Trocen 乾诚

LaserCAD

User Manual

Laser Motion Control System

RV 1.4

2017.06

www.sztrocen.com

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Patent

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Attention!	Users have the responsibility to point out the design error and establish protection mechanisms. Trocen does not accept any responsibility or liability for any damage or loss resulting from improper operation.

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Version

Ver. No.	Revision Date
V1.0	2015/03/09
V1.1	2015/06/12
V1.2	2015/12/10
V1.3	2016/06/12
V1.4	2017/07/08

Relevant Documents

- AWC708 Lite Panel Instruction
- AWC708 Plus Panel Instruction
- TL-5200 Panel Instruction

LaserCAD User Manual

Contents

1. Outline

1.1. Snapshot

LaserCAD running under Windows, integrates composing with importing files into panel.

1.2. Features

- User-friendly and versatile
- Compatible with CorelDraw and Auto CAD
- Support the file format like AI, PLT, DXF, etc.
- Basic graphic drawing
- Machining by layer and designing the output sequences as required
- Optimal multipaths routing and pause during machining
- Multi-ways to save and reuse graphic & processing parameters
- Working time estimation, cost budget and auto composing
- Locating mode: Array output, instant positioning and back to the origin
- Design starting point, work path and knife parking position as required
- Communication mode: USB, Network and U disk

1.3. Requirement

LaserCAD is running under OS such as Window XP, Vista, Win 7, Win 8 and Win 10.

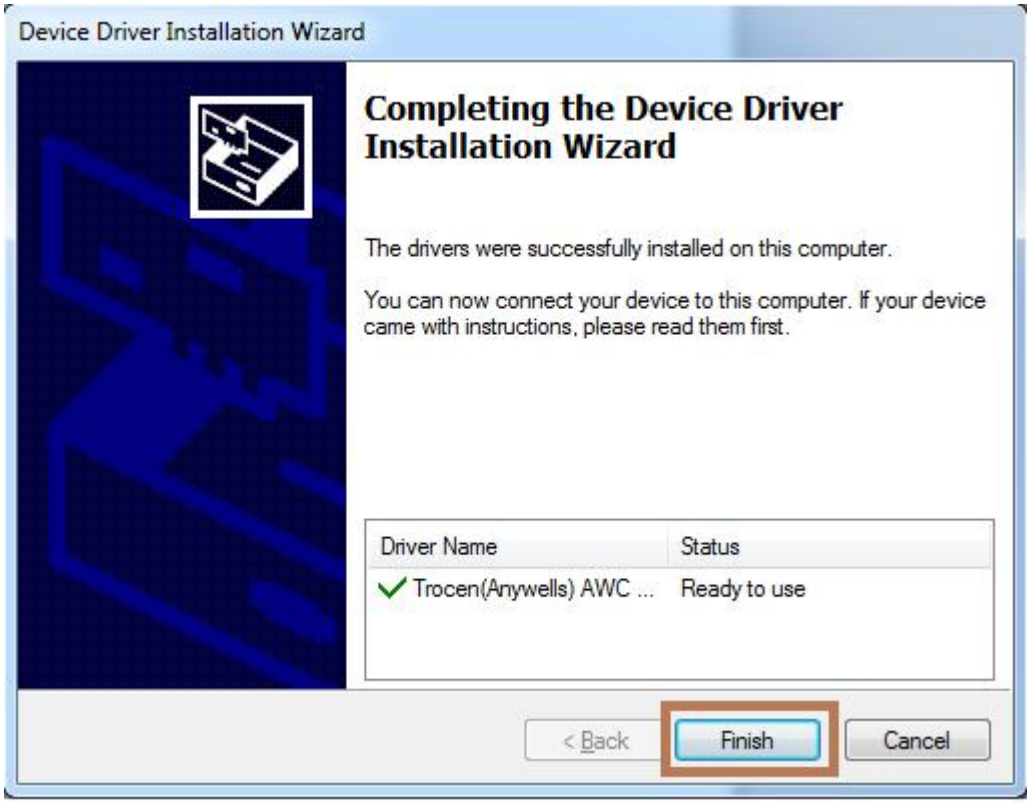
2. Installation

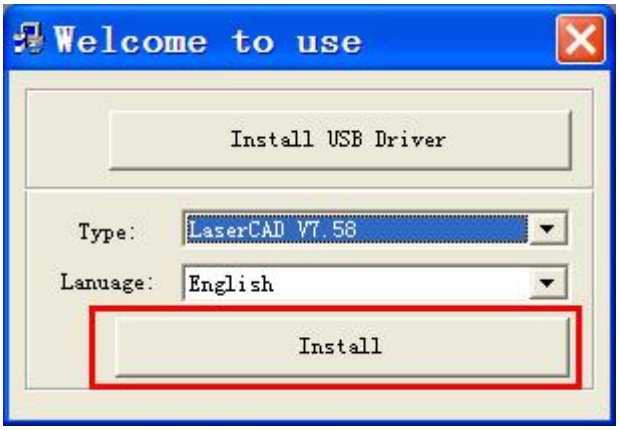
Flow like this:


Welcome to use
Install USB Driver
Type:
LaserCAD V7.58
Lanuage:
English
Install


Welcome to use
Install USB Driver
Type:
LaserCAD V7.58
Lanuage:
English
Install


FTDI Driver Installation
FTDI CDM Drivers have been successfully installed.
确定


Device Driver Installation Wizard
Completing the Device Driver Installation Wizard
The drivers were successfully installed on this computer.
You can now connect your device to this computer. If your device came with instructions, please read them first.
Driver Name
Status
Trocen(Anywells) AWC ...
Ready to use
< Back
Finish
Cancel


Welcome to use
Install USB Driver
Type:
LaserCAD V7.58
Lanuage:
English
Install

3. How To Use

3.1. Main Interface

- ***Menu Bar***
  It contains file, edit, draw, tool, setting, view and help.

- ***Tool Bar***
  Common functions are put in here and most of them are picked up from menu bar.

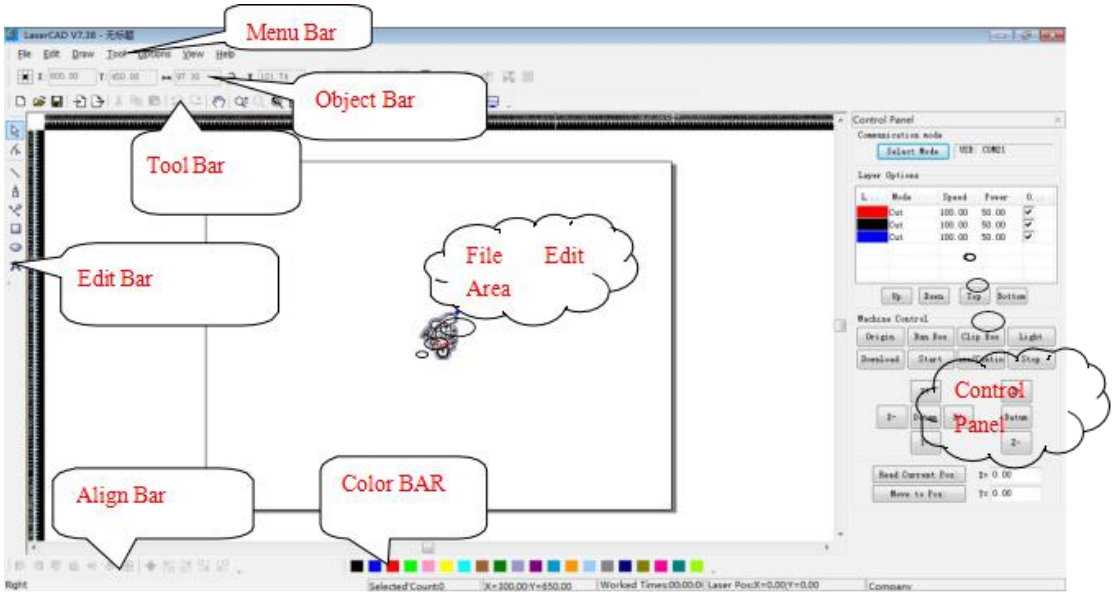
- ***Object Bar***
  It contains coordinate, parallel offset, array clone, select by layer, etc.

- ***Edit Bar***
  On the left side of display. It includes line, polylines, rectangle, ellipse drawing, etc.

- ***Align Bar***
  Make multi-objects align and improve composing.

- ***Layer Bar***
  Modify selected object's color.

- ***Control Panel***
  Multi-tasks processing simultaneously. Functions include communication mode, layer parameters, graphic loading, etc.



3.2. File Management

3.2.1. New File

Click 【New】of【File】or .

3.2.2. Open File

Click 【Open】of 【File】or .

3.2.3. Save File

Click 【Save】of【File】or and you can save file in format of pwj5.

3.2.4. Save As

Click【Save as】of【File】and name it.

3.2.5. Import File

Click 【Import】 of【File】or to import file into file editing area. You may add the suffix like this: AI DXF PLT DST DSB BMP GIF JPG PNG MNG ICO TIF TGA PCX JBG JB2 JBC PGX RAS PNM SKA RAW.

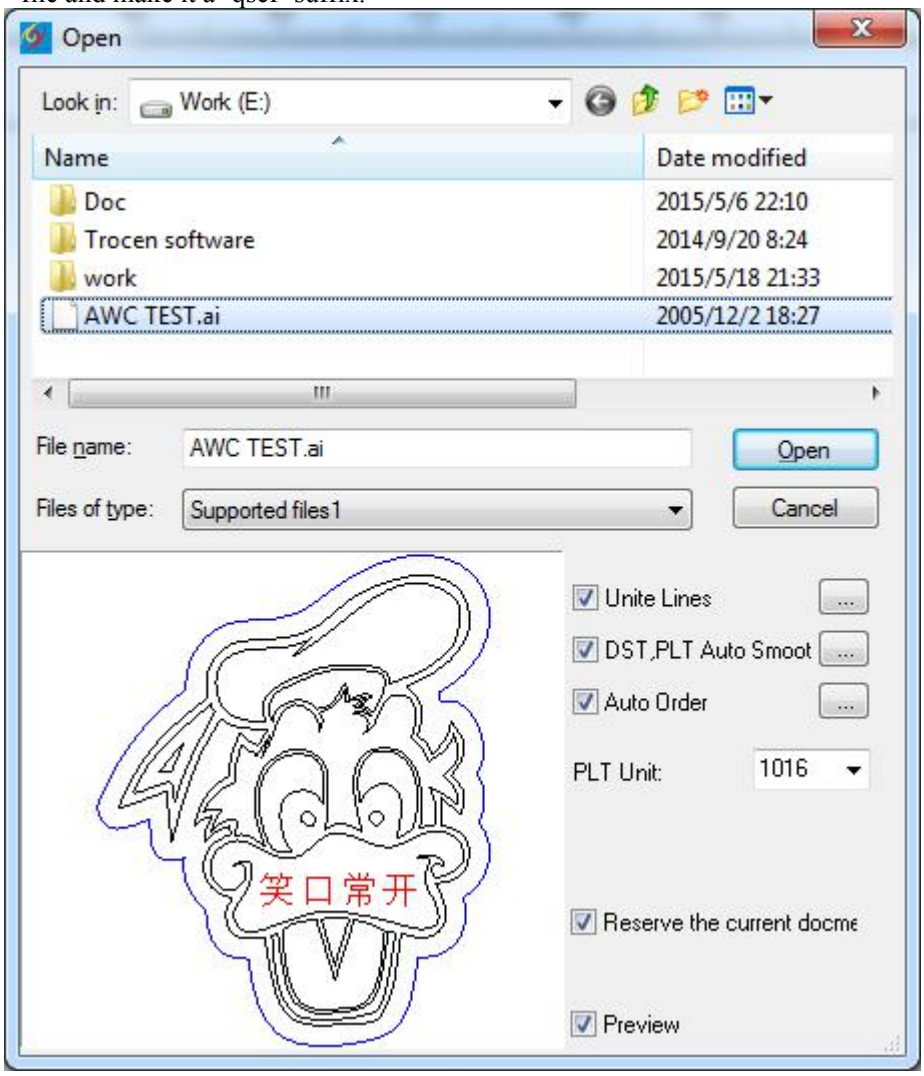
- ***Unite Lines***
  Unite multi-lines into one.
- ***DST/PLT Auto Smooth***
  Make curve smooth, speed up cutting and enhance stability.
- ***Graphic Auto Sorting***
  Cutting head will follow the shortest path to process cutting material after graphic auto sorting.
- ***Save Current Data***
  Software will save the previous file before importing new one. Previous and imported graphic data will be included in software after importing new file.
- ***Graphic Previewing***
  Display graphic.

3.2.6. Export File

Click 【Export】of【File】or  and make imported file followed by a PLT suffix.

3.2.7. Import Machine Configuration

Click【Import Machine Configuration】of 【File】and select import path. Double click file and make it a 'qscf' suffix.



3.2.8. Export Machine Configuration

Click 【Import Machine Configuration】of【File】and make file a 'qscf' suffix.

3.3. Object Selection&Remove

3.3.1. Selection

The first step is select object before edit and draw it. There will be marked with '×' in the center of the selected object with 8 control points around it and pick up any color with selected object.

- ***Select Single Object By A Quick Flick***

  Move cursor to object and just a flick of the cursor to select it.

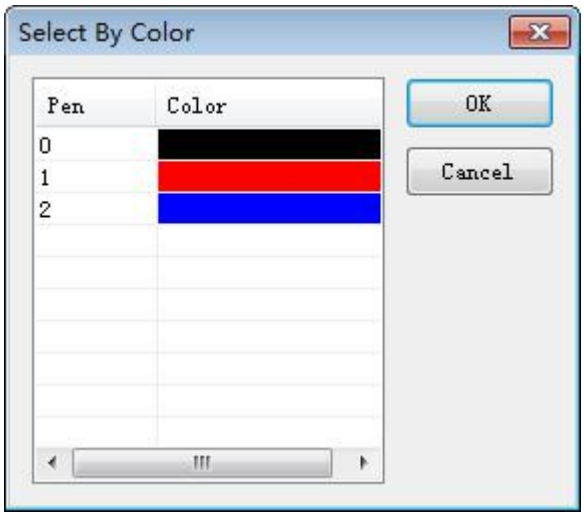
- ***Box Select Object***

  Box select single object or multi-objects.

- ***Select All The Object***
  Click【All Select】of【Edit】or *Ctrl+A* to select all the object.

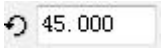
- ***Add/Remove Selected Object***
  Tap and hold *Shift* and click any object shown on display to add to or remove from selection.

- ***Select Object By Layer***
  Click 



  Click【Pen】or【Color】to select the object groups with same color.

3.3.2. Change Object Color
Select object and then change their color by clicking the color bar on the bottom.

3.3.3. Rotate Object
Select object that is ready to be rotated first and input the degree in 

in object bar. Input positive number for clockwise while positive number for counter-clockwise.

3.3.4. Change Object Size
Select the object that is needed to be changed and drag the control points to zoom in and out.

Input coordinate value in 

in object bar and click  to turn to  .

3.4. File Editing
3.4.1. Withdraw
Click  in tool bar to withdraw previous operation.

3.4.2. Recover
Click  in tool bar to recover previous job.

3.4.3. Cut
Click  in tool bar.

3.4.4. Copy

Click  in tool bar.

3.4.5. Paste

Select object and click  in tool bar and click  again to paste object.

3.4.6. Delete

Select an object and then delete it.

3.4.7. All Select

Click *Ctrl+A* to select all the object.

3.4.8. Combination

Select objects that are needed to be combined and click  in tool bar.

3.4.9. Cancel Combination

Select combined objects and click  in tool bar.

3.4.10. Cancel All Combination

Click  in tool bar to cancel all the combination when an object including a couple of sub-objects.

3.4.11. Translation

Select targeted object and put cursor on center point to move graphic.

3.4.12. Zoom In And Out

Click  in tool bar to zoom in object and right-click to zoom out or you can use mouse scroll wheel up and down.

