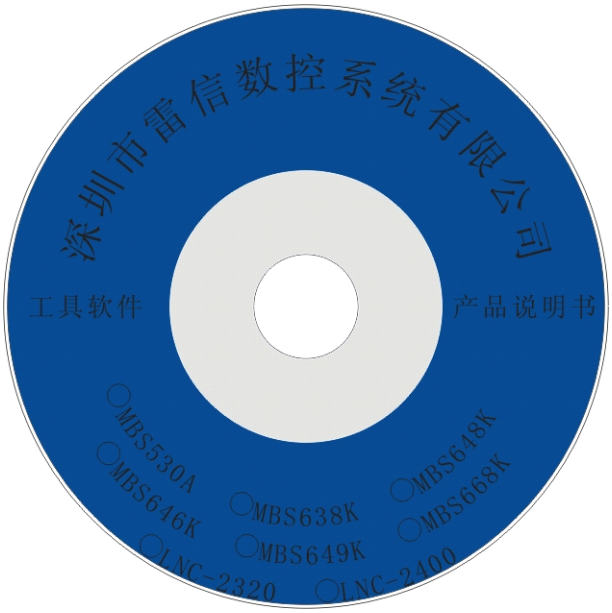
Laser Graphics Software Manual

（Standard Edition）

Version 1.0



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Please refer to the contents of the manual for more software detailed information of the laser system.

If the product involving upgrades and the content needs to change, prior notice will not be given, LeadCNC retains the final explanation rights of the data! For more information, please visit the company website.

Please pay attention to the safety when debugging the machine. In order to avoid accidental loss, it's a must for users to design effective safety device on the machine, error handling procedures in the software is more necessary.

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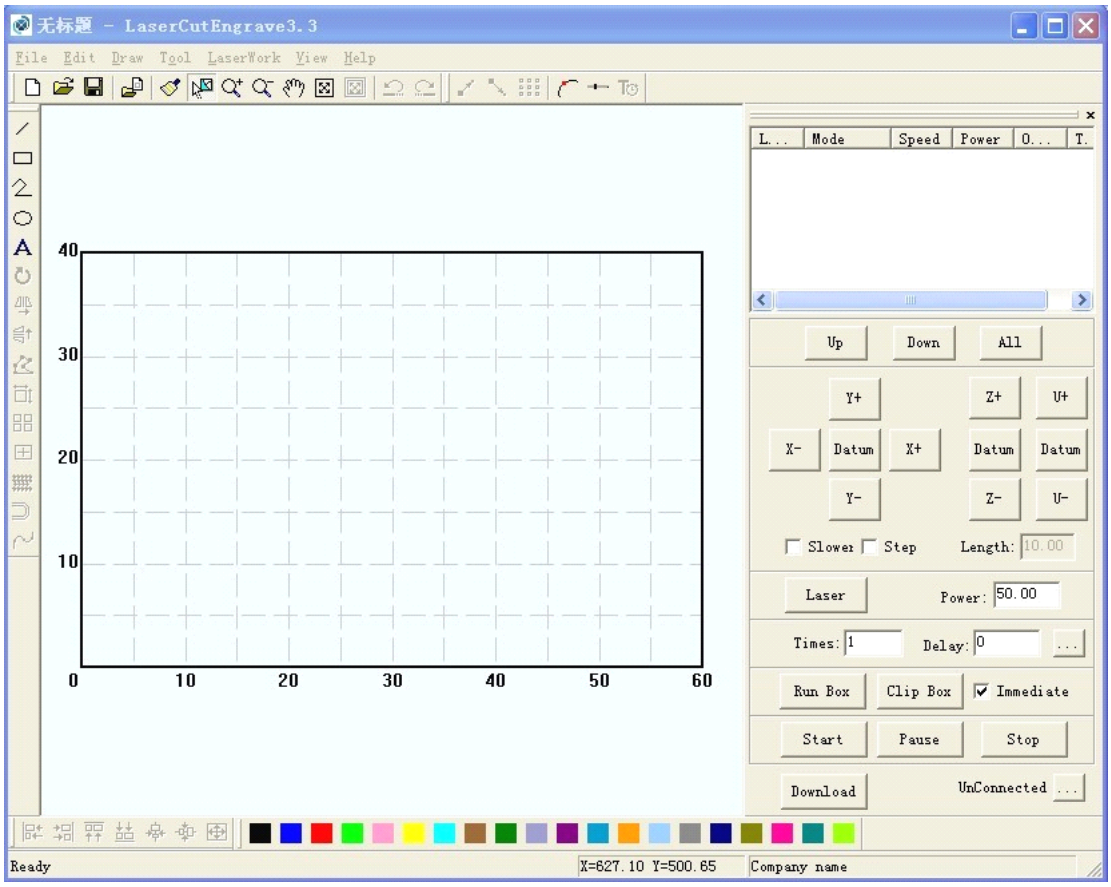
Chapter I At a Glance

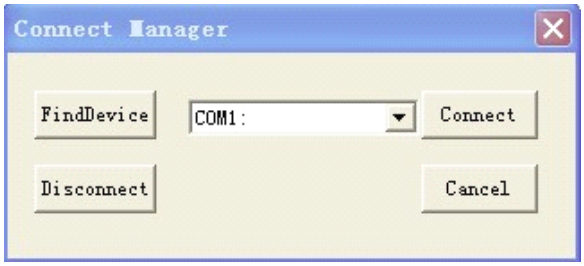
1.1 Introduction

Open the “LaserCutEngrave V3.3 Instal” installer package and double-click the Setup.exe icon. Then make a installation in accordance with dialog box prompts.

The LaserCutEngrave.exe program file will be appeared on the desktop when the software installation is successful. Double-click the icon and the main interface will be displayed as shown below.



Next, you need to use the USB cable to connect the laser controller with PC. According to the system prompts to install the USB driver when the laser controller is working properly,(It may appear the prompt box of windows system file protection. after the installation is complete, if this problem occurs, restart your computer, and the prompt box will disappear).
Then click the ”Not Connected” key on the main interface, the “Link Manager” dialog box appears



Click the “Link” button when the device port has been confirmed. The link status will be displayed in the lower right corner of the software interface.

1.2 Functions

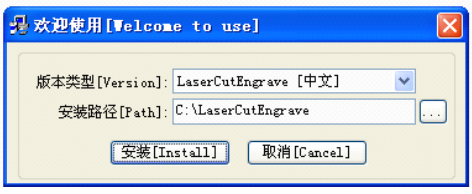
- A file will be processed、edited、draw and saved after the graphics files to be processed are created or imported
- It can download processing date in the current file; download the saved date; output (save) the current processing data files.
- Download the current editing system configuration data; download the saved system configuration data; output (save) the current system configuration data (note: part of the system configuration data are set by the PAD-1000 operation panel directly to the laser controller)
- The saved graphics processing data files and system configuration data file can be downloaded by U disk.
- a variety of machining operations of the laser equipment are controlled directly.

1.3 Notes

The laser PAD-1000 cannot work offline until the graphics processing data and system configuration has been downloaded.
All the graphics processing data and system configuration are exported from U disk can only be used on the LeadCNC’s series of laser controllers after installing the laser graphics software.

1.4 Software Installation

Run the” Setup.exe “in the LaserCutEngrave V1.0 Instal, the following dialog box appears



Select the version of the software you need to install, and Click “install” and the software will be installed. The default path is “C:\LaserCutEngrave”. Click and you can change the install path.

After installation, press the LaserCutEngrave.exe, then you can operate the software.

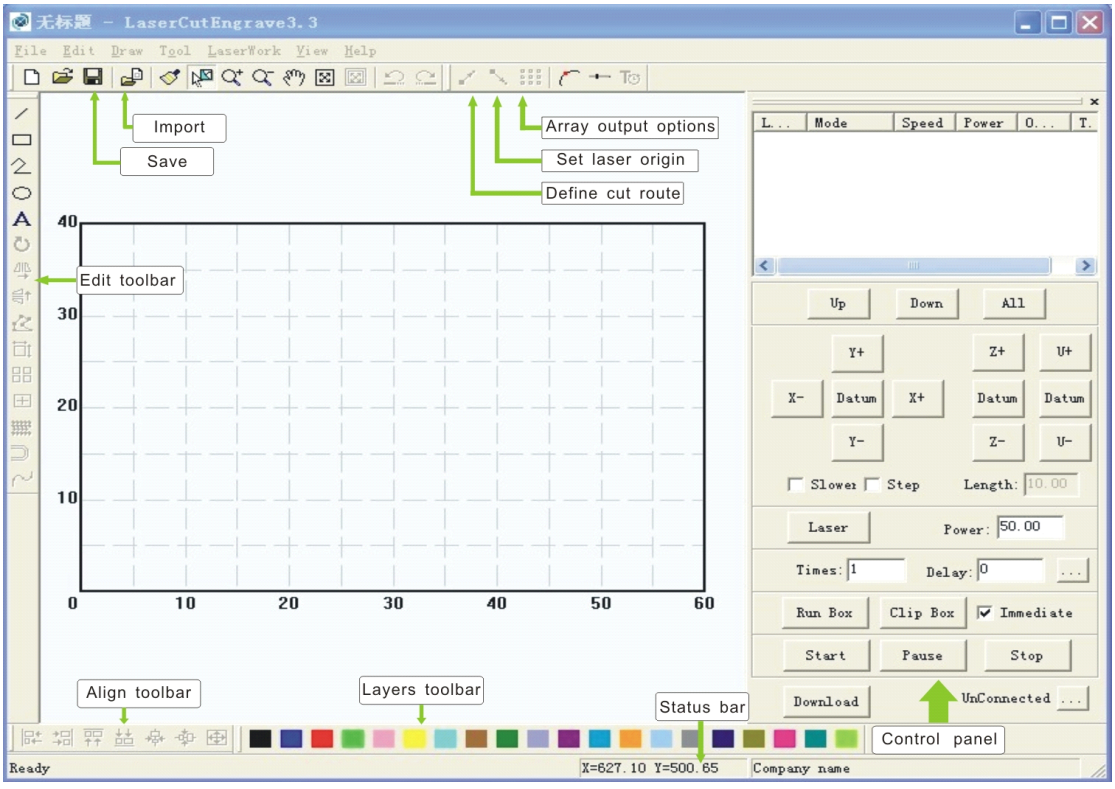
1.5 Application Environment

▲ Requirement of OS: Windows XP 、Win7、Vista
▲ LeadCNC’s series of laser controllers
▲ The laser controller should match the laser engraving machine

Chapter II Title Tools

2.1 The Main Interface

When run the software, the interface is as following. All system function can be found on tool bars.



Let mouse stay on an icon for a moment, and it will show the explanation of basic function of tools bar. The following is the explanation of all tool bars.

2.2 File

2.2.1 New

The corresponding icon is .

Create a new file.

2.2.2 Open

The corresponding icon is .

Load process data made by the software. The file format is CE Project File（＊.ce）.

2.2.3 Save

The corresponding icon is .

Save the graphics data that is defined processing parameters as CE Project File(＊.ce).

2.2.4 Save As

Save a CE Project File(＊.ce) as another CE Project File(＊.ce）.

