User Manual

（DSP5.1 For MPC6515）

V1.2

Chapter 1 Installation of the system

1.1 Contents of the system

The system is made up of hardware (control card) and software. Hardware includes a MPC6515 control card and PAD03 (or POP Text Display). And software includes drivers for the control card and control software. The whole control system is contained in a packing carton and software in a CD.

Descriptions on software directories:

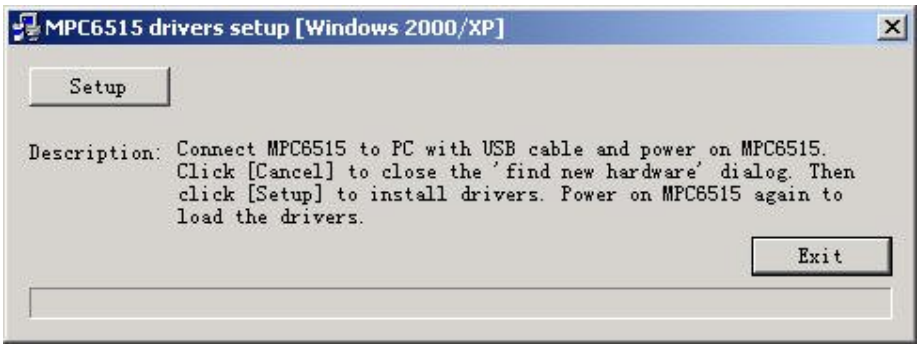
Subdirectory	Files	Explanations
Install	Files of installation	
Drivers	Drivers of control card	
Demo Data	PLT, BMP etc. demo data	
Read me	Explanations of the software edition	

1.2 Requirement of PC

Requirement of OS: Window2000、Win XP
IBM compatible computer
CPU: Above Pentium 2
Storage: 128 Meg
HD: Above 10 G
CD-ROM
Above 2 USB interfaces

1.3 Installation of MPC6515 card

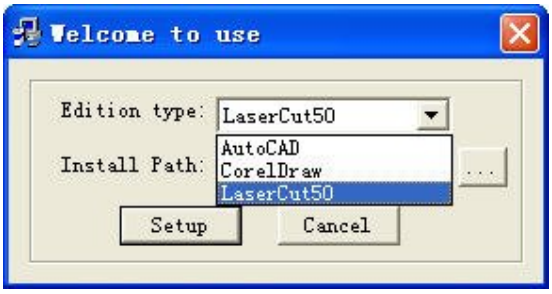
Run the file Drivers\SetupMpc6515Drv.exe.



If this program is not installed, PC can't communicate with MPC6515.

1.4 Installation of the software

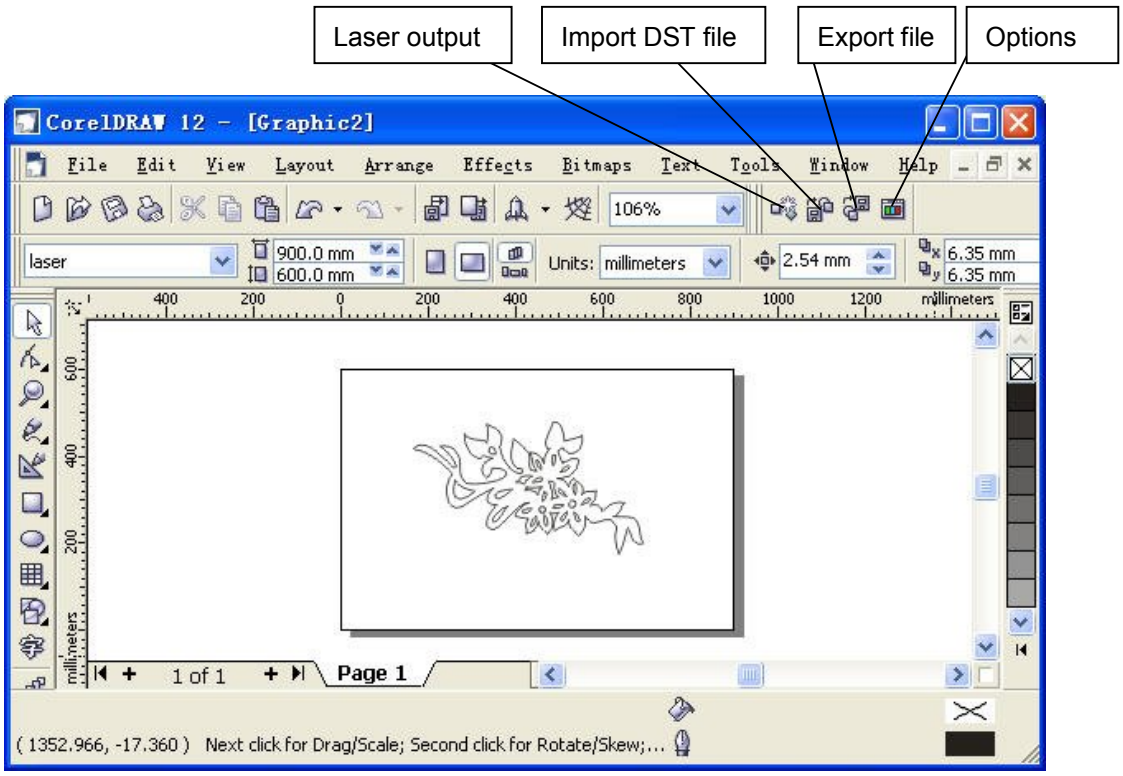
Run Setup.exe and the dialog box as following:



There are three options in “Edition type”. The default path is “C:\LaserCut50”. Click ... and you can change the install path. Click “Setup” and the software will be installed.