3.4.13. Align

Select object that is needed to be aligned and click  in align bar on the bottom.

3.4.14. Nudge Offset

Select object and click【Nudge Offset】of【Edit】.

3.4.15. Turn To Small Parts And Scrap

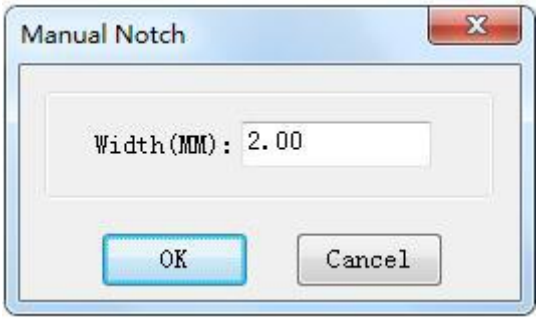
Add new graphs on the blank space that are not included to graph array and these graphs are generally small parts and scrap which could be less waste.

3.4.16. Turn The Last Row Into Leftover

Add other graphs in the last arrow.

3.4.17. Add Microjoint Manually

Microjoint serves as a bridge between cutting graph and blank space which could prevent graph that is cut from slipping away. The first step to add microjoint is select object, click 【Manual Notch】of【Edit】. Second, input the number of microjoint width into the pop-up dialog box.



3.5. Graph Drawing

3.5.1. Selection

Click 

3.5.2. Node Edit

Click  and  which includes add/delete node, connect/cut node will pop-up.

3.5.3. Straight Line

Click  and be available to draw straight lines. Click *Ctrl* and drag the mouse at the same time to draw vertical and horizontal lines.

3.5.4. Polylines

Click  and drag the mouse to draw any line.

3.5.5. Rectangle

Click  and drag the mouse to draw rectangle at any size. Click *Ctrl* and drag the mouse at the same time to draw a square.

3.5.6. Ellipse

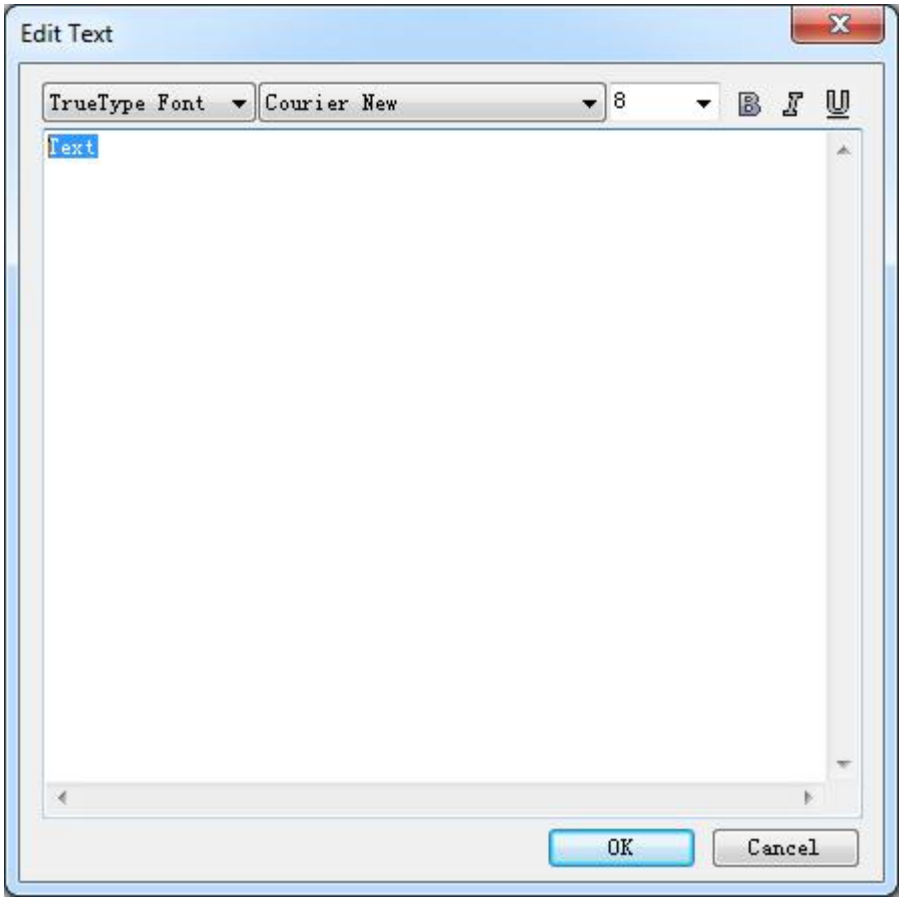
Click  and drag the mouse to draw ellipse at any size. Click Ctrl and dag the mouse at the same time to draw a perfect circle.

3.5.7. Bezier

Click  and drag the mouse to draw Bezier curve.

3.5.8. Text

Click  and double left-click the blank space and the dialog box will pop up like this:

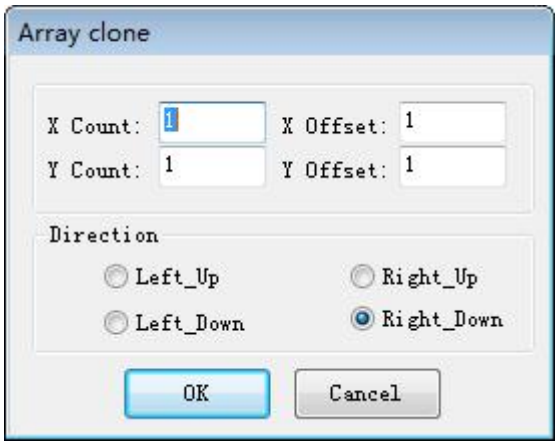


Text words and select set font size and style.

3.6. Tool

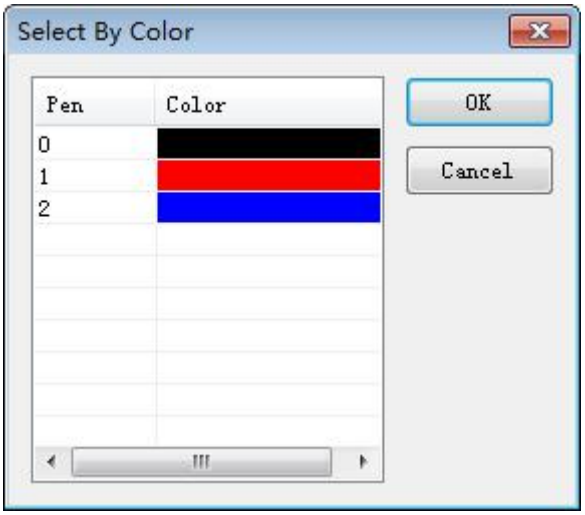
3.6.1. Array Clone

Select object that is ready to be copied and click  and the dialog box will pop up like this:



3.6.2. Select By Layer

Click  and the dialog box will pop up like this:



Select color for object.

3.6.3. Graphic Invert Horizontally

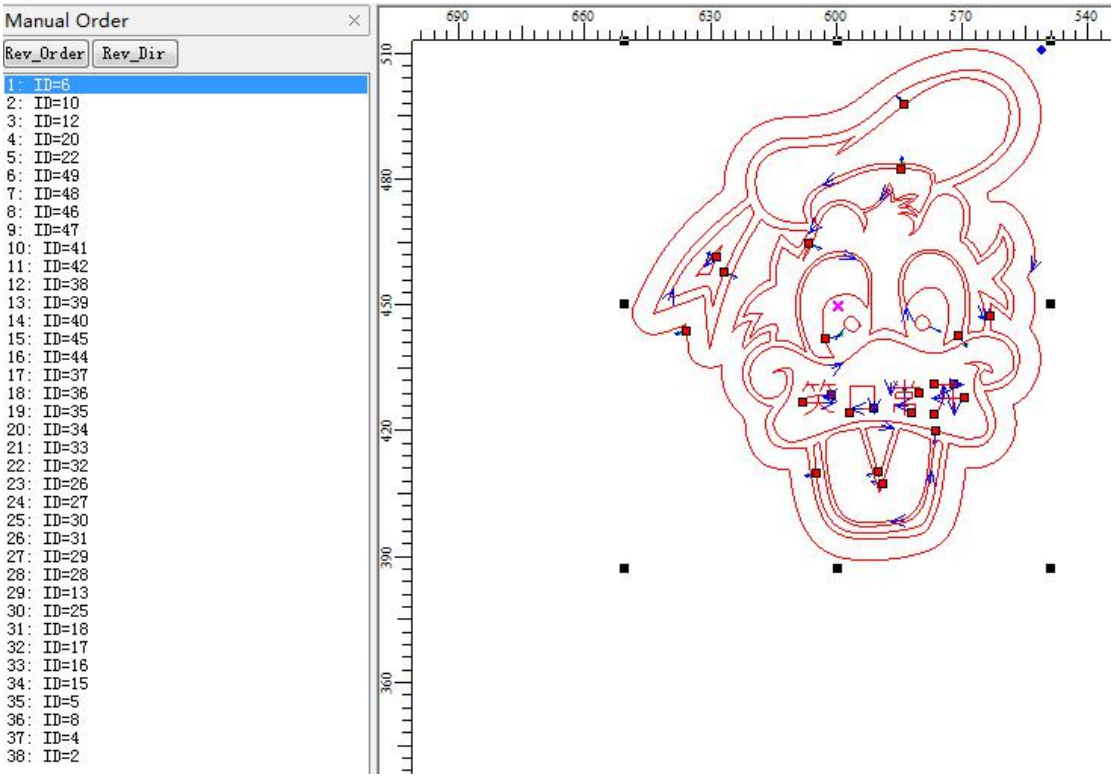
Click  .

3.6.4. Graphic Invert Vertically

Click  .

3.6.5. Manually Sorting

Click 【Manually Order】of【Tool】and it will be like this:



- **Change Cutting Order**

  Click【Manual Order】and you can drag the mouse to make graph cutting order.on the left side. There are *Reverse Direction* and *Reverse Order* on the top.

- **Change Start Cutting Point**

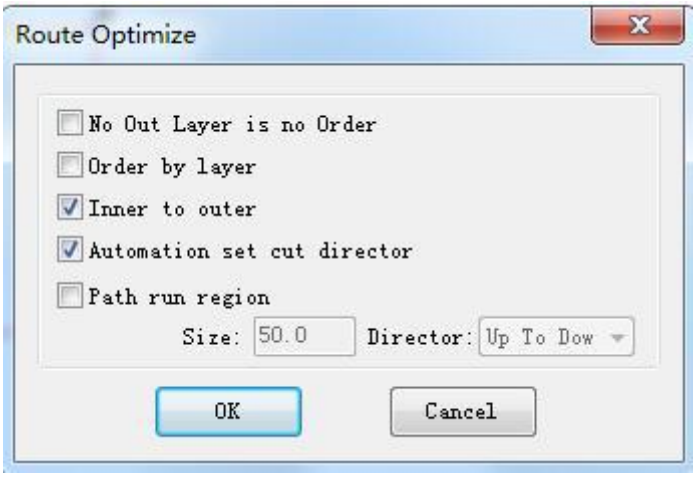
  Click “ ” to change start cutting point.

- **Cutting Direction**

  Arrow mark stands for cutting direction. Click【Reverse Direction】of【Manual Order】to make cutting direction in reverse.

3.6.6. Optimal Sorting

Auto sorting for current objects that is aimed to shorten the machining time. Click【Automatic Order】of【Tool】and the dialog box will pop up like this:



- ***Order By Layer***

  Graphs in same color will be arranged continuously(the graph group in the same color will be machined one after another during cutting).

- ***Inner before Outer***

  Inner graphs will be machined before outer graphs.

- ***Auto Start Cutting point And Direction***

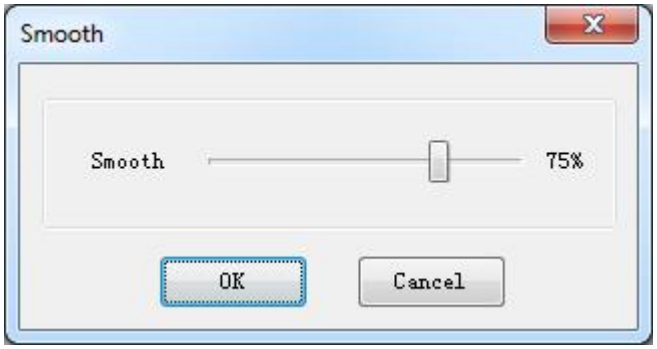
  System will be able to auto confirm start cutting point and direction.

- ***Path Run Region***

  Graph’s direction will be based on block height.【Path Run Region】is used for graph array（like polar array and rectangle array) and under this circumstances,【Block Height】should be set as the height of single graph.

3.6.7. Smooth Curve

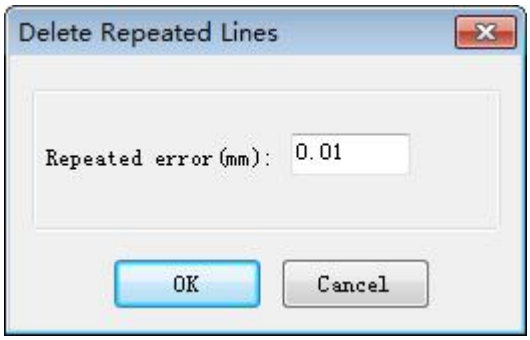
Speed up cutting and enhance stability. Click【Smooth Object】of【Tool】like this:



The value of smoothness is larger and so is graph morphing.

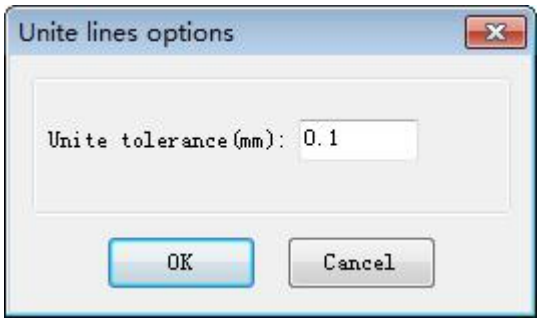
3.6.8. Delete Overlapping Lines

Delete overlapping lines in order not to cutting repeatedly. Click【Delete Repeated Lines】of【Tool】and it will be like this:



3.6.9. Unite Lines

Connect multi-lines into one. Click【Unite Lines】of【Tool】like below:

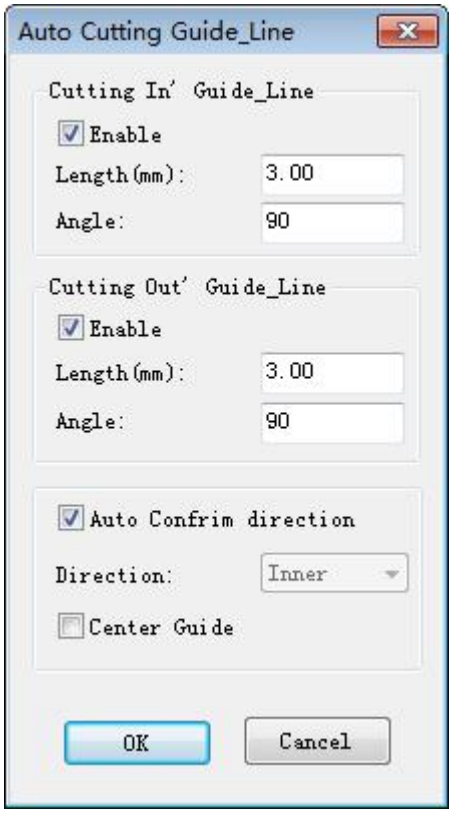


3.6.10. Cutting Guide lines Edit

Click【Edit Cutting Guide Lines】of【Tool】.

3.6.11. Auto Cutting Guide Lines

The guide lines are not included in the default setting for importing graph. Select the graph and click 【Auto Cutting Guide Lines】of【Tool】and the dialog box will be like this:



- ***Lead-In&Lead-Out Angle***
  The angle between lead-in and lead-out and counter-clockwise is positive direction.