2.2.5 Import

The corresponding icon is .

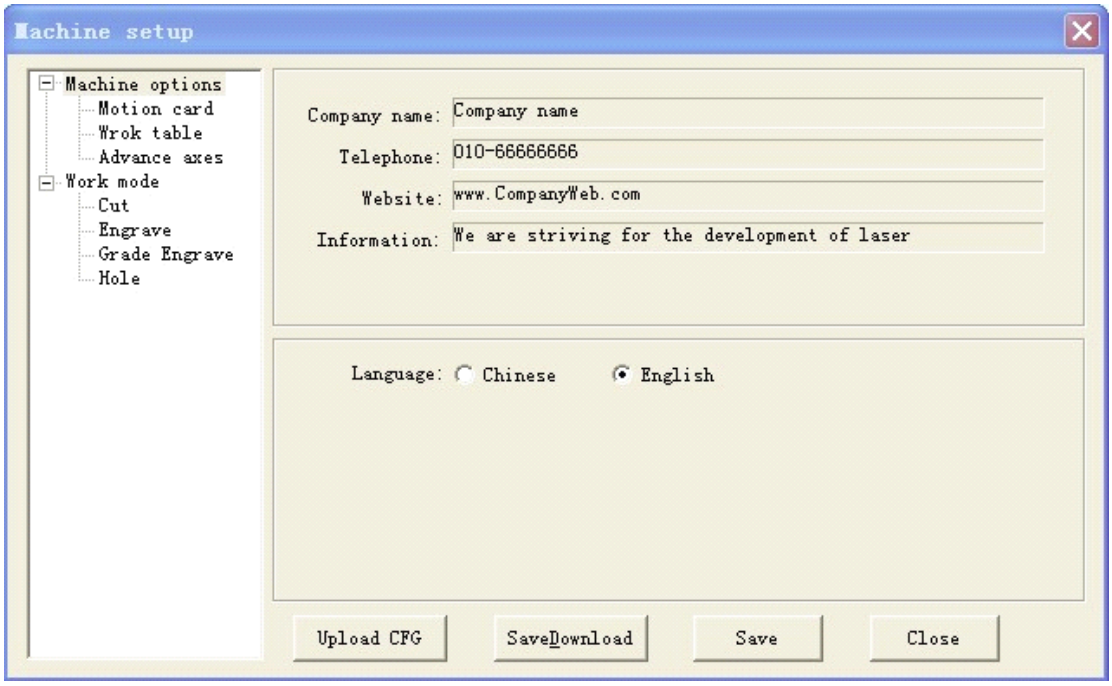
Load data that the software supports. The software can support: ＊.PLT、＊.AI、＊.DXF、＊.DST、＊.BMP etc files.

2.2.6 Export

Save the vector graphics data that is in current window as a standard PLT file ＊.PLT.

2.2.7 Options

Click this button, and the interface is as following.



Any change of these parameters will change the performance of the machine. Before changing the parameter, you should consult the supplier.

2.2.8 Print

Click the button to print the page content

2.2.9 Print Preview

Click the button to preview the content of the pages to print

2.2.10 Print Options

Click the button to set the print parameters

2.2.11 Exit

Click this button, and the software will close.

2.3 Edit

2.3.1 Undo

The corresponding icon is .

Return to the previous editing state.

2.3.2 Redo

The corresponding icon is .
Restore to the revocation of a previous state.

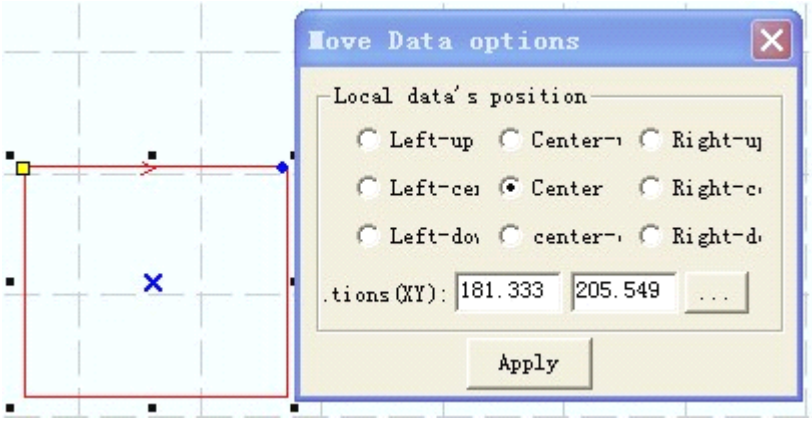
2.3.3 Refresh

The corresponding icon is .
Click this button, and you can refresh the screen.

2.3.4 Pick

The corresponding icon is .

Select graphics. Select graphics or a part of the graphics. You can delete, move, change layers of the graphics you select.
There are other functions about this button. Click this button, and select the graphics.
Move the mouse to the nodes, then drag the mouse, you can change the shape of the graphics as you prefer.
After you select the graphics, click “Spacebar”.



Input the coordinate of the X-axis and Y-axis, you can change the position of the graphics.

2.3.5 Zoom in

The corresponding icon is
Enlarge showing graphics. Click this button, then click your graphics with mouse and the graphics can be enlarged.

2.3.6 Zoom out

The corresponding icon is .
Reduce showing graphics. Click this button, and the graphics can be reduced.

2.3.7 Pan

The corresponding icon is .

Move screen. Click this button; press the left button of your mouse continuously, and move your mouse to any place of the screen, then you can see any part of the screen.

2.3.8 Room to table

The corresponding icon is .

Show the whole processing area within the scale of reference frame.

2.3.9 Room to all object

The corresponding icon is .

Show the processing date in max on screen.

2.3.10 Center to table

The corresponding icon is .

When the data is input, it may be out of the reference frame. Click this button and you can move data to reference frame. If you select a graphics and click this button, the selected graphics will be moved to the center of the reference frame.

2.4 Draw

2.4.1 Line

The corresponding icon is .

Click this button, move mouse on the screen, and you can draw straight lines freely. Press “Ctrl” key, and move mouse on the screen, you can draw horizontal lines.

2.4.2 Rectangle

The corresponding icon is .

Click this button, move mouse on the screen, and you can draw rectangles of various sizes. Press “Ctrl” key, and move mouse on the screen, you can draw square.

2.4.3 Draw poly-line

The corresponding icon is .

Click this button, move mouse on the screen, and you can draw poly-line of various sizes by clicking mouse. If you click “C” key, the line will be closed. Press “Ctrl” key, and move mouse on the screen, you can only draw beeline.

2.4.4 Ellipse

The corresponding icon is .
Click this button, move mouse on the screen, and you can draw ellipse of various sizes. Press “Ctrl” key, and move mouse on the screen, you can draw circle.

2.4.5 Bezier

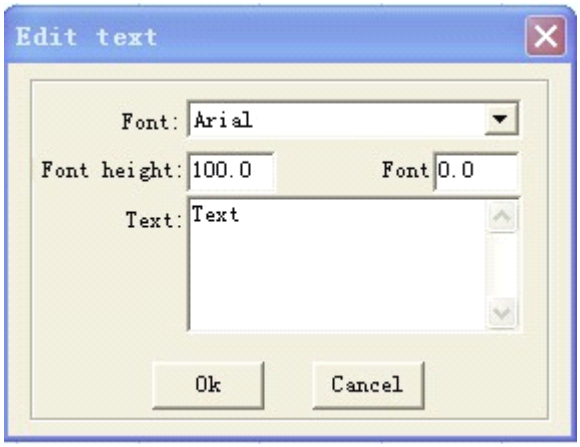
The corresponding icon is .

Click this button, move mouse on the screen, and you can draw bezier of various sizes.

2.4.6 Text

The corresponding icon is .

Click this button, and drag mouse.

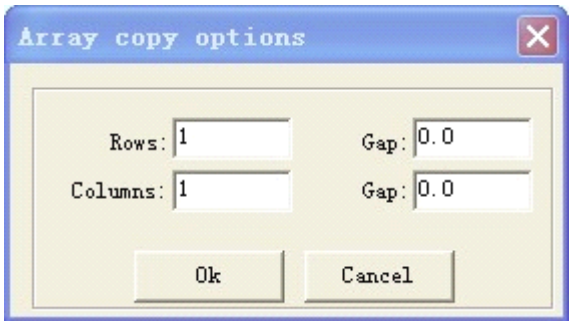


The font can be set in the dialogue box
If you want to edit the text, please click this button and drag mouse on the text.
Before you change the size of the text, the text should be changed to curve. The “To curve” button is located in “Tools-- To curve”. When the text changed to curve, the content of the text can’t be changed.

2.4.7 Copies

The corresponding icon is .

Click “select” button , and choose the graphics you want to array copy. Then click this button.

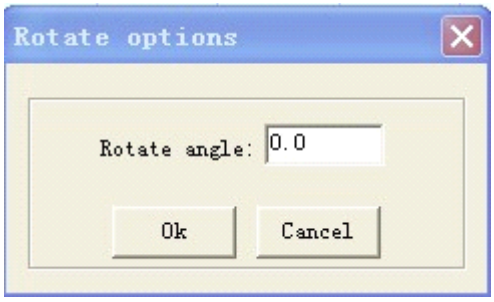


Input relative parameters, then a number of graphics are copied as “rows X columns”.
Gap means the distance between two adjacent rows or columns.

2.4.8 Rotate

The corresponding icon is .

Click “pick” button , and choose the graphics you want to rotate. Then click this button, you can rotate the graphics. Click “Spacebar” key after you click , you will see following dialog box.



Input the number you want, and you can control the rotate angle.

2.4.9 Mirror (vertically)

The corresponding icon is .

Click “pick” button , and choose the graphics you want to edit. Then click this button, you can

change the shape of the graphics. The following is a sample. The upper is original graphics, and the other is edited.

2.4.10 Mirror (horizontally)

The corresponding icon is .

Click “pick” button , and choose the graphics you want to edit. Then click this button, you can change the shape of the graphics. The following is a sample. The upper is original graphics, and the other is edited.

2.4.11 Size

The corresponding icon is

Change the size of graphics. Click “pick” button , then select the graphics you want to edit. Click this button.

Now, input the number you prefer on X and Y-axis. Click “OK”, the size of graphics can be changed. If you don’t want to change the proportion of X and Y-axis, you can input one of the number (X or Y), then click the button .

2.4.12 Align

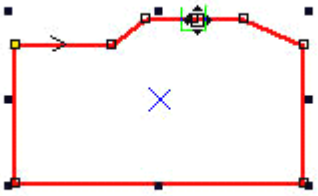
The corresponding icon is .

There are 7 options for aligning.

2.4.13 Edit node

The corresponding icon is .

Move mouse to the node, and you can change the shape of the graph by dragging mouse.



Move mouse to the graphics, the mouse will change to a crisscross. Double-click mouse will add a node. Move mouse to the node and click “Delete” key, the node will be deleted.

