

Trocen 乾诚

TroCutCAD
User Manual

Cut-Off Knife Motion Control
System

RV 1.5

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TROCEN AUTOMATION TECHNOLOGY CO. LTD.

Patent

Trocen has held the patent rights for our cut-off knife motion control system.

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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V1.4	2016/07/08
V1.5	2017/02/07

Relevant Documents

- TC-6808 Panel Instruction
 - TC-6808 User Manual
-

TroCutCAD User Manual

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1. Outline

1.1. Snapshot

TroCutCAD is running under Windows for making graphic and importing it to TC-6808 series panel.

1.2. Features

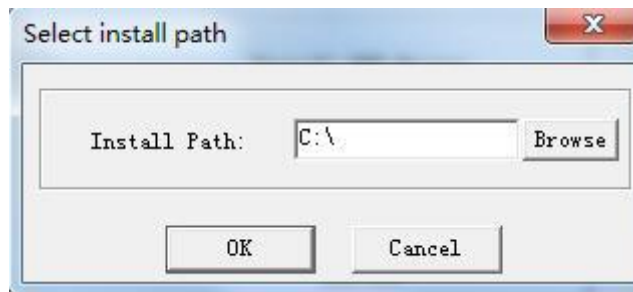
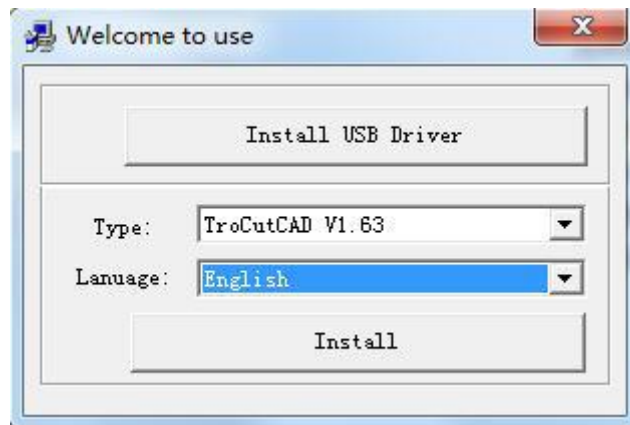
- User-friendly and versatile
- Compatible with CorelDraw and Auto CAD
- Support the file format like AI, PLT, DXF, etc.
- Machining by layer and designing the output sequences as required
- Optimal multipaths routing and pause during machining
- Multi-ways to save and reuse graphic & processing parameters
- 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

TroCutCAD is running under Window XP、Vista、Win7、Win8、Win10.

2. Installation

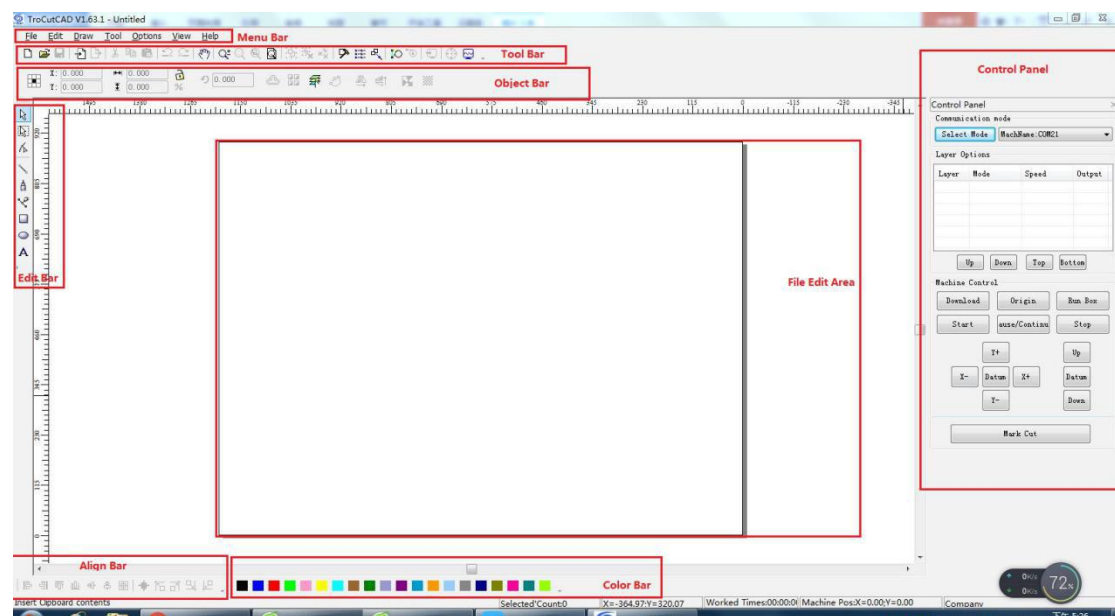
Double click Setup.exe.





3. How to Use

3.1. Main Interface



3.2. File

Find it on menu bar.

3.2.1. Save File

Save file format with a 'pwj5' suffix and do not need to change it if still reuse it.

3.2.2. Open File

Only a 'pwj5' suffix file could be opened.

3.2.3. Import File

Format such as AI, DXF, PLT, DST and DSB could be imported into software.



- **Unite Lines**
Unite multi-line into one.
- **Auto Smooth**
Make curve smooth, speed up cutting and enhance stability.
- **Graphic Auto Sorting**
Graphic re-sorting and time-saving.
- **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.

3.2.4. Export File

Save file in the format of a 'plt' suffix, that is, change the format of 'pwj5' into 'plt'.

3.2.5. Import Machine Configuration

Save file in the format of a 'qscf' suffix so as to use it repeatedly. You might only need to import this modified file into software each time.

3.2.6. Export Machine Configuration

Make exported file with a 'qscf' suffix.

3.3. Setting

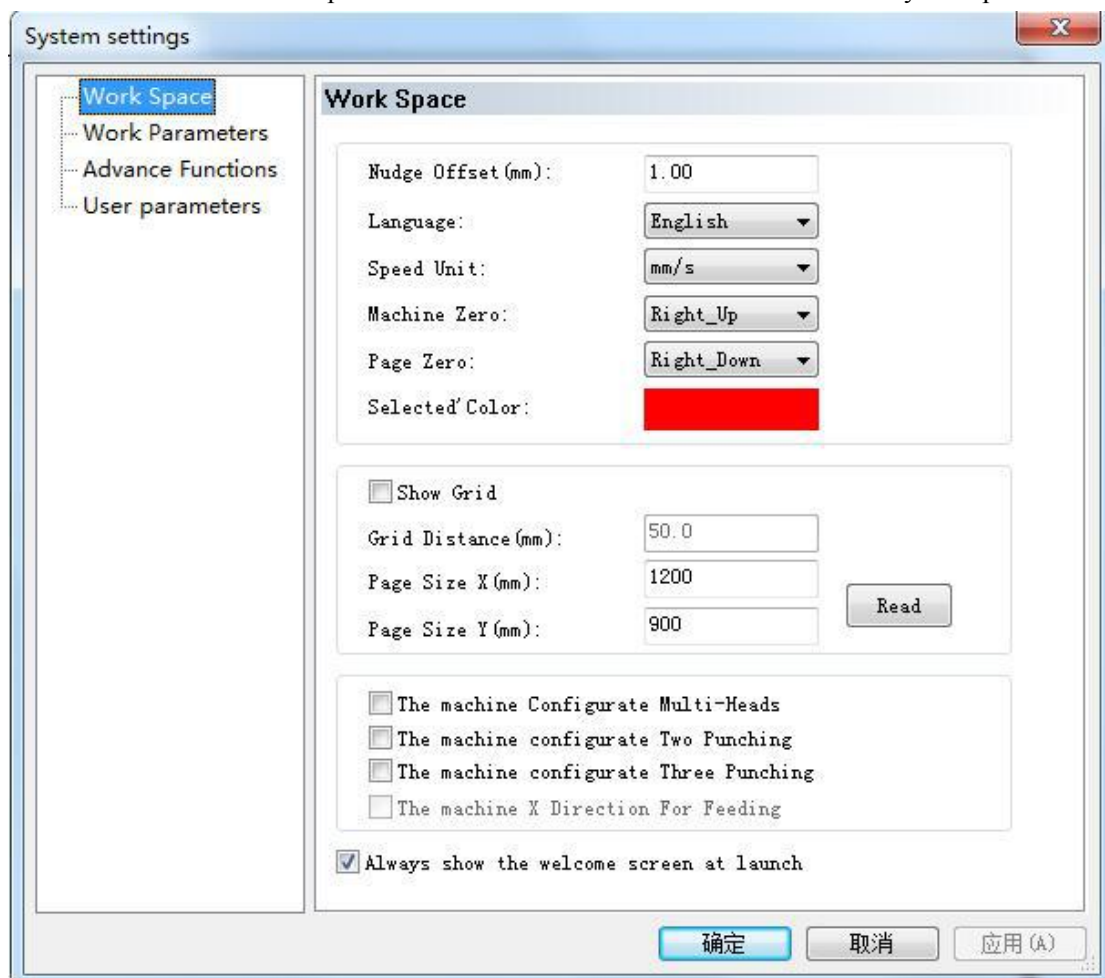
Cutting parameters are needed to be done before importing graphic file into panel.

