User Manual

（DSP5.0）

V1.0

Contents

Chapter 1 Installation of the system

1.1 Installation of the control card

1.1.1 Hardware requirement of PC

IBM compatible computer

CPU: Above Pentium 2;

Storage: 128 Meg;

HD: Above 10 G

CD-ROM

PCI extending slot;

Above one USB interface;

1.1.2 Auto-installation

To ensure your safety, the following procedure should be abided by:

A、Close PC, and cut off power.

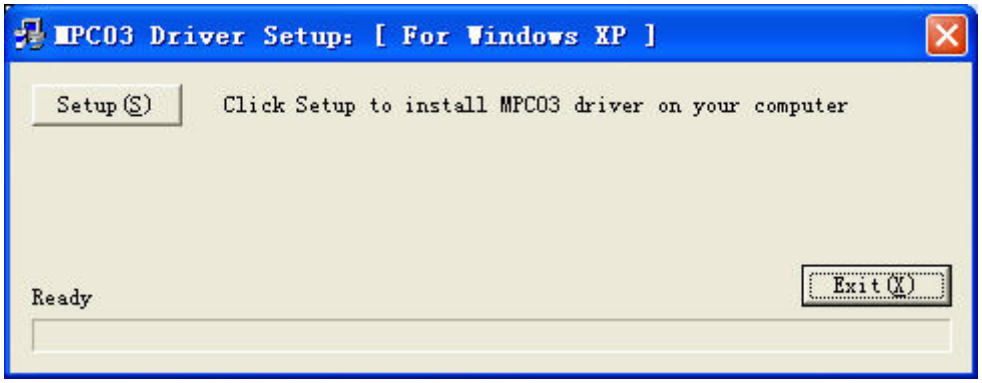
B、Open PC's cover, choose the PCI slot that is not in use and insert control card.

C、Fix control card, and put cover on computer as it is.

D、Connect control card to laser machine by data wire that is attached with machine.

E、Turn on power and run PC.

When PC starts, the control card can be checked automatically. There is an instruction for finding new hardware. At first, please choose “cancel” and then run the file Drivers\ Win2000 (or Win XP)\ SetupMpc03.exe.



Click “Setup”, the driver will be installed automatically.

Then restart the computer please.

1.1.3 Manual installation

Generally, the control card can be installed automatically. Sometimes, the control card can’t be installed because the install program is damaged. Now you have to install the control card manually.

It is supposed that the OS is installed in C disk.

Copy Mpc03ls.inf in [Drivers] to C:\WINDOWS\INF.

Copy MPC03LS.SYS in [Drivers] to C:\WINDOWS\SYSTEM32\DRIVERS.

1.2 Installation of the software

1.2.1 Requirement of OS

Window2000、Win XP

1.2.2 Installation of the software

It is easy to install software, and you just copy all files in CD to HD of PC.

Note: After you copy the software to computer, all files in it has to be canceled the read-only property.

CorelDraw and AutoCAD should be installed in PC. At present, only CorelDraw11，CorelDraw12，AutoCAD2000 and AutoCAD2002 can be supported by the software.

Note: the CorelDraw and AutoCAD should be authorized, or the software will run out of the way.

Before you install the software, CorelDraw or AutoCAD should be run and exit first.

Dblchick Setup.exe in [Bin]; and install the software.

Select the graph design software you want, and click [Install].

Note: when you select [AutoCAD], you should key in the installing directory of AutoCAD.

Before you install the software, CorelDraw or AutoCAD should be run and exit first.

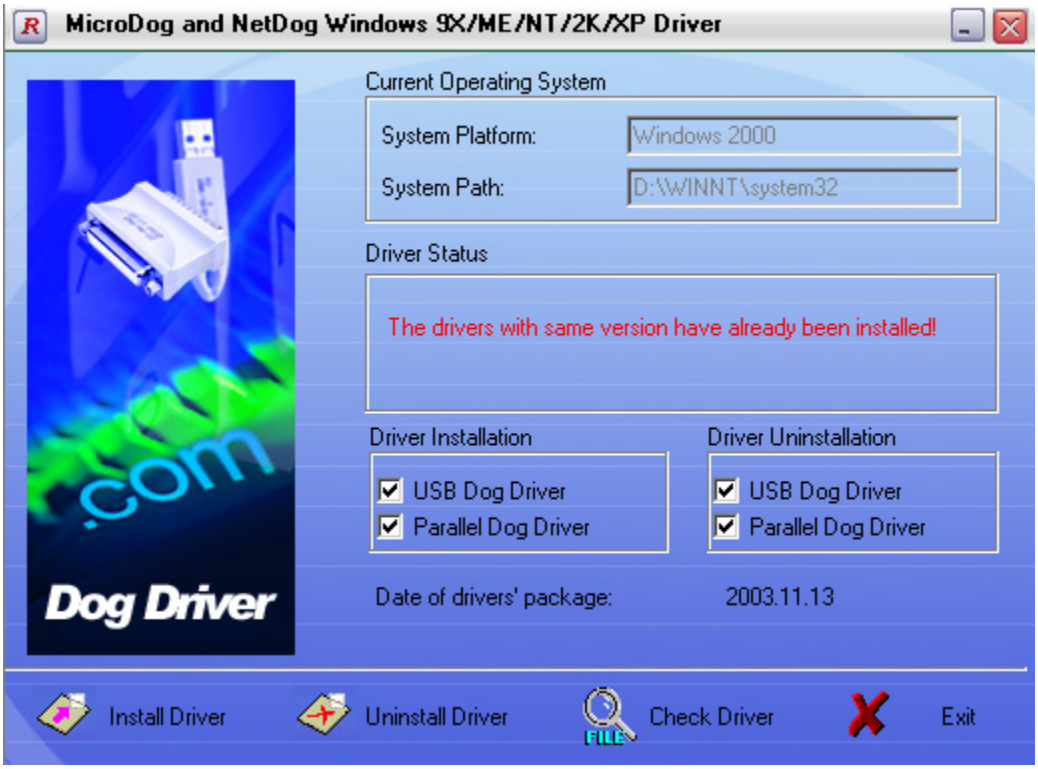
Select the graph design software you want, and click [Install].