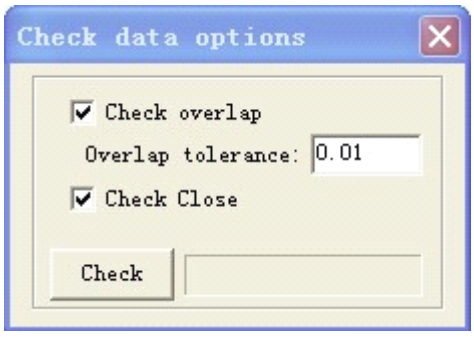
2.4.14 Cut

Cut graphics. Click the button and select the graphics to be cut. The feature is mainly used for the handing of the DST file.

2.5 Tools

2.5.1 Data check

Click this button. The follow dialog as below

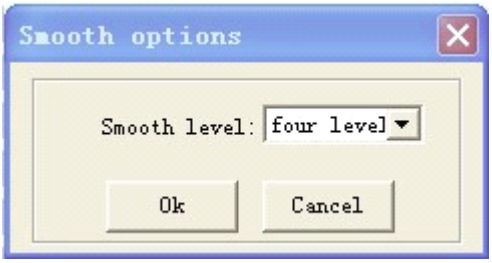


This can check if the data is closed, overlap or self-intersect.
Overlap error of dots: set the overlap error of dots value of the adjacent points.
When the data is input two times or more, it can’t be processed properly. So if you find something is unusual such as you can’t engrave a graphics data, please use this tool to check overlap or others. Click “Check” and it will inform which part of the data is in trouble by red it. Then click “Delete” key and you can delete unwanted data. Before you click “Delete” key, you have to click .

2.5.2 Smooth curve

The corresponding icon is .

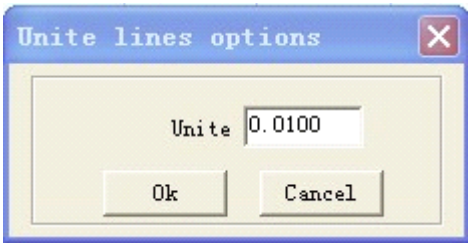
This tool can smooth curves. This can improve the cutting speed. Select the graphics you want, and click this button.



There are 4 options. Compared with “One Level” and “Two Level”, “Three Level” is smoother. But the distortion is bigger than the others.

2.5.3 Unite line

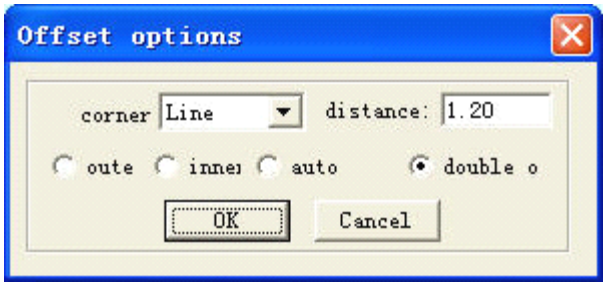
This tool can unite several lines that are intersecting as one line. This is usually used for DXF files.



2.5.4 Offset curve

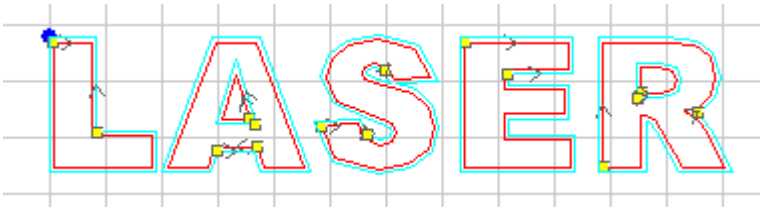
The corresponding icon is .（Version 3.3 and below do not have this feature）

This tool can expand or reduce the data. Select the data you need and click this button.



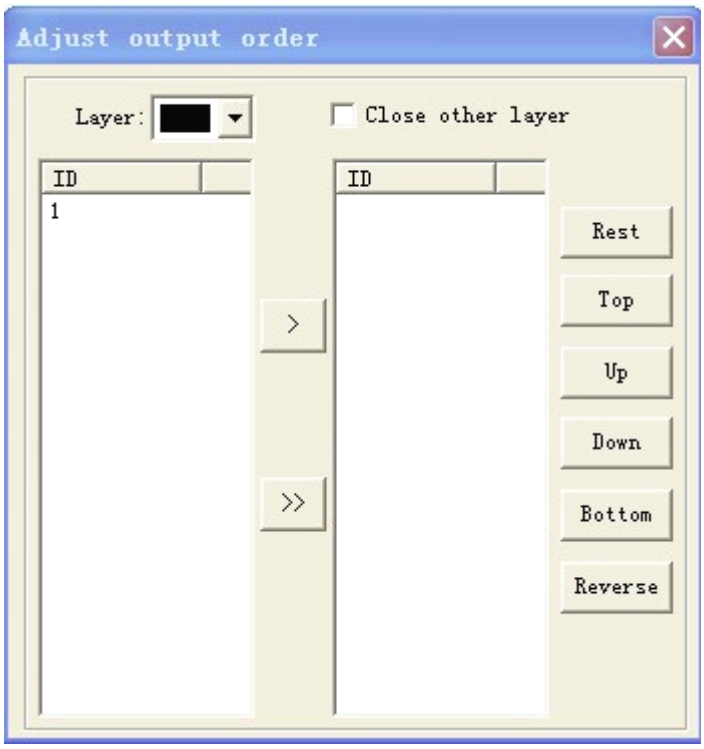
Input parameters you need you will get a parallel data and the new data will be set as another layer.

The following is a sample.



2.5.5 Output order

By this tool, you can layout the processing sequence as you prefer. Click this button,

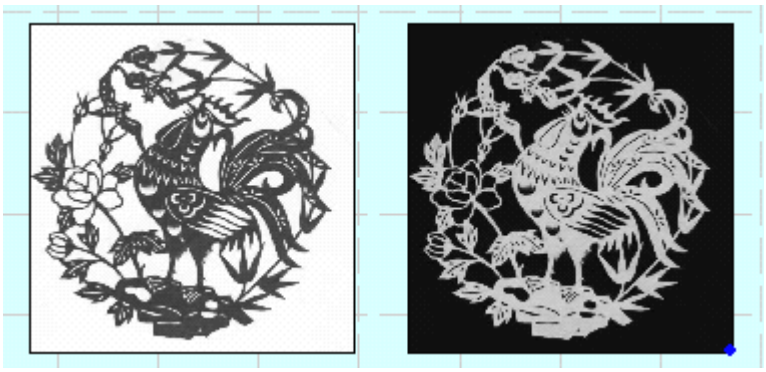


Each ID number represents a separate graphics. Change the sequence of the ID number, and the processing sequence will be changed.

2.5.6 Invert colors

The corresponding icon is .

This is only for BMP. Click “pick” button , and choose the graphics you want to edit. Then click this button, the black part will be changed to white and white to black. The following is the sample.

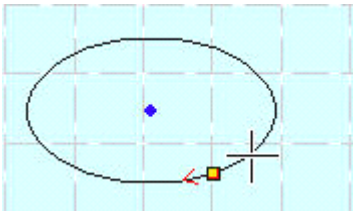


2.6 Laser

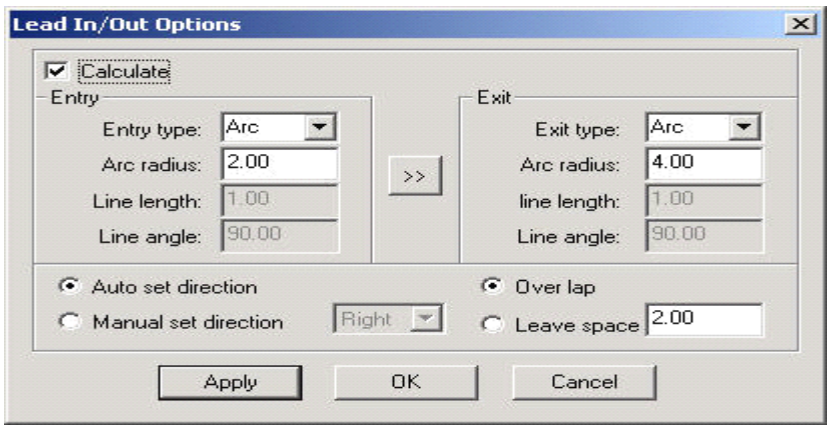
2.6.1 Define cut route

The corresponding icon is .

This software will define the starting point and direction automatically. Generally, the point is on the corner. When you need to change the starting point and direction, you can click this button, and then move mouse to the graphics. The mouse will change to be a crisscross. Now click the left key of mouse on any point of the graphics, and this point will be the new starting point. You can change the direction by clicking “F” key. The following is a sample.



Click “Spacebar” and you can set lead in/out line. (Version 3.3 and below do not have this feature)



Calculate: select this option and you can set lead in/out lines.

Entry/Exit type: type of lead in/out lines. There are 2 types: arc and line.

Arc radius: radius of lead in/out arc.

Line length: length of lead in/out lines.

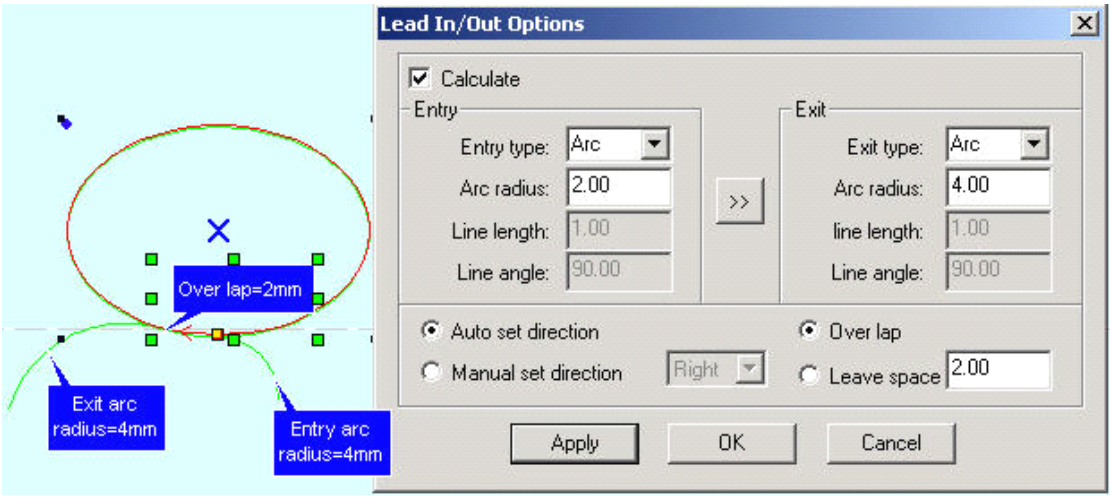
Line angle: angle of lead in/out lines.

: set the exit parameters as same as that of entry.

Auto set direction: this software will set where the lead in /out lines are (in or out of the graphics outline) automatically.

Manual set direction: set where the lead in /out lines are.

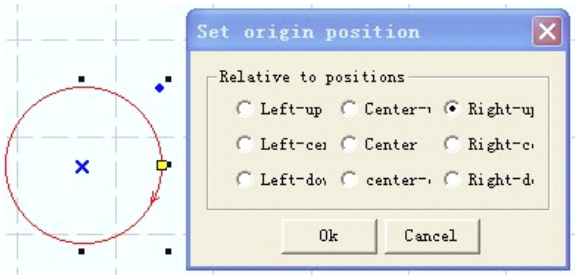
Over lap/leave space: this option determines whether the processing effect is closed. The length of overlap (or leave space) is set by the input number beside this option.



