Process sequence is from the bottom of the list up. If you want to change the process sequence, simply check the line and click Up or Down will do.

If there are several layers in the process data, check one line in the list and click All will make the process parameter of other layers same with the one checked.

Click the button Calculate to save after figure or process parameters are changed.

Process pattern can be selected in the drop-down list of the "Mode" column. It appears as below:

You can choose to output the layer or not in the "Output" column, ☑ is to output, Output ☐ is not.

5.1.2　Interface of Set Cut options

Double click the color identification bar, and then dialog box pops out as below:
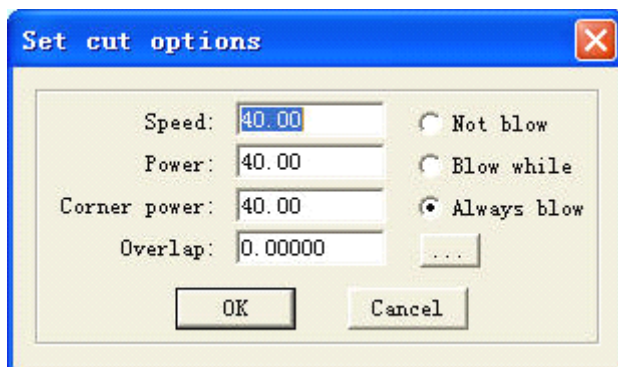
Below are definitions of each parameter:

Speed: operating speed of the laser head in cutting

Power: adjust the minimum (unit: %) of laser power in operating the layer.

Corner Power: adjust power of laser head when its speed is the minimum in the variable speed motion.

(Adjustment of the two parameters can ensure an unchanged strength of the laser in the process)

Overlap: closed figure may not be able to not be cut down due to the mechanical error. This parameter helps to solve the problem, but it should not be too large. It is suggest to adjust mechanical assemble precision to solve the problem.

Not Blow: not to blow in the process.

Blow while: blow when the laser in on, stop blowing when the laser is off. This function needs hardware support.

Always blow: begin to blow at the moment laser begin to move to the end of the process. This function needs hardware support.

 : set advanced parameters. Click the button, it appears as below:
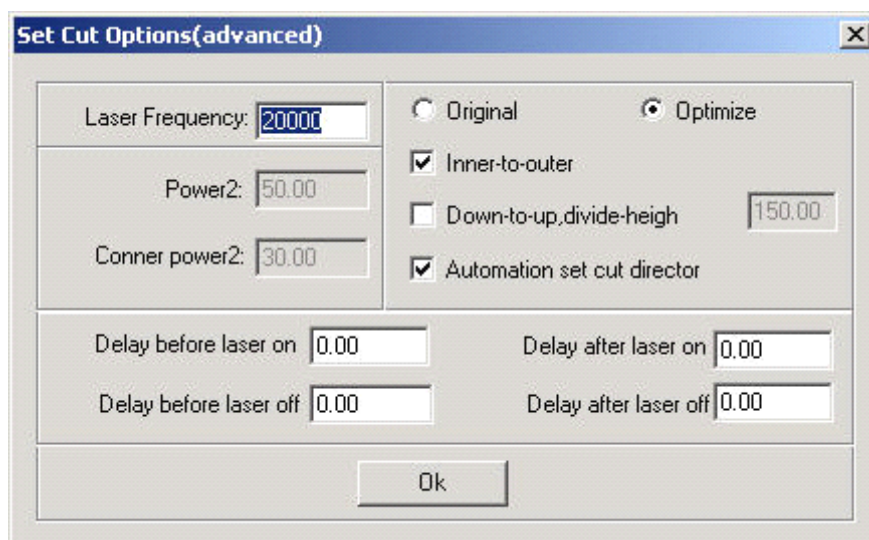
Laser frequency: control of the frequency of the laser's PWM signal in the process (mainly used to control the radio-frequency tube)

Power 2: adjust the minimum (unit: %) of the second laser power in operating the layer. This function needs hardware support.