3.3.1. Parameter Settings

Click the mark like below to set parameters.



- **Work Space**
General settings.
- **Work Parameters**
Related to mechanical parameters.
- **Advance Functions**
Optimal options for cutting.
- **User Parameters**
Related to motion parameters. It will be the same effect if users modify it on panel.



3.3.1.1. Work Space

A couple of parameters will have an impact on cutting effect.

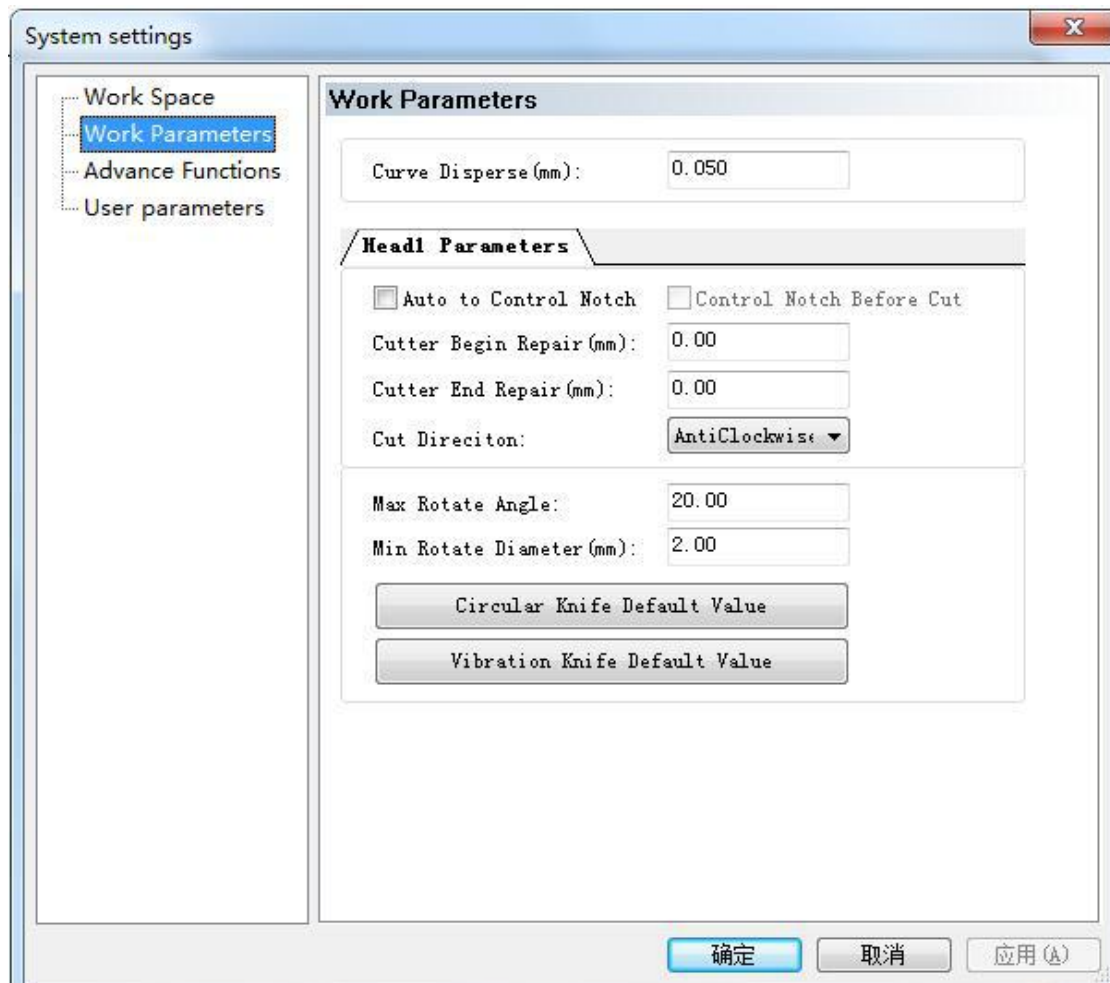
- **Machine Zero**

Machine Zero is overlapped with limit switch installed on X/Y axis. There are two limit switches on two sides of X axis horizontally while another two on Y axis vertically, so they are located in four directions which are top left, bottom left, top right and bottom right. Installation is based on actual situation, otherwise, it will lead to graphic upside down or deviation.