2.6.2 Set laser origin

The corresponding icon is .

Click this button, and you can set origin point anywhere as you prefer.

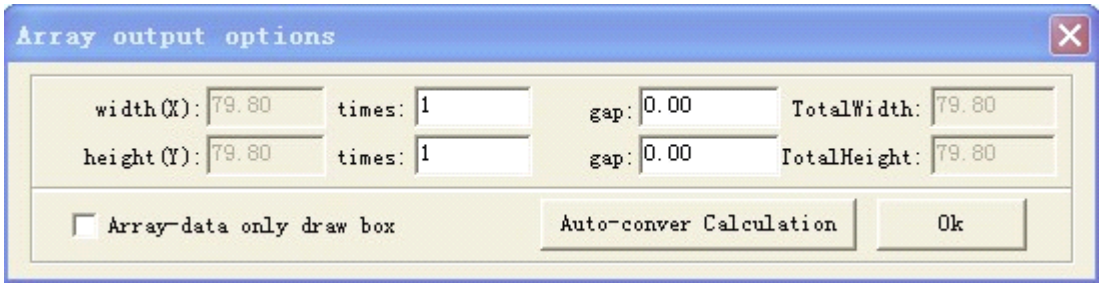


You can set origin point anywhere as you prefer.

2.6.3 Array output options

The corresponding icon is .

Click this button.



Cell Width(X/Y): It is the original size of the data.

Times: It is the number of rows and columns you need.

Gap: It is the space between two adjacent rows or columns.

Width: It is the width of whole data.

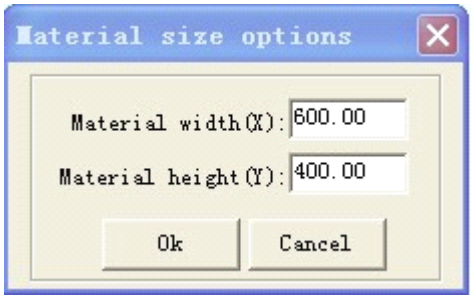
Height: It is the height of whole data.

Gap along Y: It is the space along Y axis between the first and second column.

Gap along X: It is the space along X axis between the first and second row.

Array-data Only Draw Box: If you select this option, there will be only one data on screen; others will be shown as rectangles.

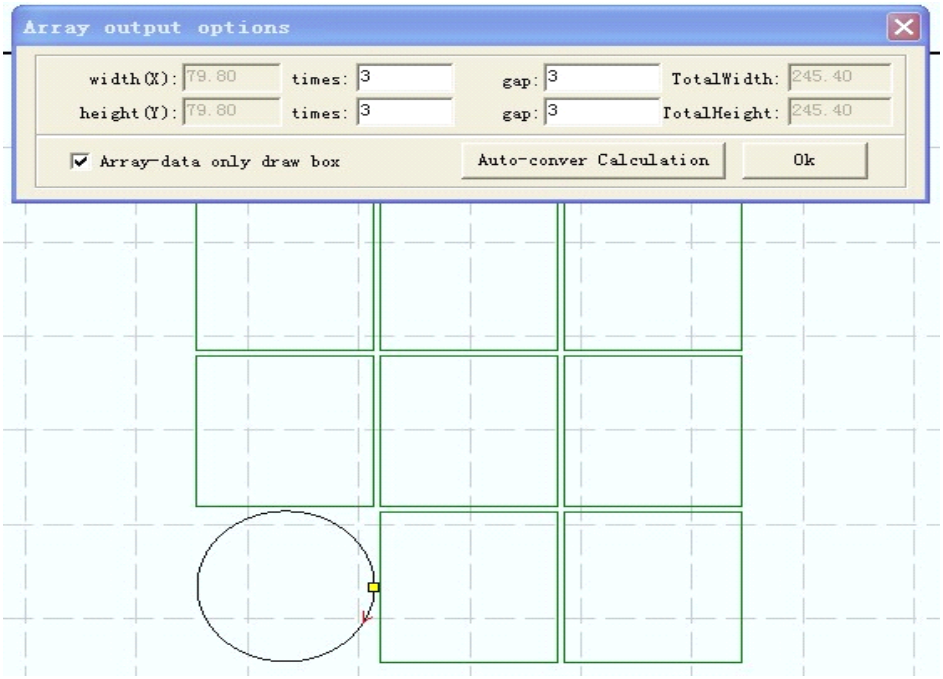
Auto-cover Calculation: This can calculate the number of row and column that can cover the whole material according to the parameter you input. Click this button,



Material width(X): It is the width of the work piece (the default is the worktable's width).

Material height(Y): It is the height of the work piece (the default is the worktable's height).

The following is a sample.

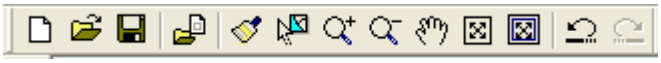


2.7 View

2.7.1 Toolbar

File toolbar

Click this button, you can display or hide the following bar.

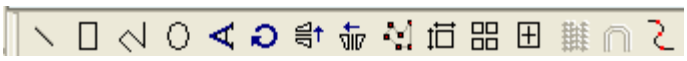


2.7.2 Output toolbar

Click this button, you can display or hide the following bar.

2.7.3 Edit toolbar

Click this button, you can display or hide the following bar.



2.7.4 Layers toolbar

Click this button, you can display or hide the following bar.

Click “pick” button and choose a certain part of graphics on screen (after been chosen, the outline become gray), then click any color button you prefer on the layer bar. Now a new layer will be added in the layer list automatically.

2.7.5 Align toolbar

Click this button, you can display or hide the following bar.

2.7.6 Status bar

Click this button, you can display or hide the following bar.

The status bar show the coordinates of the position that mouse stay on. It also shows the name and website of the manufacturer.

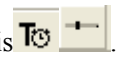
2.8 Simulation Processing

2.8.1 Simulation Processing Output

The corresponding icon is .

Click the button, you can do the simulation processing output and check the output effect.

2.8.2 Set simulate speed

The corresponding icon is  .

By this tool, you can adjust the simulate speed.

2.8.3 Estimate work time

The corresponding icon is .

Click this button, it will show the work time.

2.9 Help

2.9.1 About

Click this button, and you can see the following dialog box.

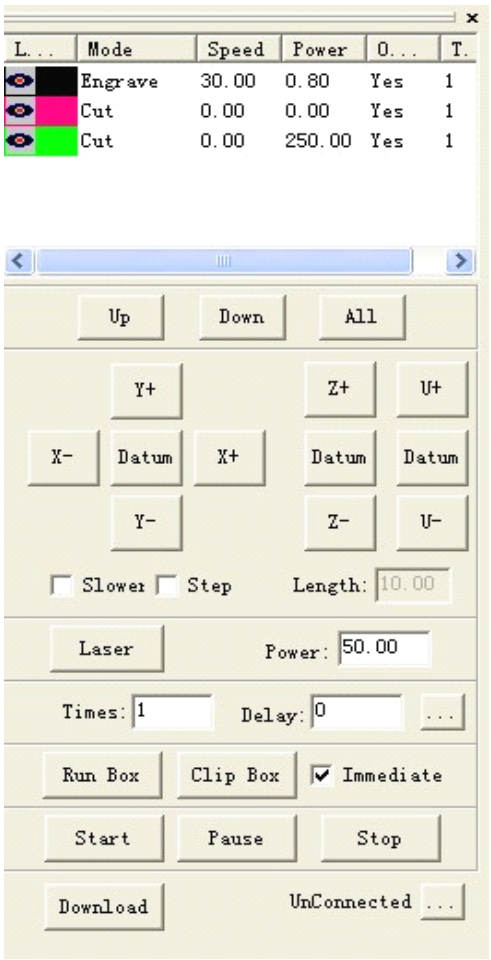
It shows information of the software and our phone number. If you have any question, don't hesitate to call us.

2.9.2 Password

Click this button, and you can unlock the system locked with the password provided by the manufacturer.

Chapter III Laser output

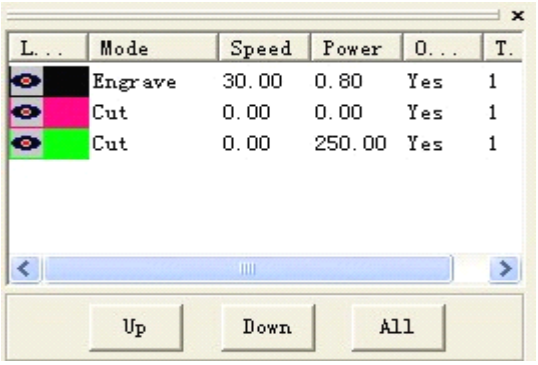
There are 3 parts in this interface as following



3.1 Layer

3.1.1 Main Interface of the "Layer"

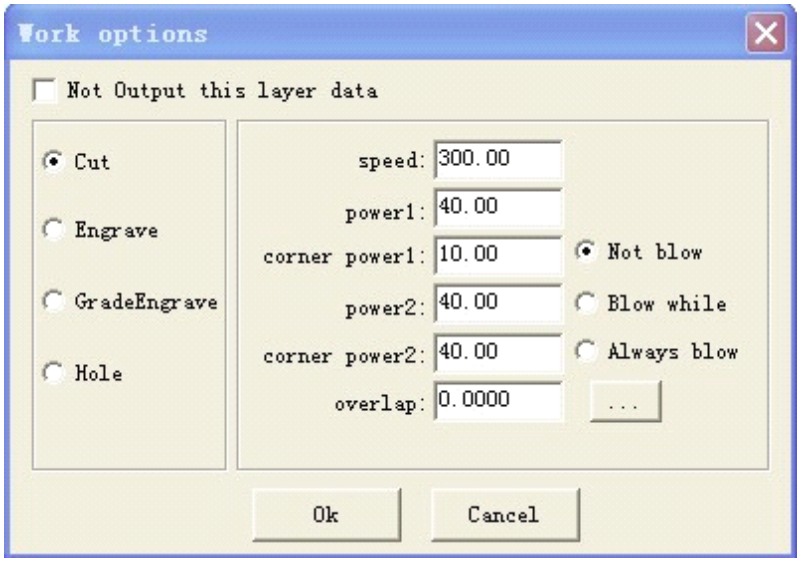
Layers management is shown as below:



When there are many layers, the processing sequence is from the top down. Select one row and click Up or Down, and the sequence can be changed.