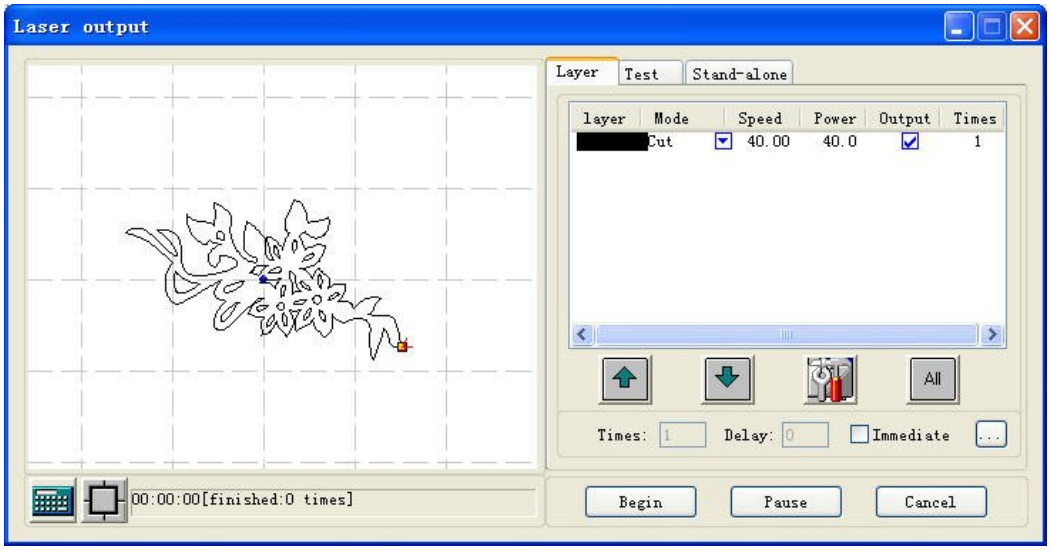
Chapter 2 Explanation for CorelDraw Edition

Run CorelDraw and the interface as following.



2.1 Laser output

Click this button, the dialog box is as following.



2.1.1 Layer

Please refer to “Chapter 5”

2.1.2 Test

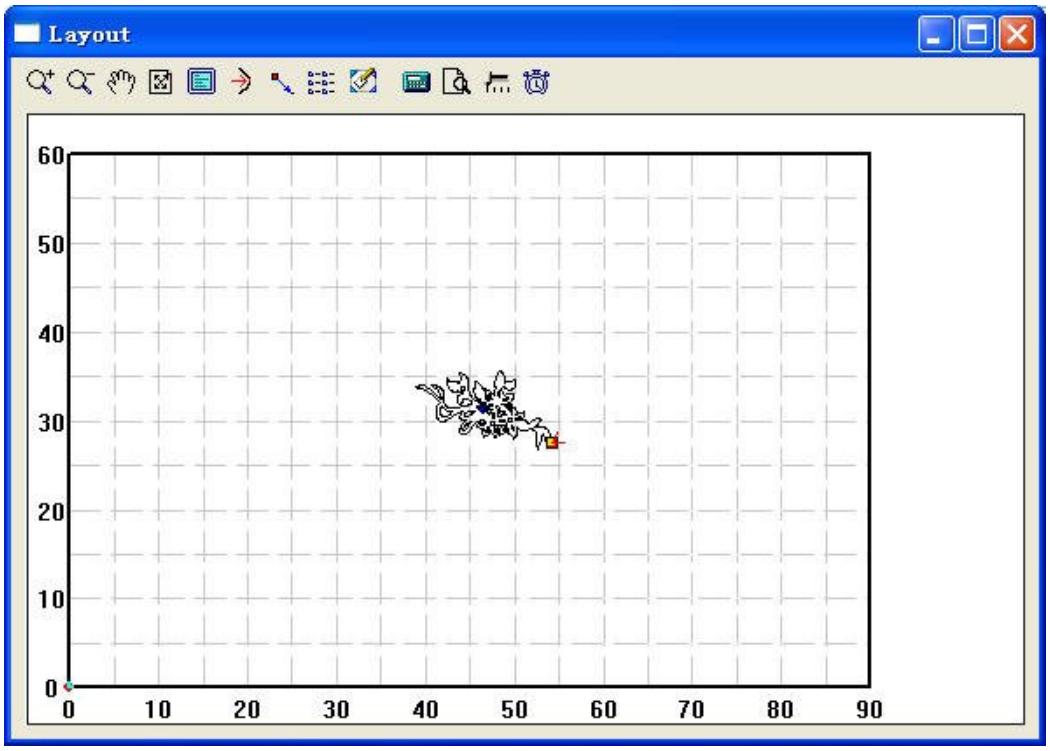
Please refer to “Chapter 5”

2.1.3 Stand alone

Please refer to “Chapter 5”

2.1.4 

Click this button, and the dialog box is as following.



2.1.4.1 Zoom in

The corresponding icon is  .

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

2.1.4.2 Zoom out

The corresponding icon is  .

Reduce showing graphics. Click this button, and the graphics can be reduced.

2.1.4.3 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.

2.1.4.4 Room to all object

The corresponding icon is  .

Show the processing date in max on screen.