Corner Power2: adjust power of the second laser head when its speed is the minimum in the variable speed motion. This function needs hardware support.

Original: check this option, system will draw process path according to the figure. If you need to change the output sequence by "Tool-Set Output Sequence", you have to check "Original Path".

Optimize: check this option, system will calculate path according to requirements. Optimized path has two options: inner-to-outer, down-to-up.

   Inner-to-outer: process the inside of the figure first and then the outline border.

   Down-to-up: user can set the size of [divide-heigh] based the actuality. System will output from the bottom up according to the block height you set

Automation set cut director: if you check this option, system will set the cut direction automatically. Check is suggested.

Backlash Optimize compensation: if you check this option, system will set the cut direction automatically to compensate mechanical inverse backlash in cutting sophisticate figure. But this will greatly increase the length of idle running. Usually this option needs not be checked.

Delay before laser on: set the delay before the laser is on

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

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

Delay after laser off: set the delay after the laser is off.

Cut Length: length of the line (when the laser is on), when figure with solid line is processed to the effect of broken line.

Blank Length: gap between the lines (when the laser is off), when figure with solid line is processed to the effect of broken line.

Blank first: define the first stroke is solid or broken line when figure with solid line is processed to the effect of broken line.
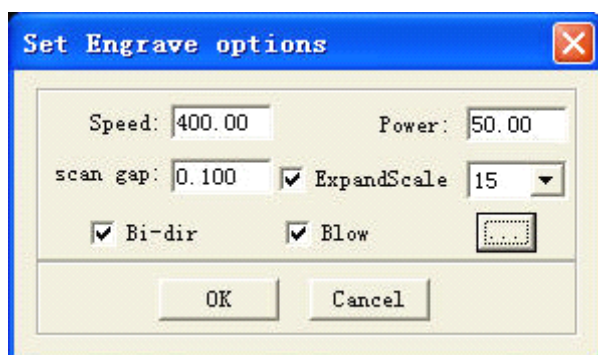
Follow-up: invalid.

Delay breaker: invalid

Corner Acceleration: define the normal acceleration of the curve in variable motion.

Backlash Compensation: compensate the mechanical inverse gap in cutting with constant speed.

5.1.3   Interface of Set Engrave Options

Double click the color identification bar in the "Layer", dialog box appears as below:

Definitions of each parameter are:

Speed: engraving speed on X-axis.

Power: laser power when a layer is processed.

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

Expand scale: mainly used to compensate small letters, whose transverse stroke is smaller than the actual size. It can be adjusted to positive or negative figures according to the situation.

Bi-dir: laser is on in both on positive and negative X-axis when this parameter is checked. The efficiency is high, but if you need a high process precision, do not check this parameter. The efficiency will be cut half.

Blow: blow or not, with this parameter checked or not.

[....]: click the button to set advanced layer options.
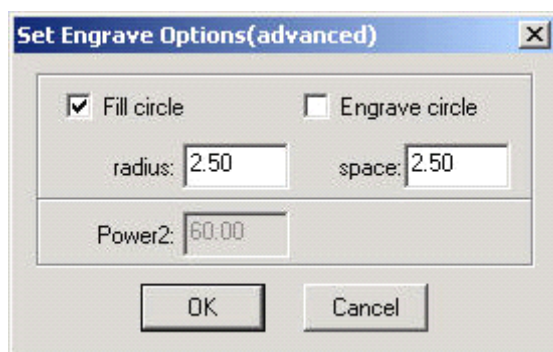
Fill circle: if you check this option, circle will fill the figure.

Engrave circle: define the engrave way of the layer.

Radius: radius of the circle.

Space: space between the circles.

Power2: power of the second laser head. This function needs hardware support.