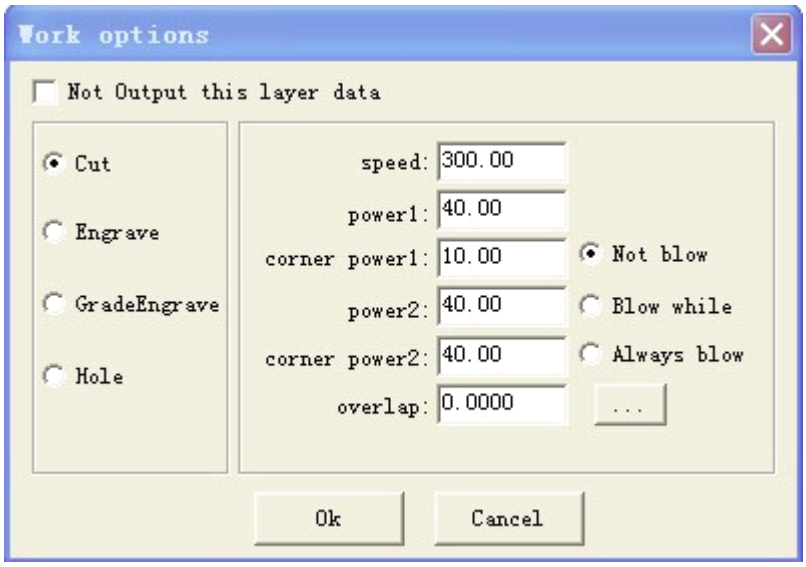
When there are many layers, select one row and click All, and all the processing parameters of the other layers can be set as the layer that has just been selected.

When changed the graphics or parameters, please click Calcul to save the processing parameters in processing file.



3.1.2 Interface of " Set Cut Options"

Double-click the color bar on the "Layer" column, and the dialog box as shown below.



The parameters are defined as follows:

Not Output this layer data: indicates that the layer output

Not Output this layer data: indicates that the layer is not output

Speed: vector speed on X-Y axis

Power 1: the maximum power of the first laser when the layer is processed(units as a percentage）

Corner power 1: power of the first laser when laser head runs on corners.

Power 2:the maximum power of the second laser when the layer is processed(units as a percentage）, This needs hardware support.

Corner power 2: power of the second laser when laser head runs on corners, this needs hardware support. (adjusting the above two parameters can guarantee the processing of the laser intensity constant）

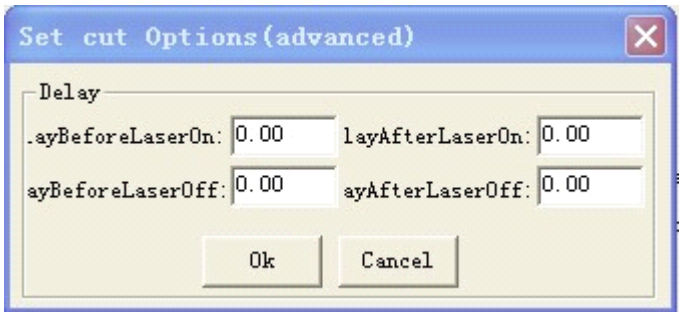
Overlap: When a close graphics can't be cut as it is (close), adjusting this parameter can avoid it. This may be caused by mechanical gaps. The best way to avoid this problem is improve the mechanical precision of the machine.

Not Blow: blowing function is closed.

Blow with Laser: blowing when laser on. Stop blowing when laser off. This function needs hardware support.

Always Blow: blowing when laser head moves and stop blowing when processing procedure finished.

: This is advanced layer options. Click this button.



The units is milliseconds

Delay before laser on: set the delay time before laser on.

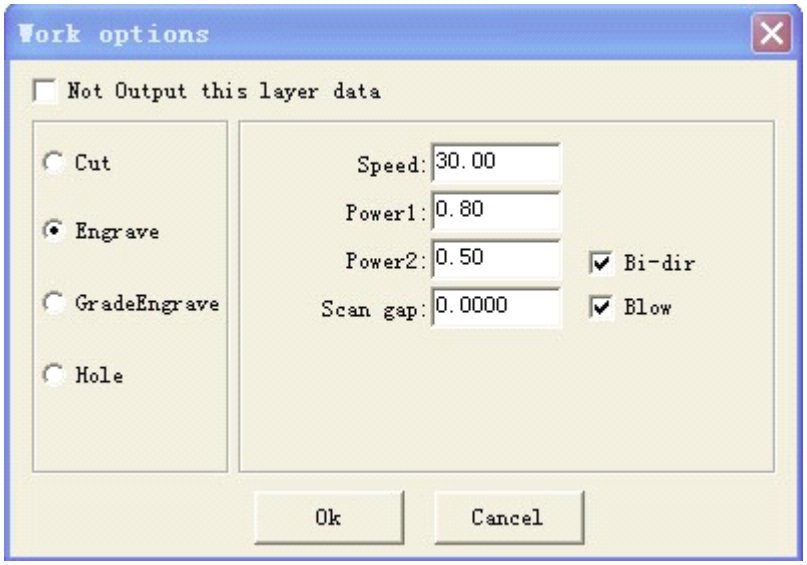
Delay after laser on: set the delay time after laser on.

Delay before laser off: set the delay time before laser off.

Delay before laser off: set the delay time after laser off.

Interface of "set engrave options"

Double-click the color bar on the "Layer" column, and the dialog box as shown below.



The parameters are defined as follows:

Speed: engraving speed on X-axis.

Power: the laser power when a layer is processed (units as a percentage)

Scan gap: movement distance on Y-axis when engrave a row on X-axis.

Expand scale: when engraving small letters, the width of transverse stroke may be smaller than the actual size. Adjusting this parameter can compensate it.

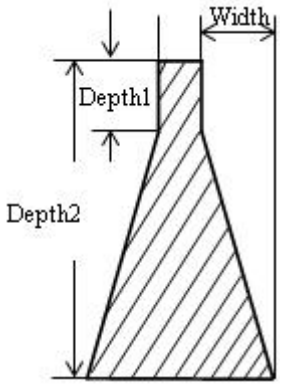
Bi-dir: when engraving, laser emit on both negative X-axis and positive X-axis. When cancel this function, laser emit on only one direction.

Blow: blow or not.

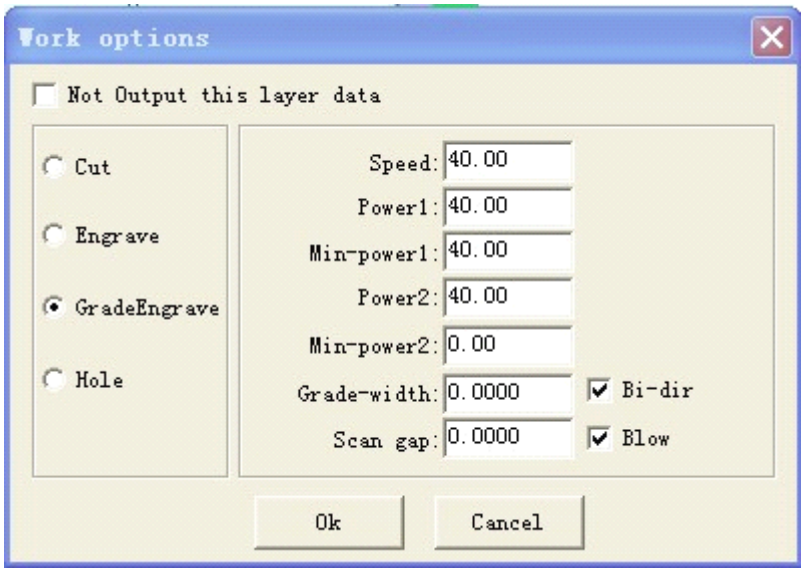
Power2: power of the second laser head, this needs hardware support.

3.1.3 Interface of Setting Grade Engrave Options

Sketch map of grade engrave as following.



Double-click the color bar on the "Layer" column, and the dialog box as shown below.



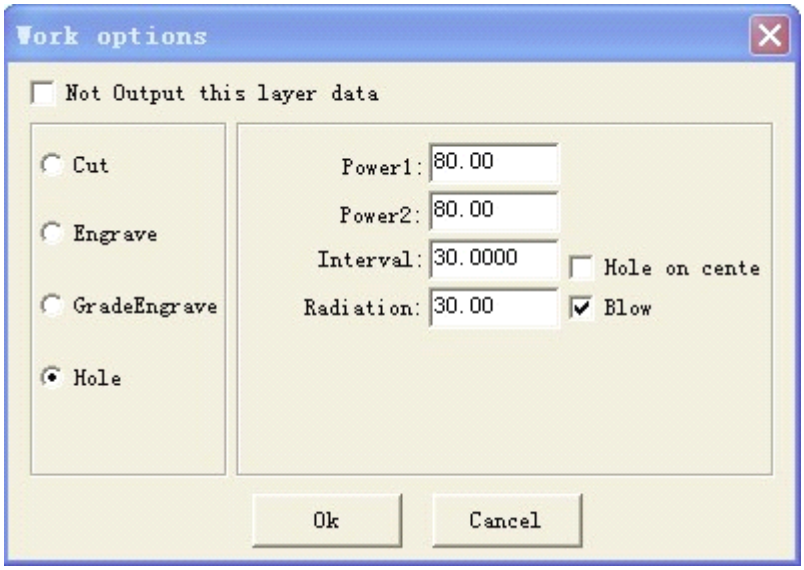
The parameters are defined as follows:

Speed: engraving speed on X-axis.
Scan gap: movement distance on Y-axis when engrave a row on X-axis.
Power: the laser power when a layer is processed. This parameter determines the depth of the slope.
Min-Power: the lowest laser power when grade engraving.
Grade-width: the width of grade.
Bi-dir: when engraving, laser emit on both negative X-axis and positive X-axis. When cancel this

Function, laser emit on only one direction.
Blow: blow or not. This function needs hardware support.

3.1.4 Interface of Setting Hole Options

Double-click the color bar on the "Layer" column, and the dialog box as shown below.



The parameters are defined as follows:

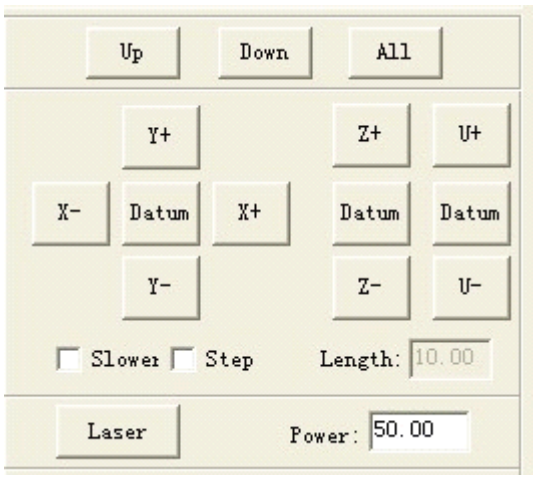
Power: the laser power when a layer is processing.
Interval: the space between two adjacent holes.

Radiation time: delay time for a hole. It determines the size of holes.
Hole on center: hole on all the center of the close graphs.

Blow: blow or not. This function needs hardware support.

3.2 Manual Control

Manual can control the fixed step movement of the machine, included in the PAD-1000 operation panel, as shown following



X-, X+, Y+, Y-, Z+, Z-: Move the axis. Click once and the laser head moves a step.

Datum: Click this button and the laser head (or Z) will move to the home point of the machine slowly (the speed is determined by "Datum Speed" that you can change in the Option" dialog box). Then the laser head will move to the origin point quickly (the speed is determined by "Quick Speed" that you can change in the "Option" dialog box). This can eliminate the cumulate error. Generally, the machine should be reset before processing. When run the software, it will be reset automatically (this function can be cancelled as you prefer).
U-axis and Z-axis has the same mode of operation.