2.1.4.5 Room to table

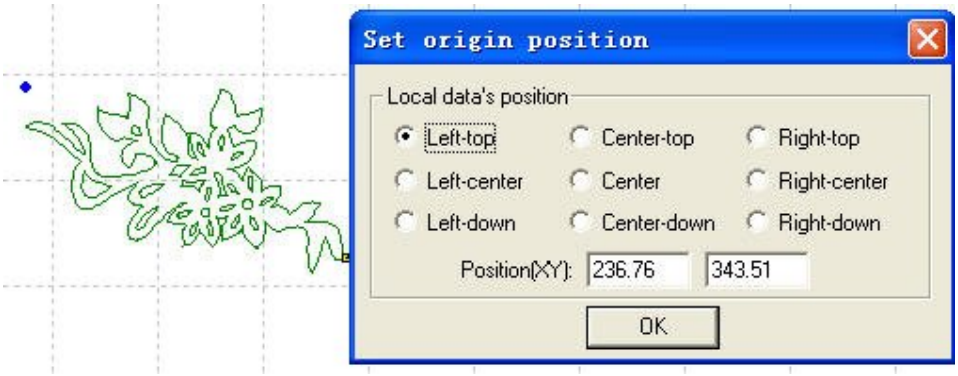
The corresponding icon is  .

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

2.1.4.6 Set laser origin

The corresponding icon is .

Click this button.

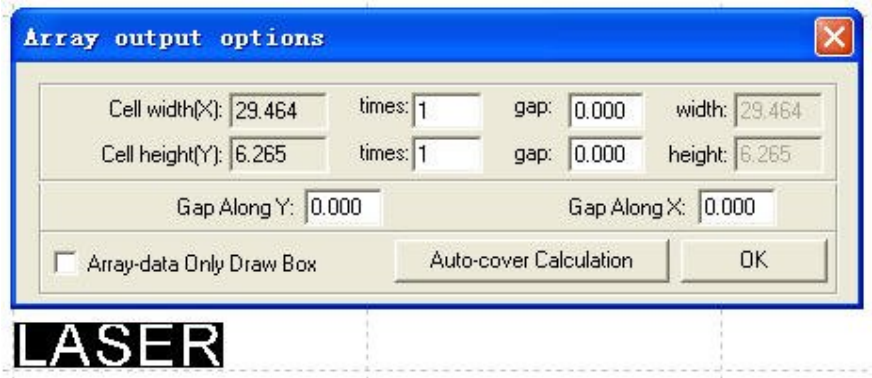


You can set origin point anywhere as you prefer.

2.1.4.7 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.

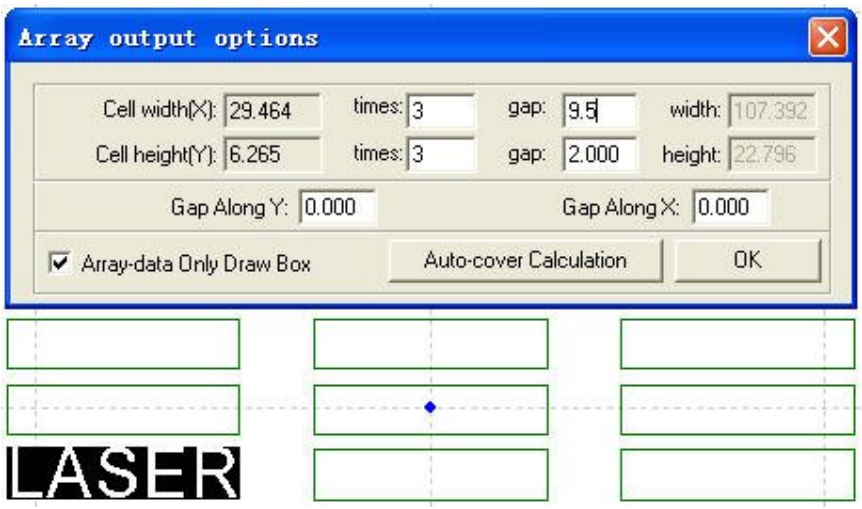
Array-data Only Draw Box: If you select this option, there will be only one data on screen; others will be shown as rectangles.

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.



2.1.4.8 Move working table

The corresponding icon is .

Click this button and move mouse, and you can change the position that the data is in the working table.

2.1.4.9 Calculate

The corresponding icon is .

When the graph and processing parameters are changed, this button should be clicked to save the processing parameters in processing file.

2.1.4.10 Simulate

The corresponding icon is .

When parameters set is finished, please click this button. It can simulate the procedure of output for checking the result of output.

2.1.4.11 Set simulate speed

The corresponding icon is .

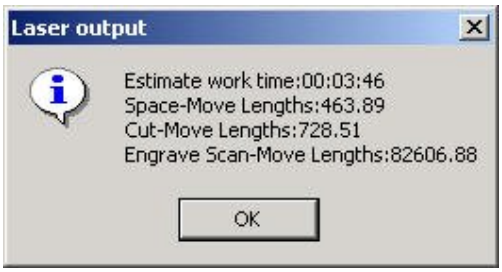
Click this button.

By this tool, you can adjust the simulate speed.

2.1.4.12 Estimate work time

The corresponding icon is .

Click this button, it will show the work time.



2.1.5

Calculate. When the graph and processing parameters are changed, this button should be clicked to save the processing parameters in processing file.

2.2 Import DST file

Click this button, you can import DST files.

