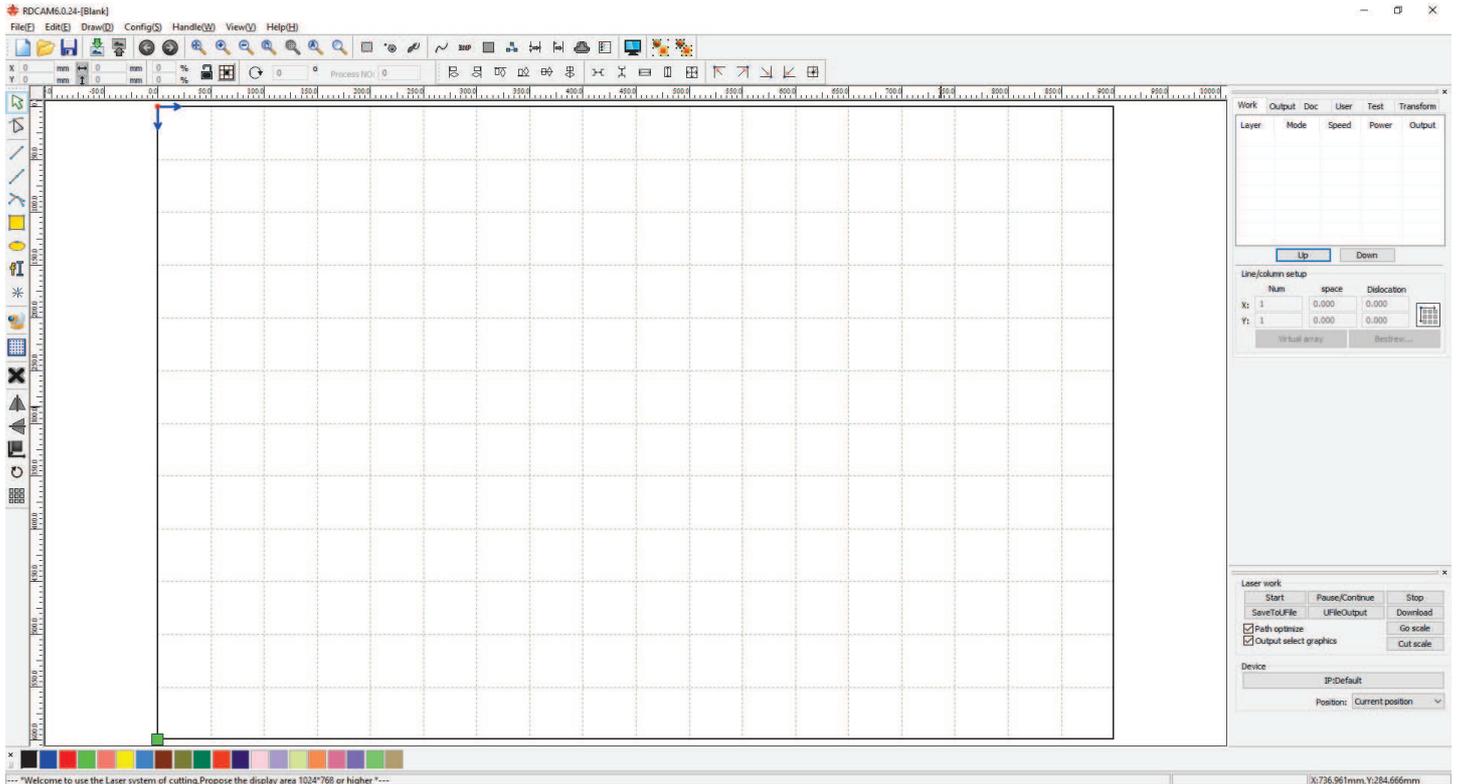


Thank you for purchasing your laser machine from Perfect Laser. Our machines use RUIDA controllers, and the operating software is LaserWork. This guide is aimed at version 6, but will also be a guide to version 8. This is a basic introduction to the software, based on the original Chinese manual. Where certain functions are not mentioned in this guide, they either do not apply to your laser, or they are more advanced than this basic guide. For more advanced concepts see the pdf manual on your original CD.

Basic Software Operation

After starting the software, you will see the interface shown in the following figure:



If you would like to change page settings, go to Page Setup. Click Menu Bar Config->Page setting and the following dialog box appears:

Page width : Software page width, usually set to machine X-axis size.

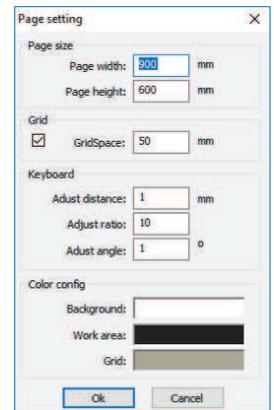
Page height : Software page height, usually set to machine Y-axis size.