- ***Lead Wire Direction***
  Users can manually select lead direction when auto-confirm lead wire direction.

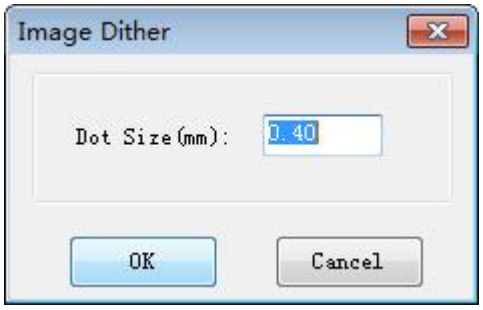
- **Center Guide**
  The center of lead-in and lead-out wire.

3.6.12. Color Inversion

Select object and click【Image Invert】of【Tool】.

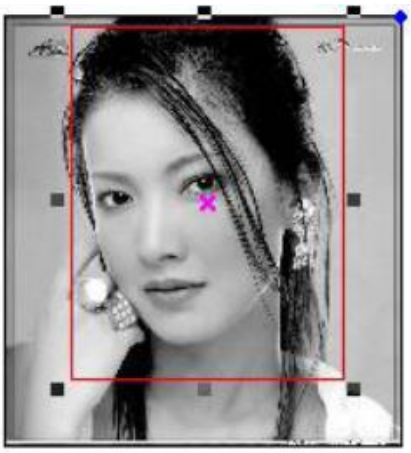
3.6.13. Bitmap

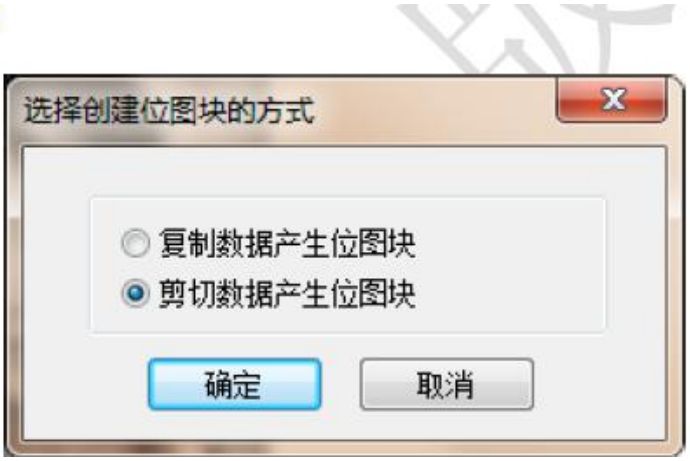
Select object and click【Image Dither】of【Tool】.



3.6.14. Create Image Block

Copy or cut a proportion of bitmap block with edit tool after importing bitmap, then click【Create Image Block】of【Tool】.



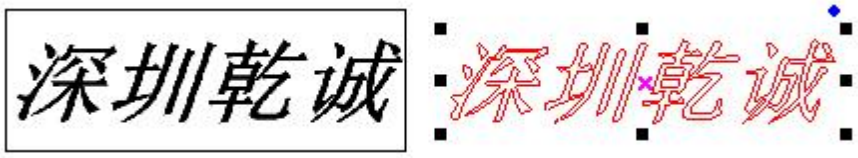


- **Cut bitmap block**

- **Copy bitmap block**

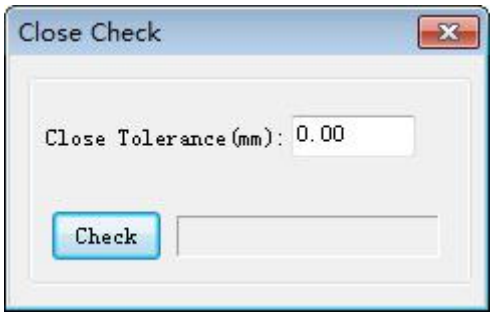
3.6.15. Create Image Outline

Select object and click 【Create Image Outline】of【Tool】.



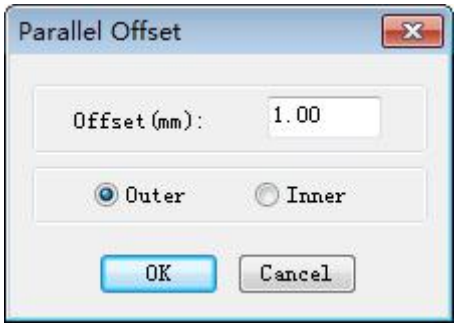
3.6.16. Closed Figure Check

Select object and click【Close Check】of【Tool】.

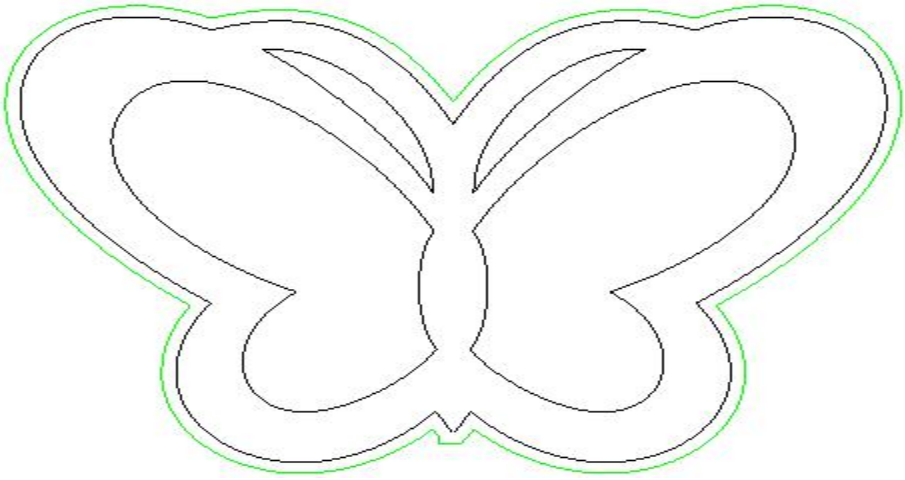


3.6.17. Parallel Offset

It refers to stretch and shrink for vector graphs. Select object and click 【Parallel Offset】 of【Tool】or  and the dialog box will pop up like this:



Parallel offset will be created into a new color layer just like this:



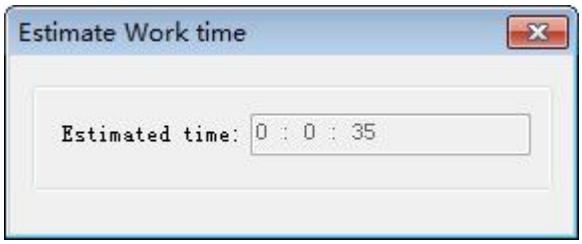
3.6.18. Perimeter Measurement

Select object and click 【Measure Length】of【Tool】to see the perimeter.

3.6.19. Estimate Work Time

Select object and click 【Estimate Work Time】of【Tool】or click  to see the pop up

dialog box like this:



3.6.20. Analogue Output

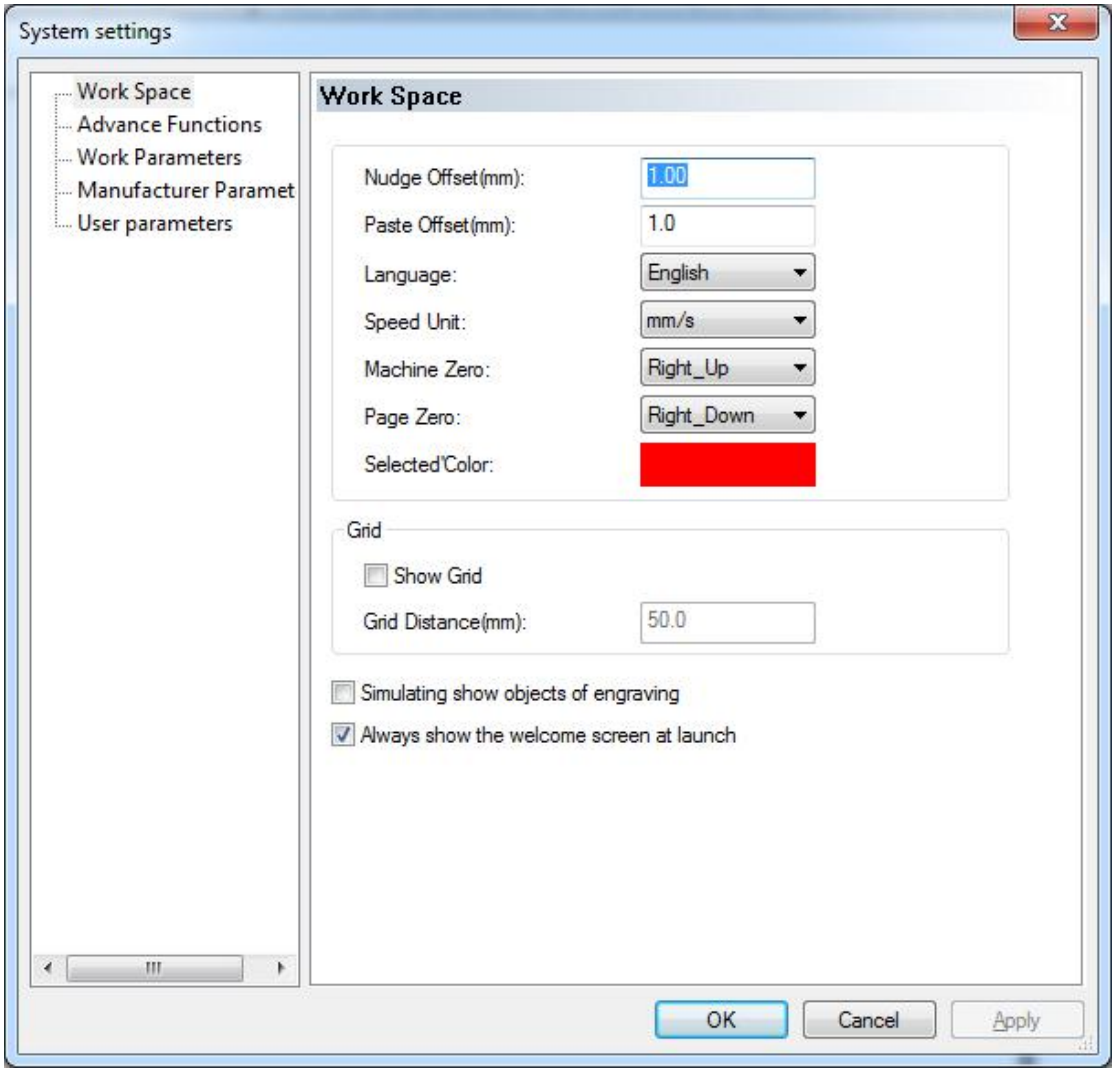
Select object and click【Simulate】of【Tool】 or click  .

3.7. Settings

3.7.1. Parameter Settings

Click【Settings】or  and the dialog box will pop up like below:

3.7.1.1. Work Space



- ***Nudge Offset***
  Click arrow button '←, →, ↑, ↓'to move the selected object.

- ***Paste Offset***
  The offset distance when it comes to copy the selected object and paste it to the current display.

- ***Language***
  Choose the language that fits you.

- ***Speed Unit***
  All the speed unit.

- ***Machine Zero***
  It refers to machine current position (limit switch position), otherwise, the machined pattern will be reversed in left and right side or upside down.

- ***Page Zero***
  It refers to origin position in software and you can see the state bar showing coordinate as X=0,Y=0

- ***Selected Color***

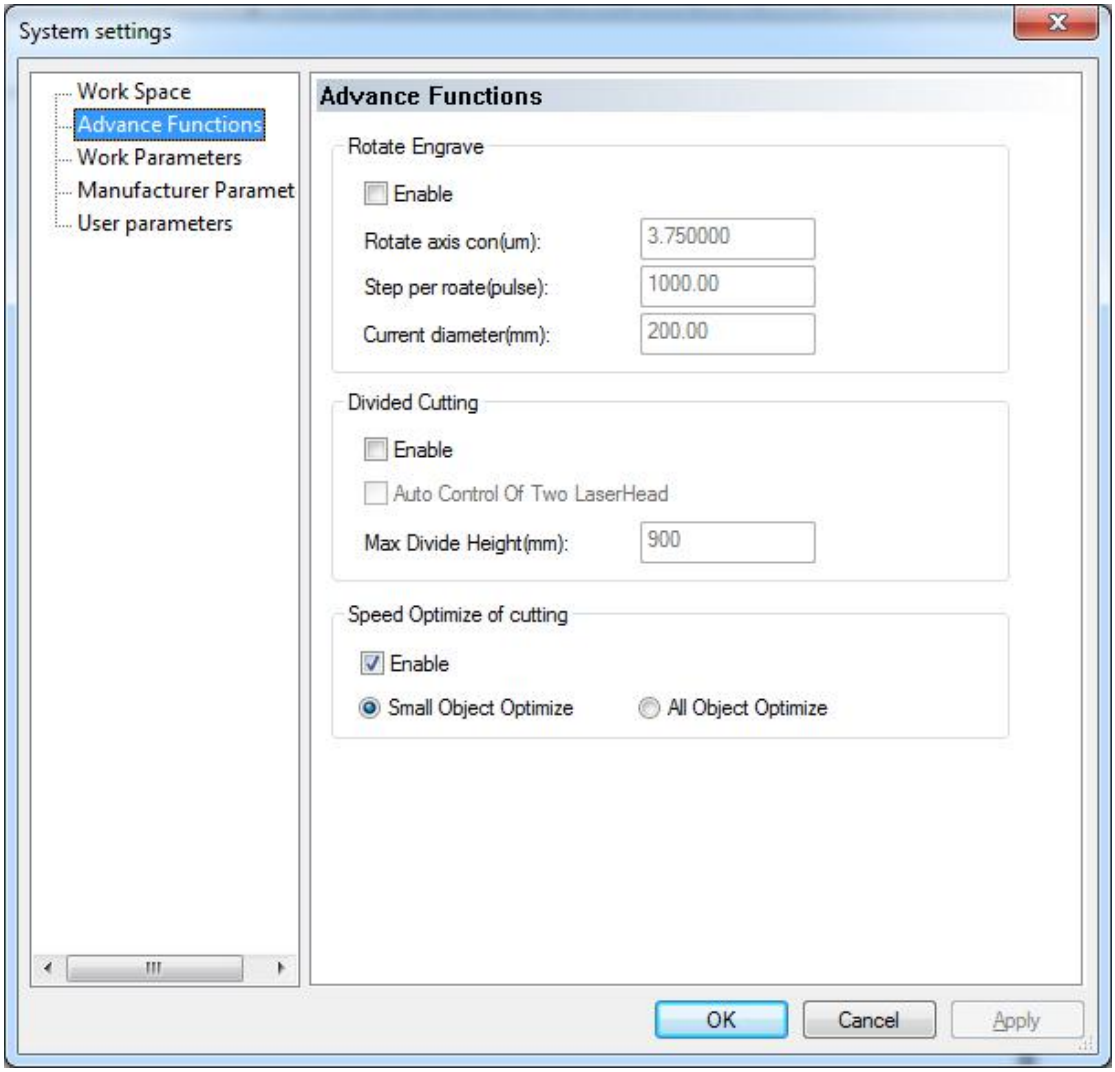
Show the selected object's color.

- ***Show Grid***
  The display area will be showed in grid.

- ***Analogue Output of Engraving***
  Or【Simulating show objects of engraving】.
  ※We suggest not to tick it when there's a plenty of engraving patterns because it will slow down the speed in displaying.

- ***Always Show The Welcome Screen While Launching***
  Or【Always show the welcome screen】.

3.7.1.2. Advanced Functions



- ***Rotary Engraving***
  It will enable general engraving data to be transferred into rotary engraving data.

- ***Pulse Unit For Rotating Axis***
  When X axis is rotating axis, engraving mode must be 【Vertically one-way】 or 【Vertically two-way】. When Y axis is rotating axis, engraving mode must be 【Horizontally one-way】or【Horizontally two-way】.