- **Origin On Software**

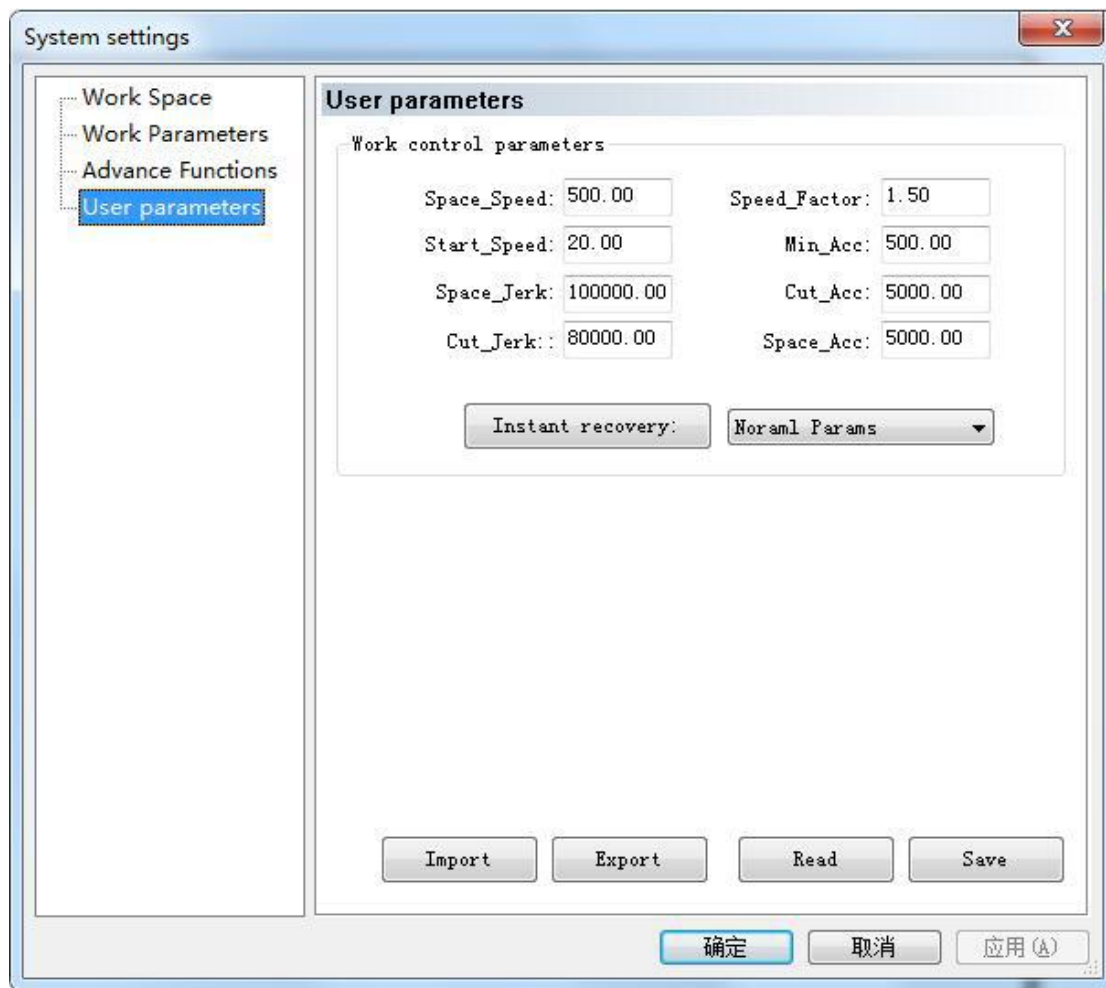
It refers to origin on software and differs from machine zero.

3.3.1.2. Work Parameters



Choose the type of knife blade and set it as a default option like above.

3.3.1.3. User Parameters

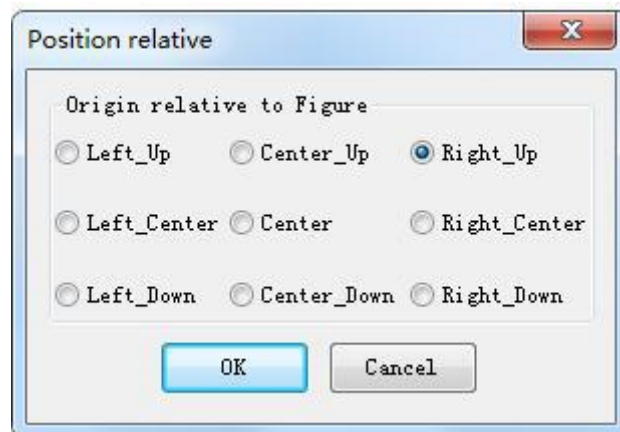


- **Space Speed**
Also known as air-travel speed without cutting. Value range depends on limit speed of manufacturer parameters and could not exceed max space speed of manufacturer parameters.
- **Start Speed**
From static condition to movement. Value range depends on start speed of manufacturer parameters and must not exceed it.
- **Space Jerk**
The variation of space acc. The value is larger and whipping or chatter becomes greater accordingly. It is generally set from the range of 10000 to 150000.
- **Cutting Jerk**
The variation of cutting acc. The value is larger and whipping or chatter is greater accordingly. It is generally set from the range of 10000 to 150000.
- **Speed Factor**
The factor of corner speed. The value is larger and the whipping or chatter is greater accordingly. It is set from 0 to 5 and generally 3.
- **Min Acc**
The min variation of cutting speed.

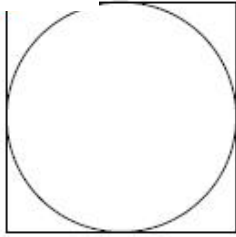
- **Cutting Acc**
The variation of cutting speed.
- **Space Acc**
The variation of head's moving speed without cutting.
- **One-Key Parameter Settings**
One-key parameter settings for slow, regular, a little faster and faster speed is based on cutting materials and quality.
- **Import User Parameters**
Click **【Import User Parameter】** .
- **Export User Parameters**
It is available for backup for user parameters. Modifying current user parameters by U disk port.
- **Read User Parameters**
Read saved parameters on software from panel.
- **Save User Parameters**
Save user parameters in software.

3.3.2. Graphic Relative Position

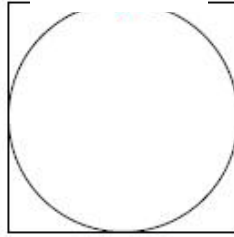
It refers to initial cutting point and cutting graphic.