Check "Fill Circle", figure will be filled by the circle with the radius you set. It appears as below:
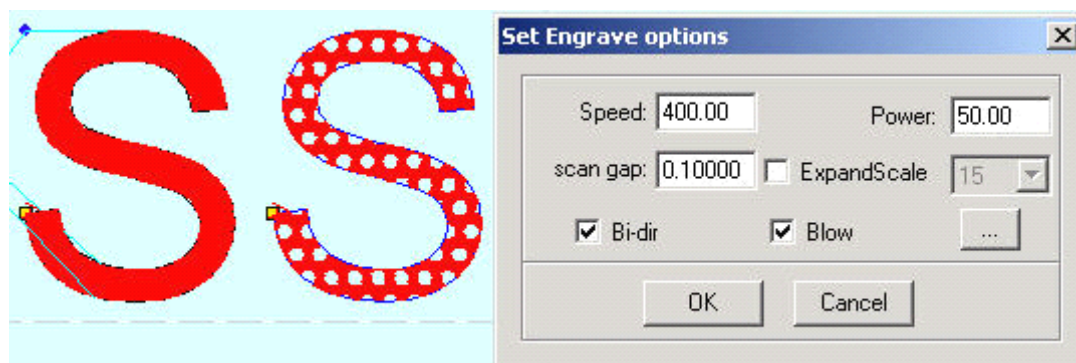
Figure on the right is the result with the "Fill circle" checked.

5.1.4   Interface of Set Grade Engrave Option

Sketch map of grade engrave appears as below:
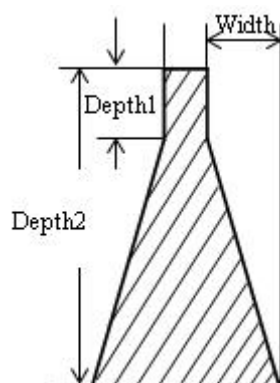
Double click the color bar on the "Layer" column, and dialog box appears as below:
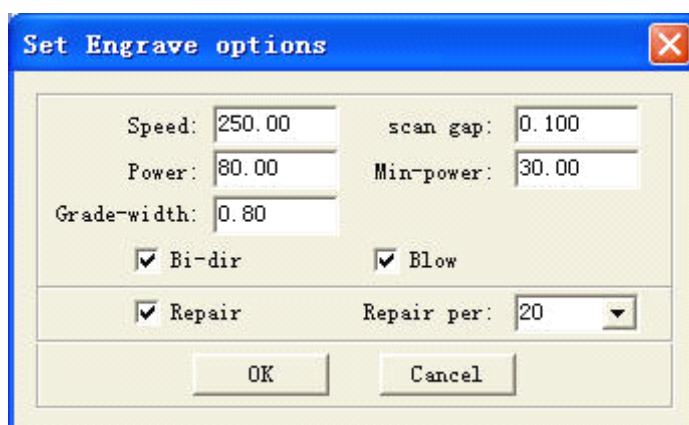
Definitions of each parameter are:

Speed: scan speed of the X-axis in engraving.

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

Power: maximum of the laser power (unit: %). It determines the depth of engraving.

Min-Power: minimum of the laser power (unit: %). It determines the depth of slope.

Grade-width: the width of grade.

Bi-dir: laser is on in both on positive and negative X-axis when this parameter is checked. The efficiency is high, but if you need a high process precision, do not check this parameter. The efficiency will be cut half.

Blow: blow or not, with this parameter checked or not.

Repair: check this option and the engraved letters will be clearer by repair the slope result between lines of small gap. The repair proportion can be adjusted as needed.

5.1.5   Interface of Set Holes Option

Double click the color bar in the "Layer" column, dialog box appears as below:
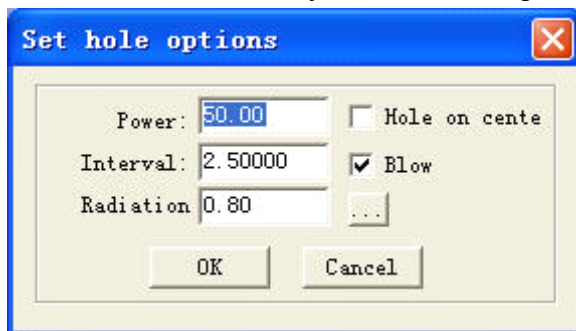

Definitions of each parameter are:

Power: laser power in the processing (unit: %).