- ***Pulse Number Per Round***
  It refers to pulse number of motor when axis rotating for one circle.

- ***Current Diameter***
  The diameter of engraving object.

- ***Segment Cutting***

- ***Auto Double-Head Moving Separately***

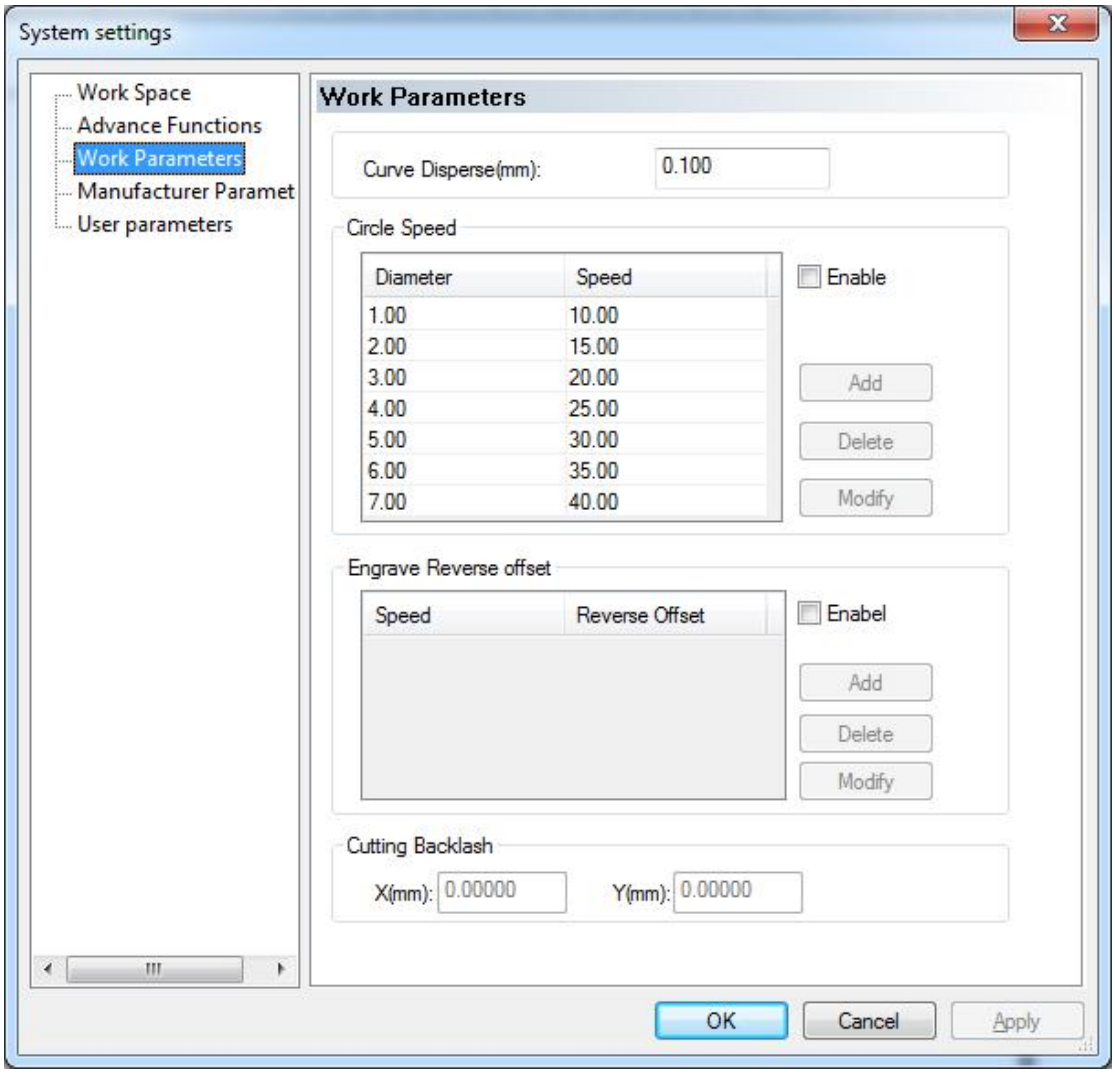
- ***Feeding Compensation***

- ***Anti-Whipping While Cutting***

- ***Anti-Whipping For Small Pattern***

- ***Anti-Whipping For All Patterns***

3.7.1.3. Work Parameters

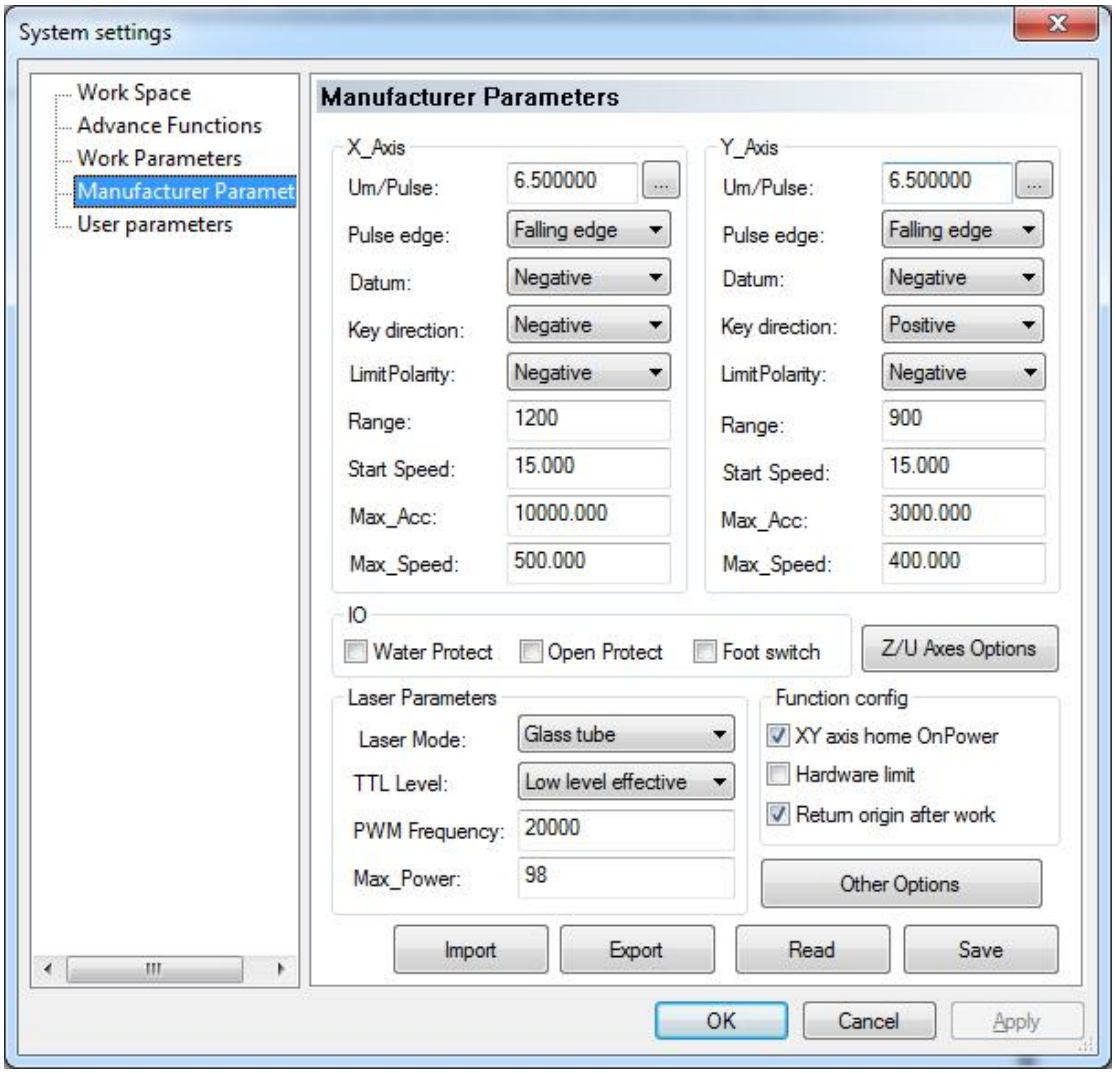


- ***Curve Discrete Unit Length***
  It refers to curve smoothness. Curve discrete unit length smaller, more accurate and low speed. For example, choose default value of 0.10 for other materials while smaller number with cutting acrylic.

- ***Speed Limits For Small Circle***
  System will automatically analyse whether it is small circle or not. Speed limits for machining circle is based on its diameter.

- ***Engraving Backlash***
  Pattern edge might not be flat due to backlash when bi-directional laser engraving, so we need to increase backlash to make it up. Generally, engraving faster and backlash is larger accordingly. Backlash value could be negative.
  For example:
  Speed of 200mm/s while backlash is 0.30mm.
  Speed is proportional to backlash when it less than 200mm/s.
  Speed of 100mm/s while backlash is 0.30*(100/200) =0.15mm.
  Speed of 300mm/s while backlash is 0.50mm.
  Speed is proportional to backlash when it is between 200mm/s~300mm/s.
  Speed of 250mm/s while backlash is 0.30+(300-250)/(300-200)×(0.5-0.3)=0.40mm
  Speed of more than 300mm/s while backlash is 0.50mm.

3.7.1.4. Manufacturer Parameters



Take X axis as an example. There you can set X, Y, Z and U axes parameters.

- ***Um/Pulse***
  There is displacement when a single pulse output by motor. Wrong setting will cause

pattern deformation.

- ***Pulse Edge***
  Motor is driven by driver. Wrong setting will cause cutting deviation.

- ***Datum***
  The direction when axis resetting. You must modify parameters until axis resetting direction toward origin.

- ***Key Direction***
  Arrow buttons to move laser head. You might need to change this parameter when button actual moving direction backward from what it is supposed to be on this option.

- ***Range***
  Work surface and also the max axis moving distance.

- ***Start Speed***
  The initial speed of laser head from static condition to movement. Whip or chatter will be more obvious after stop working if the value of start speed is larger, but it should be proper adjusted based on technical feature for machine. Here we give you a typical range between 5 to 20mm/s.

- ***Max Acc***
  Larger acc might cause step losses and whip/chatter while smaller will result in slowing down in working speed. For axis like Y axis with great inertia, max acc is generally set between the range of 800 mm/s2and 3000mm/s2 while not that great inertia like X axis with the range between 10000mm/s2 and 20000mm/s2.

- ***Max Speed***
  Max speed of axis depends on motor's driving capability and axis inertia. Engraving speed must not exceed axis max speed. Cutting velocity must not exceed the smallest one of X axis and Y axis max speed. If cutting speed is set too fast, the system will automatically keep it under max speed.

- ***XY Axis Home On Power***
  Tick it to make both X and Y axis reset at the same time when starting machine. (It is typically ticked.)

- ***Hardware Limit***
  System will detect limit signal based on motion direction if *hardware limit* is ticked. When low logic level is detected, working machine will stop and *limit reached* is showed on screen.

- ***Return Origin After Work***
  Machine will go back to current position if *Return Origin After Work* is ticked. Not ticked, machine will stay at current position after work.

- ***Z/U Axes Options***
  You will see the interface like this if *Z/U Axes Options* is chosen.

- ***U Axis(Feeding Axis)***
  Enable it and U axis will be acting as feeding axis. (It generally is ticked.)

- ***Water Protect***
  Get access to Laser1.Protect and Laser2.Protect for water protection. Tick this option and real-time detection of water protection is also activated. Any one of water protection signals turning to high logic level will stop the working machine, lighting from laser tube and the notice of water protection breakdown will be showed on screen, too.

- ***Open Protect***
  Connection port is N1. Tick this option and rel-time detection of open protect signal is also activated. Once low logic level is detected, working will be paused and high level to continue working.

- ***Foot Switch***
  Connection port is IN2. Tick this option and real-time detection of Foot Switch signal will be activated. When signal shift from high level to low, working machine will stop or suspended machine will continue to work.

- ***Laser Mode***
  It refers to laser types. Glass tube, RF laser(pre-ignition needed) and RF laser(No need pre-ignition).

- ***TTL Level***
  Make a choice based on switch signal of power supply. Laser switch signal is matching Laser 1 TTL and Laser 2TTL. If【Low Level Effect】is chosen, there will be two roads of laser signals when lighting and 【High Level Effect】 when off-lighting. It is the same if we choose 【High Level Effect】at first and then【Low Level Effect】.

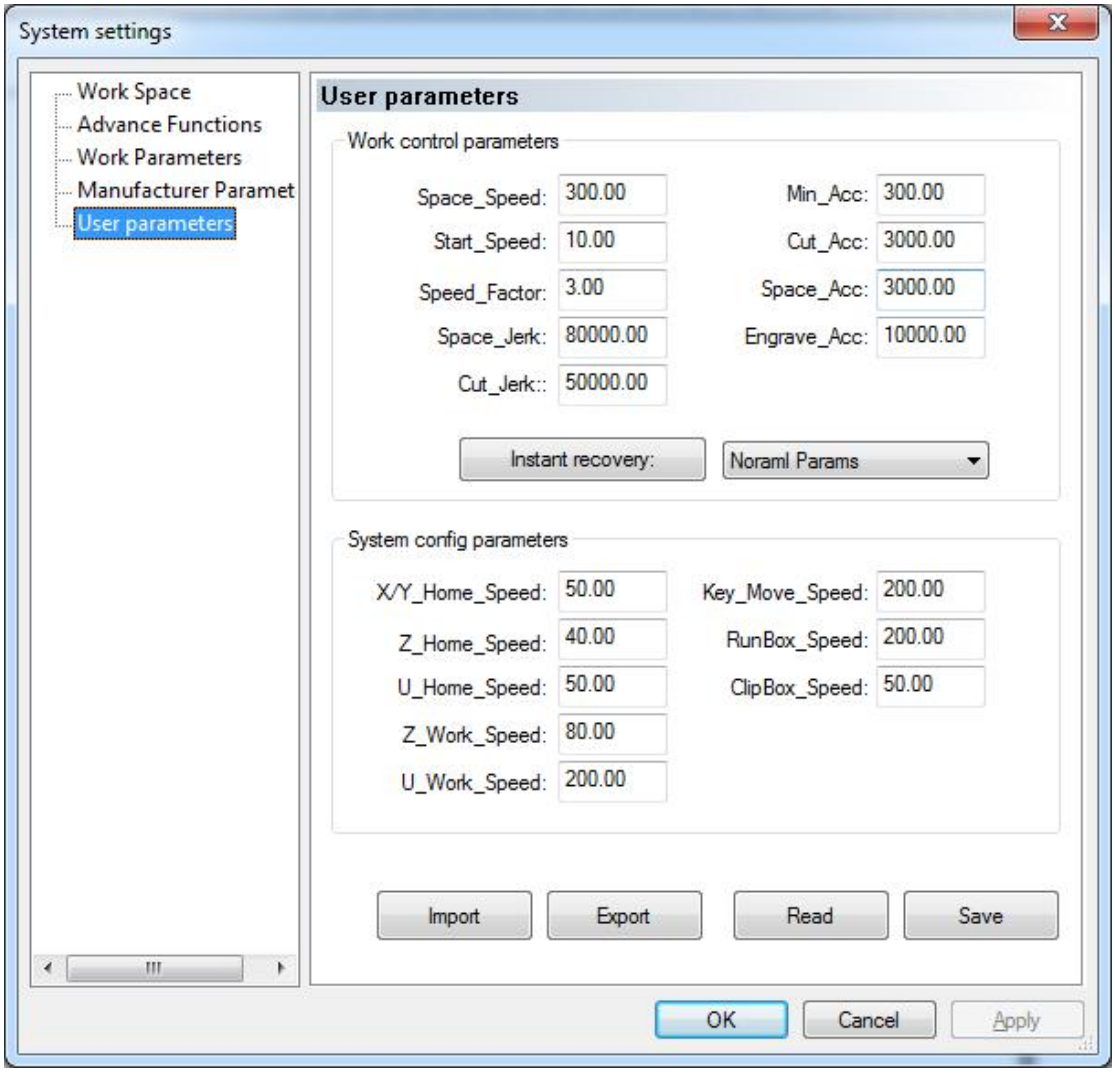
- ***PWM Frequency***
  Frequency is generally set between 20000 and 80000. Too small will cause working power imbalance and dot overlapped.