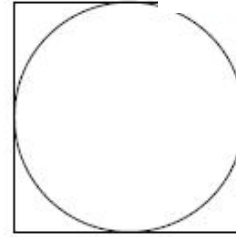
Top Left



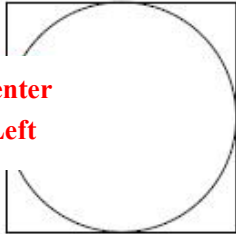
Top Center



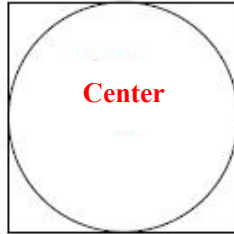
Top Right



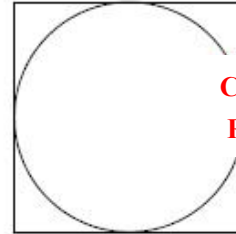
**Center
Left**



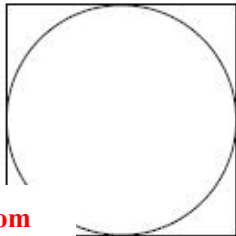
Center



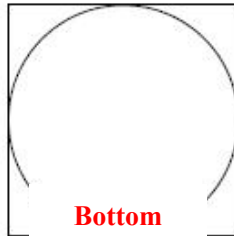
**Center
Right**



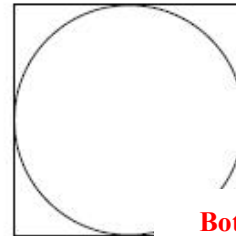
**Bottom
Left**



**Bottom
Center**



**Bottom
Right**



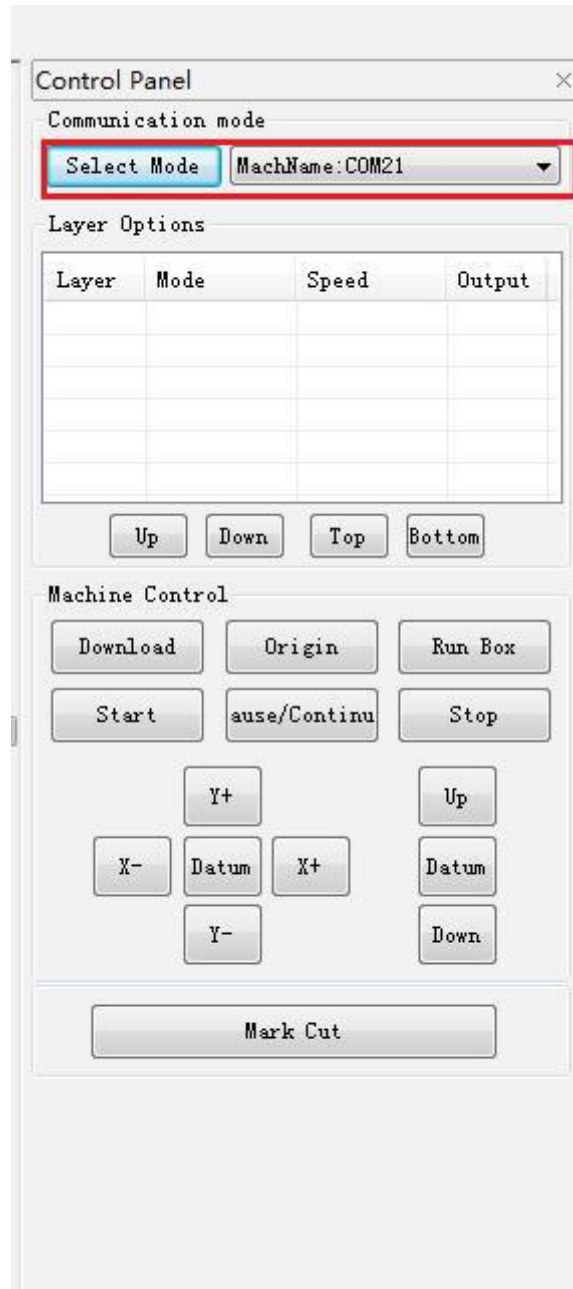
Relative Position

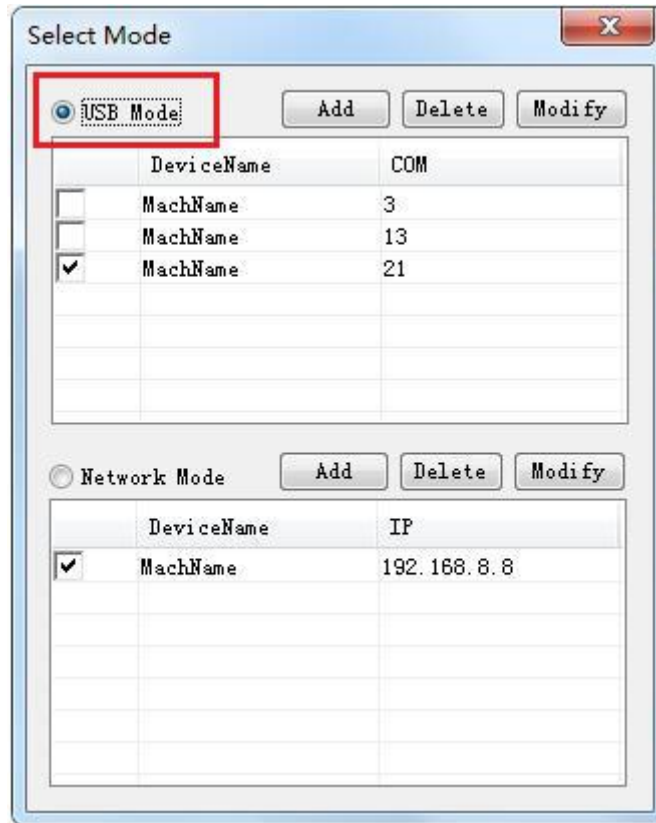
4. Connect to Panel

Connect computer to panel by USB or network connection.

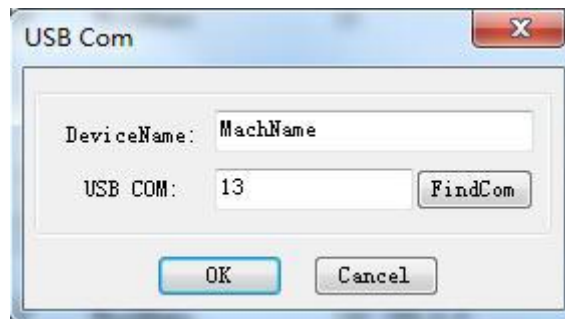
4.1. Connect to Panel by USB

Click **【Select Communication Mode】** of **【Control Panel】**.



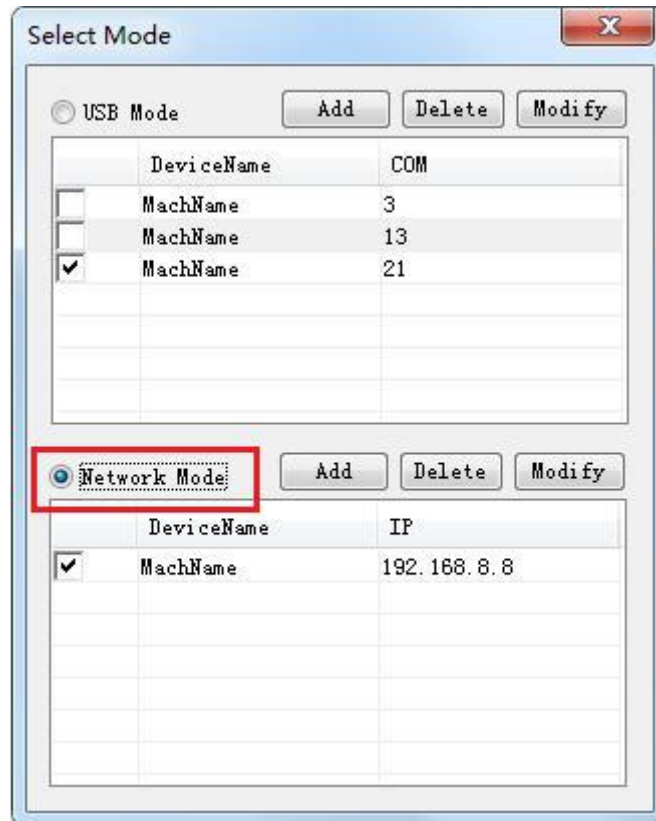


Double-click it:

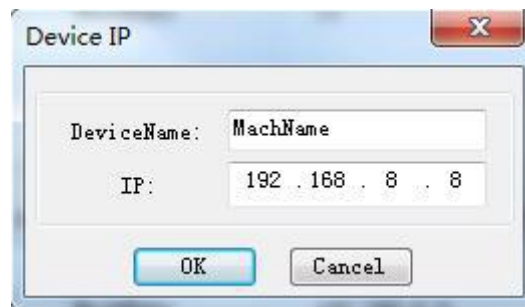


Name your machine before clicking *FindCom*.

