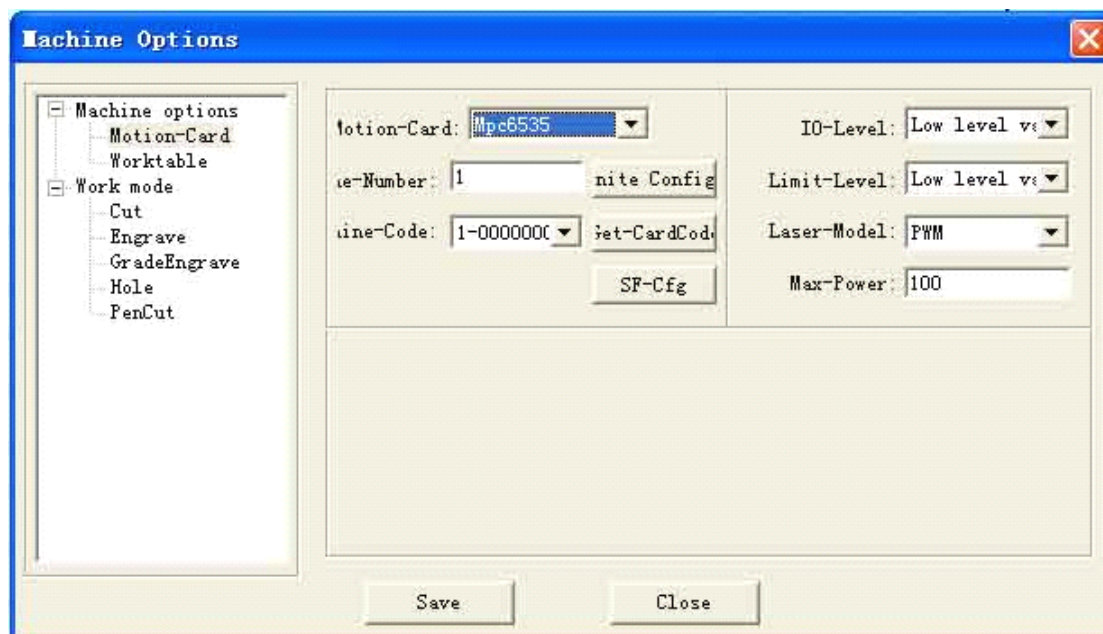


6.2 Controller Card



6.2.1 Controller card type

It is determined by the controller card you actually use. If you use MPC6535, choose MPC6535 in the drop-down list of the Controller card type. Please change the DLL of the controller if you change the controller card type.

6.2.2 Machine number

MPC6515 and MPC6535 support multi-cards application in one pc. A maximum of 8 MPC6515 or MPC6535 can be used in one pc. (See in 11.2)

6.2.3 Machine code

In order to control several MPC6515 or MPC6535, you need to read and save the card number of the MPC6515 or MPC6535. Check the controller and then you can use the PC to control it.

6.2.4 IO signal virtue value

This option is invalid to the MPC6515 or MPC6535.

6.2.5 Limit signal virtue value

You can choose limit of the MPC6515 or MPC6535, and the effective level of the original signal.