Slow: if you select this option, workbench moves slowly。

Stepping: click this button and workbench moves a "stepper distance"

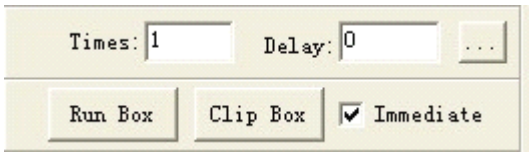
Stepper distance: distance of each move.

Laser: Laser on/off.

Power: It determines the intensity of the laser power supply. The minimum value is 0 and the maximum value is 100.

3.3 Auxiliary processing parameters

In the following dialog box, some auxiliary processing parameters can be set.

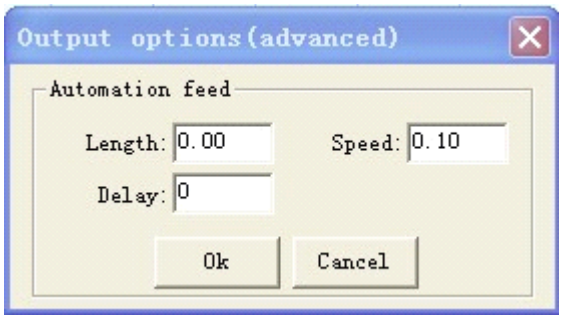


Times and Delay: If input 10 in "Times" and 20 in "Delay", then press "Run", you can get 10 same

graphics. And it will stay for 20 seconds after every processing finished. The 20 seconds is for feeding and taking down material. Different time can be set as you need. This function can increase efficiency a lot.

Immediate: If this option is selected, the software will take the position that the laser head is as original point. If this option is not selected, the original point will be the position you set.

: This is advanced layer options. Click this button.



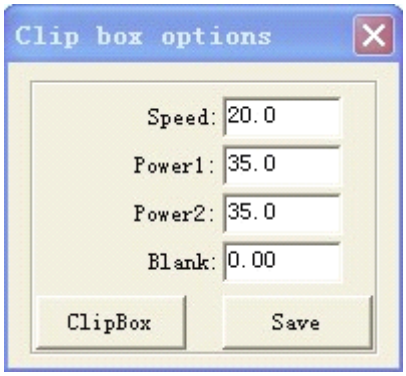
Length (feeding length): When input a certain number in it, feeding motor will give a certain space after every processing finished.

Speed (feeding speed): It set the feeding speed.

Delay: After X-Y finished, the machine will delay a certain time before feeding.

: Click this button, and laser head will move as a rectangle without laser emitting according to the size of the graphics. This function is used for confirming the location of work piece.

: Click this button, laser head will move as a rectangle with laser on according to the size of the graphics. This function is also used for confirming the location of work piece. Click this button, and you can see the following dialog box:



Speed: you can choose different speed according to different material. It's better to confirm proper speed through testing.

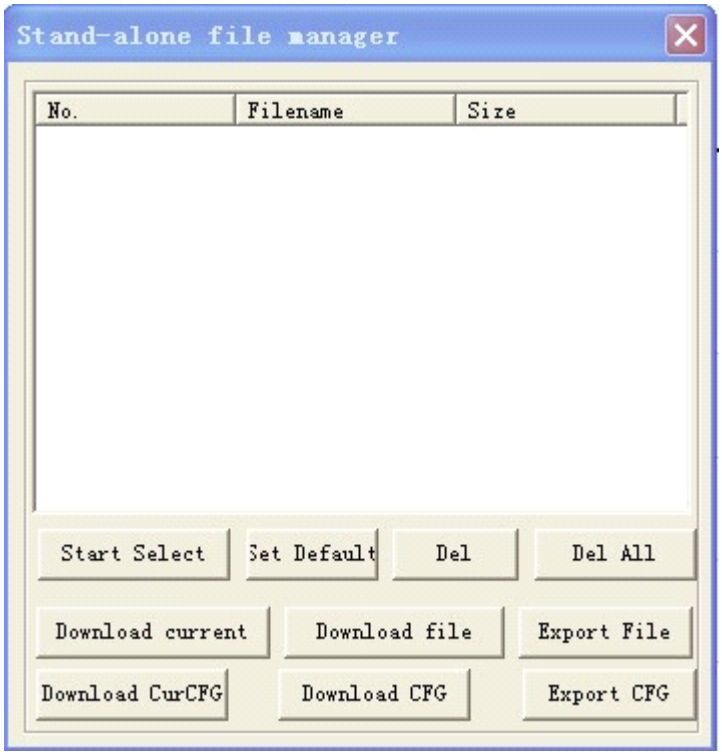
Power: the laser power when cutting.

Blank: distance between processing graphics and the edge of cutting piece.

Save: save the parameters for next data.

3.4 Offline Files（Download data）

Click the "Download Data" button, and the following dialog box will appear



3.4.1 Run the Selected File

Processing indicated by the cursor files.

3.4.2 Set to Current File

Cursor indicates the file is set for the panel to select.

3.4.3 Del

Delete the file which is selected.

3.4.4 Del All

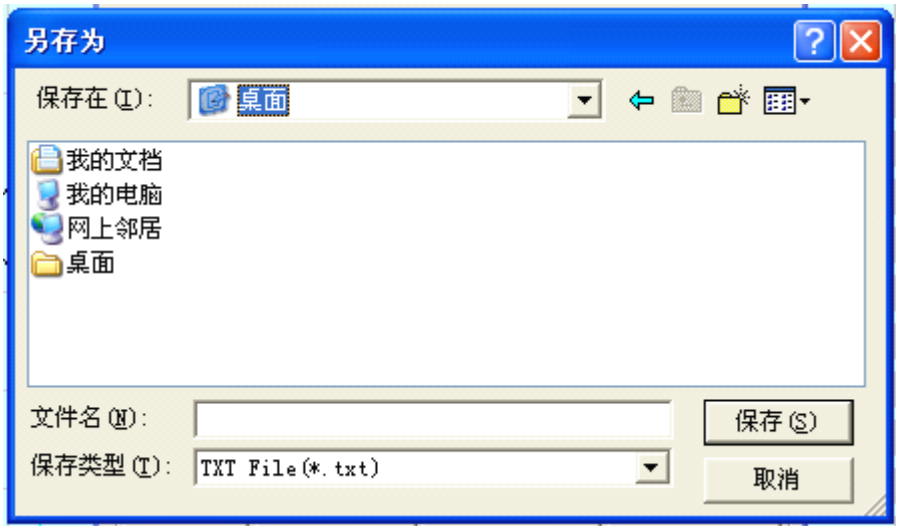
Delete all the files saved in controller.

3.4.5 Download Current Processing Data

Download the current processing data to controller. If you want to rename the processing file, please click the left mouse button in the list of files on the black field and click “download current processing data”

3.4.6 Download Processing data

Click the button, and the following dialog as below



Select the file to be downloaded to controller

3.4.7 Output Current Data

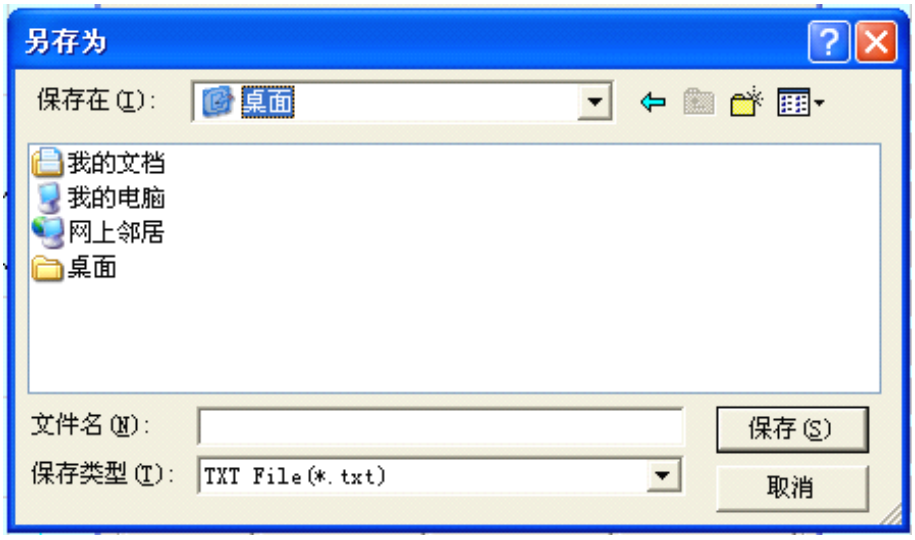
You can achieve this by exporting a CFG file (*.mol), and copy this file to controller by USB disk.

3.4.8 Download Current Configuration

Download the machine parameters to controller.

3.4.9 Download configuration

Download the machine parameters saved in the PC to controller.



3.4.10 Output Configuration File

This will create a *.mol file which includes all the parameters of a processing data. The file can be downloaded to controller by USB disk. Click the “start” key, and the new configuration is to take effect.

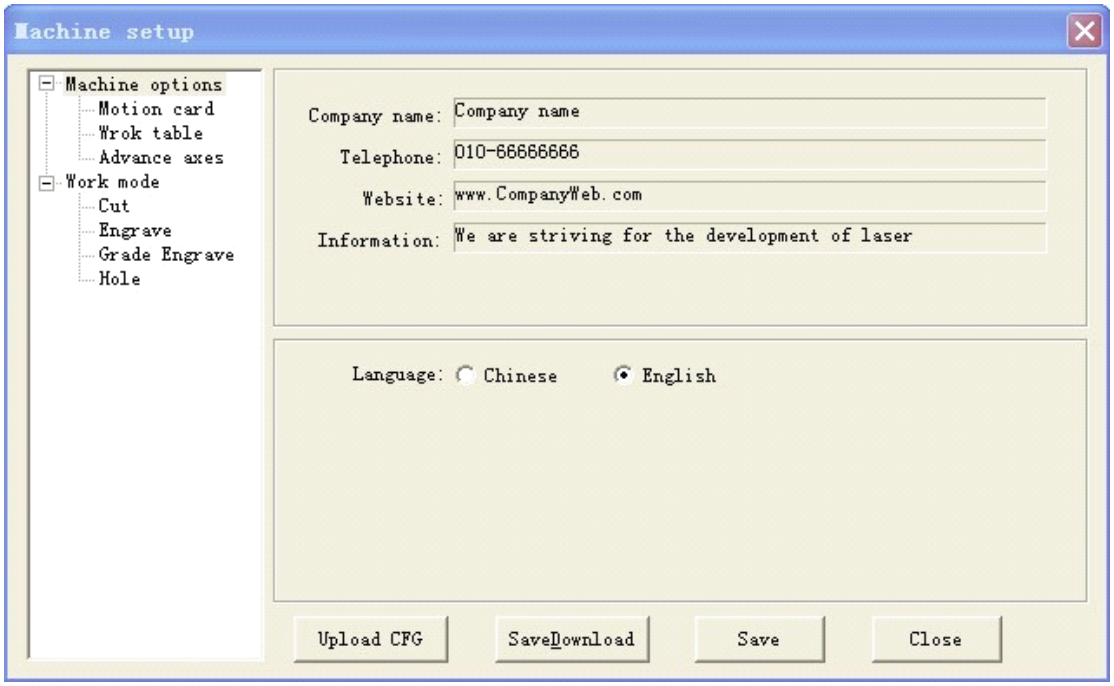
Chapter IV Machine Settings

Any change of the parameters in “Options” will change the performance of the machine. Before changing the parameter, you should consult the supplier.