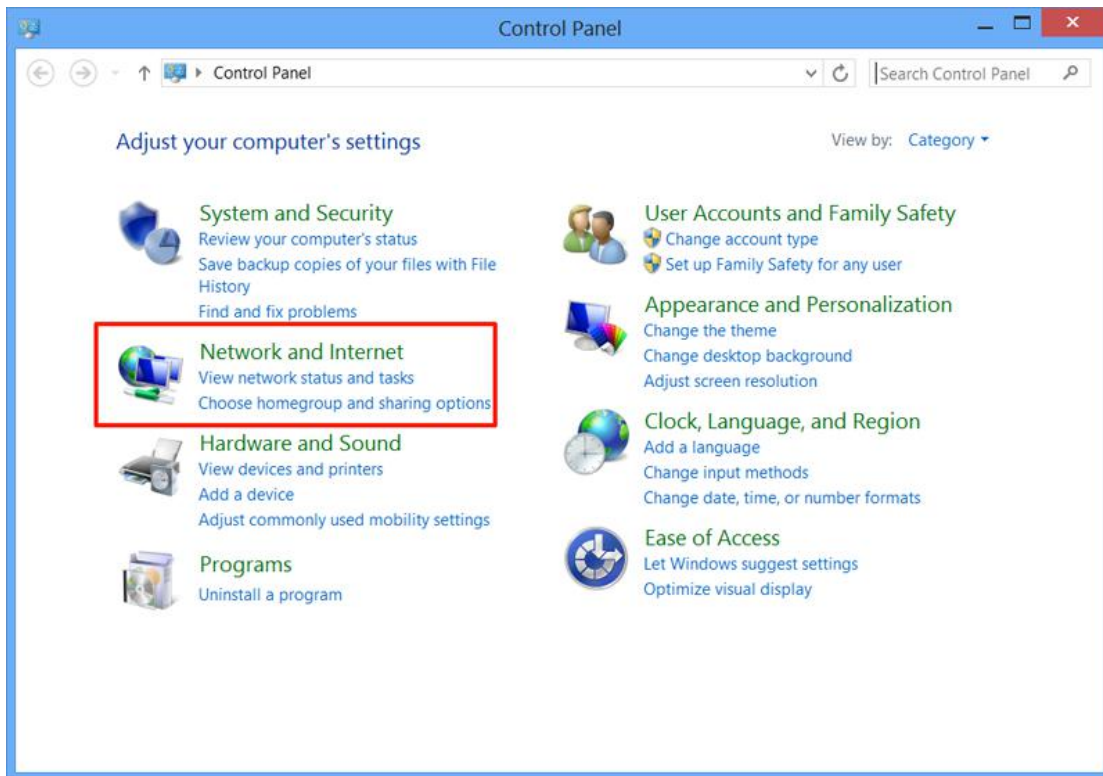
4.2. Connect to Panel by Network



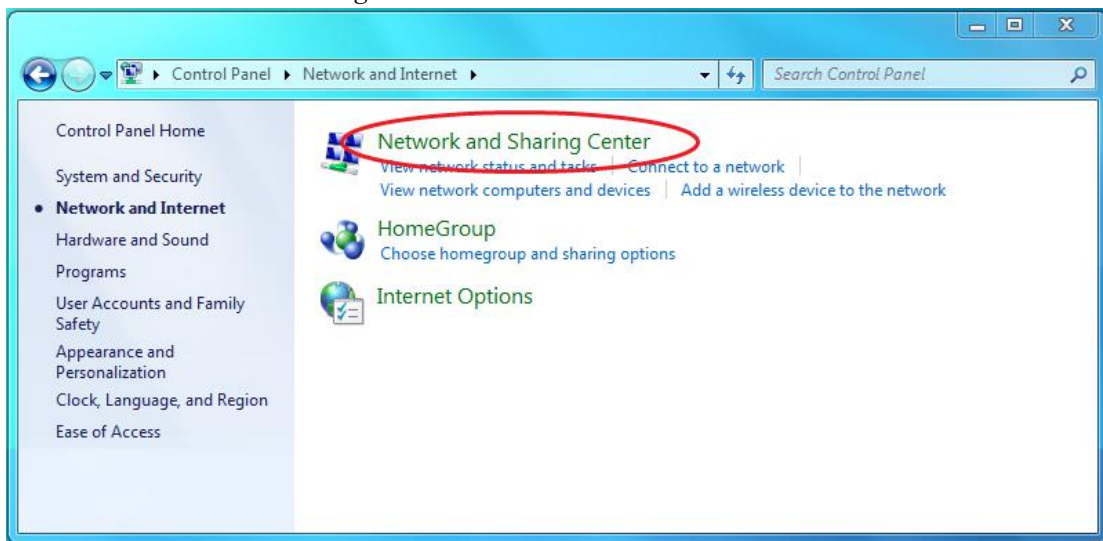
Double-click it:



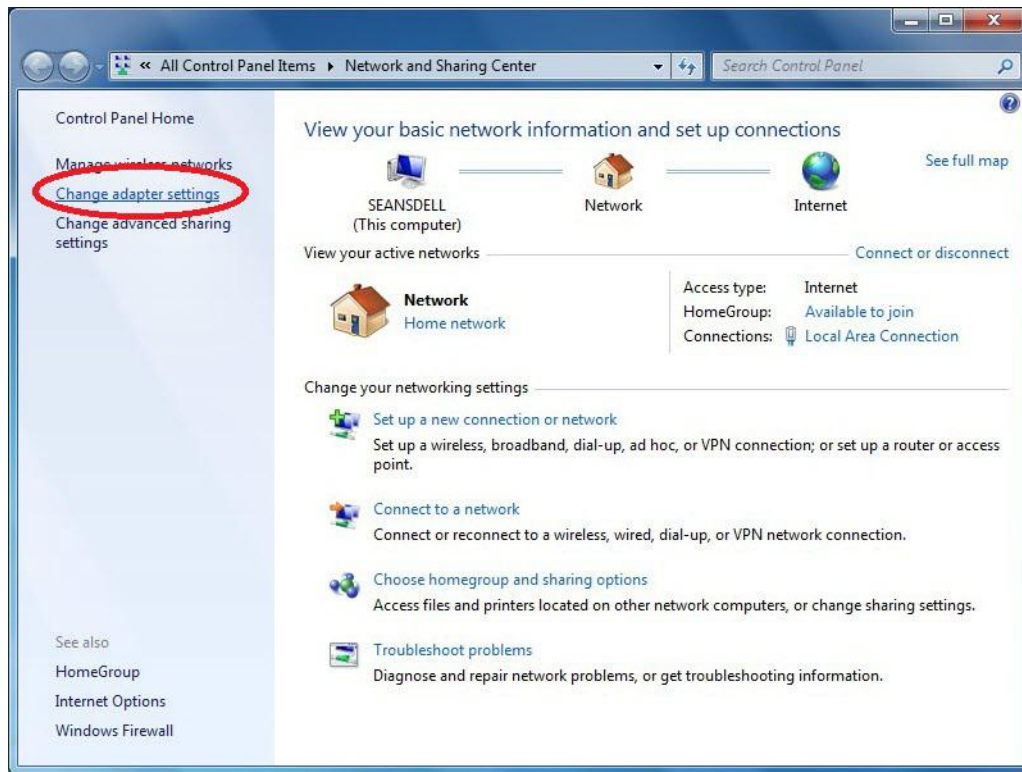
Take operation step under Win 7 as an example. Name your machine and input IP add. Double-click *Network and Internet*.



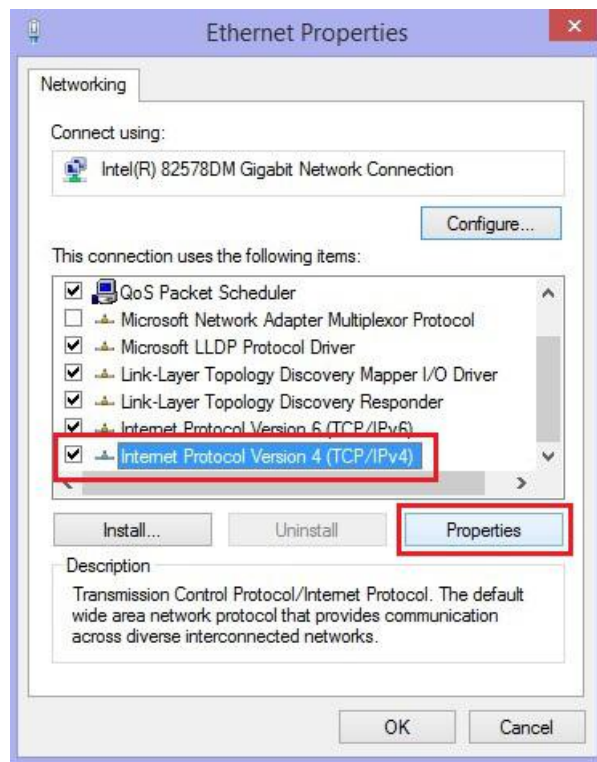
Click *Network and Sharing Center*.