Note: when you select [AutoCAD], you should key in the installing directory of AutoCAD.

You can just run CorelDraw or AutoCAD to operate the laser machine.

1.2.3 Installation the USB softdog key

There is a USB softdog key in machine package that should be inserted in any USB slot of the computer. When the system informs that installation finished, it will tell you to install the drivers of USB softdog key.



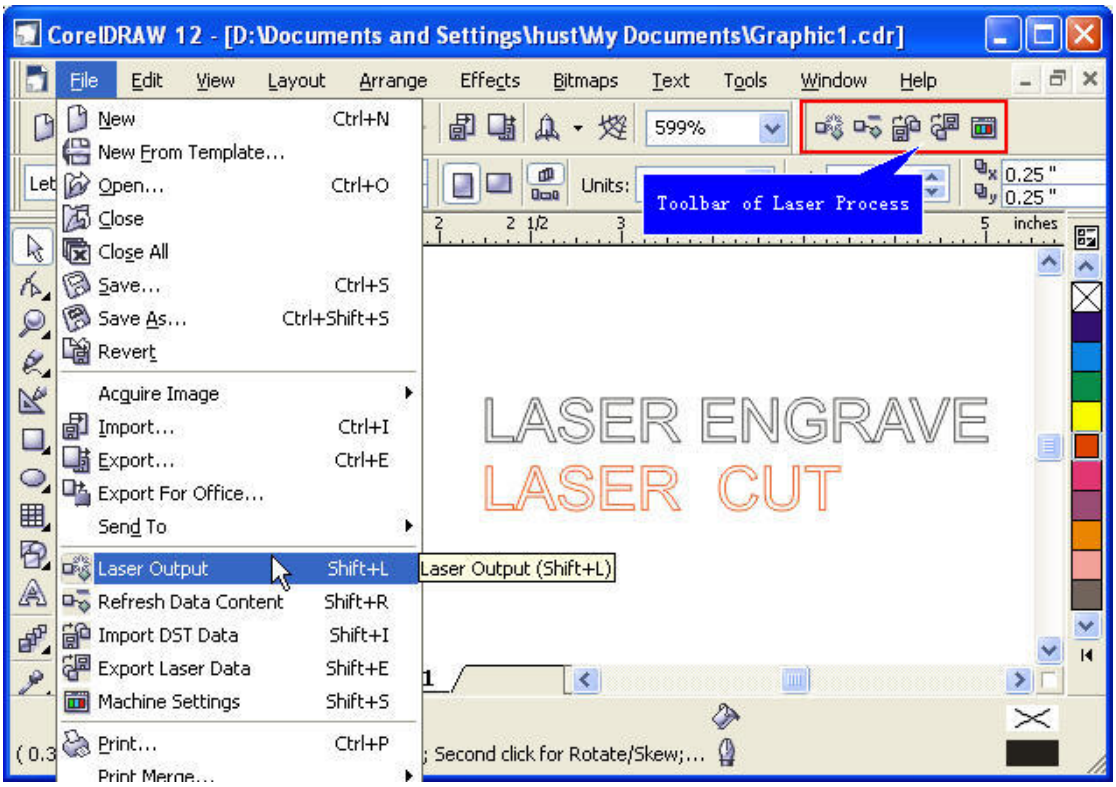
Please press “Install Driver” button to install the driver of USB softdog key.

Chapter 2 Main interface of the system

The software is linked with CorelDraw and AutoCAD. You can operate laser machine on **[Laser Output]** interface. **[Laser Output]** interface is made up of layers, test machine, and auxiliary interface.

2.1 Main interface of CorelDraw output version

The software adds 5 tools in [File] of CorelDraw: Laser output, Laser output (refurbish), Input embroidering data, Export data and Setting machine parameter. Shortcut key will make operation convenient. The interface is as following.



Laser Output: click this button, you can inter **[Laser Output]** interface.

Refresh Data Content: when the former data is processing, you can minimize the **[Laser Output]** interface and edit the next data. After the former data is finished, click this button and the data you just edited will be input.