Backlash: distance between two adjacent holes.

Radiation: delay time of the laser head in punching a hole (unit: second).

Hole on center: punch a hole on the center of each closed figure.

Blow: blow or not, with this parameter checked or not.

[...]: click the button to set advanced layer options.
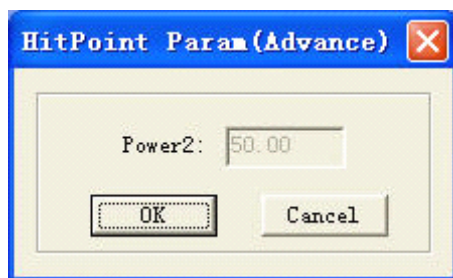
Power2: power of the second laser head. This function needs hardware support.

5.2 Testing

Testing contains the set the step of the machine, laser switch control. You can find the Testing part in the middle of the control panel. It appears as below:

$\boxed{X-}$, $\boxed{X+}$, $\boxed{Y+}$, $\boxed{Y-}$, $\boxed{Z+}$, $\boxed{Z-}$: you can move the laser head by fixed length once each time you click.

$\boxed{Datum}$, $\boxed{Z\ Datum}$: Click the button and the laser head (or Z-Axis) will move to the original point of the machine slowly (at Datum Speed (slow)), and then move to the original point of the coordinate system quickly (at Quick Speed (quick)). This f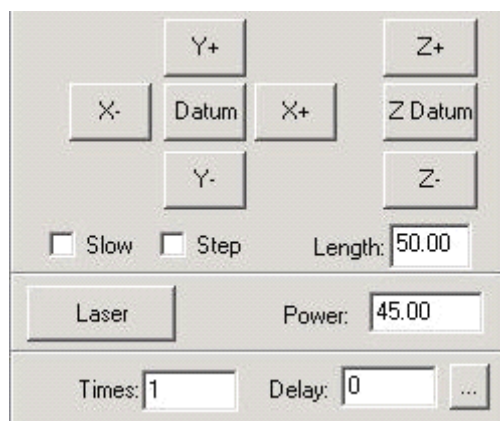unction can eliminate the cumulate error. Generally, the machine should be reset once before processing. After you run the software, it will be reset automatically to the original point (you can also choose to cancel the automatic reset).

Slow: if you check this option, the worktable will move slowly.

Step: if you click this option, the worktable will move a "step" once.

Length: step distance moved at a time.
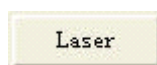
$\boxed{Laser}$: Laser is on/off.

Power: laser power in the testing (unit: %). Minimum is 0, and maximum is 100.

5.3 Auxiliary processing parameter

Auxiliary processing parameter appears as below:

Times and Delay: if you input "10" in "Times" and "3" in "Delay", and then press "Run" once will process 10 identical figures. 3 seconds will be delayed after each figure is processed. This delay time is for feeding and taking down materials. You can set them according to your needs. This function will greatly increase the working efficiency of the workers.

Immediate: if you don't check this option, system will process the data according to their coordinate. If you check this option, system will process the data from where the laser head is. Relevant relations between the original point and the processing data remain unchanged.

$\boxed{\dots}$: click the button to set advanced layer options.
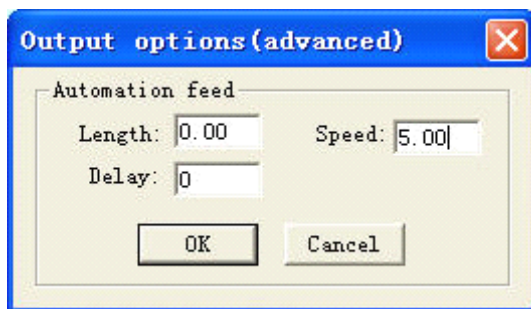
**Length**: after each processing, Z-Axis will feed a relevant distance for the feeding of the materials.

Speed: feeding speed of the Z-Axis.

Delay: the machine will delay a certain time for feeding after processing.