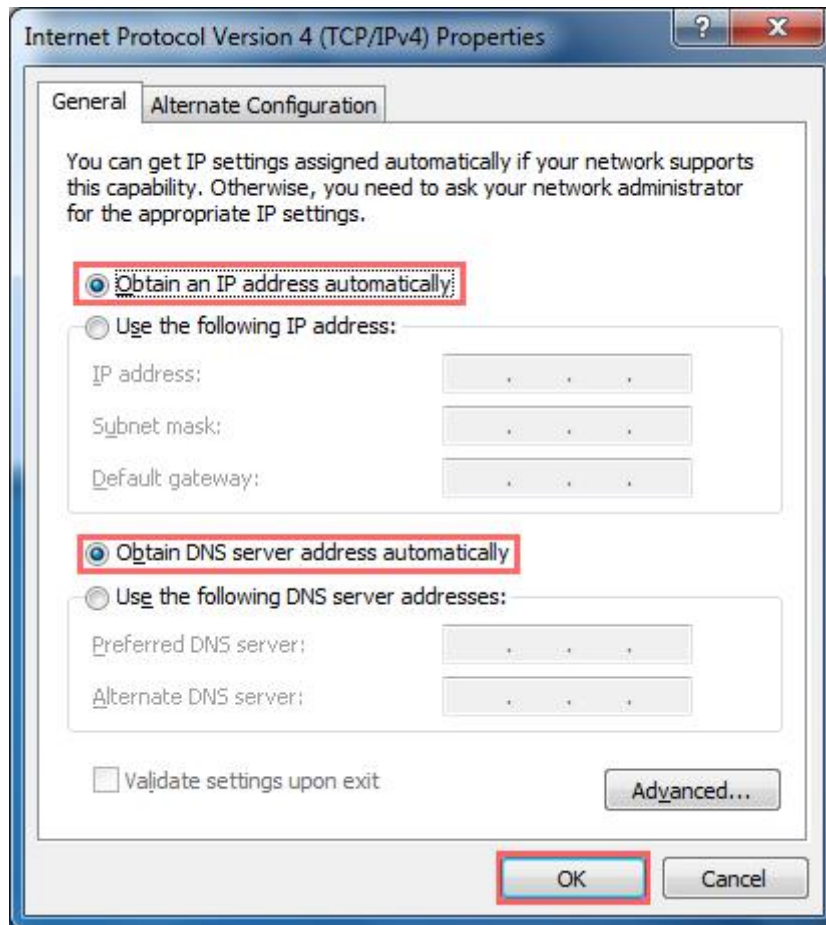
Click *Change Adapter Settings*.



Double-click *Local Area Connection*.



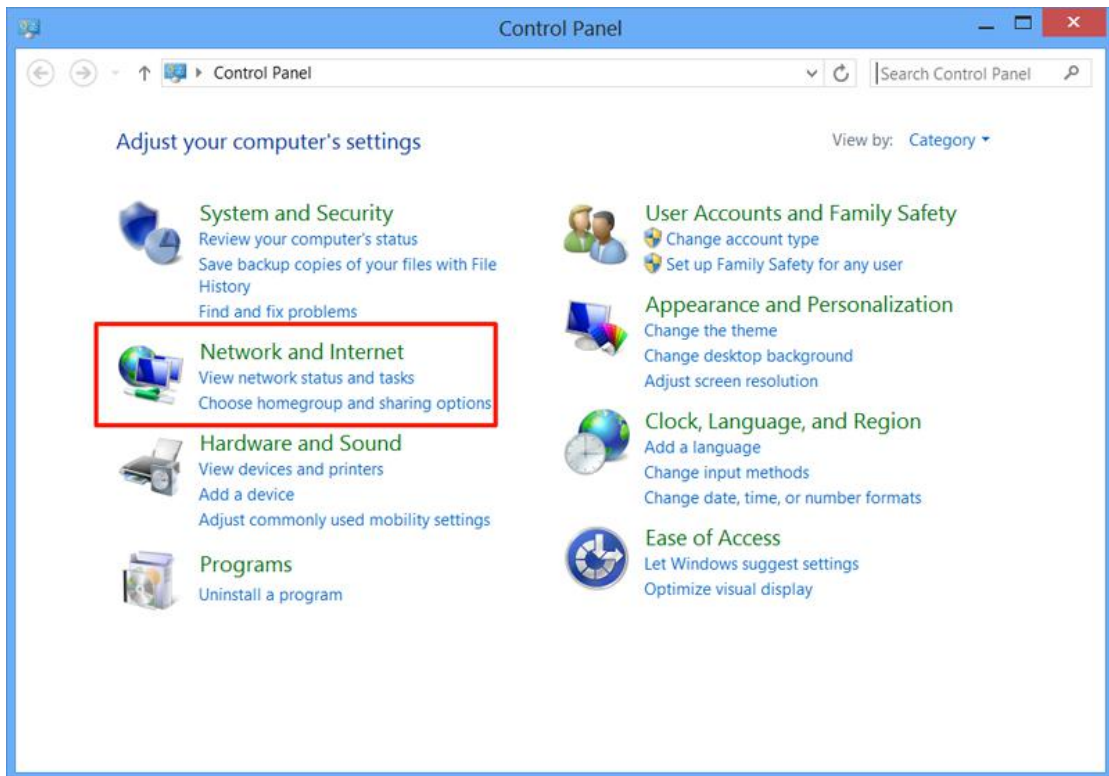
Double-click *Internet Protocol Version 4(TCP/IPv4)*.



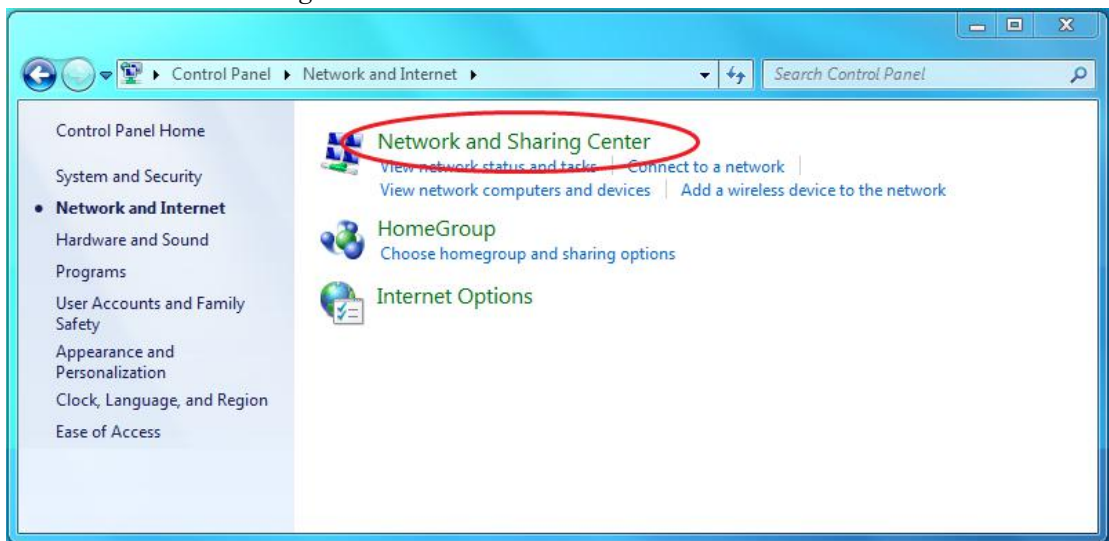
The first three numbers should be the same with those on panel except the last one for which user can pick up one from 0 to 255.0-255.