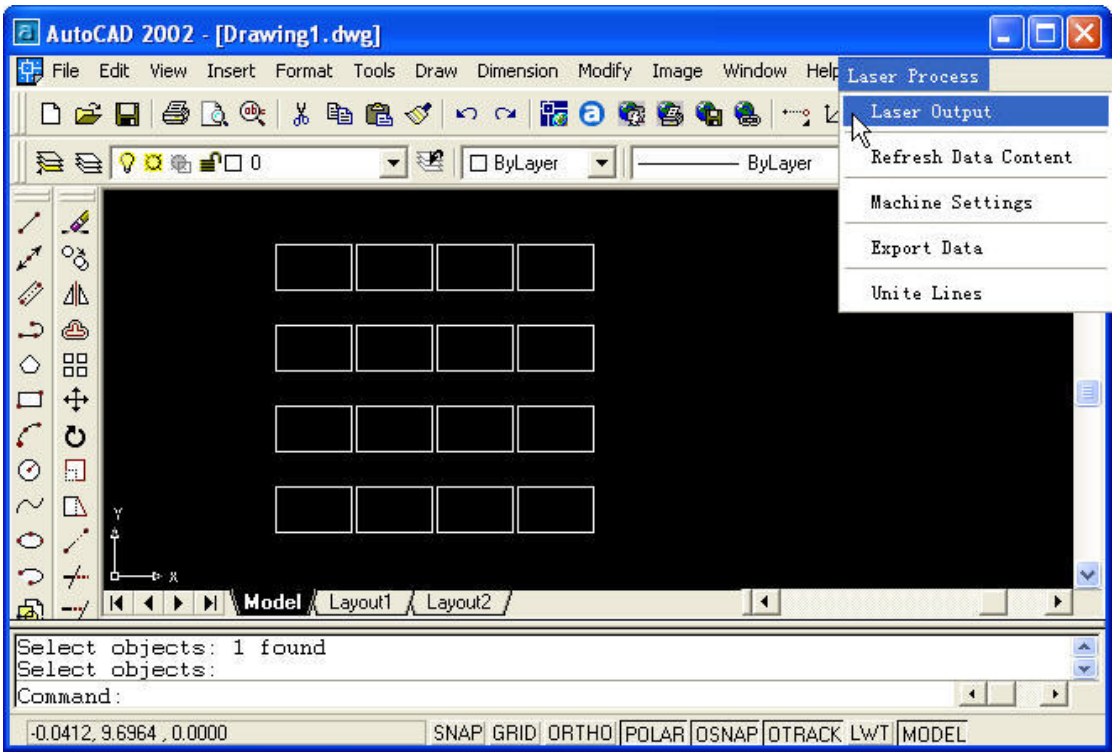
Import DST Data: this can input embroidering data that CorelDraw can't identify.

Export Laser Data: Save the data that processing parameters have been set.

Machine Settings: click this button, and the machine settings can be set.

2.2 Main interface of AutoCAD output version

The software adds **Laser Output** menu in toolbar of AutoCAD. The menu includes Laser Output, Laser output (refurbish), Setting machine parameter and Export data. The interface is as following.



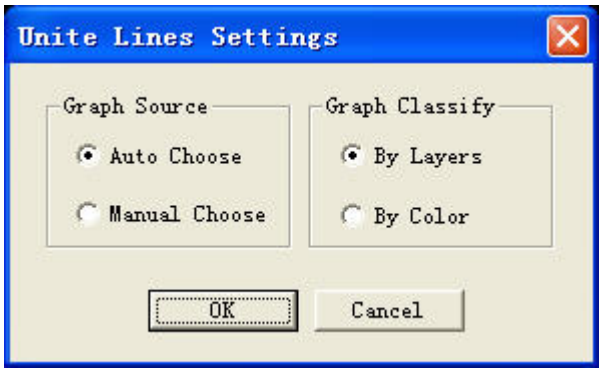
Laser Output: click this button, you can inter **[Laser Output]** interface.

Refresh Data Content: when the former data is processing, you can minimize the **[Laser Output]** interface and edit the next data. After the former data is finished, click this button and you can input the data you just edited.

Machine Setting: click this button, and the machine parameters can be set.

Export Data: save the data that processing parameters have been set.

Unite Lines: unite the bordering lines as one line. Click this button.



Auto Choose: the software will unite all the bordering lines classified by layers or by color.

Manual Choose: select this option and click “OK”, the mouse will change to a small square. Select the bordering lines you want to unite and click “Enter” key. The selected lines will be united as one line.

By Layers: the bordering lines will be united by layers.

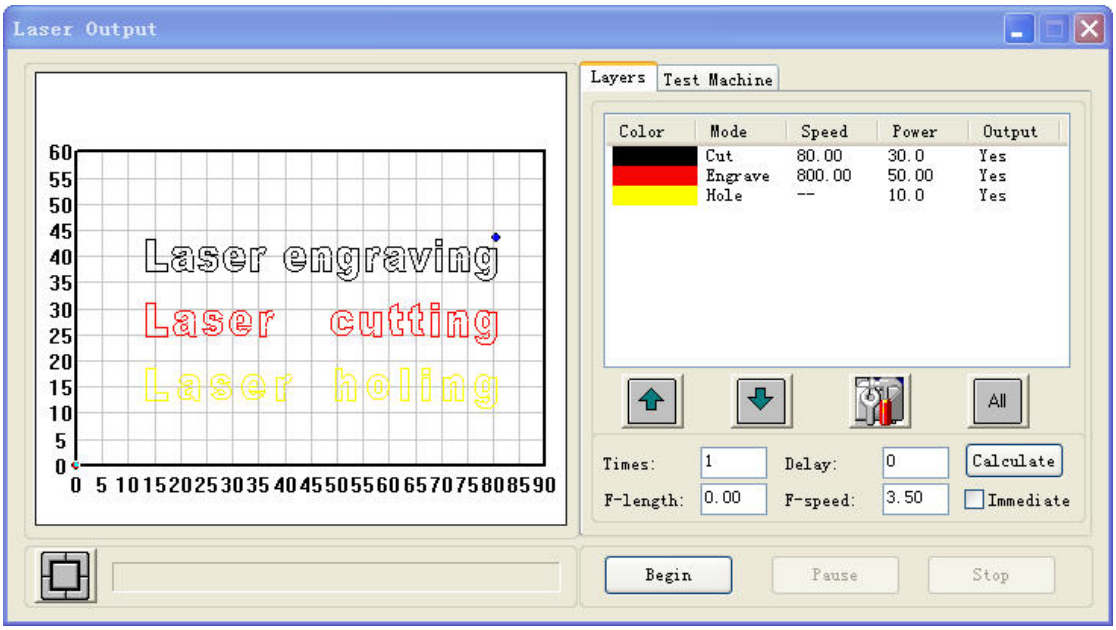
By Color: the bordering lines will be united by color.