Under normal circumstances, if your computer is connected to the laser machine, the software will automatically format for the current work size of the machine as a page size. If it is not connected, or you need to set a custom page size (say to match material), you can use the page setting to reconfigure the page size.

Grid : Setting grid spacing - and whether to enable the grid.

Keyboard : You can set the distance and angle to use the arrow keys to move or rotate the selected graphic.

Color config : Used to set the colours of the work area.



File Open and Save

LaserWork uses the .rld file format to save graphic information, layer parameters and processing sequence.

File Import and Export

To open other (non-LaserWork) file formats, you will need to import them. There are many types of graphic files supported, but the most common are .plt, .dxf, .ai, .jpg, .tif etc. Exporting supports .ai and .plt.

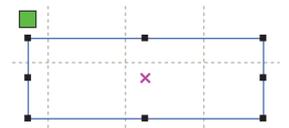
For most vector files, data will automatically be imported into the corresponding layer of the software. However, you can change layer parameters once you have imported your file.

Object Selection

To select an object, click on it with the select tool  or click/hold drag a box around it.

Once selected, the object will have an X in the center, eight control points and a little green box showing where the work will begin.

To select multiple objects, use the shift key while clicking or dragging, or to select all objects on a layer (the same colour), right-click the selected layer, (in the work box on the right hand side) and all objects in the layer will be selected.



Work	Output	Doc	User	Test	Transform
Layer	Mode	Speed	Power	Output	
Blue	Cut	25.0	12.0	Yes	
Black	Scan	300.0	25.0	Yes	

Up Down

Object Colour (Layers)

The outline colour of an object determines the layer of that object. You can click the colour button on the Layer Bar to change the colour of the selected object which will change the layer of the object to the selected layer.

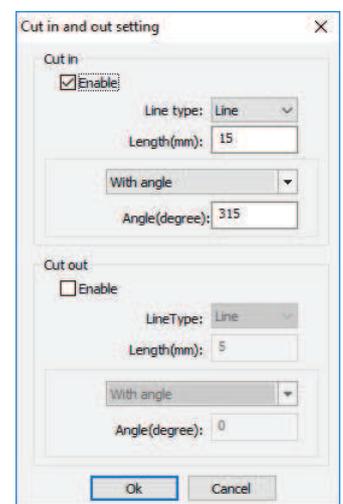
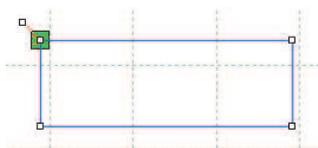


Setting And Editing Cut In / Cut Out Lines

By default, cut in / cut out lines are not enabled.

If want (or need) to add cut in/cut out lines, select the object, then click Edit -> Edit cut in property, and the following dialog box will appear :

To make cut in or cut out lines, simply enable the cut-in or cut out function. The processing of setting cut out lines is same as cut in lines.



Processing preview

Click menu Edit->Preview, or click System Bar 

LaserWork software supports the preview of images to be processed, and you can get some basic information through the preview. For example, the path of the actual output of the processing, general processing time and processing the distance. The machining process can also be simulated.

In addition to the current file preview, you can also preview files that have been saved as .rld.

System Settings

Click menu Config -> System Setting

General settings - Axis Mirror

Axis direction of mirror is based on the actual location of the limit or home of machine. If the zero point of the machine is top left, then X-Axis does not need to be mirrored, but Y-Axis does.

If the zero point of the machine is top right, then both X and Y-Axis will need to be mirrored.

General settings - Laser Head

Position of Laser head means the location of the laser head starting point relative to the graphic - where you see the little green square.

Absolute Coordinate

You can check this option when you want the graphics location in the graphics display area to correspond to the actual work location of processing. Then the graph position will no longer relate to the actual output position of the laser head and orientation point, but always regard mechanical origin as the anchor point.

Small Circle Speed Limit

The software automatically determines whether a circle will require a speed limit according to the diameter of the circle. If this parameter is set correctly, it will greatly enhance the quality of small circles.