4.3. Connect to Panel by Router

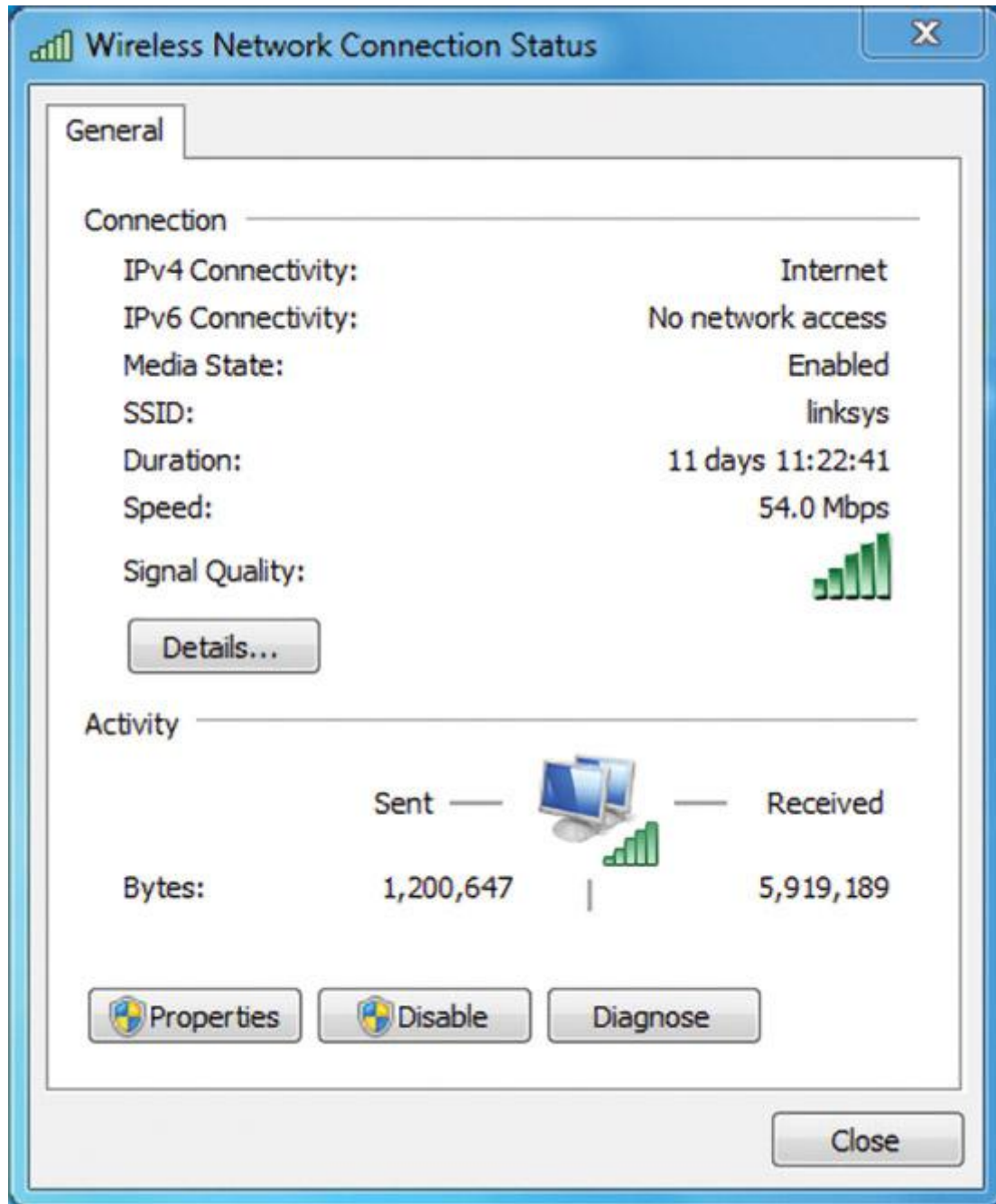
Click *Obtain an IP Address Automatically*.
Double click *Network and Internet*.



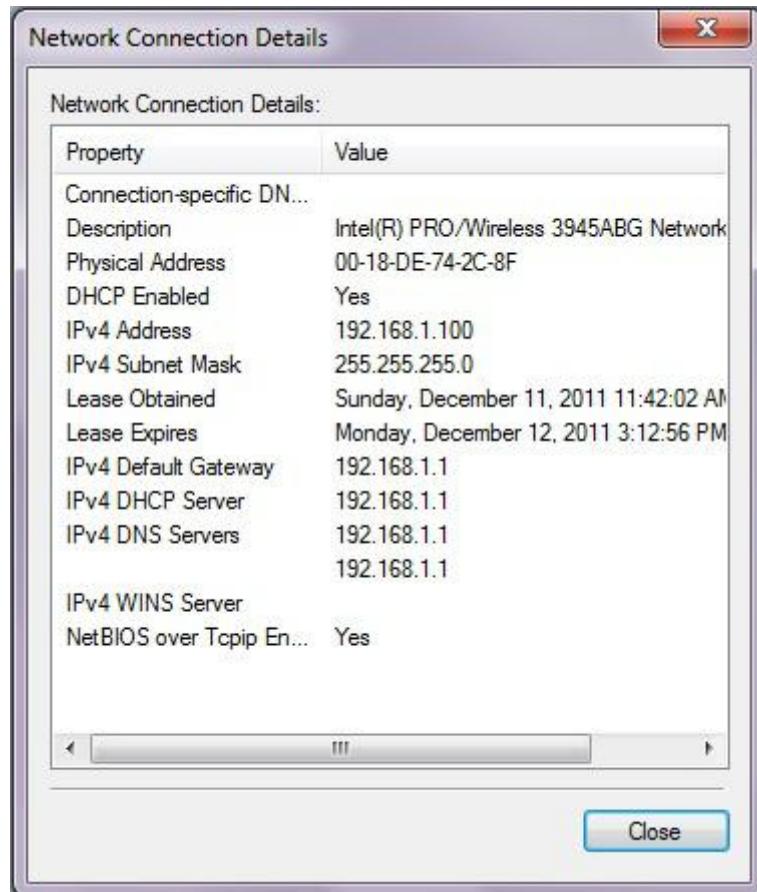
Click *Network and Sharing Center*.