Chapter 3 Laser Output

3.1 Main interface of Laser Output

Make or input a graph in AutoCAD or CorelDraw and save it. Click **[Laser Output]**.

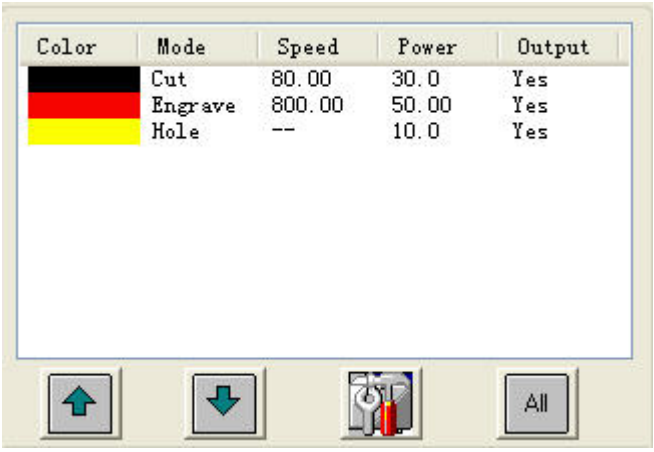
Note: when you want to make letter data in CorelDraw, you should transform it as a line graph.



There are 4 function modules in **[Laser Output]**: Layers, Test machine, Processing parameters and Control of processing course.

3.2 Layers

Layers management is shown as below:



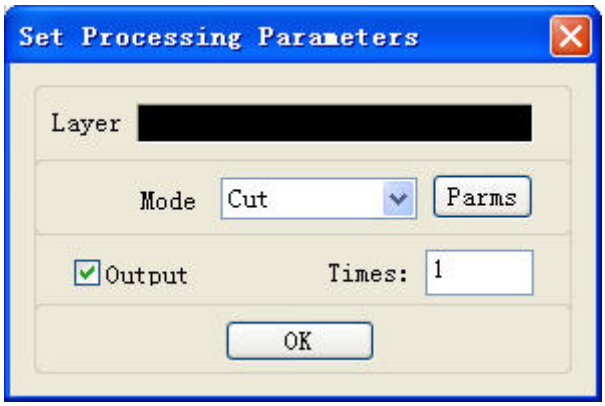
When there are many layers, the processing sequence is from the top down. Select one row and click up arrow or down arrow, and the sequence can be changed.

When there are many layers, select one row and click 

, and all the processing

parameters of the other layers can be set as the layer that has just been selected.

3.2.1 Main interface of setting layer parameter



Mode: the processing mode of the current layer.

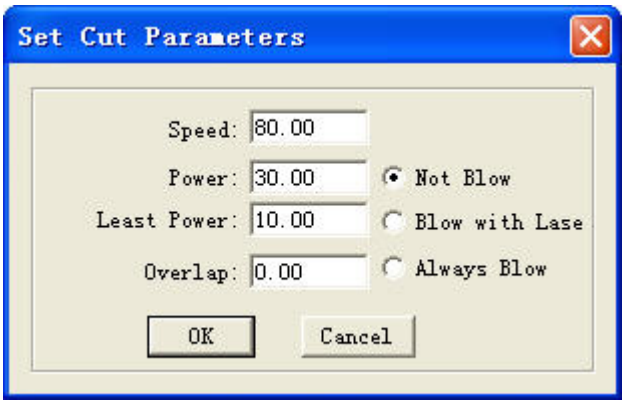
Parms: click this button and processing parameters can be set.

Output: the current layer is output or not.

Times: processing times for the current layer.

3.2.2 Interface of setting cut parameters

Select the mode as **Cut**; click **Parms** and the dialog box as shown below.



Speed: vector speed on X-Y axis.

Power: the laser power when the layer is processed.

Least Power: the laser power when the laser head runs on corners.

Because when the laser head runs on corners, the speed will slow down, if the power is constant, the corners will be cut deeper than others.

Overlap: When a close graphics can't be cut as it is (close), adjusting this parameter can avoid it. This may be caused by mechanical gaps. The best way to avoid this problem is improve the mechanical precision of the machine.