2.3 Output file

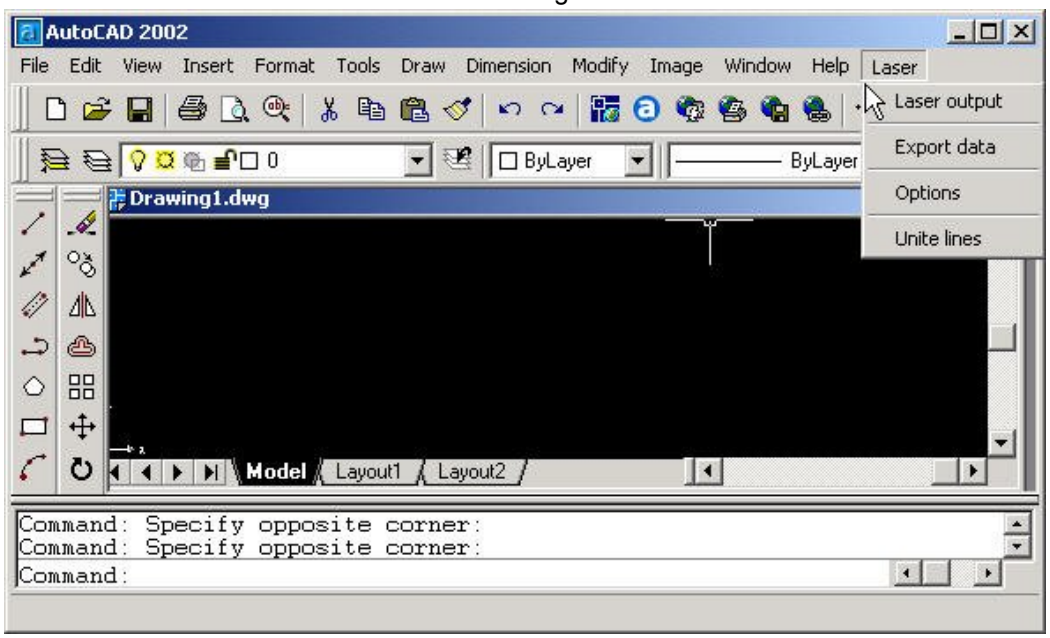
Click this button; you can export the processing files.

2.4 Options

Please refer to “Chapter 6”

Chapter3 Explanation for AutoCAD Edition

Run AutoCAD and the interface as following.



3.1 Laser output

Please refer to “Chapter 2”

3.2 Export Data

Click this button; you can export the processing files.

3.3 Options

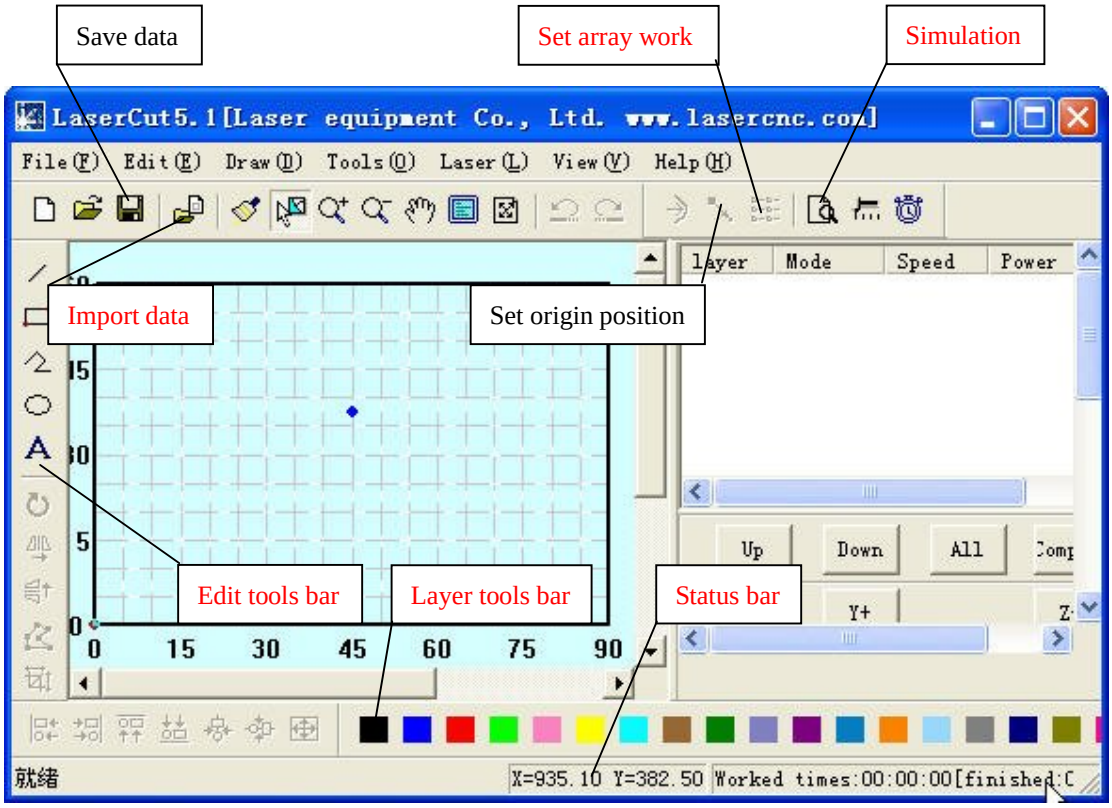
Please refer to “Chapter 6”

3.4 Unite lines

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

Chapter 4 Explanation for Universal Edition

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.

4.1 File

4. 1.1 New

The corresponding icon is .

Create a new file.

4.1.2 Open

The corresponding icon is .

Load process data made by the software. The file format is ECP-EC Project File (* .ecp).

4.1.3 Save

The corresponding icon is .

Save the graphics data that is defined processing parameters as ECP-EC Project

File (* .ecp).