6.2.6 Laser mode

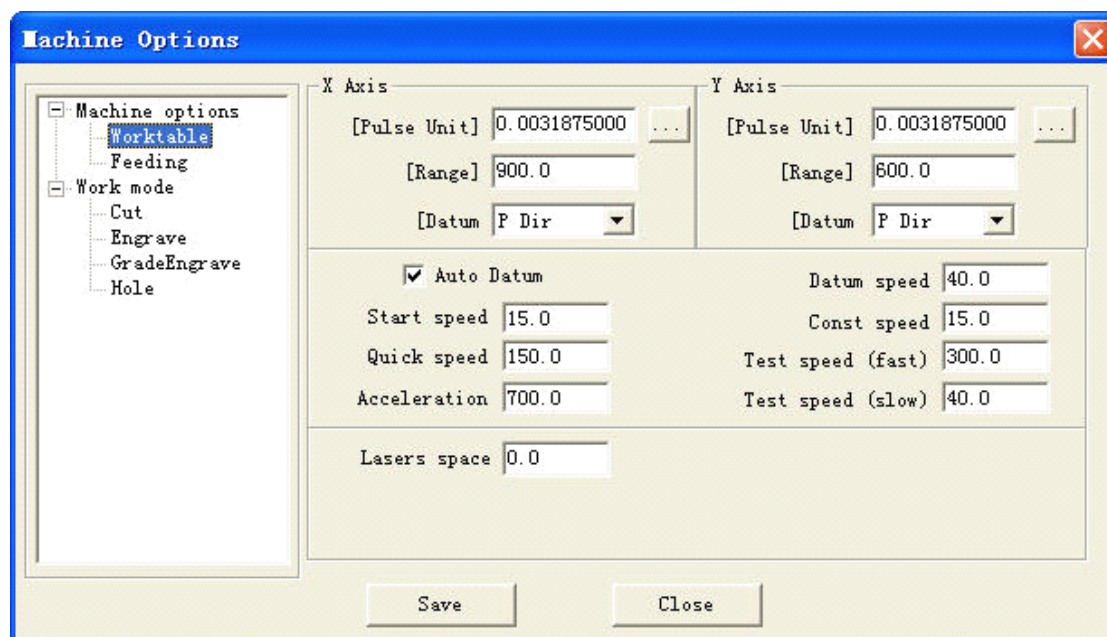
You can choose the mode of the laser power control. It includes: analog quantity, PWM control, and radio frequency control.

6.2.7 Laser maximum power

Maximum power of the laser.

6.3 Worktable

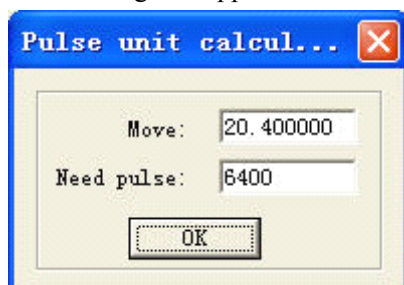
Parameters of the worktable appear as below:



X-Axis is the horizontal axis, and Y-Axis is the vertical axis.

6.3.1 Pulse unit

It controls the distance the laser head moves when the control system output a pulse. Click the button and dialog box appears as below:



20.400000 in the picture above means the distance of the laser head moves every round of the motor is 20.400000 mm. 6400 is the pulse every round of the motor needs, and subdivision of the driver is 32.

Move: input an estimated value X in the dialog box of the Move, the software will generate a line or rectangle with the length of Y, and the processing figure will measure the length of the line Z. Then $Move = X * Z / Y$. the calculation can be repeated if it is not precise.

Many other methods to measure the Move will not be mentioned here.

6.3.2 Range

Maximum range of the laser head's movement (unit: mm).

6.3.3 Datum Dir

Right of the X-Axis and upside of the Y-Axis are positive direction. You should ensure the correspondence of the switch position on the original point and the setting of this option.

6.3.4 Auto datum

It determines whether the laser head automatically go back to the original point the moment you

run the software. If you uncheck it, speed of the laser head is relatively slow when you press the direction button to avoid striking the machine. If you check it, speed will be quicker and no worry about striking of the machine.

6.3.5 Datum speed

Speed of the laser head going back to the original point. It should not be too large, or the switch of the original point may be damaged.

6.3.6 Start speed

Start speed of the two axes. A large value will shake intensively.

6.3.7 Const speed

It is the maximum of the constant speed (cutting). It is constant motion if the (processing) speed is lower than this speed; otherwise, it is variable motion.

6.3.8 Quick speed

It is the highest speed of the laser head in the process when the laser is off.

6.3.9 Acceleration

It is the acceleration of the movement on the X, Y-Axis. Acceleration in the engraving can be set in the "Laser engrave".

6.3.10 Quick acceleration

6535 apply "S" type acceleration or deceleration to make the change of the speed smoother. It means the acceleration of the acceleration change in the process. It is usually 10 times of the acceleration or more.

6.3.11 Test speed (fast)

Test speed of the laser head, when "Auto datum" is checked.