- ***Max Power***
  Working power in user parameters could not exceed max power.

- ***Import/Export***
  Click【Import】and modify the file name into 'cf5'. Manufacturer parameters of exported file could be modified and transferred by connecting to panel and computer.

- ***Read/Save***
  Click 【Read】 modifying the file name into 'cf5' to read the saved parameters from panel to software display. Click 【Save】to save manufacturer parameters in software.

3.7.1.5. User Parameters



- ***Space Speed***
  Also known as air-travel speed. The speed of laser head moving without laser powering on. The range must not exceed max space speed in manufacturer.

- ***Start Speed***
  The initial speed of laser head from static condition to movement. The range must not

exceed start speed in manufacturer.

- ***Space Jerk***
  Also known as air-travel jerk. The variation of laser head's moving speed acc without laser powering on. The value is larger and whipping or chatter becomes greater accordingly. It is generally set between 10000 and 150000.

- ***Cutting Jerk***
  The variation of cutting acc. The value is larger and whipping or chatter is greater accordingly. It is generally set between 10000 and 150000.

- ***Speed Factor***
  The factor of corner speed. The value is larger and the whipping or chatter is greater accordingly. It is set between 0 and 5. 3 is set in most case.

- ***Min Acc***
  The min speed acc for cutting material.

- ***Cutting Acc***
  The max speed acc for cutting material.

- ***Space Acc***
  The variation of cutting speed. The value is larger and whipping or chatter becomes greater accordingly.

- ***Instant Recovery***
  It can be set as slow , normal, faster and fastest based on cutting materials and quality.

- ***XY Home Speed***
  Axis reset speed/working speed.

- ***Key Move Speed***
  Axis moving speed when clicking arrow button.

- ***Run Box***
  The speed of laser head outlining object area without cutting it.

- ***Cut Box***
  The speed of cutting pattern box.

- ***Import***
  Importing pre-set user parameters file.

- ***Export***
  Exported user parameters file could be modified and transferred by connecting to panel and computer.

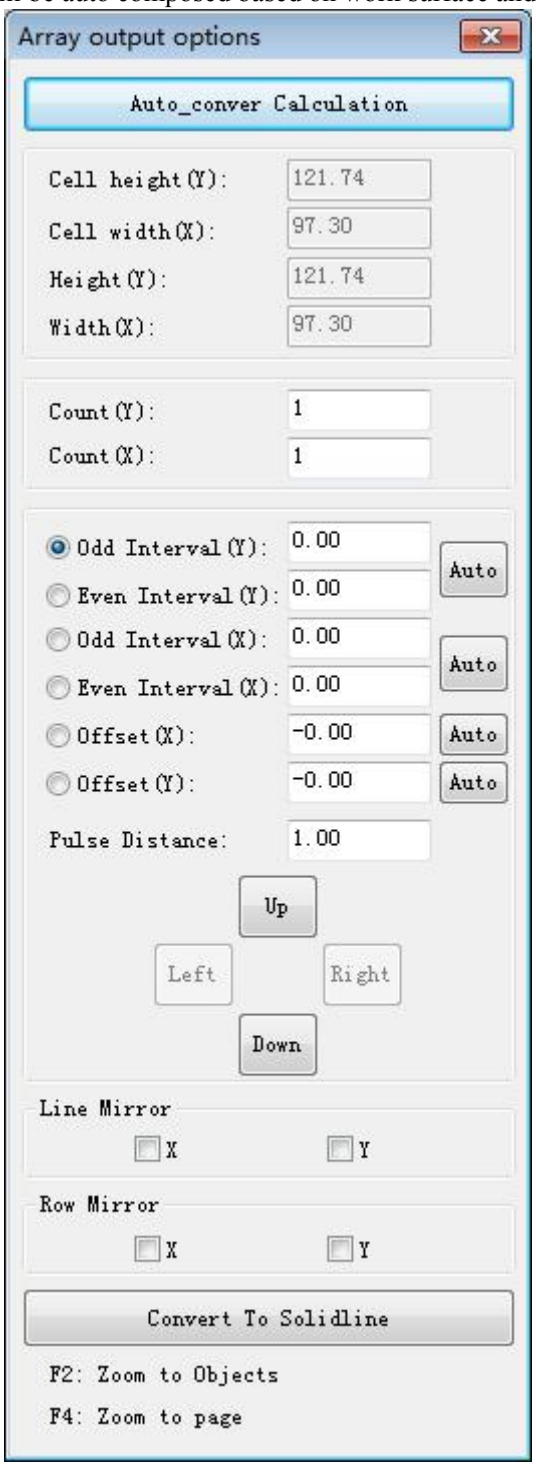
- ***Read***
  Read the saved parameters file from panel to software.

- ***Save***
  Save user parameters into software.

3.7.2. Array Output Options

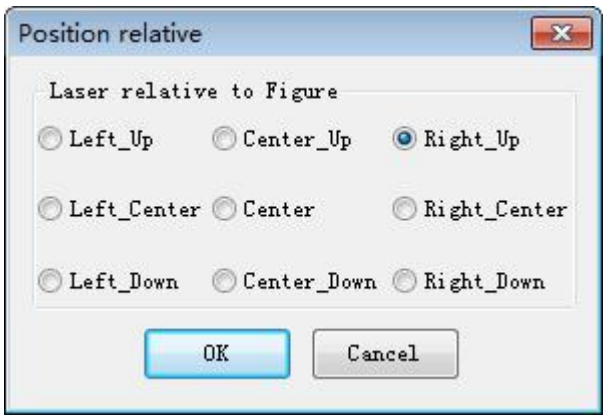
It is high efficiency and less waste for cutting materials to click【Array Output Options】of【Options】.

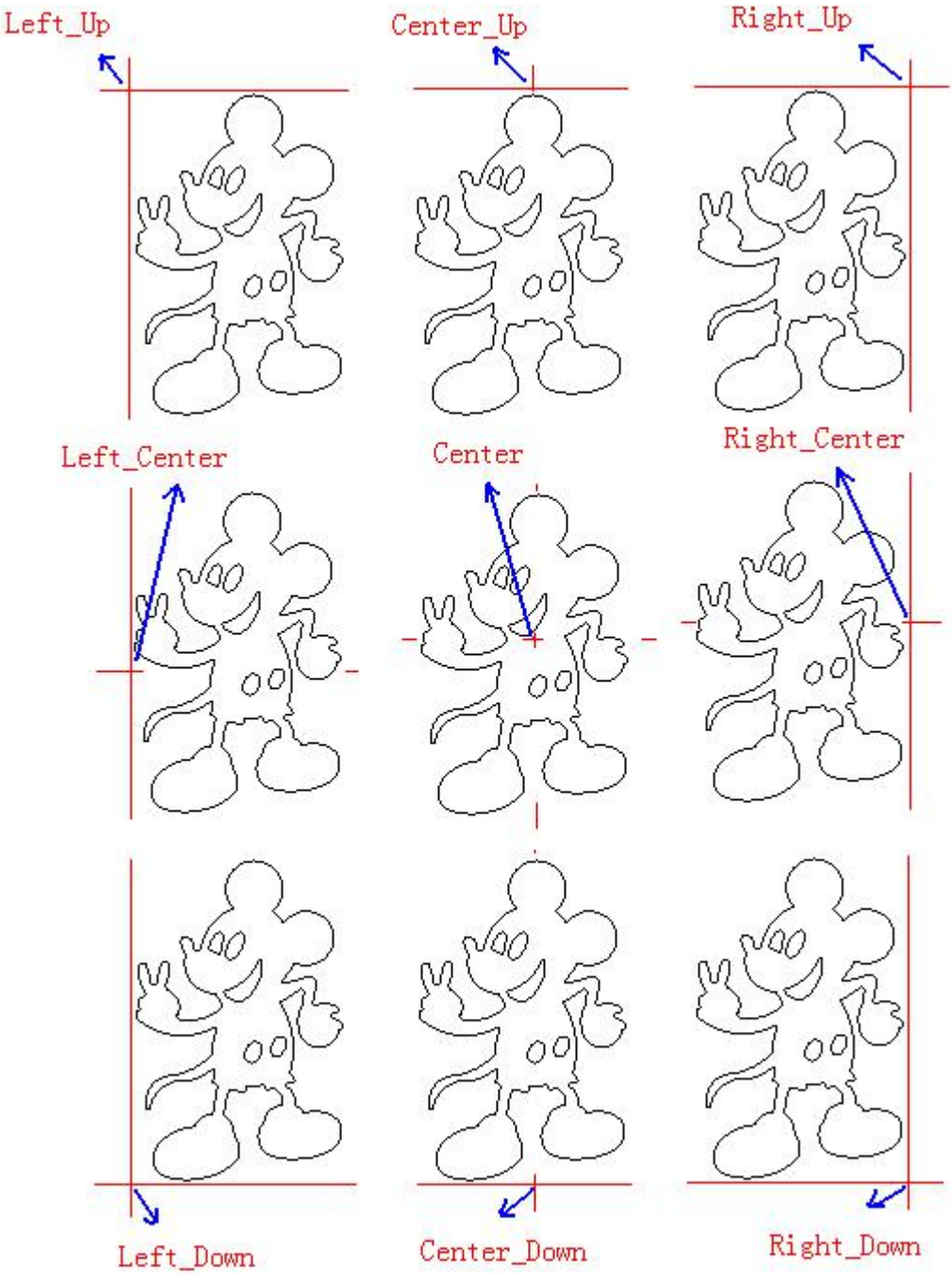
- **Auto Cover Calculation**
  Pattern array will be auto composed based on work surface and pattern size.



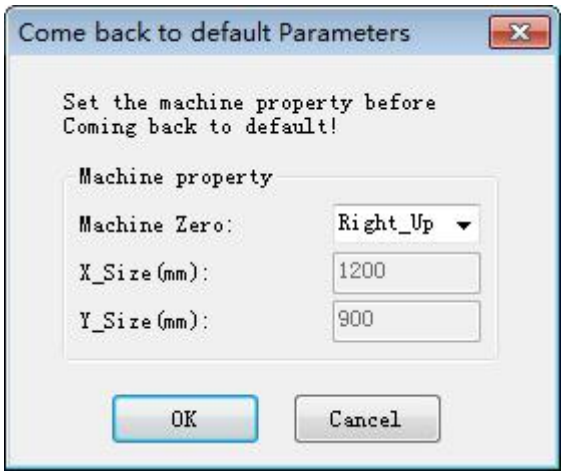
3.7.3. Position Relative

The relative position between graphic output and cutting head. Click【Position Relative】of【Options】or  and the interface will be like this:


Position relative
Laser relative to Figure
Left_Up
Center_Up
Right_Up
Left_Center
Center
Right_Center
Left_Down
Center_Down
Right_Down
OK
Cancel

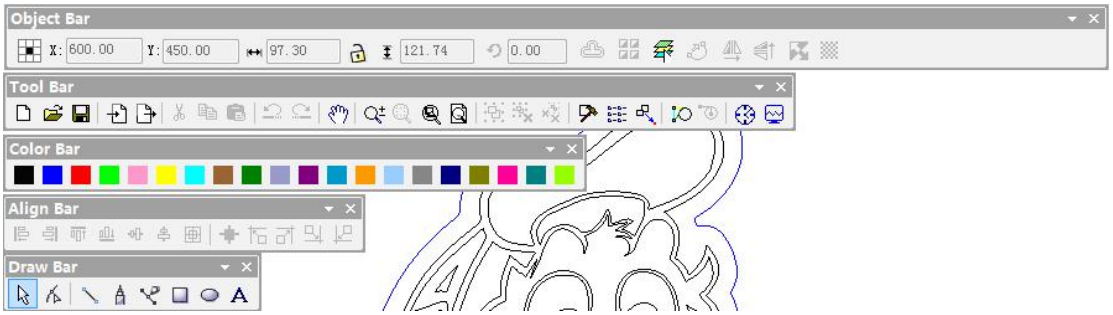

Left_Up
Center_Up
Right_Up
Left_Center
Center
Right_Center
Left_Down
Center_Down
Right_Down

3.7.4. Default Parameters



3.8. View

Functional bars are allowed to hide or display on screen.

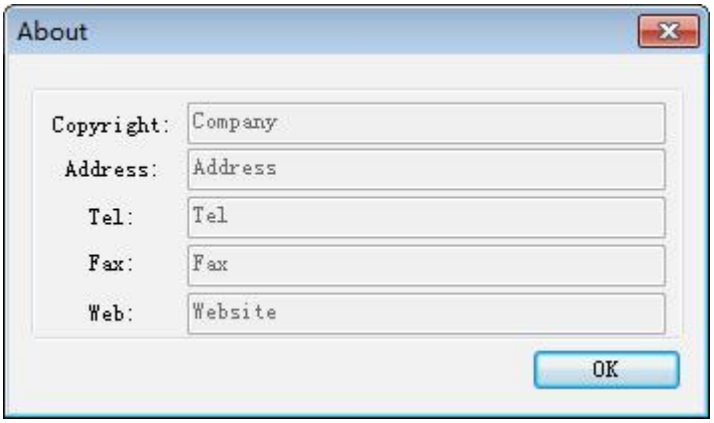


Click the functional bar from 【View】to make it appear on display when they are not shown on the interface. It is the same effect to make functional bar show on display or hide it when right-clicking blank space in menu bar area.