4.1.4 Save As

Save a ECP-EC Project File (* .ecp) as another ECP-EC Project File (* .ecp).

4.1.5 Import

The corresponding icon is .

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

4.1.6 Export

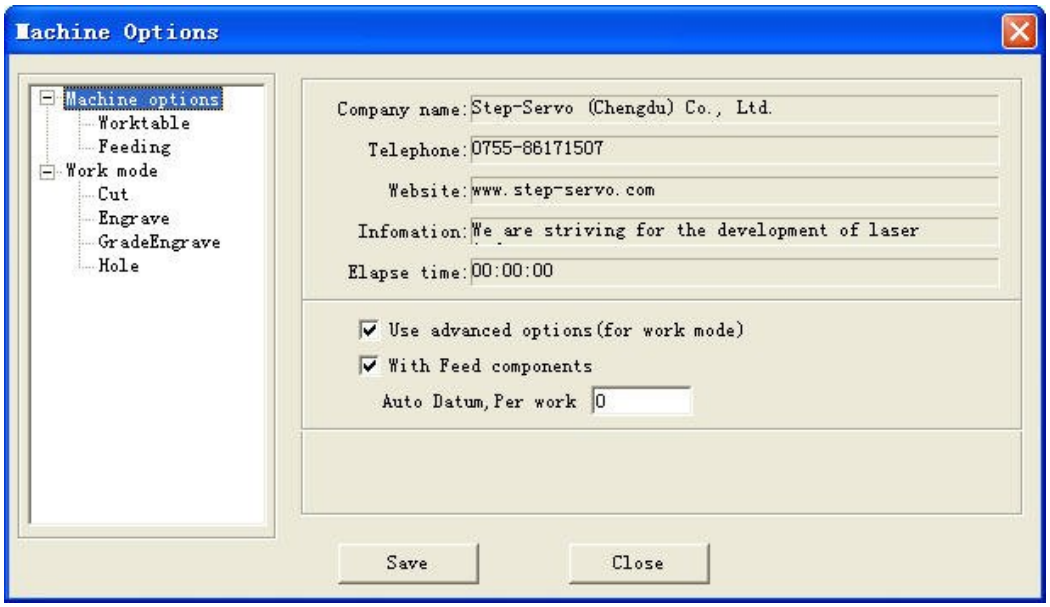
Save the vector graphics data that is in current window as a standard PLT file (*.PLT) or DXF file.

4.1.7 Relink machine

When the PC failed to link with MPC6515 control card, click this button and relink PC with the control card.

4.1.8 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.

Details please refer to “Chapter 6”

4.1.9 Exit

Click this button, and the software will close.

4.2 Edit

4.2.1 Undo

The corresponding icon is .

4.2.2 Redo

The corresponding icon is .

4.2.3 Refresh

The corresponding icon is .

Click this button, and you can refresh the screen.

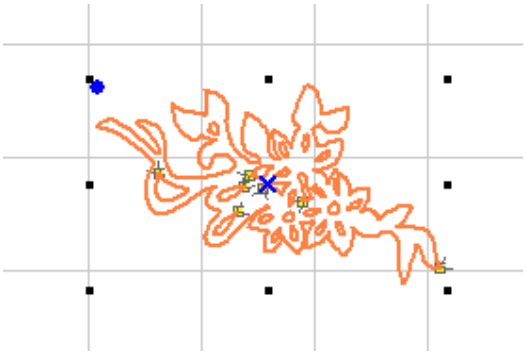
4.2.4 Pick

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.

4.2.5 Zoom in

The corresponding icon is .

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

4.2.6 Zoom out

The corresponding icon is .

Reduce showing graphics. Click this button, and the graphics can be reduced.

4.2.7 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.

4.2.8 Room to table

The corresponding icon is  .

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

4.2.9 Room to all object

The corresponding icon is  .

Show the processing date in max on screen.

4.2.10 Center to table

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.

4.3 Draw

4.3.1 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.

4.3.2 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.

4.3.3 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.

4.3.4 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.

4.3.5 Bezier

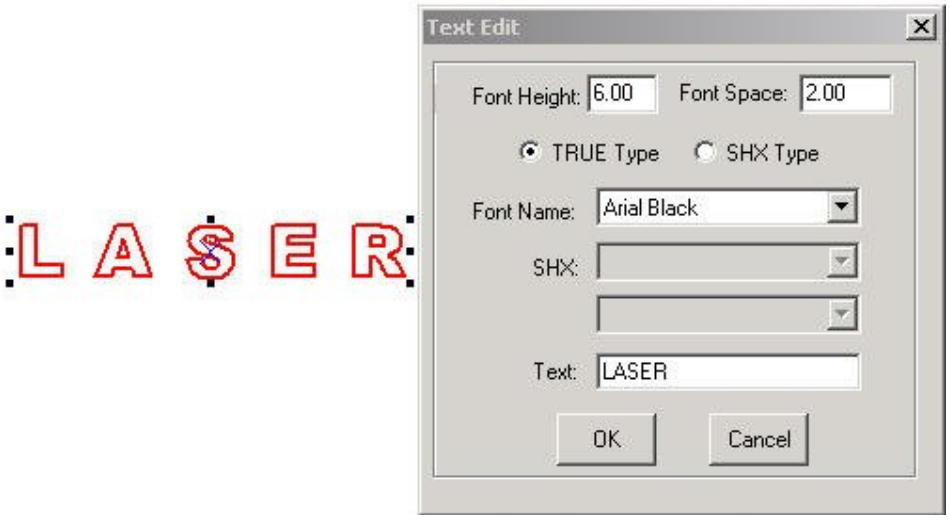
The corresponding icon is  .