4.1 Main Interface

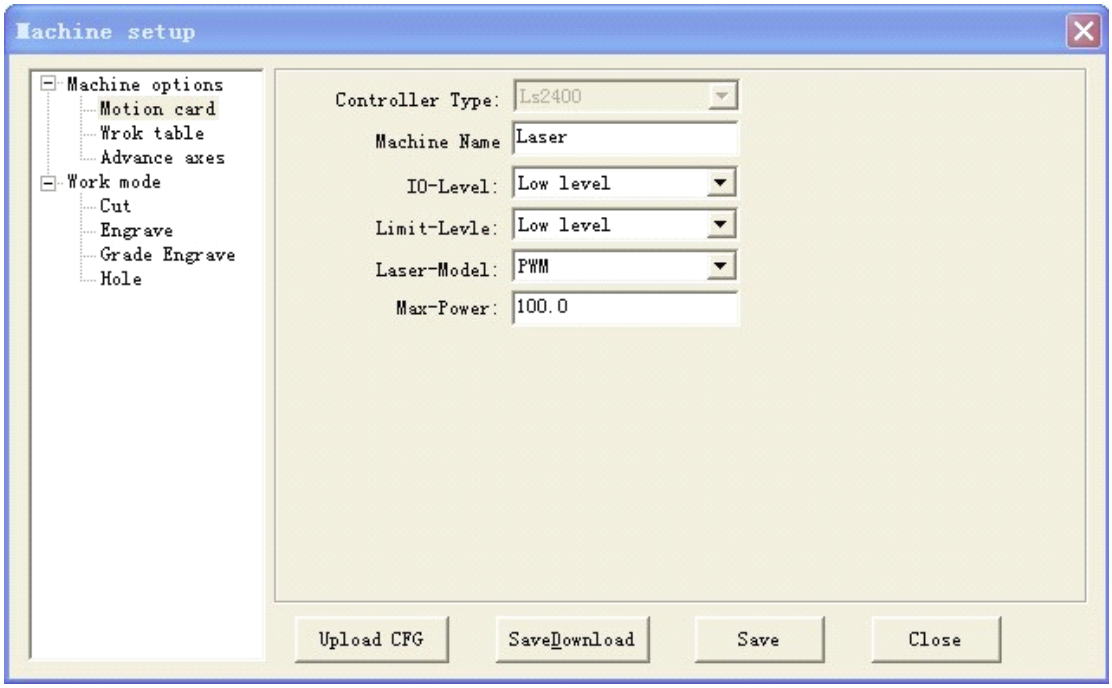
4.1.1 Information about Manufacturer

It shows the basic information about the manufacturer and can't be modified.



4.2 Worktable

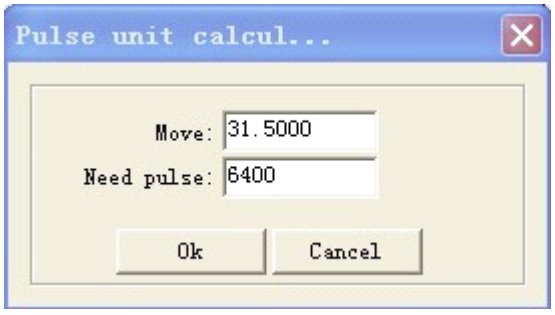
Workbench parameters as shown below



X-axis represents the horizontal axis(car), Y-axis represents the vertical axis (cart)

4.2.1 Pulse Unit

It means the distance that the laser head moves when the control system output a pulse. If you don't know this numerical value, please click ... .



Move: When the stepping motor moves a circuit, the laser head will move a relative length. You need to input the number in it.

Need pulse: The number is "driver's subdivision number" ×200.

4.2.2 Range

It is the available processing area of the machine. If you change the number, the reference frame of the main interface will be changed accordingly. The moving range of the 1st and the 2nd axis

will be restricted by this parameter.

4.2.3 Datum Dir (Datum Direction)

It is determined by the position (right or left, up 0r down) of original switch.

4.2.4 Auto Datum

If you select this function, when you run the software, it will be reset automatically. The software can remember the coordinates of laser head. So you can move the laser head very quickly without worrying that it will overstep the worktable. If this function is canceled, you can only move the laser head slowly (the speed is “slow speed” and you can change it the “machine parameter setting” dialog box). And when you move the laser head, you have to be very careful to avoid striking the machine.

4.2.5 Datum Speed

It determines the speed of datum.

4.2.6 Start Speed

It is the start speed of all axes. Normally, the number should be chosen from 5-30mm/s according to different machines. If the number set up is too high, machine will shake intensively.

4.2.7 Const Speed

When cutting, if the (processing) speed is higher than even speed, the laser head will slow down on corners of the graphics. If the (processing) speed is lower than even speed, the laser head will not change speed during processing.

4.2.8 Quick Speed

This is the maximum speed of laser head moving without lasers emitting. When move the laser head up, down, left and right, this parameter will work. If the number is too high, machine will shake intensively.

4.2.9 Acceleration

It is the acceleration from start speed to quick speed.

4.2.10 Test Speed (fast)

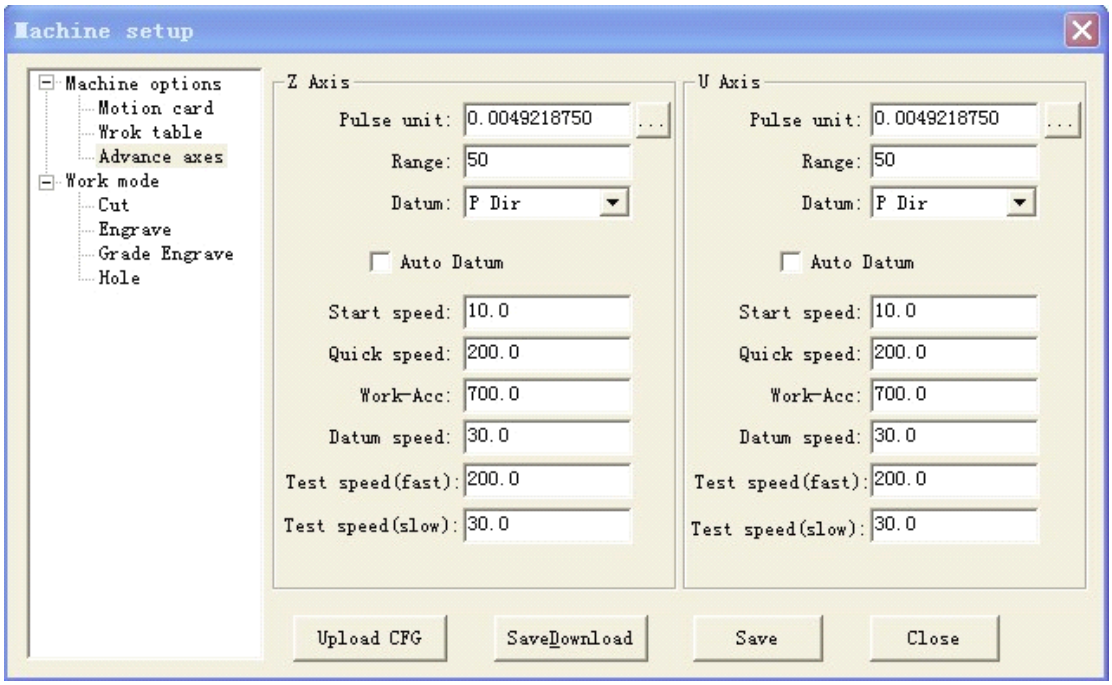
This is the speed that you move the laser head when you select auto datum.

4.2.11 Test Speed (slow)

This is the speed that you move the laser head when you don't select auto datum.

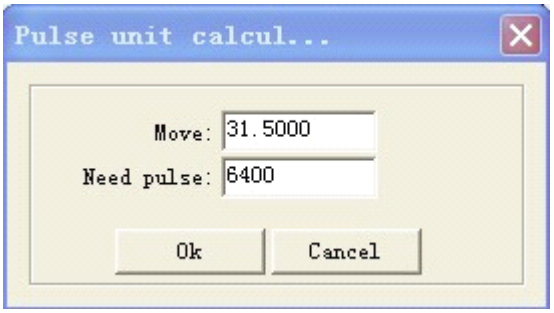
4.3 Feeding

The feeding axis can be used as feeding and lift working table.



4.3.1 Pulse Unit

It means the distance that the laser head moves when the control system output a pulse. If you don't know this numerical value, please click ... .



Move: When the stepping motor moves a circuit, the laser head will move a relative length. You need to input the number in it.

Need pulse: The number is "driver's subdivision number" ×200.

4.3.2 Range

It is the available processing area of the feeding axis. The moving range of the feeding axis will be restricted by this parameter.

4.3.3 Datum Direction

It is determined by the position (up 0r down) of original switch.

4.3.4 Auto Datum

If you select this function, when you run the software, the feeding axis will be reset automatically. The software can remember the location of the feeding axis. So you can move the feeding axis very quickly without worrying that it will overstep the worktable. If this function is canceled, you can only move the feeding axis slowly (the speed is "slow velocity" and you can change it the "machine parameter setting" dialog box). And when you move the feeding axis, you have to be very careful to avoid striking the machine.

4.3.5 Datum Speed

It determines the speed of datum.

4.3.6 Start Speed

It is the start speed of all axes. Normally, the number should be chosen from 5-30mm/s according to different machines. If the number set up is too high, machine will shake intensively.

4.3.7 Quick Speed

This is the maximum speed of laser head moving without lasers emitting. When move the laser head up, down, left and right, this parameter will work. If the number is too high, machine will shake intensively.

4.3.8 Acceleration

It is the acceleration from begin speed to fast speed.