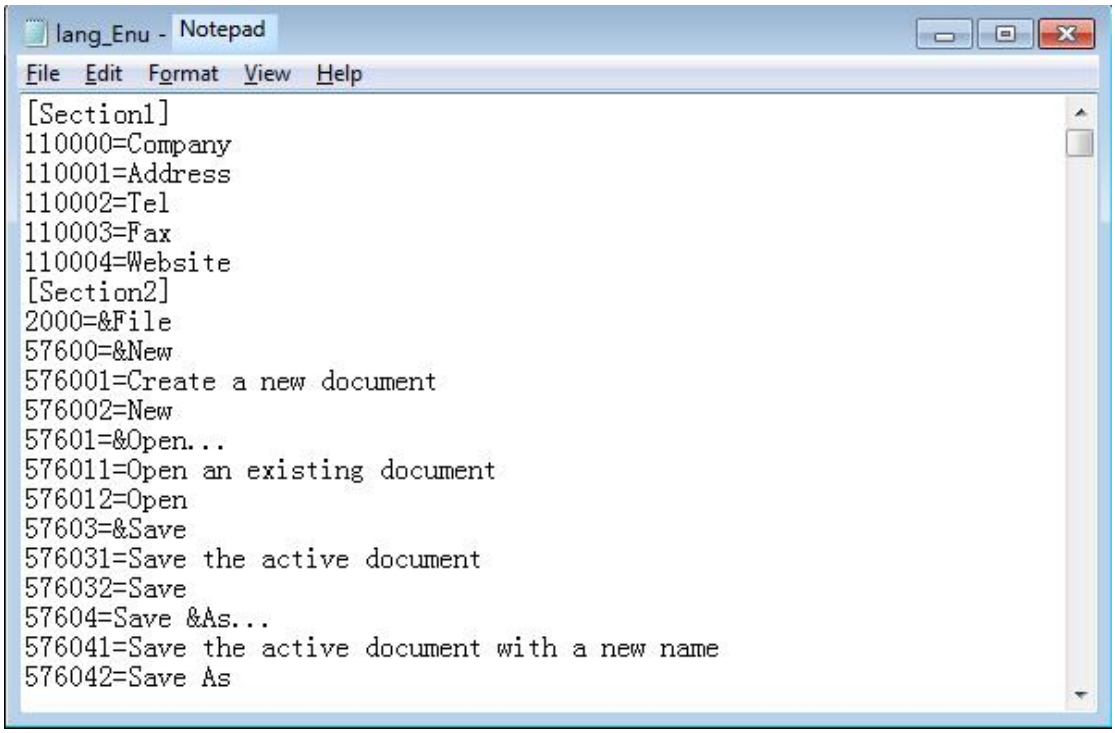
3.9. Help

3.9.1. Info Modification

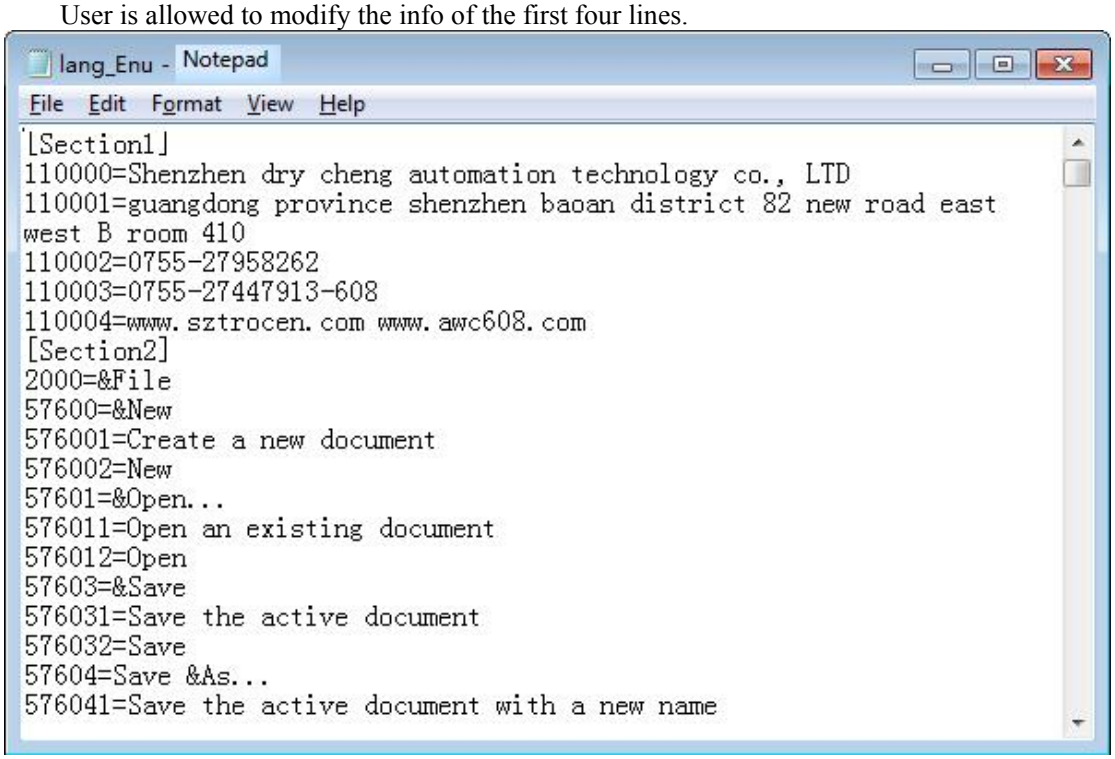
Manufacturer is allowed to modify software info like this:



Extract installer file before entering installing catalog. You will see file named *AWCLanguage* and double-click the file named *lang_chs* like this:



User is allowed to modify the info of the first four lines.



3.9.2. Software Icon Modification

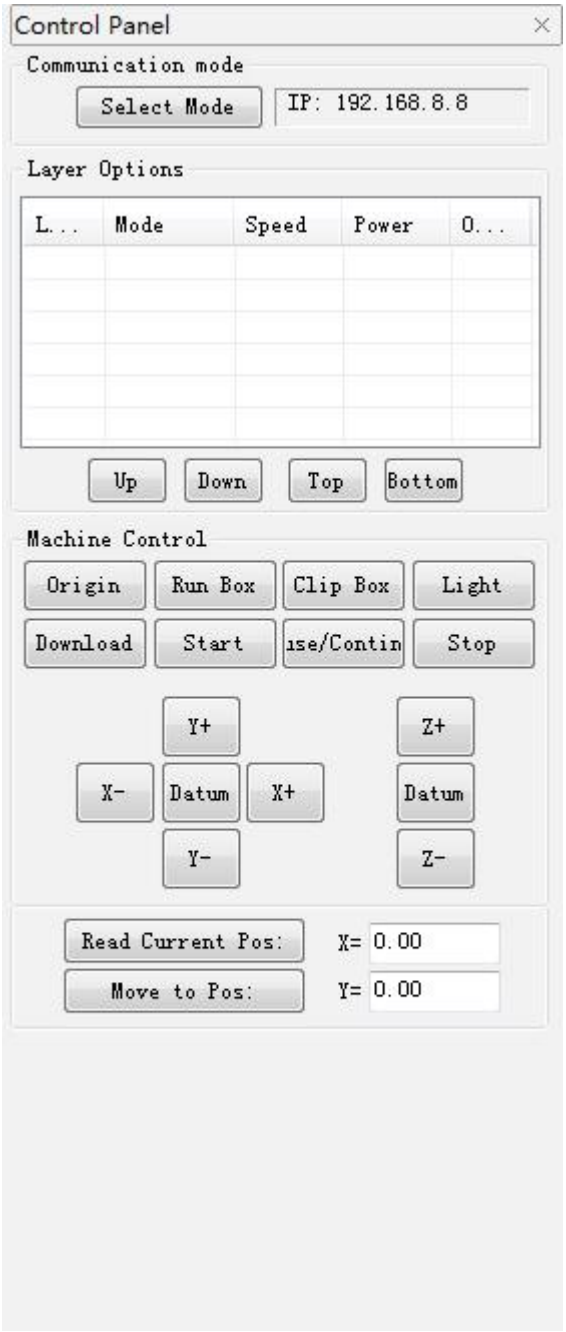
Manufacturer is allowed to replace software icon. Extracting installer file before entering installation catalog and open file named AWCRes. Rename prepared software file with *title* and replace it. Icon size is 32*32 and in the format of ico.

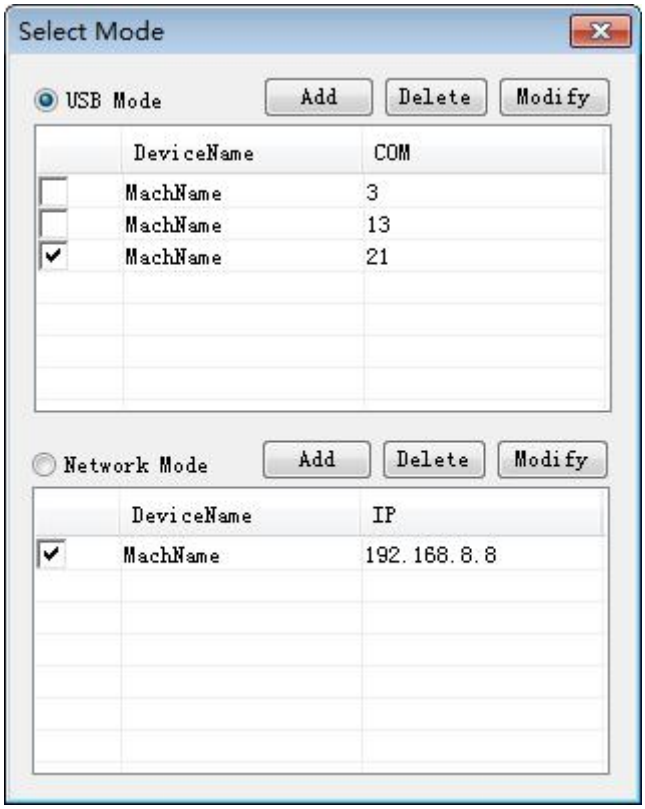
4. Panel Control

Computer is able to connect to panel by USB or network.

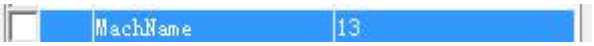
4.1. Connecting to Panel Via USB

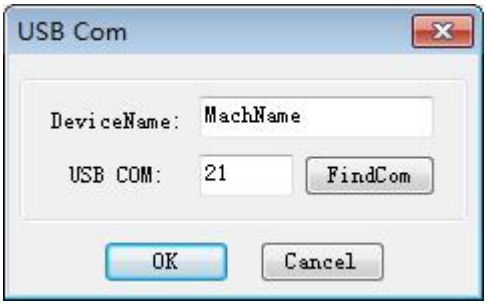
Click【Communication Mode】of 【Control Panel】like this:


Control Panel
Communication mode
Select Mode
IP: 192.168.8.8
Layer Options
L...
Mode
Speed
Power
O...
Up
Down
Top
Bottom
Machine Control
Origin
Run Box
Clip Box
Light
Download
Start
ıse/Contin
Stop
Y+
X-
Datum
X+
Y-
Z+
Datum
Z-
Read Current Pos:
X= 0.00
Move to Pos:
Y= 0.00



Tick【USB Mode】and double-click one of them like this:

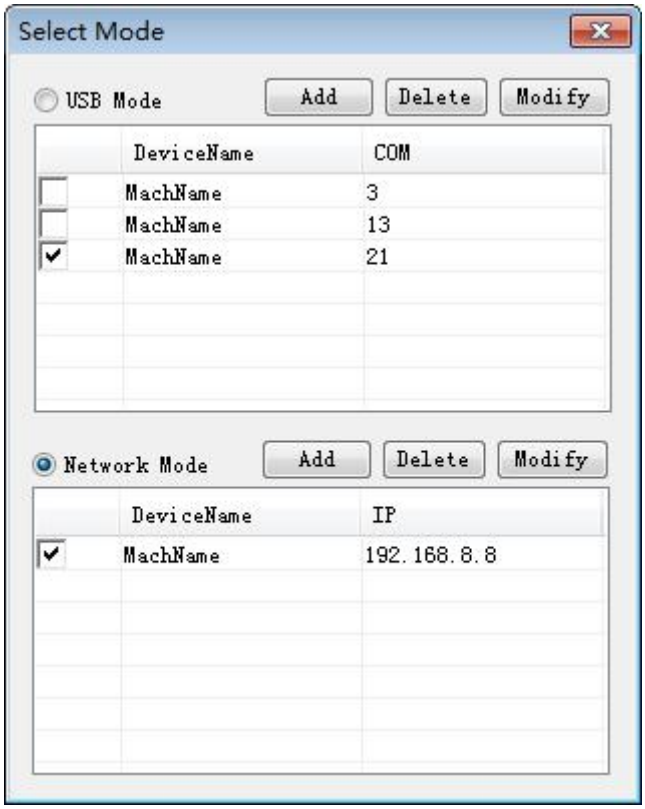




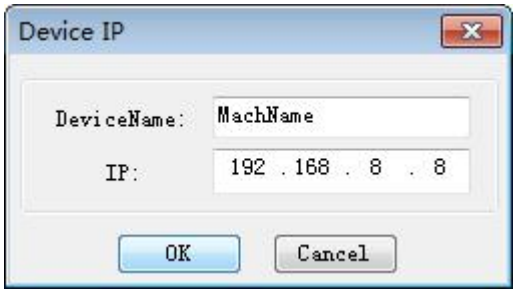
You can make any name at your will for machine. Input machine name and end up with clicking【Find Com】.

4.2. Connecting to Panel via Network

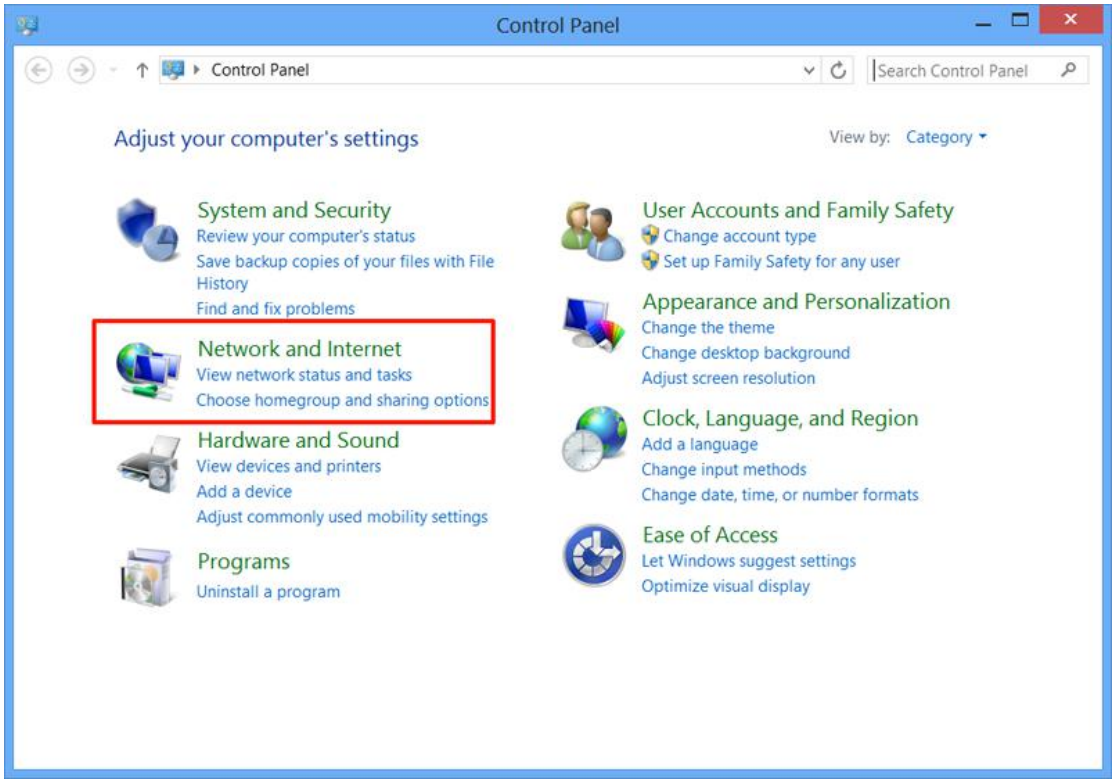
Tick【Network Communication】:



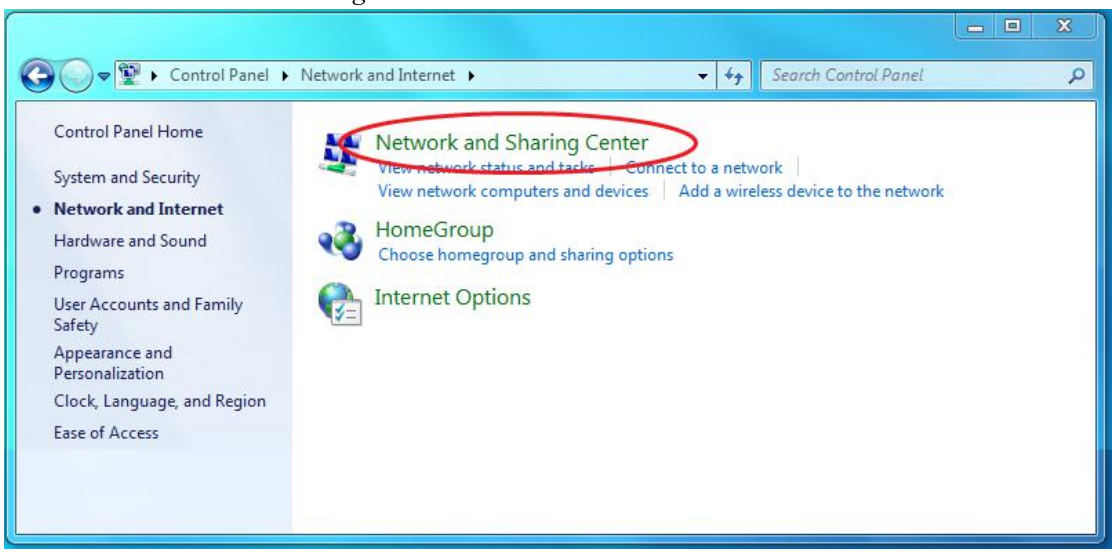
Double-click it:



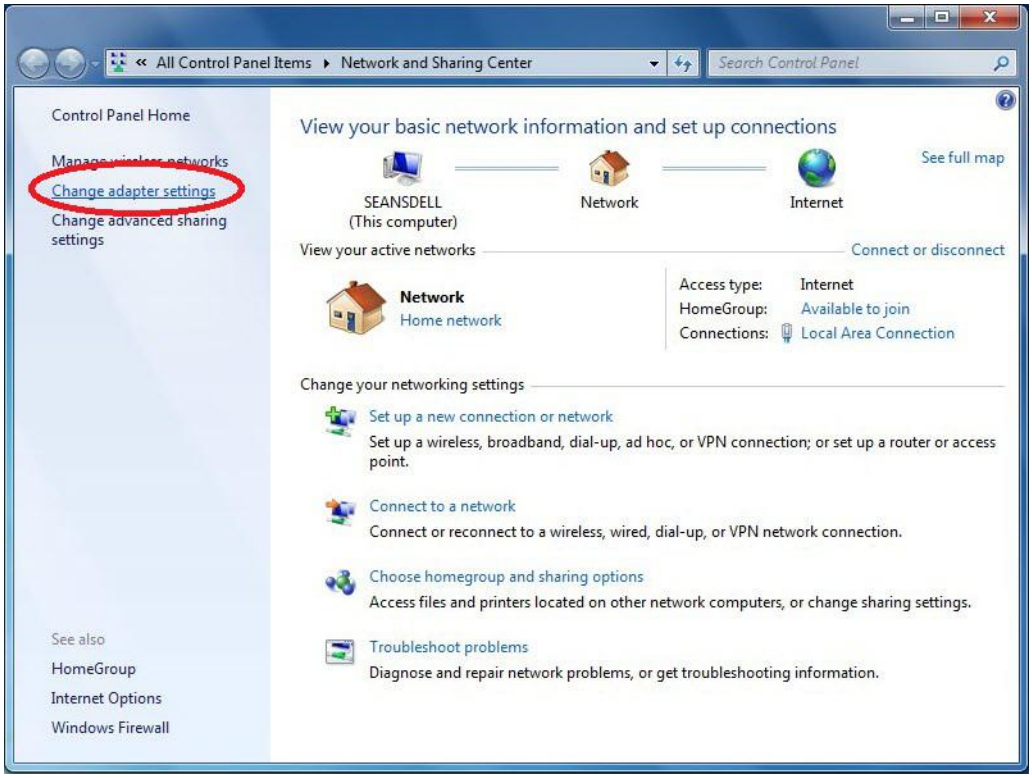
Name your machine and input IP add. Take Win7 as an example. Double-click *Network and Internet*.



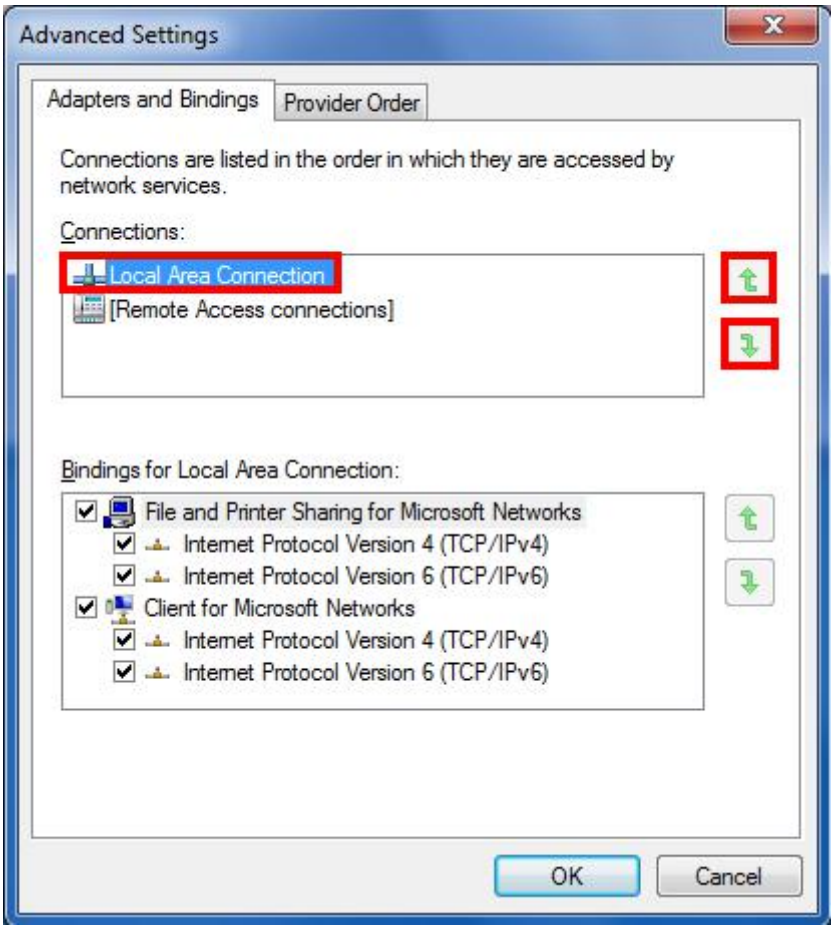
Click *Network and Sharing Center*.



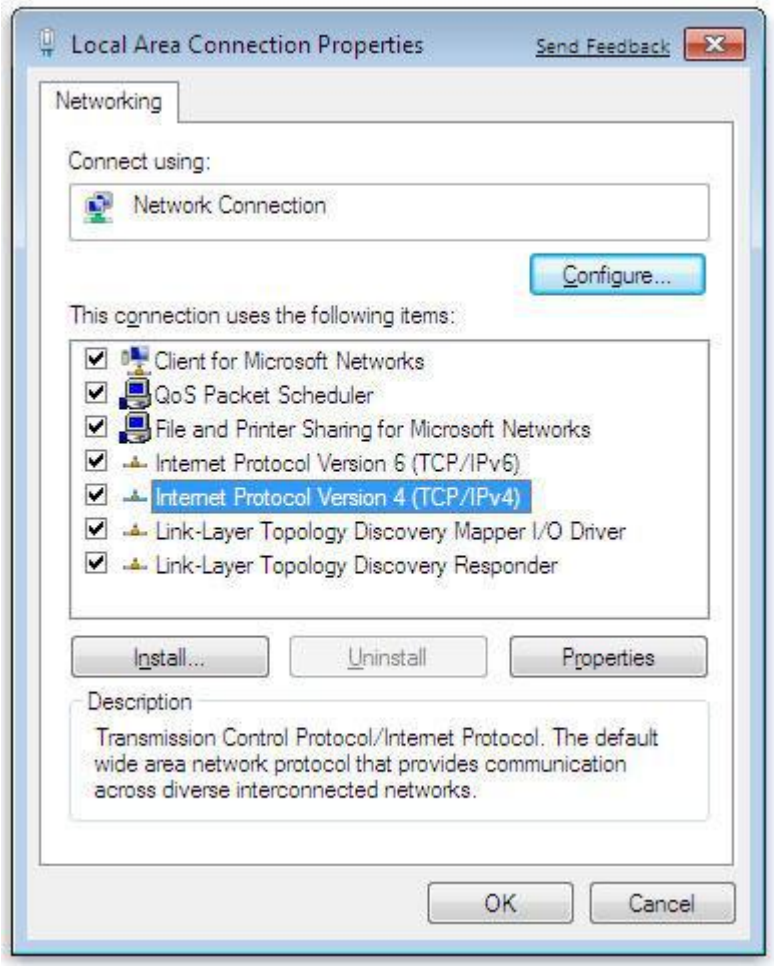
Click *Change Adapter Settings*.

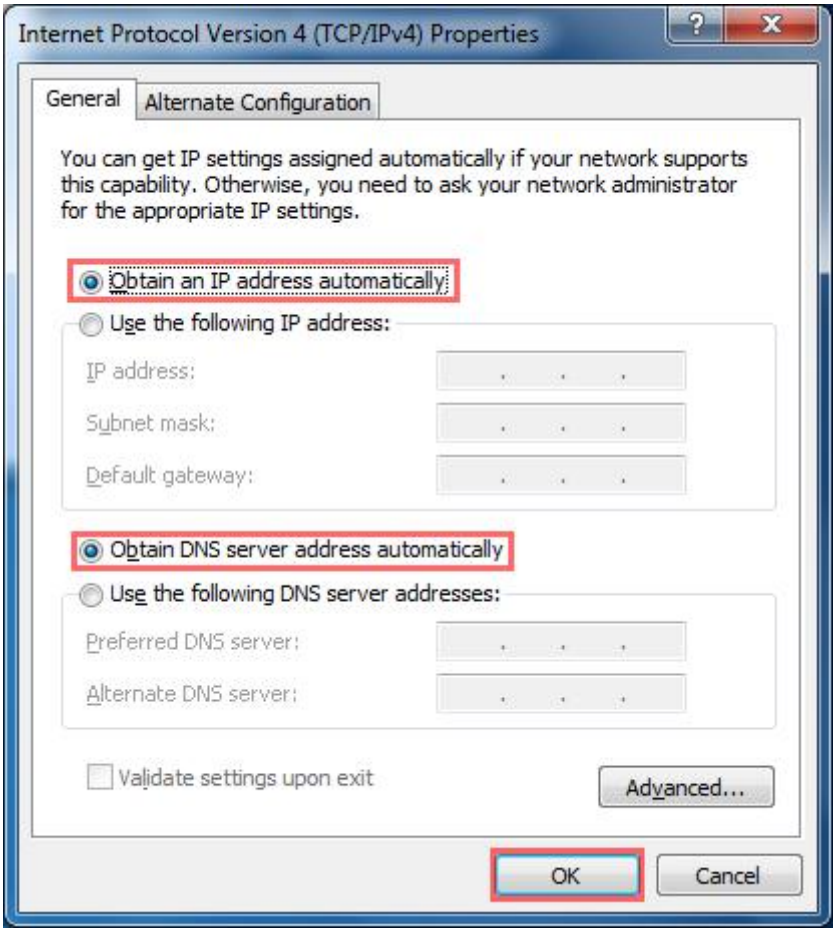


Double-click *Local Area Connection*.



Double-click *Internet Protocol Version (TCP/IPv4) Properties*.

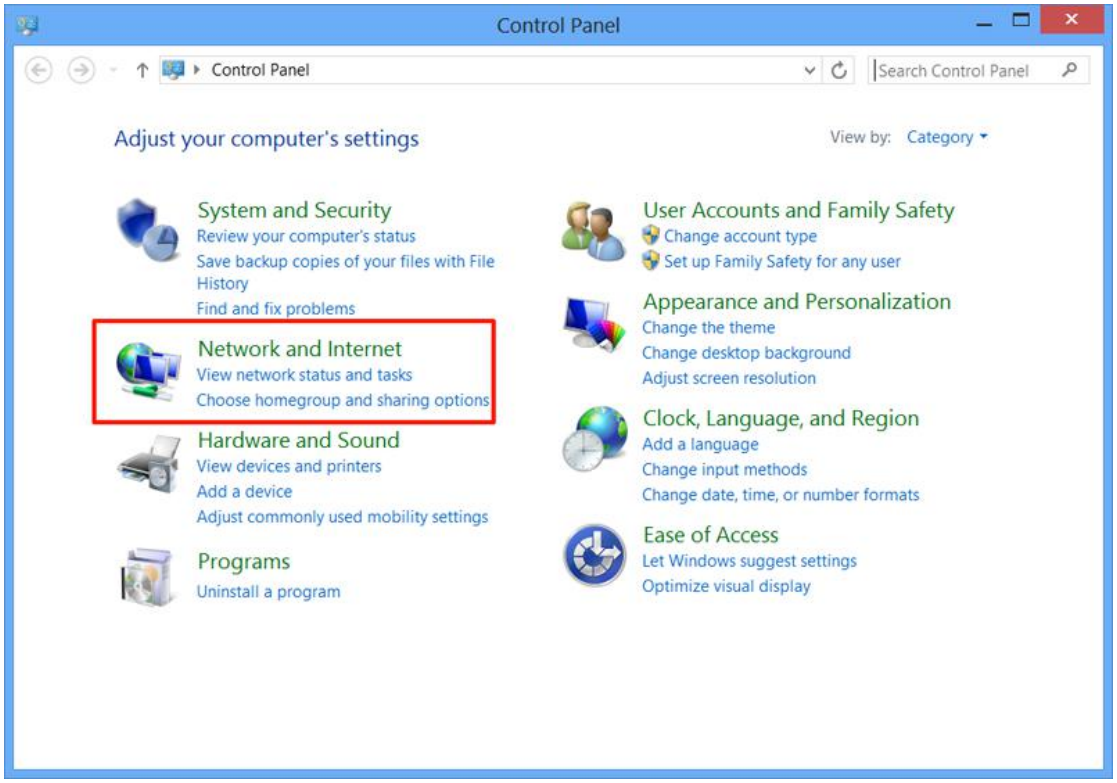

Local Area Connection Properties
Send Feedback
Networking
Connect using:
Network Connection
Configure...
This connection uses the following items:
Client for Microsoft Networks
QoS Packet Scheduler
File and Printer Sharing for Microsoft Networks
Internet Protocol Version 6 (TCP/IPv6)
Internet Protocol Version 4 (TCP/IPv4)
Link-Layer Topology Discovery Mapper I/O Driver
Link-Layer Topology Discovery Responder
Install...
Uninstall
Properties
Description
Transmission Control Protocol/Internet Protocol. The default wide area network protocol that provides communication across diverse interconnected networks.
OK
Cancel



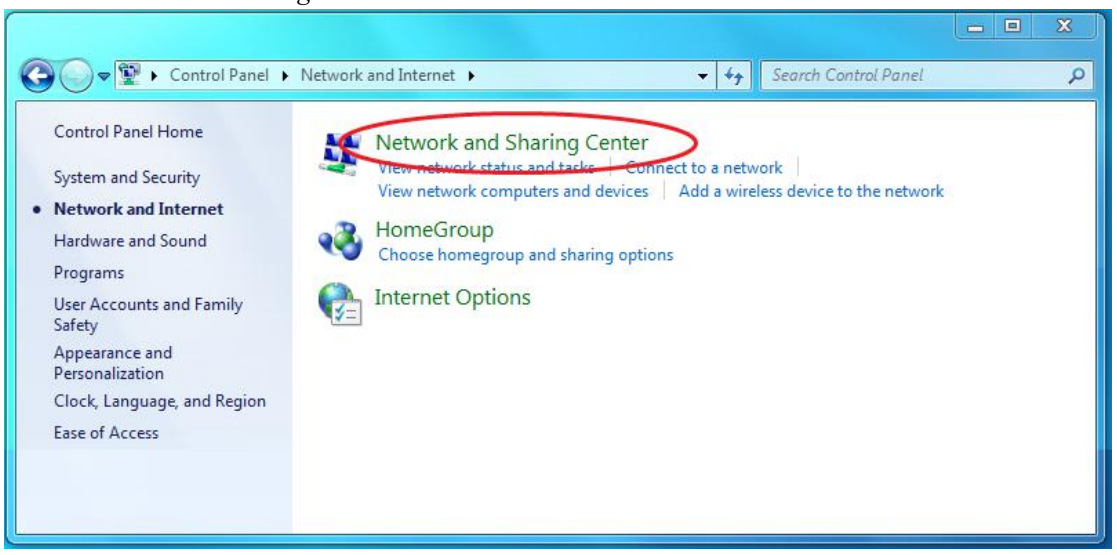
Select *Use The Following IP Add* and the first 3 number should be the same as it is in panel. The last number should be selected between 0 and 255, but different from it in panel.