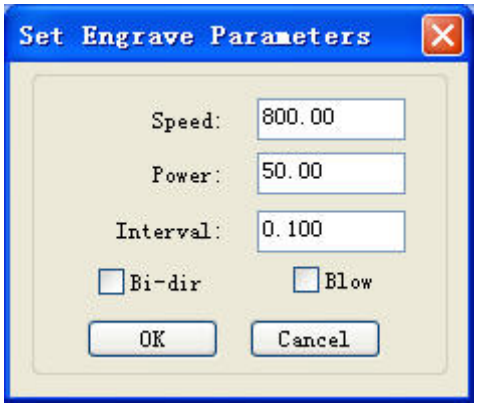
Not Blow: blowing function is closed.

Blow with Laser: blowing when laser on. Stop blowing when laser off. This function needs hardware support.

Always Blow: blowing when laser head moves and stop blowing when processing procedure finished.

3.2.3 Interface of setting engrave parameters

Select the mode as **Engrave**; click **Parms** and the dialog box as shown below.



Speed: engraving speed on X-axis.

Power: the laser power when a layer is processed.

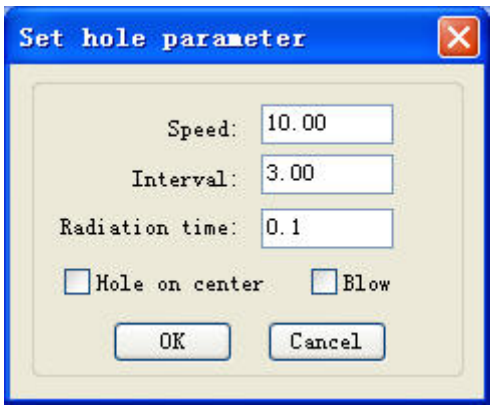
Interval: movement distance on Y-axis when engrave a row on X-axis.

Bi-dir: When engraving, laser emit on both negative X-axis and positive X-axis. When cancel this function, laser emit on only one direction.

Blow: blow or not. This function needs hardware support.

3.2.4 Interface of setting holing parameters

Select the mode as **Holing**; click **Parms** and the dialog box as shown below.



Power: the laser power when a layer is processed.

Interval: the space between two adjacent holes.

Radiation time: delay time for a hole. It determines the size of holes.

Hole on center: hole on all the center of the close graphs.

Blow: blow or not. This function needs hardware support.

All the defaults are last saved parameters.

3.3 Test Machine

Click **Test Machine**, and the dialog box as shown below.

 : Move the Y or feeding axis.

 : Move the Y or feeding axis.

 : Move the X axis.

 : Move the X axis.

 : Click this button and the laser head will move to the home point of the machine slowly (the speed is determined by “Slow Speed” that you can change in the “Machine Parameters Setting” dialog box). Then the laser head will move to the origin point quickly (the speed is determined by “Fast Speed” that you can change in the “Machine Parameters Setting” dialog box). This can eliminate the cumulate error. Generally, the machine should be reset before processing. When run the software, it will be reset automatically (this function can be cancelled as you prefer).

Move Length: It determines the distance that the laser head moves.

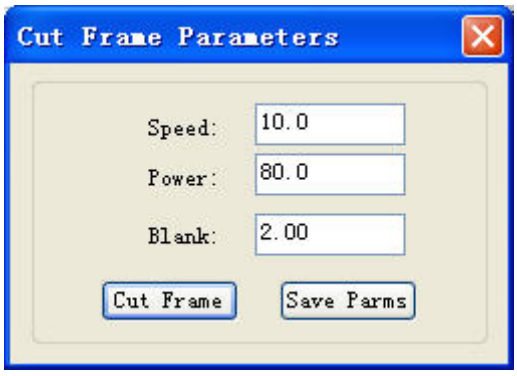
Test Power: It determines the intensity of the laser power supply. The minimum value is 0 and the maximum value is 100.

 : Laser on.

 : Laser off.

 : Click this button, and laser head will move as a rectangle without laser emitting according to the size of the graphics. This function is used for confirming the location of work piece.

 : Click this button, laser head will move as a rectangle with laser emitting according to the size of the graphics. This function is also used for confirming the location of work piece. Click this button, and you can see the following dialog box:



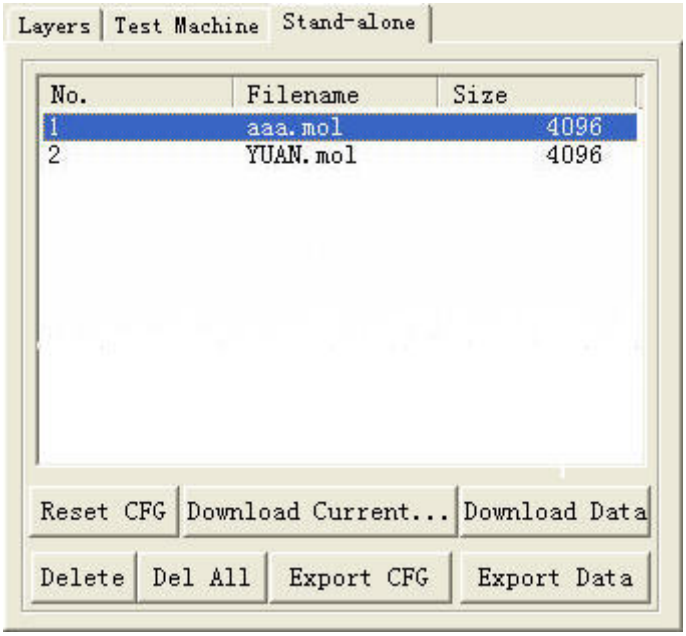
Speed: you can choose different speed according to different material. It's better to confirm proper speed through testing.