6.3.12 Test speed (slow)

Test speed of the laser head, when "Auto datum" is unchecked.

6.3.13 Maximum jump speed of X-Axis

It is only suitable for MPC6535.

It is the maximum of changing direction smoothly of the X-Axis. The smaller the parameter is, the better the quality is, but the lower efficiency of the processing is.

6.3.14 Maximum jump speed of Y-Axis

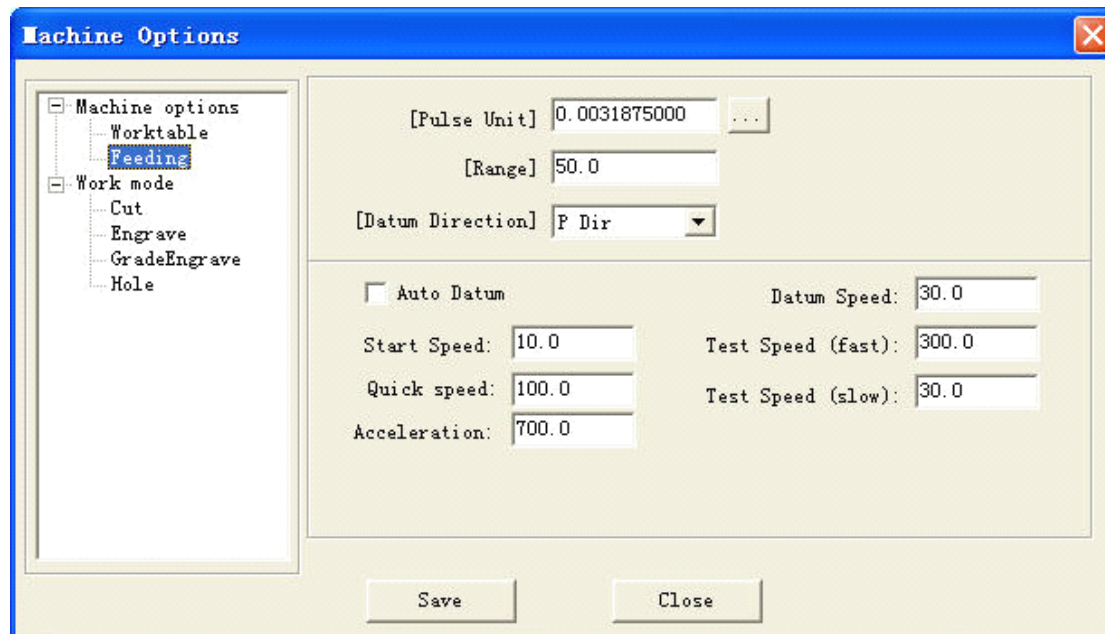
It is only suitable for MPC6535.

It is the maximum of changing direction smoothly of the Y-Axis. The smaller the parameter is, the better the quality is, but the lower efficiency of the processing is.

6.4 Feeding

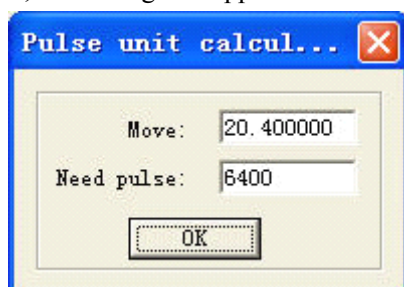
The feeding axis can be used as feeding and lift working table.

It appears as below:



6.4.1 Pulse unit

It controls the distance the laser head moves when the control system output a pulse. Click the button, and dialog box appears as below:



20.400000 in the picture above means the distance of the laser head moves every round of the motor is 20.400000 mm. 6400 is the pulse every round of the motor needs, and subdivision of the driver is 32.

6.4.2 Range

Maximum range of the feeding axis's movement (unit: mm).

6.4.3 Datum direction

Datum direction of the feeding axis.

6.4.4 Auto datum

It determines whether Z-Axis going back to the original point or not. If you uncheck this option, the speed is relevantly slow when you click the direction button of the feeding to avoid striking of machines. If you check it, the system will start soft limit function, and the speed of the laser head is relevantly quick, but you should not worry about striking the machine.