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

4.3.6 Text

The corresponding icon is  .

Click this button, and drag mouse.



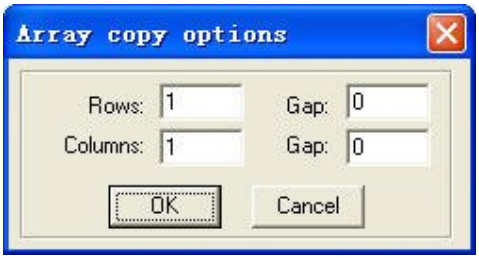
If you want to edit the text, please click this button and drag mouse on the text.

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.

4.3.7 Copies

The corresponding icon is .

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



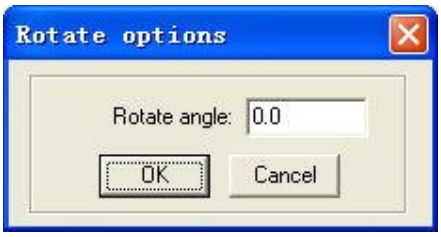
Input relative parameters, then a number of graphics are copied as “rows X columns”.

Gap means the distance between two adjacent rows or columns.

4.3.8 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.

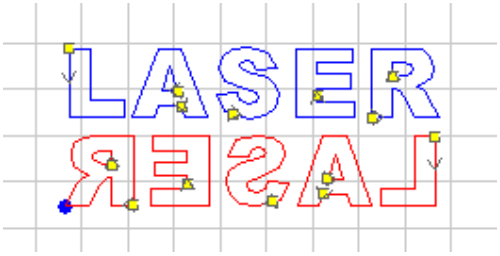


Input the number you want, and you can control the rotate angle.

4.3.9 Mirror (vertically)

The corresponding icon is .

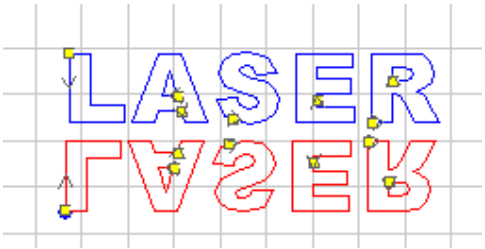
Click “pick” button , and choose the graphics you want to edit. Then click this button, you can change the shape of the graphics. The following is a sample. The upper is original graphics, and the other is edited.



4.3.10 Mirror (horizontally)

The corresponding icon is .

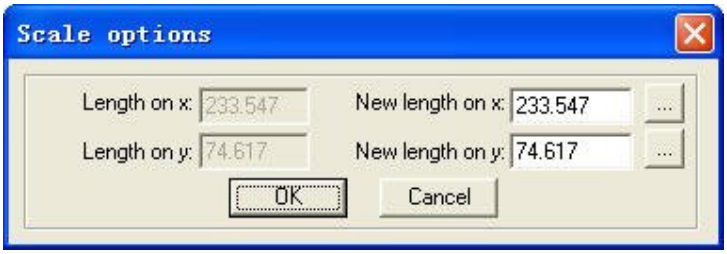
Click “pick” button , and choose the graphics you want to edit. Then click this button, you can change the shape of the graphics. The following is a sample. The upper is original graphics, and the other is edited.



4.3.11 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 ....

4.3.12 Align

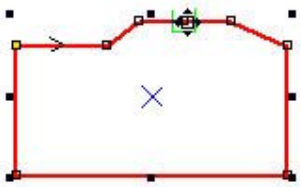
The corresponding icon is  .

There are 7 options for aligning.

4.3.13 Edit node

The corresponding icon is  .

Edit the nodes of the selected vector graphics. Click this button, the nodes of the selected graphics will show as small squares.



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. Dblclicking mouse will add a node. Move mouse to the node and click “Delete” key, the node will be deleted.

4.4 Tools

4.4.1 Data check

Click this button.

This can check if the data is closed, overlap or self-intersect.

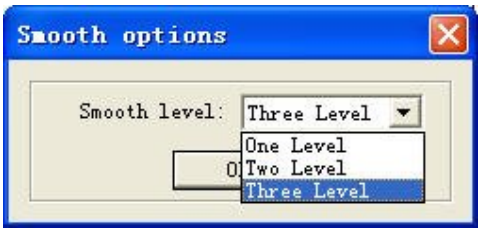
Tol: overlap error of dots.

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  .

4.4.2 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 3 options. Compared with "One Level" and "Two Level", "Three Level" is smoother. But the distortion is bigger than the others.

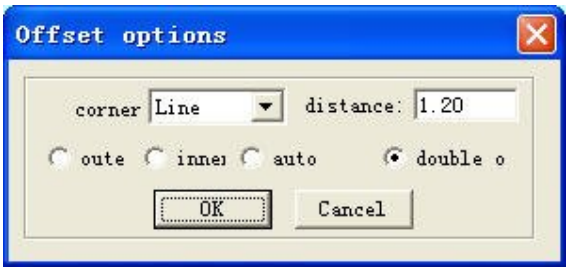
4.4.3 Unite line

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

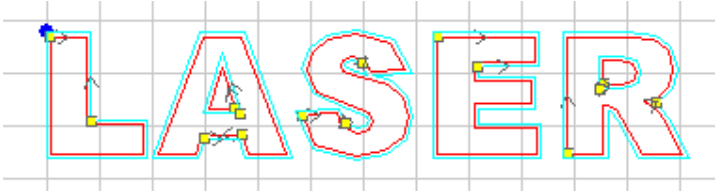
4.4.4 Offset curve

The corresponding icon is  .