Power: the laser power when cutting.

Blank: distance between processing graphics and the edge of cutting piece.

Save Parms: save the parameters for next data.

3.4 Stand Alone (Only For MPC05)



3.4.1 Reset CFG

Download all the parameters of "Machine Settings" to MPC05 controller. You can also

achieve this by exporting a CFG file (*.mol), and copy this file to MPC05 by USB disk. When modify the parameters of “Machine Settings” or update the firmware, you have to reset CFG to configure the machine settings.

3.4.2 Download Current…

Download the current processing data to MPC05 controller.

3.4.3 Download Data

Download processing data to MPC05 controller.

3.4.4 Delete

Delete the file which is selected.

3.4.5 Delete All

Delete all the files in MPC05 controller.

3.4.6 Export CFG

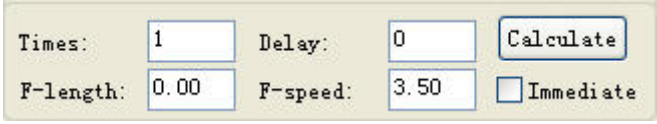
This will create a *.mol file which includes all the parameters of “Machine Settings”. The file can be downloaded to MPC05 controller by USB disk.

3.4.7 Export Data

This will create a *.mol file which includes all the parameters of a processing data. The file can be downloaded to MPC05 by USB disk.

3.5 Auxiliary processing parameters

In the following dialog box, some auxiliary processing parameters can be set.



Times and Delay: If input 10 in “Times” and 20 in “Delay”, then press ”Run”, you can get 10 same graphics. And it will stay for 20 seconds after every processing finished. The 20 seconds is for feeding and taking down material. Different time can be set as you need. This function can increase efficiency a lot.

F-length (feeding length): When input a certain number in it, feeding motor will give a certain space after every processing finished. This function needs hardware support.

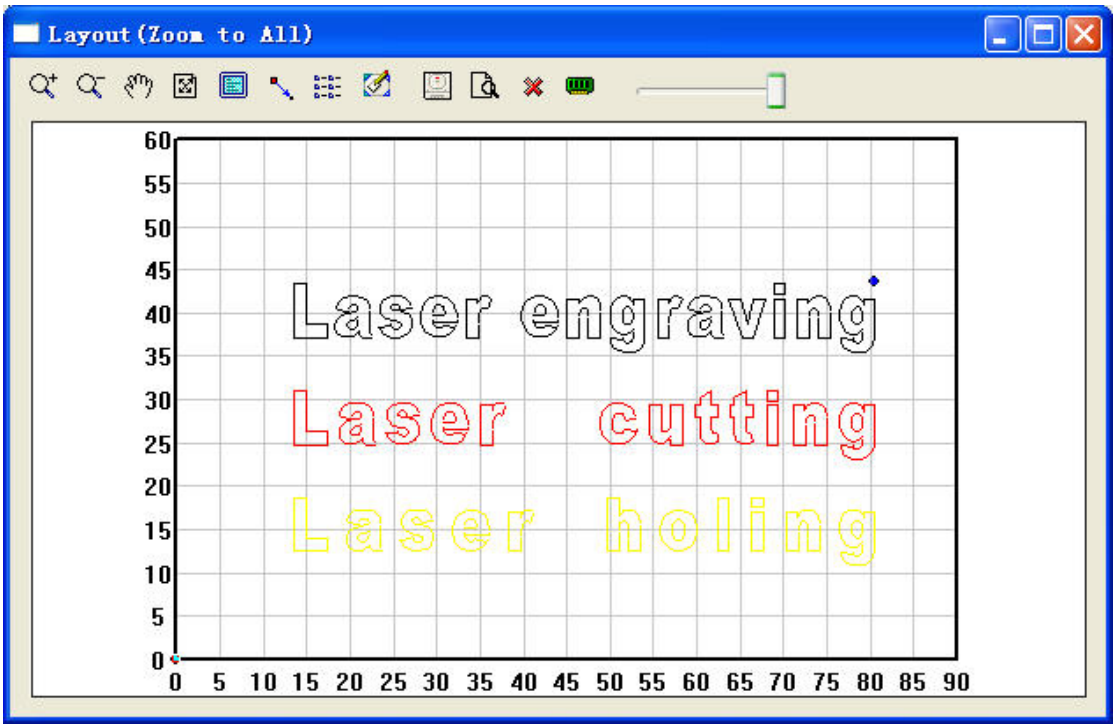
F-speed (feeding speed): It set the feeding speed.

Immediate: If this option is selected, the software will take the position that the laser head is as original point. If this option is not selected, the original point will be the position you set.

Calculate: When changed the data or any parameter, you should click this button, or the machine will out of control.

3.6 Auxiliary interface

Click  and the dialog box as shown below.