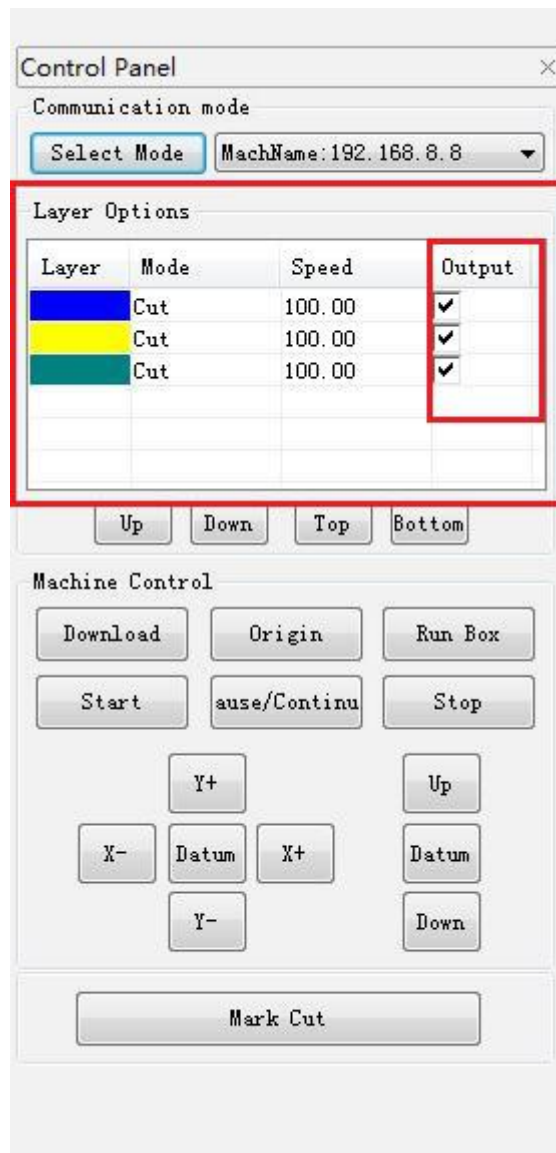
Click *Wireless Network Connection*.



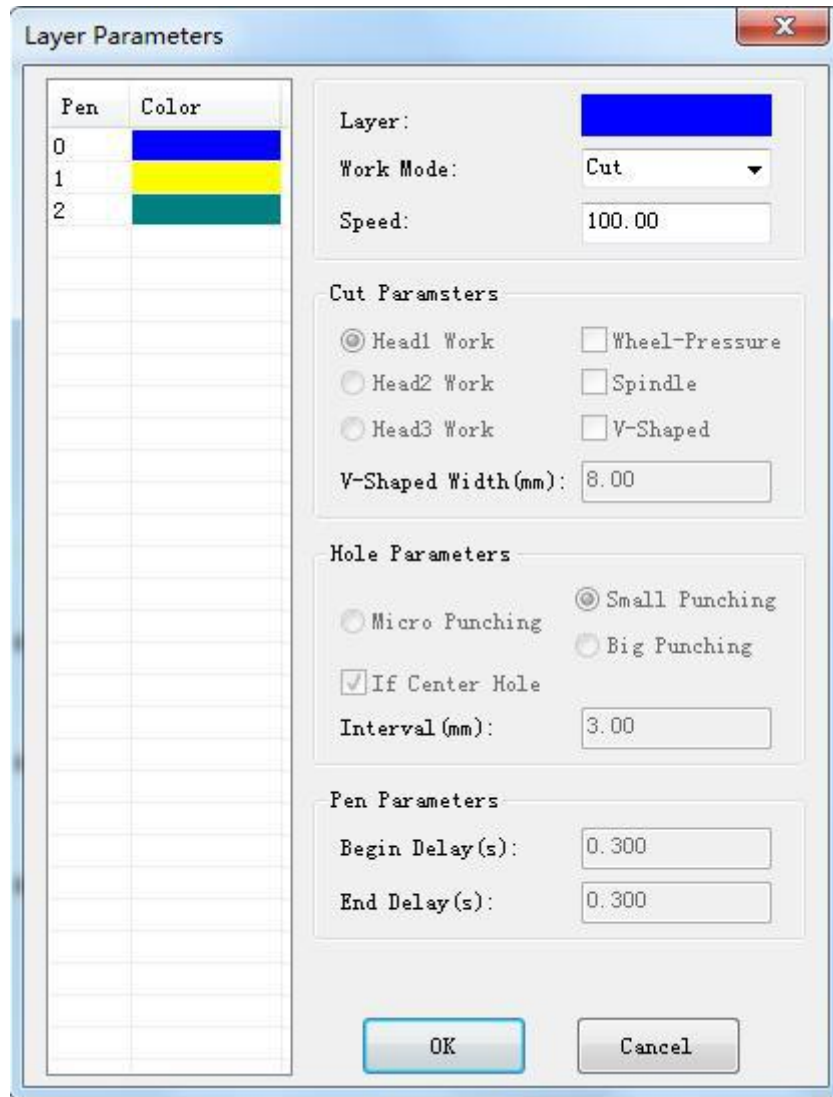
Click *Network Connection and Details*.



4.4. Layer Parameters Settings



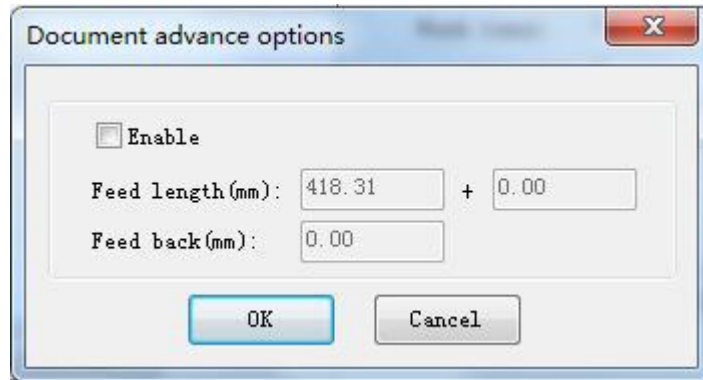
Tick the layer that will be output.
Double click layer option.



- **Layer**
User can modify the layer with different color.
- **Machining Mode**
It could not be changed.
- **Speed**
Here it refers to cutting speed.
- **Blowing**
Tick *Air switch is open* if it is required to be used.

4.5. Machine Control

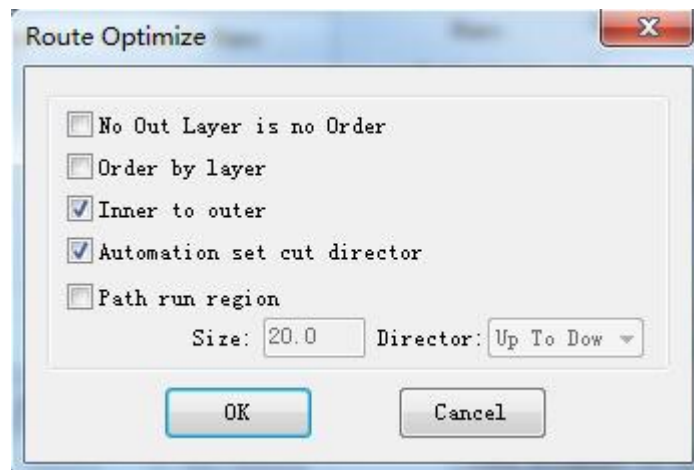
There are download, origin, run box, start, pause/continue, stop and direction buttons.



Click **Enable** feeding, then you will need to input number into feeding length and feeding back.

- **Gap Optimize**
Auto backlash compensation for complicated graphic cutting if *gap optimize* is selected, but it will increase air-travel distance.
- **Re-Optimize Cutting Path**

Click 



4.5.2. Button Function

- **Origin**
Set cutting head's current position as origin.
- **Start**
Start machining.
- **Pause/Continue**
Pause or continue to work.
- **Stop**
Stop current working.
- **Run Box**
Cutting head will run box based on graphic size. The main function is confirm work piece position.

- ***Datum***
Cutting head (Z axis) will move slowly to datum and it will go back to positioning point when reaches limit switch. Generally it is better to reset machine before working because cumulative error will be eliminated.
- ***X+/X-/Y+/Y-***
Move cutting head(Z axis).