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.

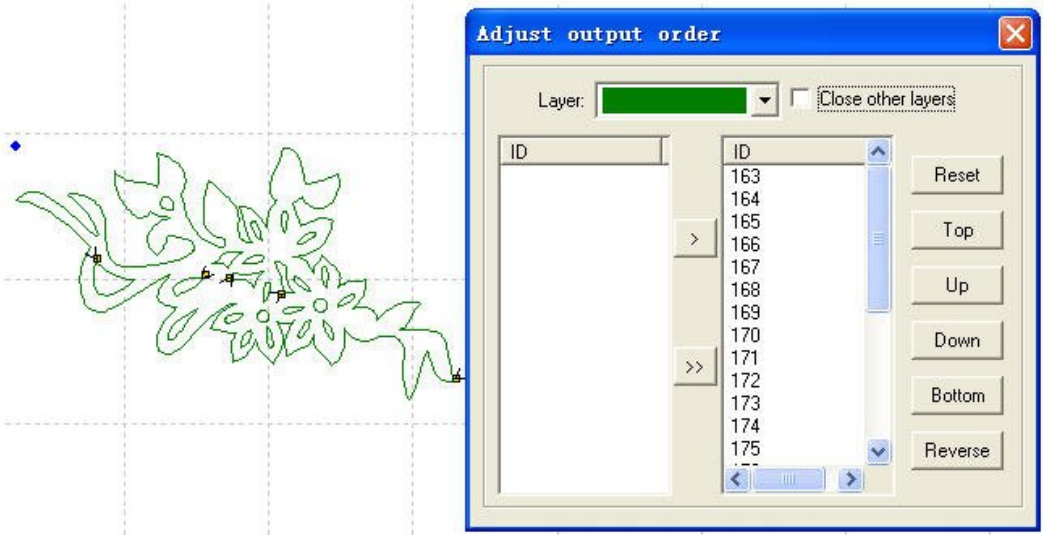


4.4.5 To curve

Convert the text to curve.

4.4.6 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.

4.4.7 Invert colors

The corresponding icon is .

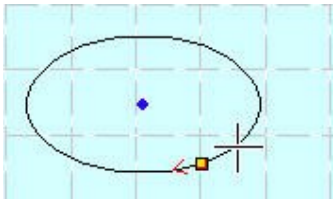
This is only for BMP. Click “pick” button , and choose the graphics you want to edit. Then click this button, the black part will be changed to white and white to black. The following is the sample.

4.5 Laser

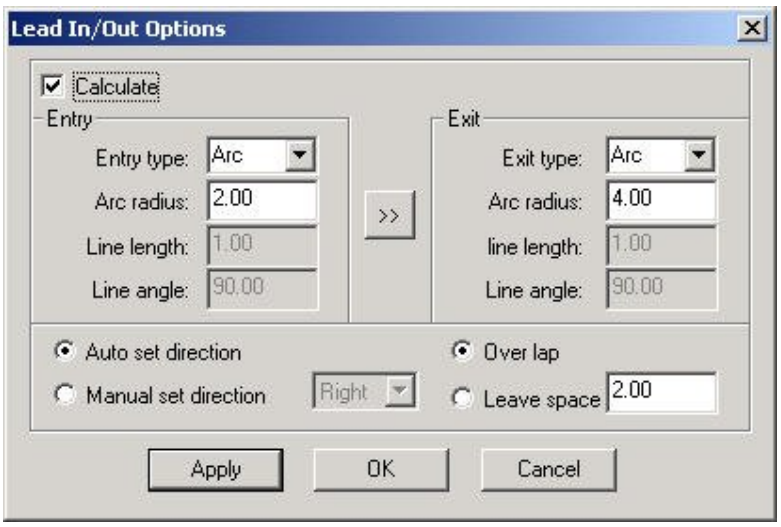
4.5.1 Define cut route

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.



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.

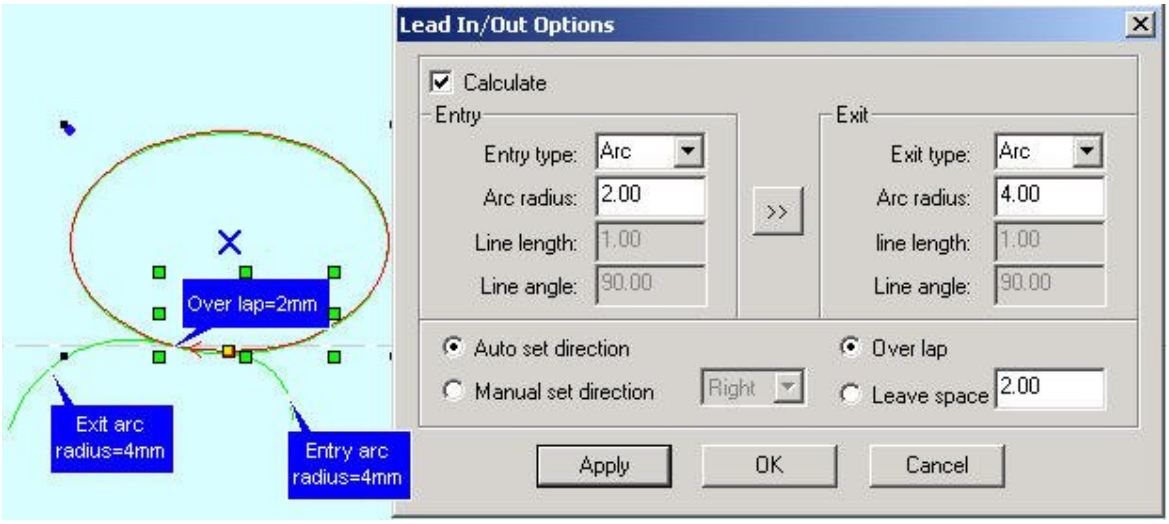
Line angle: angle of lead in/out lines.