3.6.1 Enlarge showing graphics. Click this button, then click your graphics with mouse and the graphics can be enlarged.

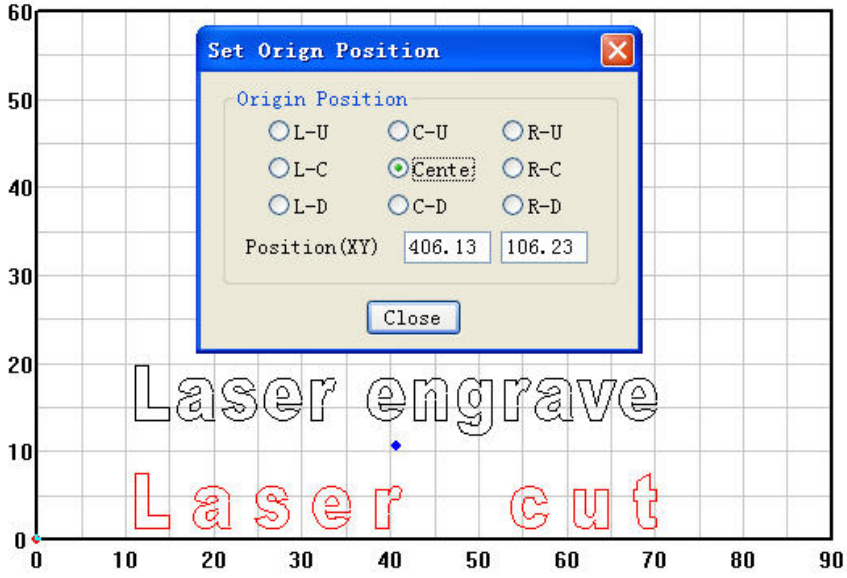
3.6.2 Reduce showing graphics. Click this button, and the graphics can be reduced.

3.6.3 Click this button; press the left button of your mouse continuously, and move your mouse to any place of the screen, then you can see any part of the screen.

3.6.4 Show the processing area completely. It can show the processing date in max on screen.

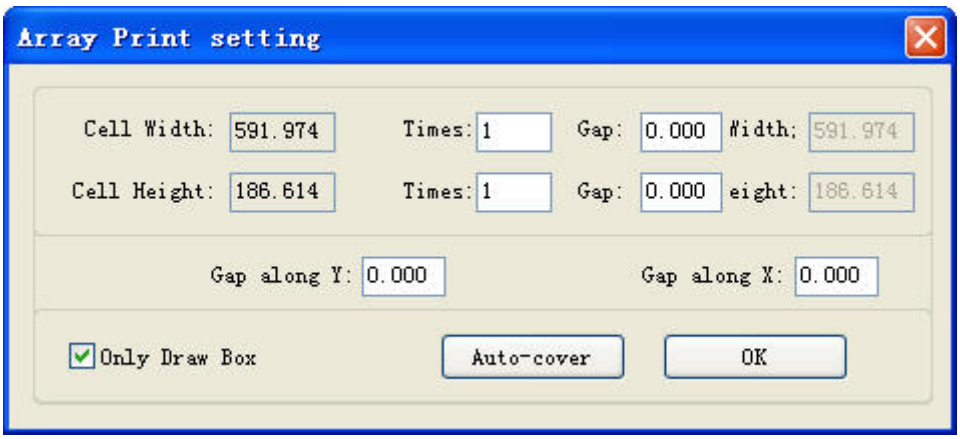
3.6.5 Show the whole processing area within the scale of reference frame.

3.6.6 Click this button, you can see following dialog box.



The original point can be set anywhere as you prefer. When processing finished, the laser head will run to the point.

3.6.7  Click this button, you can see following dialog box.



Cell Width: It is the original size of the data.

Cell Height: It is the original size of the data.

Times: It is the number of rows and columns you need.

Gap: It is the space between two adjacent rows or columns.

Width: It is the width of whole data.

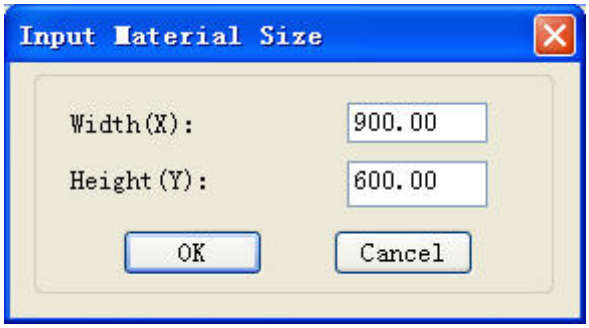
Height: It is the height of whole data.

Gap along Y: It is the space along Y axis between the first and second column.

Gap along X: It is the space along X axis between the first and second row.

Only Draw Box: If you select this option, there will be only one data on screen; others will be shown as rectangles.

Auto-cover: This can calculate the number of row and column that can cover the whole material according to the parameter you input. Click this button, and you can see following dialog box.



Width (X): It is the width of the work piece (the default is the worktable's width).

Height (Y): It is the height of the work piece (the default is the worktable's height).

3.6.8  Move working table. Click this button and move mouse, and you can change the position that the data is in the working table.

3.6.9  Calculation. When you changed the data or any parameter, you should click this button, or the machine will out of control.

3.6.10  When parameters set is finished, please click this button. It can simulate the

procedure of output for checking the result of output.

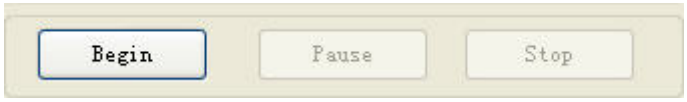
3.6.11  Cancel simulating the procedure of output.