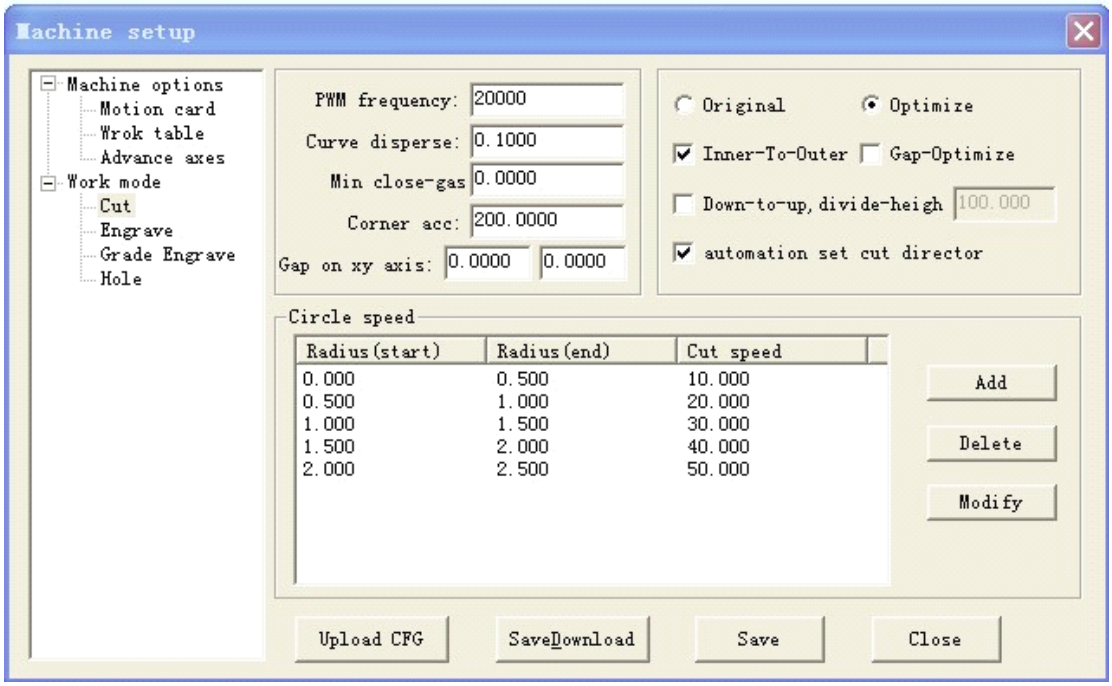
4.3.9 Test Speed (fast)

This is the speed that you move the laser head when you select auto datum.

4.3.10 Test Speed (slow)

This is the speed that you move the laser head when you don't select auto datum.

4.4 Cut



4.4.1 PWM Frequency

It determines the frequency of PWM signal, the value is between 0－200K.

4.4.2 Curve Disperse

It determines the precision of graph data. If the number is smaller, the precision will be higher and cost more time to calculate processing data.

4.4.3 Min Close-gas Time

When the time between the former blowing off and the next blowing on is less than the number, the machine will not blow off to protect the blowing switch.

4.4.4 Corner ACC

It determines the processing precise when the processing route turns the corner.

When the machine can't draw lines smoothly, please input a smaller number in "Acceleration" and "Corner Acc".

4.4.5 Gap on X/Y-axis

Compensation gap when the motor changes direction. This parameter only works when cut with even speed.

4.4.6 Origin

The machine draws the graph according the route as it is been made.

4.4.7 Optimize

The software will calculate the route to improve processing efficiency. If you select this option, there are 2 options.

Inner-to-outer: cut from inner to outer.

Down-to-up: cut from down to up according the number of "divide-height".

4.4.8 Gap-Optimize

Select this option, when cut complex graphics, the software will generate cut route to compensate the mechanical gap. But this will greatly increase inefficient route.

4.4.9 Automation Set Cut Direction

The software will confirm the direction automatically. If you need to change the direction, please cancel this function. Compensation

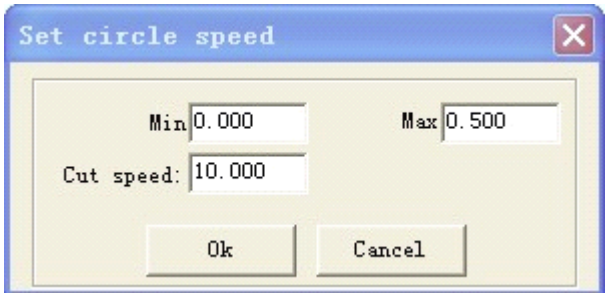
4.4.10 Overlap length

Because of the mechanical gap, circle can't be cut round. Input a certain number in it, and you can get the circle more round. But this will increase the processing time.

4.4.11 Circle Speed

When cutting small circle (the diameter is especially between 1to 3) with high speed, it will be distorted. The parameters of "Set circle speed" are used to reduce distortion.

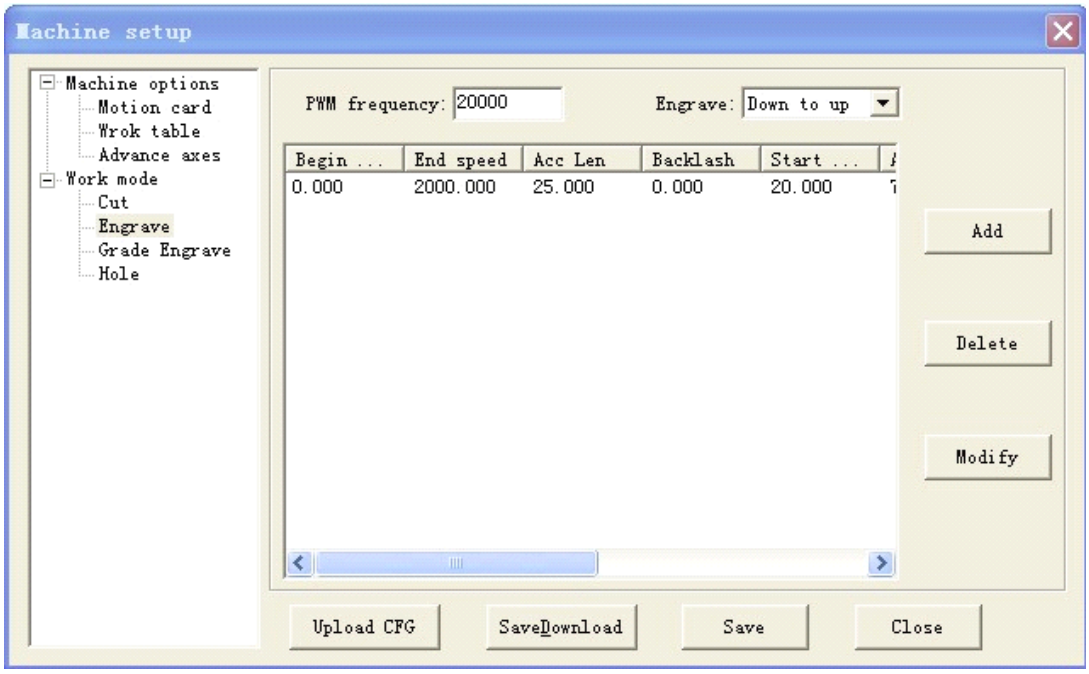
Double-click ether row of the list.



When the radius of circle is in the range between "Min radius" and "Max radius", the cut speed will automatically be changed to the number of "Cut speed".

4.5 Engrave

Engraving parameters as shown below



4.5.1 PWM Frequency

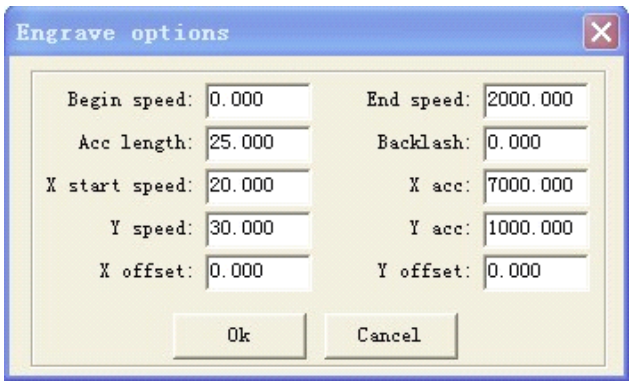
It determines the frequency of PWM signal. the value is between 0－200K.

4.5.2 Engrave

Select the engrave direction.

4.5.3 Engrave Options

Double-click ether row of the list, the following dialog box appears



Begin Speed and End Speed: When the engrave speed is set in the range between Begin Speed and End Speed, the system will automatically apply the numbers of Acc Length, Backlash.

Acc length: It is the engraving length without laser emitting. It determines the distance that the X-axis moves from start speed to (working) speed. If it is not long enough, the machine will shake intensively.

Backlash: It is used for compensating mechanical gaps. If the engraving edge is not orderly, please set up number in "Backlash". This number can be positive or negative.

X start speed: It is the start speed of X-axis when engraving.

X acc: It is the acceleration of X-axis from start speed to (working) speed.

Y speed: It is the speed of Y-axis when engraving, the value is too large to cause vibration of the machine.

Y acc: It is the acceleration of Y-axis from start speed to "Y Speed".

If you find graphics error happens (that is, motor lost step), you can set up a bigger number in "Accelerator Length" or a smaller number in "Acceleration".

X offset: when engraving graph is not the actual position, there is an offset. Input the offset is OK.

Y offset: when engraving graph is not the actual position, there is an offset. Input the offset is OK.

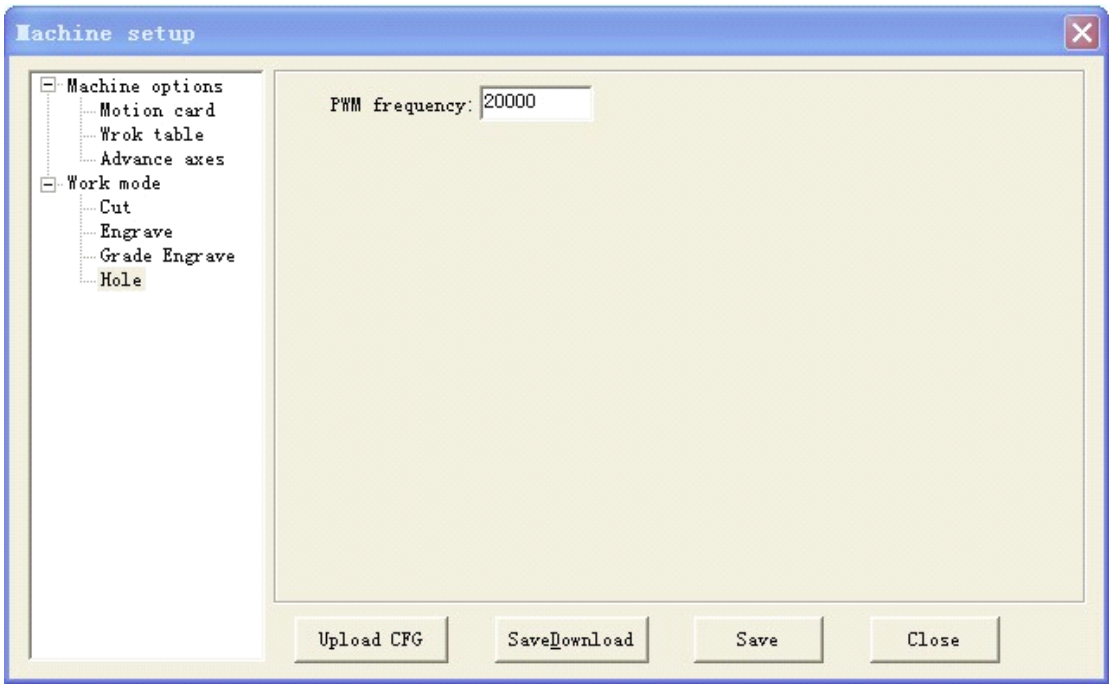
Click the "ADD" to set the processing parameters according to the speed range

4.6 Grade Engrave

Please refer to 4.5

4.7 Hole

Holing parameters as shown below



PWM Frequency

It determines the frequency of PWM signal. the value is between 0－200K.

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