: 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.

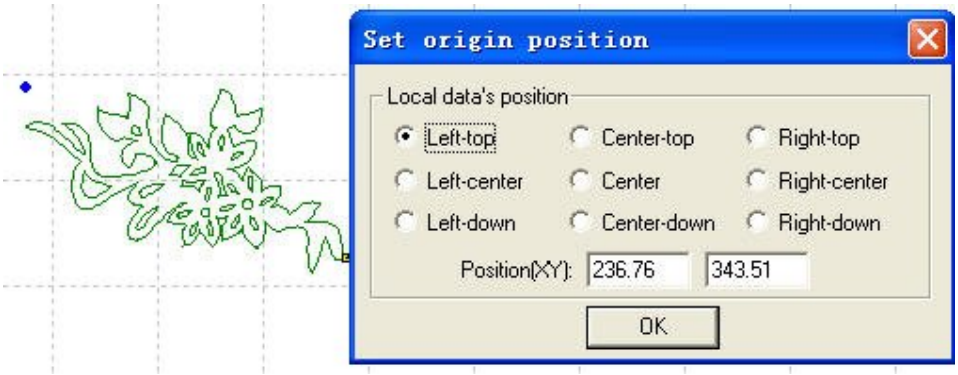
Over lap/leave space: this option determines whether the processing effect is closed. The length of over lap (or leave space) is set by the input number beside this option.



4.5.2 Set laser origin

The corresponding icon is .

Click this button.

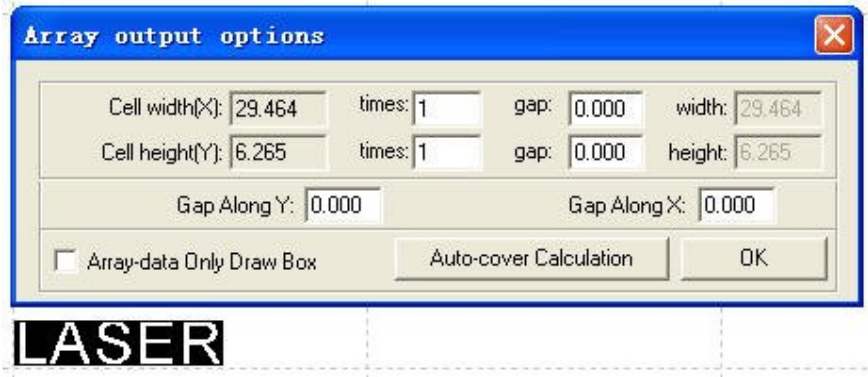


You can set origin point anywhere as you prefer.

4.5.3 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.

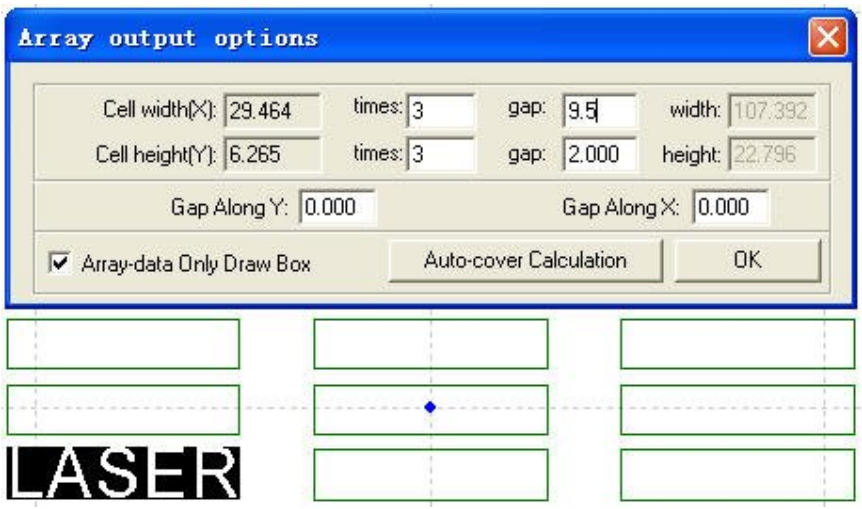
Array-data Only Draw Box: If you select this option, there will be only one data on screen; others will be shown as rectangles.

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.



4.5.4 Calculate

When the graph and processing parameters are changed, this button should be clicked to save the processing parameters in processing file.

4.5.5 Clear log

Click this button; the system will clear the log.

4.5.6 Simulate

The corresponding icon is  .

When parameters set is finished, please click this button. It can simulate the

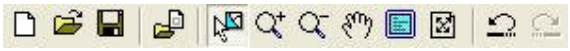
procedure of output for checking the result of output.

Click “Esc” on the keyboard and you can cancel the simulation process.

4.6 View

4.6.1 Toolbar

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



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

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

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.

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

4.6.2 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.

4.7 Help

4.7.1 Help

Click this button, and you can see the manual of the software. You can get any information about how to operate the software.

4.7.2 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.

4.8 Other button on the tool bar

4.8.1 Set simulate speed

The corresponding icon is  .

Click this button.

By this tool, you can adjust the simulate speed.

4.8.2 Estimate work time

The corresponding icon is  .

Click this button, it will show the work time.