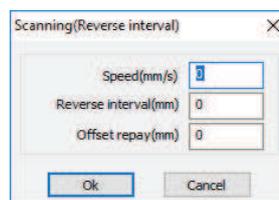
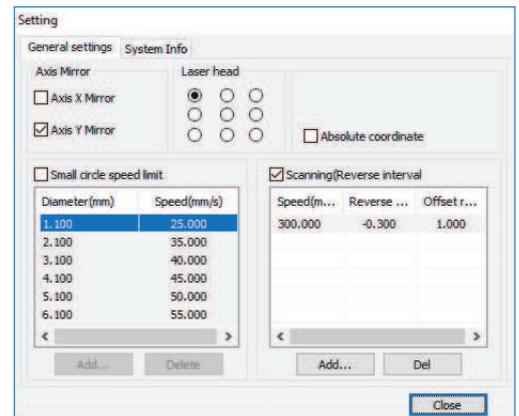
Scan backlash (aka Scanning - Reverse Interval)

If the edge of engravings are uneven, you can adjust the backlash (or Reverse Interval). Backlash settings are different for different Engraving (scan) speeds. In general, the greater the speed, the greater the backlash.

Add backlash

Click the Add button, the screen will pop up as shown :

Set speed and backlash (Reverse interval), and click Ok.



Work Page & Layer Settings

This is the main Work screen where you will adjust various settings per job - whether engraving (Scan) or cutting (Cut).

Once you have an object loaded (created, opened or imported), you will see one or more layers in this screen.

Don't worry if the settings seem wrong at first, this is where you adjust them.

The following parameters are shown:

- Layer : The colour of the chosen layer is shown.
- Mode : Whether this layer will engrave (Scan) or Cut.
- Speed : The laser head speed setting for this layer.
- Power : The laser power setting for this layer.
- Output : Whether to output this layer or not.

Double clicking on one of the layers will bring up another screen - If you double-click on a Vector engraving (Scan) layer, it will bring up the screen below. Double-clicking on a Cut layer will bring up the screen on the next page. Either can be changed to suit the job - and by clicking on the layer colour on the left, you can cycle through the layers. Engraving an actual bitmap (BMP) has other options - see next page.

Load parameters from library : Loads pre-saved settings.

Layer : Shows which colour layer is being set.

Is Output : Whether or not this layer will be processed.

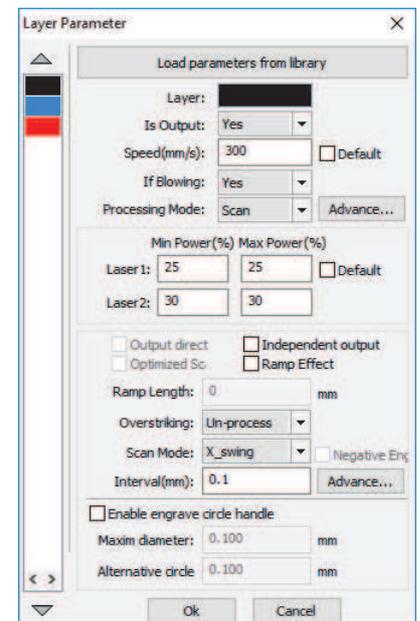
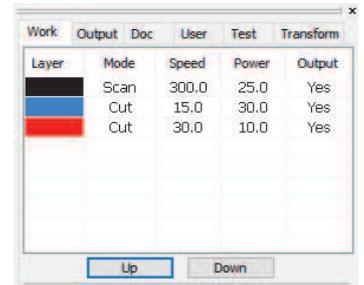
Speed : The engraving speed required - generally 300 mm/s but can vary depending on material and effects required. Checking the "default" box will force the machine to use the speed set on the control panel.

If Blowing : Default is "Yes" - does not apply to Perfect Laser machines - only used for machines with an air pump that may be switched off.

Processing Mode : For engraving, select "Scan". (Advance does not apply)

Min and Max power : Generally, both minimum and maximum speeds should be the same for engraving jobs on Laser 1. Ignore Laser 2 unless your machine has in fact got 2 laser tubes installed.

Most of the other settings on this page can be safely ignored as defaults.



Parameter settings for Vector engraving (Scan)



Load parameters from library : Loads pre-saved settings.

Layer : Shows which colour layer is being set.

Is Output : Whether or not this layer will be processed.

Speed : The cutting speed required - Will vary depending on material and effects required. Checking the “default” box will force the machine to use the speed set on the control panel.

If Blowing : Default is “Yes” - does not apply to Perfect Laser machines - only used for machines with an air pump that may be switched off.

Processing Mode : For cutting, select “Cut”. (Advance does not apply)

Min and Max power : Generally, both minimum and maximum speeds should be the same for cutting jobs on Laser 1. Ignore Laser 2 unless your machine has in fact got 2 laser tubes installed. If your job has a lot of curves, and you find the edges more burned on the curves, setting the Min Power a bit lower than Max will alleviate this.

Clicking the “Advance” button will bring up this menu : 
 If you want to cut fractionally inside the job (to keep the outside), enable this as shown. If you want to cut fractionally outside the job (to keep the inside), set the direction to “Outward”.