6.4.5 Datum speed

Speed of the going back to the original point. It should not be too large, or the switch of the original point may be damaged.

6.4.6 Start speed

Start speed of the feeding axes. A large value will shake intensively.

6.4.7 Quick speed

Invalid.

6.4.8 Acceleration

It is the acceleration of the movement of the feeding axis.

6.4.9 Test speed (fast)

Test speed of the feeding speed, when “Auto datum” is checked.

6.4.10 Test speed (slow)

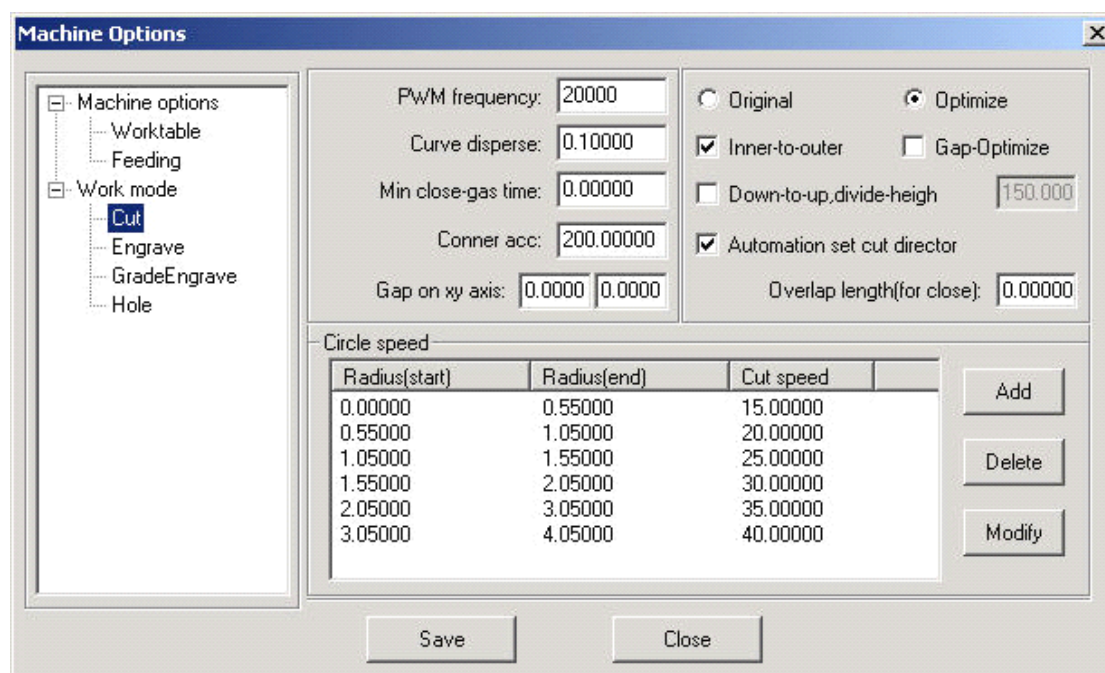
Test speed of the feeding speed, when “Auto datum” is unchecked.

6.4.11 Datum distance

Distance Z-Axis goes when it goes back to the original point.

6.5 Laser Cutting

It appears as below:



6.5.1 PWM frequency

It controls the PWM frequency of the laser power. It can be adjusted between 200Hz—200KHz.

6.5.2 Curve disperse

The smaller the value is, the more precise the figure is, but the slower the computation speed is, and it will influence the process speed. Generally, you can choose a relatively small number to cut synthetic glass, and please use the default number in other cutting.

6.5.3 Min close-gas time

It determines the minimal time of closing gas. If you close gas the moment it is on, you may

damage the pneumatic valves easily.

6.5.4 Corner acc

It is the corner acceleration of the laser head when it moves to the curve normal. It is generally 2 times of the acceleration in the 6535 and 60~200 in 6515. If the value is too large, the machine will shake intensively when the laser head moves into the corner and create saw tooth. If it is too small, the process efficiency will be decreased. Please adjust it according to the actual situation.