: if you click the button, the laser head will move a rectangle with the laser off. This function is to define the position of the materials to process.

: cut the work pieced well-processed off the materials to process.

Click this button after the process, dialog box appears as below:
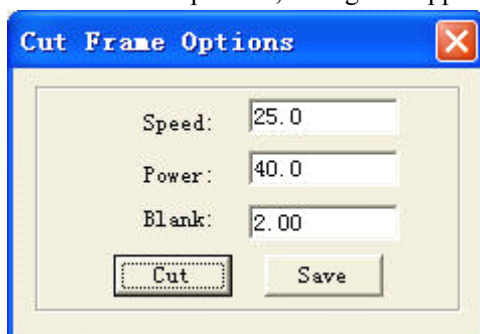
Speed: operating speed of the laser head in cutting. Different speed can be set according to the materials. It is better to define proper speed through testing.

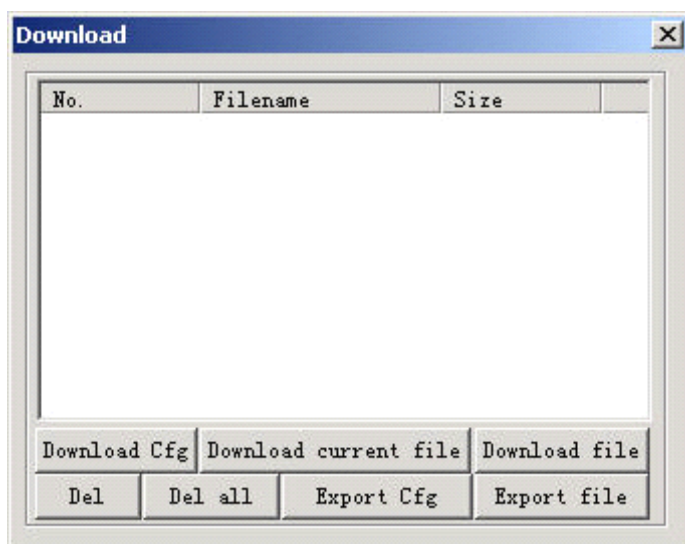**Power:** power of the laser in cutting.

Blank: distance between processing figure and edge of the work piece cut down.

Cut: click the button to cut the piece.

Save: click the button to save the parameter in case of the future use.

5.4 Procession File（Download Data）

Click "Download data" button, dialog box appears as below:
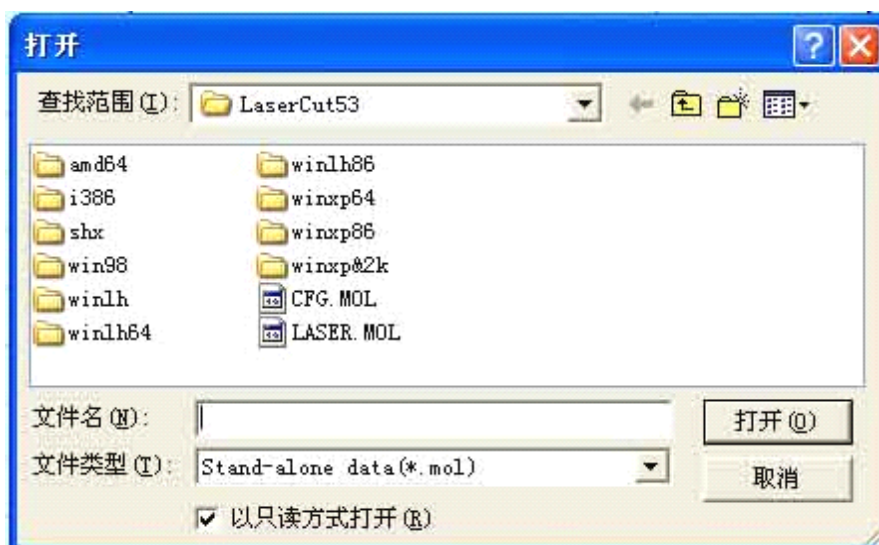
5.4.1 Download Cfg

Download parameter of the machine to controller.