Most of the other settings on this page can be safely ignored as defaults.

Load parameters from library : Loads pre-saved settings.

Layer : Shows which colour layer is being set.

Is Output : Whether or not this layer will be processed.

Speed : The engraving speed required - Will vary depending on material and effects required. Checking the “default” box will force the machine to use the speed set on the control panel.

If Blowing : Default is “Yes” - does not apply to Perfect Laser machines - only used for machines with an air pump that may be switched off.

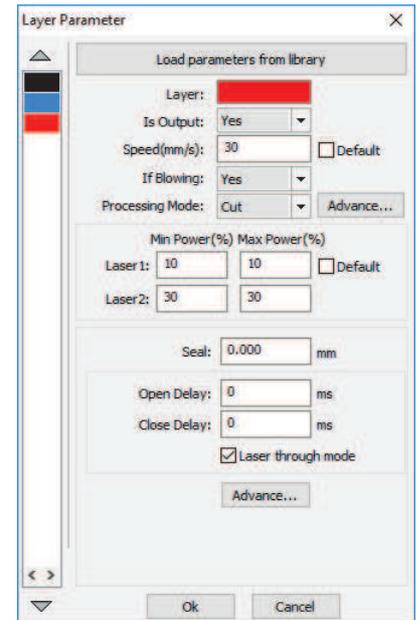
Processing Mode : For engraving, select “Scan”. (Advance does not apply)

Min and Max power : Generally, both minimum and maximum speeds should be the same for engraving jobs on Laser 1. Ignore Laser 2 unless your machine has in fact got 2 laser tubes installed.

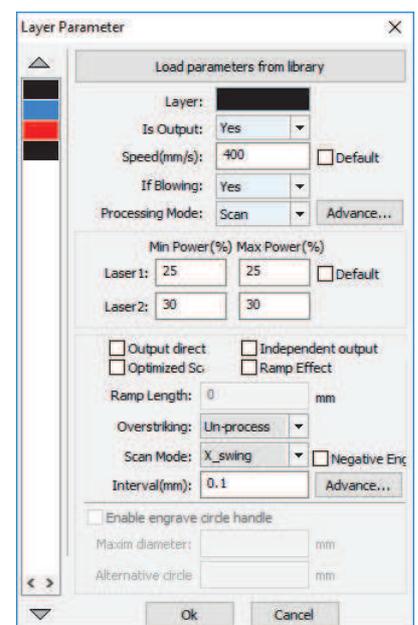
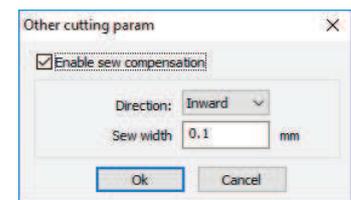
Checking the “Optimized Scanning” checkbox will automatically set the correct scan interval (distance between lines) to give the best result.

Checking the “Negative Engrave” checkbox will reverse engrave.

Most of the other settings on this page can be safely ignored as defaults.



Parameter settings for Vector cutting (Cut)



Parameter settings for Bitmap engraving (Scan)



Processing Output

Start : Output the current graphic/s to the machine for processing.

Pause/Continue : Pauses the processing work. Click the button again to continue.

Stop : Stop the current processing work.

SaveToUFile : Save current file as .rld format - use for offline processing, normally from a flash drive.

UFileOutput : Output the offline file (.rld format only).

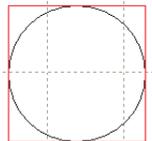
Download : Download the file to the memory of the controller in the laser machine. You can then start the file through the machine panel.

Path Optimise : If you check this box, the machine will automatically optimise the job path before output. This can increase processing time, but reduce actual job time.

Output select graphics : If you check this box, only objects that are selected will be output - otherwise everything on the page will be output.

Go Scale : The laser head will travel the rectangular path around the selected graphic. In this case, the circle - the red rectangle outside the circle is the smallest distance around the graphic.

Cut Scale : The laser will CUT the rectangular path around the selected graphic. In this case, the circle - the red rectangle outside the circle is the smallest distance around the graphic,



Device : If the computer is connected to the laser machine, this should default to the correct connection. It will show USB-Auto if using a USB cable, or IP-Default if using ethernet. Clicking on this will enable you to switch between USB and ethernet (and enter an IP address for ethernet).

Position : This setting controls where the laser head will go after completing processing the job.

Current Position : Laser head moves back to the position before processing. (Default)

Original anchor : Laser head moves back to the last anchor point.

Machine zero : Laser head moves back to the zero position of the machine.