6.5.5 Gap on xy axis

It is used to compensate the inverse gap in cutting with constant motion.

6.5.6 Original

If you check this option, the machine will set a route according to the figure and process.

6.5.7 Optimize

If you check this option, the system will compute route according to what you set. There are two options: Inner-to-outer, and Down-to-up.

Inner-to-outer: process the inside of the figure first, and then the outside.

Down-to-up: users can set the “divide-height” according to the actual situation, and the system will output according to the set height from the bottom up.

6.5.8 Gap-optimize

If you check this option, the system will automatically define cut direction to compensate the inverse gap in cutting sophisticated figure. But it will increase the idle movement. Generally, this option is unchecked.

6.5.9 Automation set cut direction

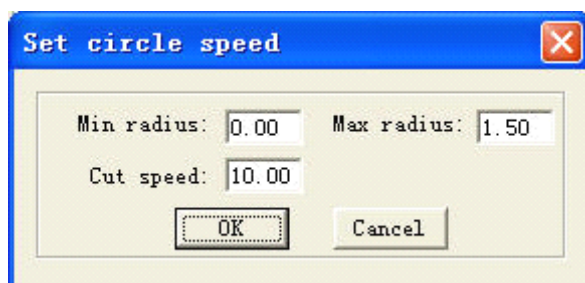
If you check this option, the system will automatically set the cut direction. It is suggested to check this option.

6.5.10 Overlap length

Due to the existence of the mechanical inverse gap, sometimes closed figure may not be closed and or circle can't be cut round. Problems can be solved if you check this option. But this will increase the processing time and decrease the processing efficiency. It is suggested not to set the number too large.

6.5.11 Circle speed

It defines the cut of small circles with high speed. If it is suitable, cut quality of the small circle will greatly increased. Double click one line (or check one line and click “Modify”), dialog box appears as below:



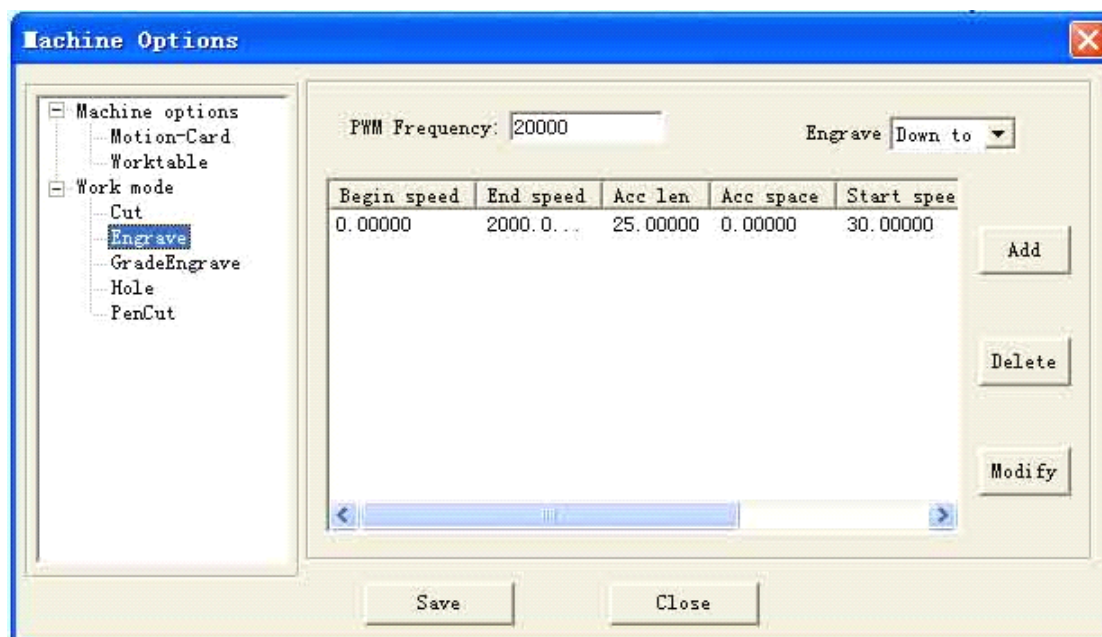
Min radius, Max radius: range of the circle's radius.