5.4.2 Download current file

Download the current processing data to controller.

5.4.3 Download file

Click the button, dialog box appears as below:

Click the files you need to download the processing files which have been generated into controller.

5.4.4 Del

Check the file and click this button will delete the file.

5.4.5 Del all

Delete all the files in controller.

5.4.6 Output Cfg

This will generate a *.mol file which includes all the parameters of "Options". The file can be downloaded to controller by USB disk. Note: after the file is downloaded into controller, you should check the file and click "OK" to take the new parameters into effect.

This function is the same with that in the 5.4.1 (Download Cfg)

5.4.7　　Output Processing file

This will generate a *.mol processing file with all the well-set parameters. This file can be downloaded to controller through USB disk.

This function is the same with that in the 5.4.2 (Download current file). The difference is that files can be downloaded without the connection of the computer.

5.4.7　　Output Processing file

6 Machine Setting

These "Options" are the initial parameters of the setting, which belongs to the advanced setting of the machine. Any change is of great influence of the machine. If there is any need to change it, you should consult the provider first.

6.1 Machine Interface
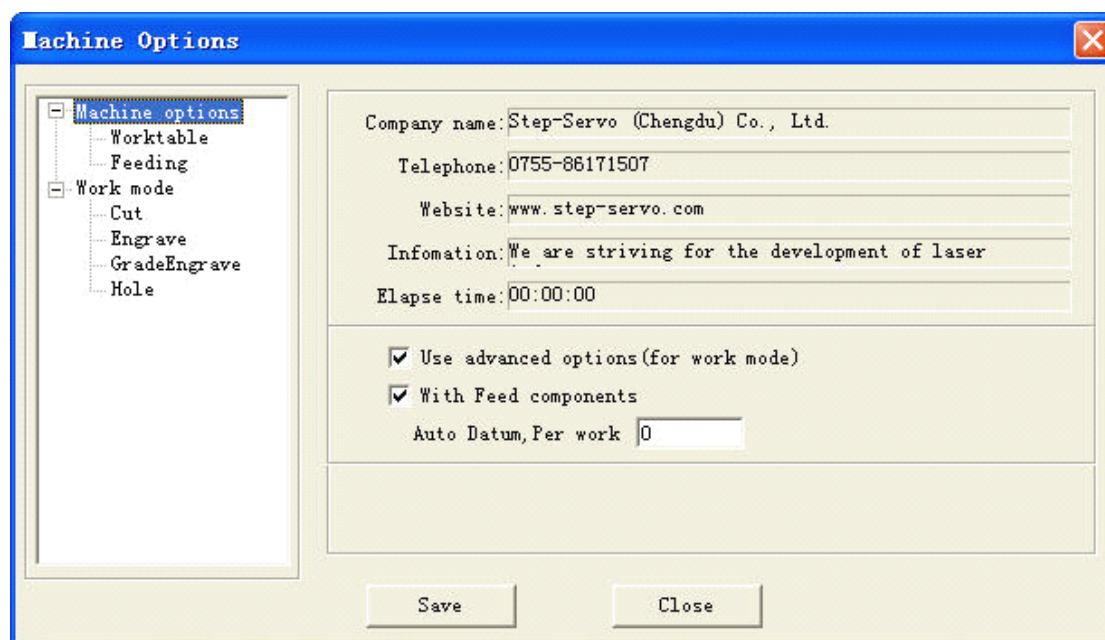
6.1.1   Machine of the provider

It includes the basic information of the provider.

6.1.2   Elapse time

It shows the time that the machine has run.

6.1.3   Other options

Use advanced options: each button [...] in the "set option" is used to set some auxiliary processing parameter to get a better effect of the processing. If you uncheck this option, advanced options can not be set.

With feed components: check this option, if the machine is matched with feeding mechanism. If not, uncheck it.

Zoning output:

Auto Datum, per work: it is suggested to check this option for the sake of eliminating cumulative error. This function can automatically datum according to the number you set.