4.3. Connecting to Panel via Router

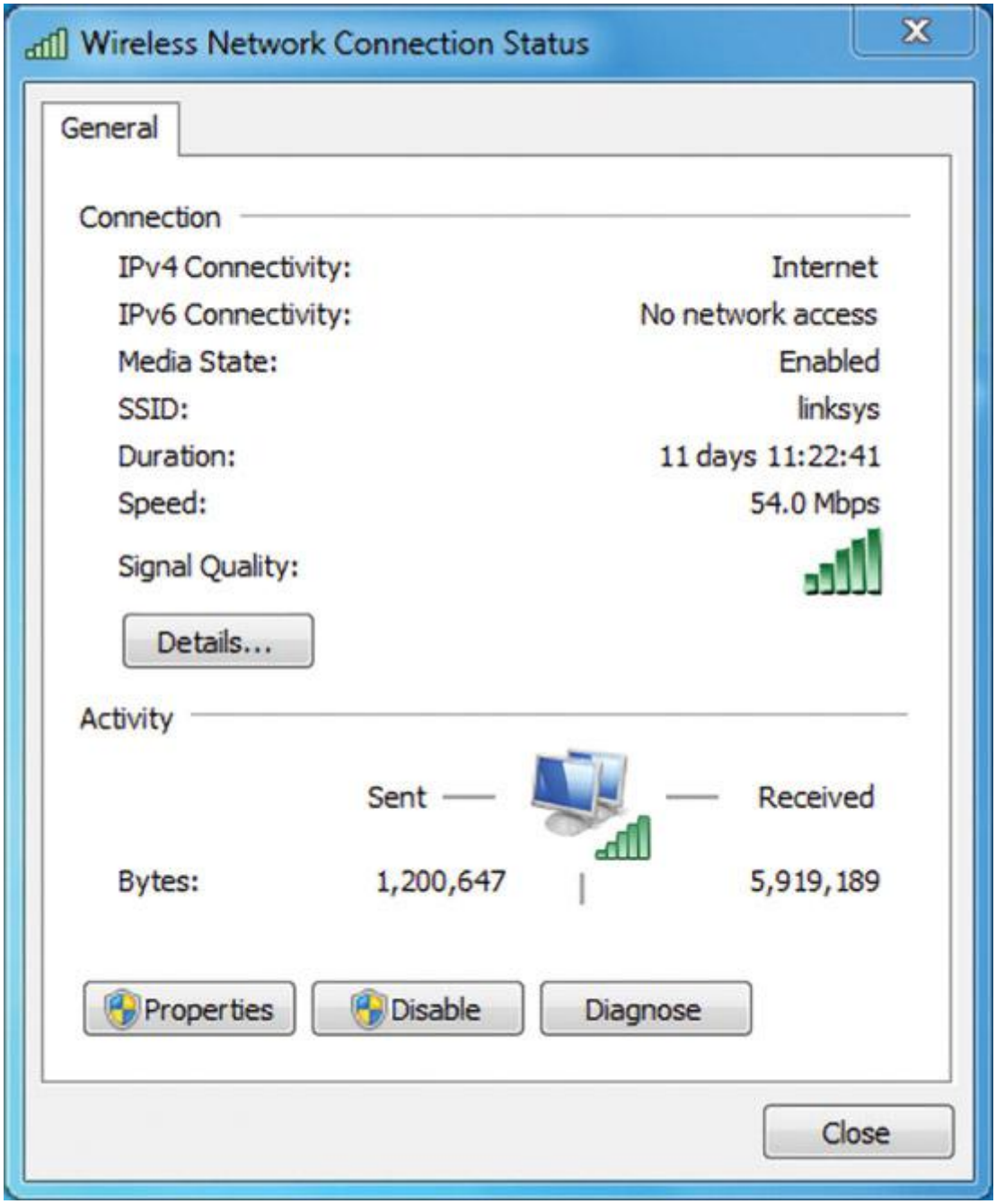
It is almost the same routine as what has been mentioned above. Select *Obtain an IP Address Automatically*. Take Win7 as an example. Double-click *Network and Internet*.



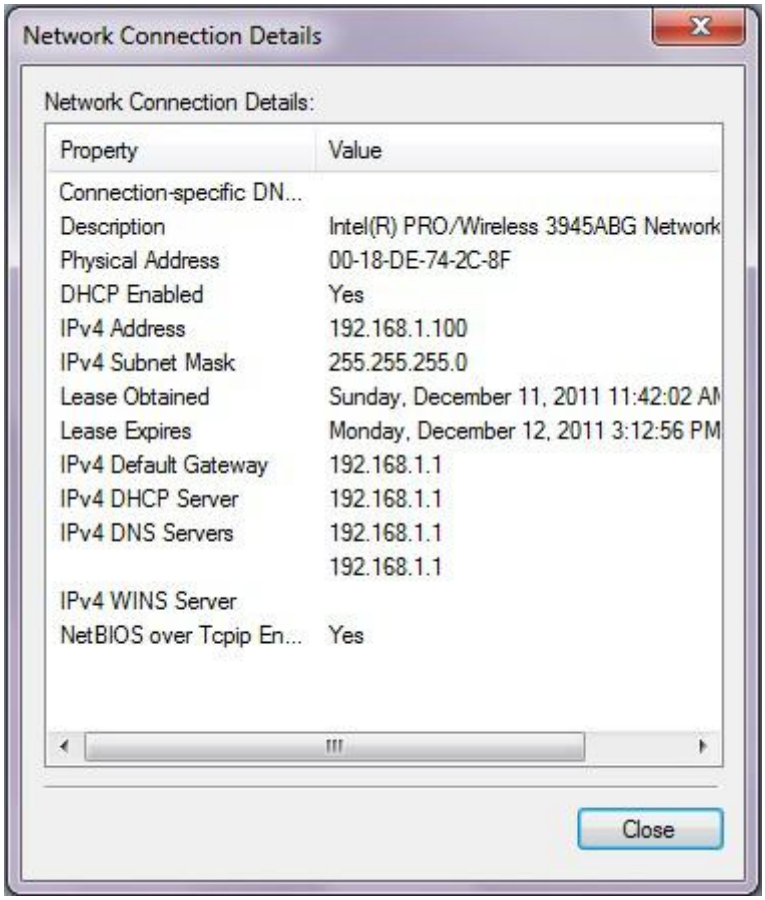
Click *Network and Sharing Center*.



Click *Wireless Network Connection.*

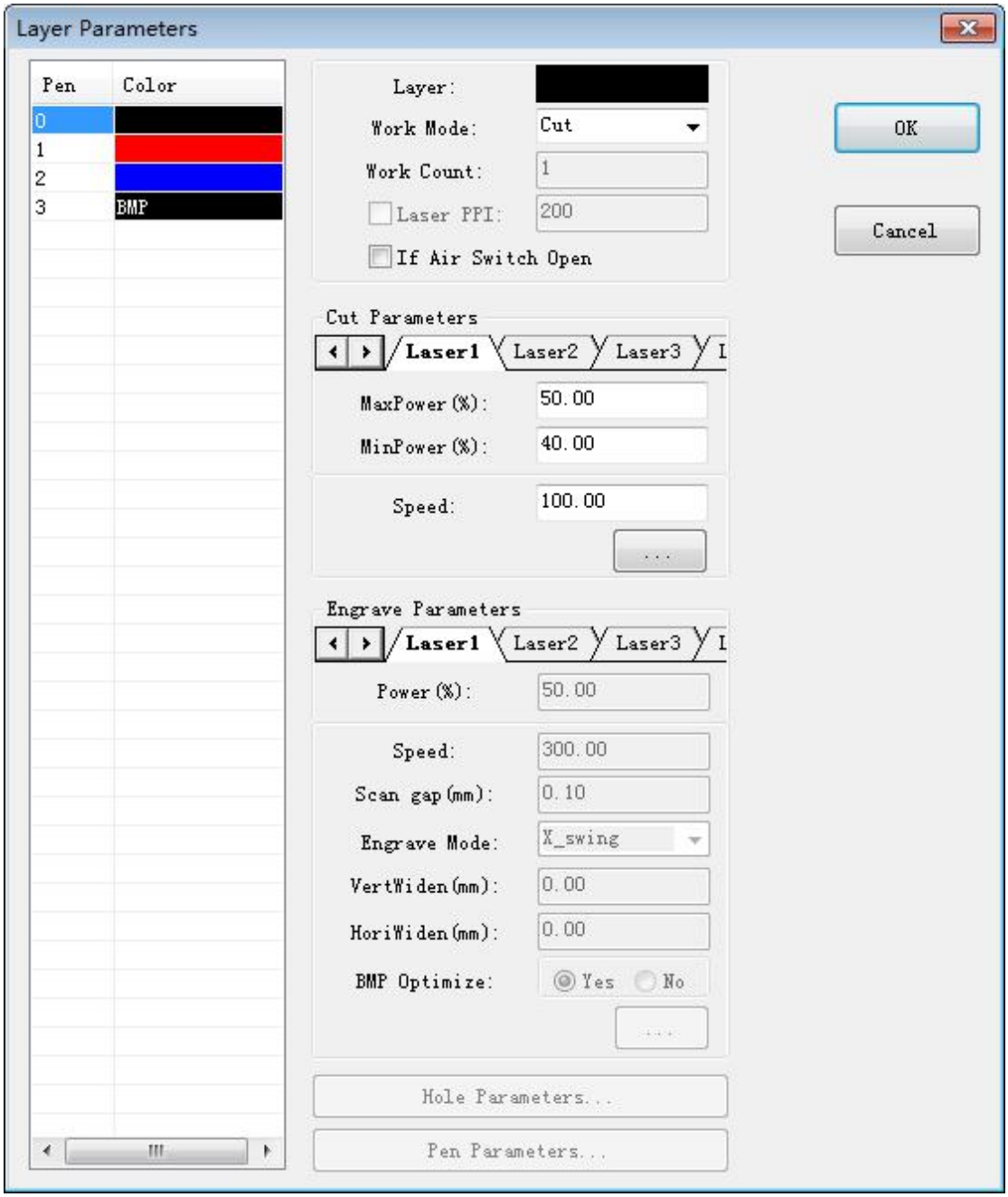


Click *Network Connection Details*.



4.4. Layer Parameters

Double-click layer option like this:



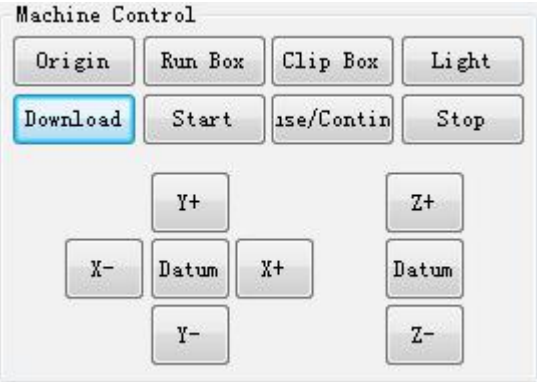
- **Layer**
  Select the layer that is ready to be modified and click it.

- **Work Mode**
  It is fixed and cannot be modified.

- **Speed**
  The speed here means cutting speed.

- **Blow**
  Also known as air switch.

4.5. Machine Control



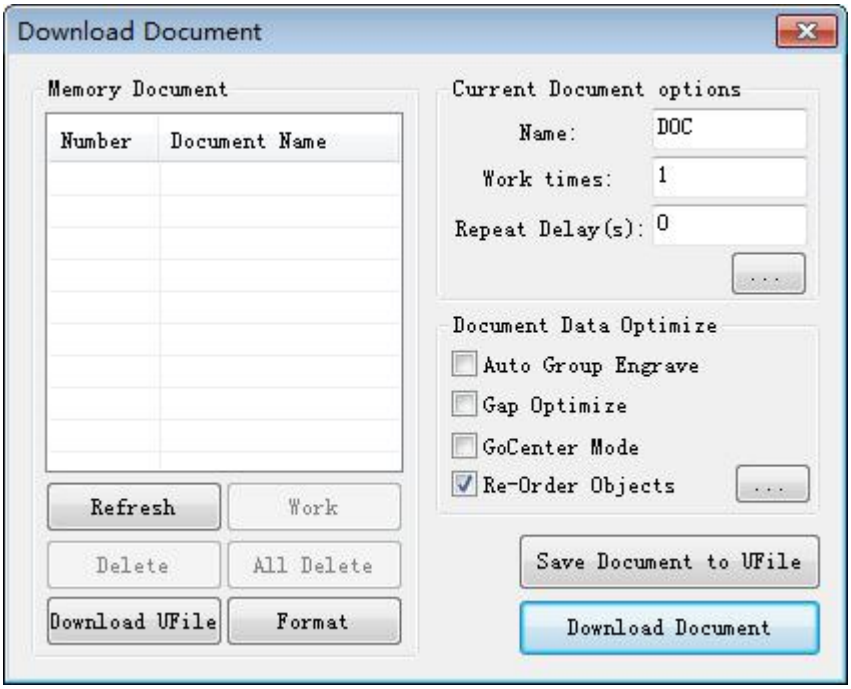
4.5.1. Document Download

Click Download and the interface will be like this:

- **File Name**

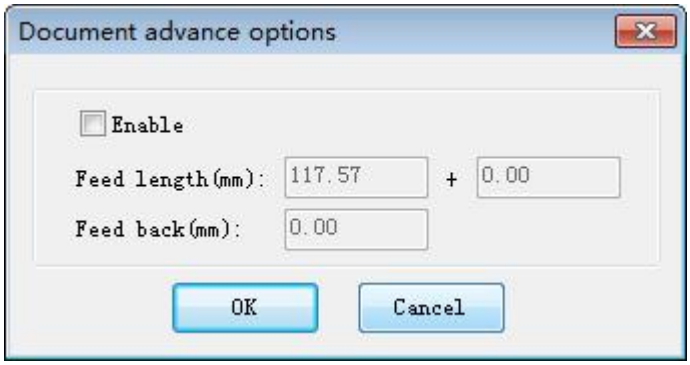
- **Work Times**
  Processing times for graphic.

- **Repeat Delay(s)**
  The time interval between the previous and next job.



- **Advance Options**

  Click  :

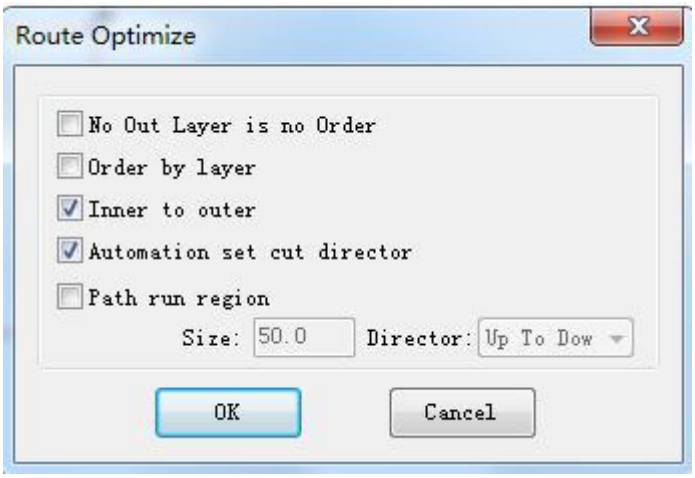


Tick【Enable】and user will need to set two parameters.

- **Gap Optimize**
  System will auto make sure of cutting direction for backlash compensation when cutting complicated pattern, but it will increase air-travel distance so we suggest not to tick it.

- **Re-Order Objects**

  Click  :



4.5.2. Common Buttons

- **Origin**
  Set current cutting head as origin.

- **Start**
  Start machining the current file.

- **Pause/Continue**
  Pause or continue to work.

- **Stop**
  Stop machine from working.

- **Run Box**
  Cutting head is outlining the rectangle without powering-on based on graphic size. This is aimed at confirming graphic position.

- **Datum**

Click Datum and cutting head(Z axis) will turn to origin slowly and it will quickly move to preset positioning point once reaching limit switch. This is aimed to eliminate accumulated error so it has to be done before working.

- **X+/X-/Y+/Y-**
  Cutting head (Z axis）