Cut speed: cut speed of the circle within the range.

Click “OK” to set the cut speed of the circles with different speed range. It is suggested the maximal radius is no more than 5.

6.6 Laser Engraving

It appears as below:



6.6.1 PWM frequency

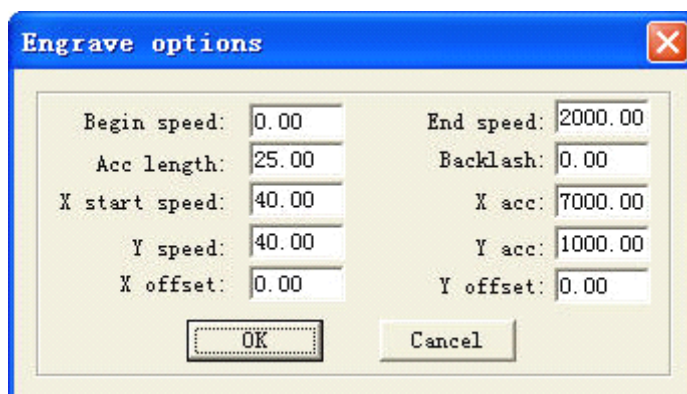
It controls the PWM frequency of the laser power. It can be adjusted between 200Hz—200KHz

6.6.2 Engrave

You can choose to engrave from down to up, or up to down.

6.6.3 Engrave options

Click one line (or check one line, and click “Modify”), dialog box appears as below:



Begin speed: set the start point of the speed.

End speed: set the end point of the speed.

Acc length: set the acceleration length of the laser head during the time when speed accelerates from the jump speed to the operating speed.

Backlash: It is used for compensating mechanical gaps. If the engraving edge is not orderly, please set a number in “Backlash”. This number can be positive or negative. Details see “” in Chapter 5.

X start speed: start speed of the laser head in engraving. If the number is too large will lead to the

malposition of the engraving and greatly decrease the process efficiency.

X acc: It is the acceleration of the X-axis from start speed to operating speed.

Y speed: It is the maximum of the laser head speed on the Y-axis. If the number is too large, the machine will shake intensively.

Y acc: It is the acceleration of the Y-axis from start speed to operating speed.

X offset: It is applied only to servo motor. When servo motor is chosen, offset will be generated between the engraving and cutting position. It is to compensate offset on the X-axis in engraving.

Y offset: It is applied only to servo motor. When servo motor is chosen, offset will be generated between the engraving and cutting position. It is to compensate offset on the Y-axis in engraving.

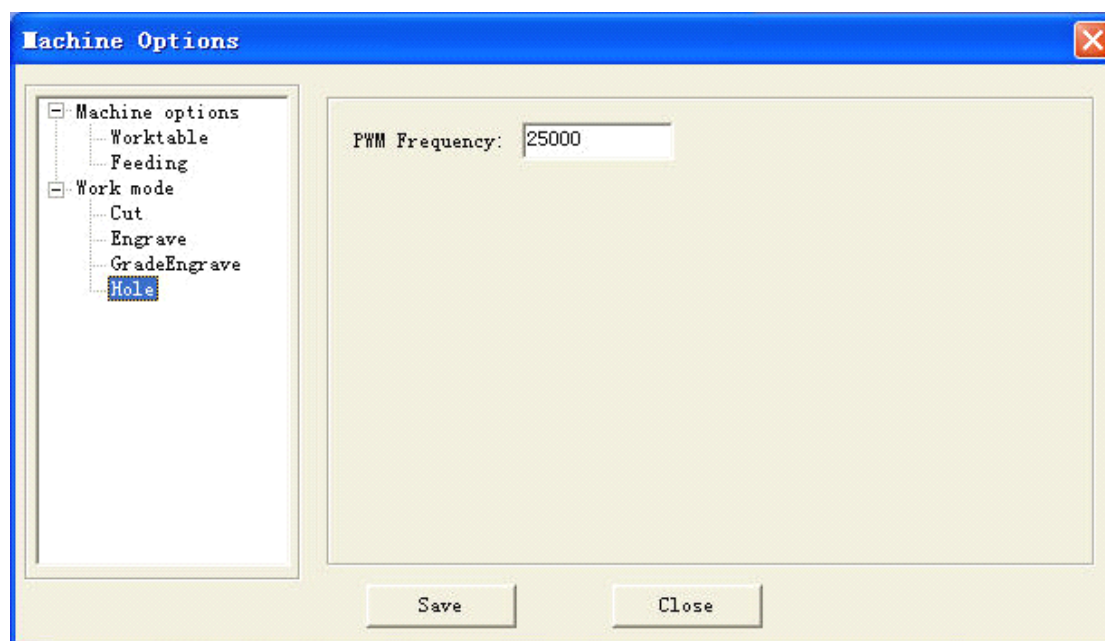
Click “OK” to set different process parameter according to different speed range.

6.7 Grade Engraving

Same as 6.5 “Laser Engraving”

6.8 Hole

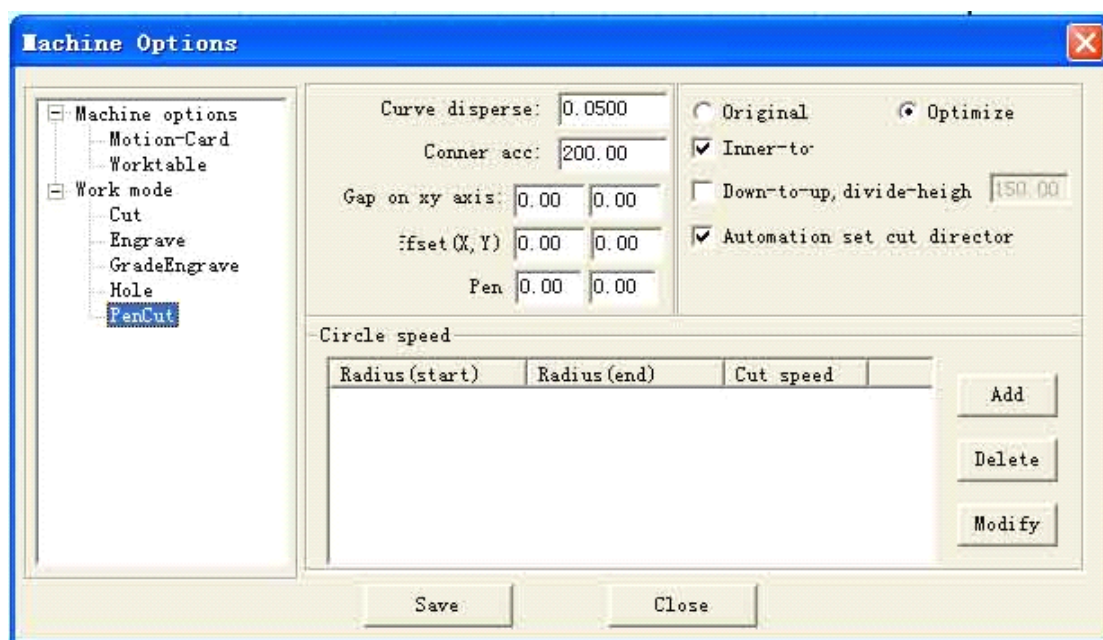
It appears as below:



PWM frequency: It determines the PWM frequency of the laser power. It can adjusted between 200Hz—200KHz.

6.9 Chalk Line

It appears as below:



6.9.1 Offset

It determines offset distance of the chalk and laser head on the X, Y-axis.

6.9.2 Chalk delay

Chalk delay: it determines the delay time of chalk up and down.

6.9.3 Other

Other parameters are the same with those in "Laser cut".

7 PAD06/PAD03 Control Panel

PAD06、PAD03 is suitable for MPC6535、MPC6515.

7.1 PAD06 Main Interface



7.2 PAD03 Main Interface