3.6.12  Click this button, and you can get the time when you can finish the processing.

3.6.13  This can adjust the speed of simulating.

3.7 Control of processing course

The following is the control of processing course.



Run: Click this button, and you can begin the processing course.

Pause: Click this button, and you can stop the processing course.

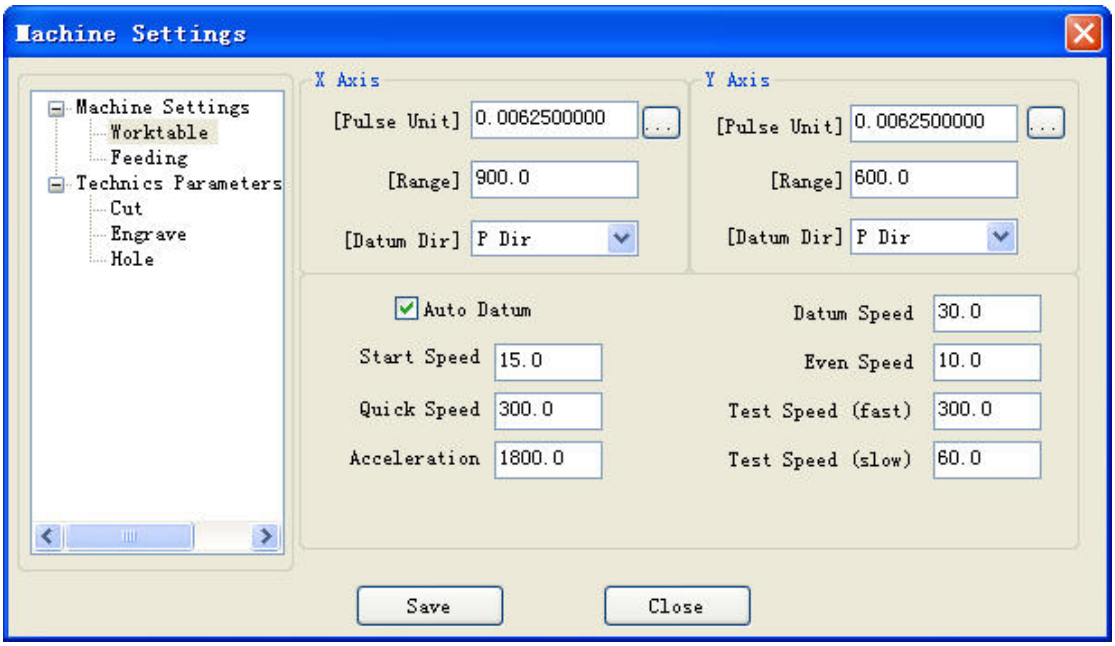
Stop: Click this button, and you can stop the processing course.

Chapter 4 Machine Settings

These are initial parameters of the laser machine. Any change will make the machine out of control. Users can only change the parameters under the manufacturer's guidance.

4.1 Working table

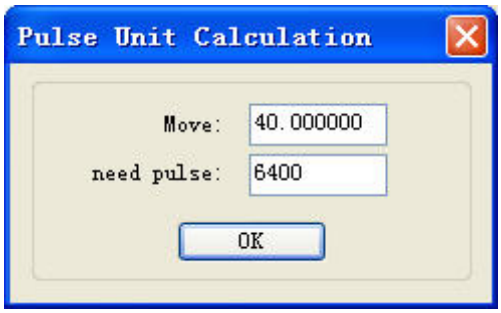
The parameters of working table are as following.



The X axis is horizontal and Y vertical.

4.1.1 Pulse unit

It means the distance that the laser head moves when the control system output a pulse. If you don't know this numerical value, please click [...].



Move: When the stepping motor moves a circuit, the laser head will move a relative length. You need to input the number in it.

need pulse: The number is "driver's subdivision number" ×200.

4.1.2 Range

It is the available processing area of the machine. If you change the number, the reference frame of the main interface will be changed accordingly. The moving range of the 1st and the 2nd axis will be restricted by this parameter.

4.1.3 Datum Dir (Datum Direction)

. It is determined by the position (right or left, up 0r down) of original switch.

4.1.4 Auto datum

If you select this function, when you run the software, it will be reset automatically. The software can remember the coordinates of laser head. So you can move the laser head very quickly without worrying that it will overstep the worktable. If this function is canceled, you can only move the laser head slowly (the speed is “slow speed” and you can change it the “machine parameter setting” dialog box). And when you move the laser head, you have to be very careful to avoid striking the machine.

4.1.5 Datum Speed

It determines the speed of datum.

4.1.6 Start Speed

It is the start speed of all axes. Normally, the number should be chosen from 5-30mm/s according to different machines. If the number set up is too high, machine will shake intensively.

4.1.7 Even Speed

When cutting, if the (processing) speed is higher than even speed, the laser head will slow down on corners of the graphics. If the (processing) speed is lower than even speed, the laser head will not change speed during processing.

4.1.8 Quick Speed

This is the maximum speed of laser head moving without lasers emitting. When move the laser head up, down, left and right, this parameter will work. If the number is too high, machine will shake intensively.

4.1.9 Acceleration

It is the acceleration from start speed to quick speed.

4.1.10 Test Speed (fast)

This is the speed that you move the laser head when you select auto datum.

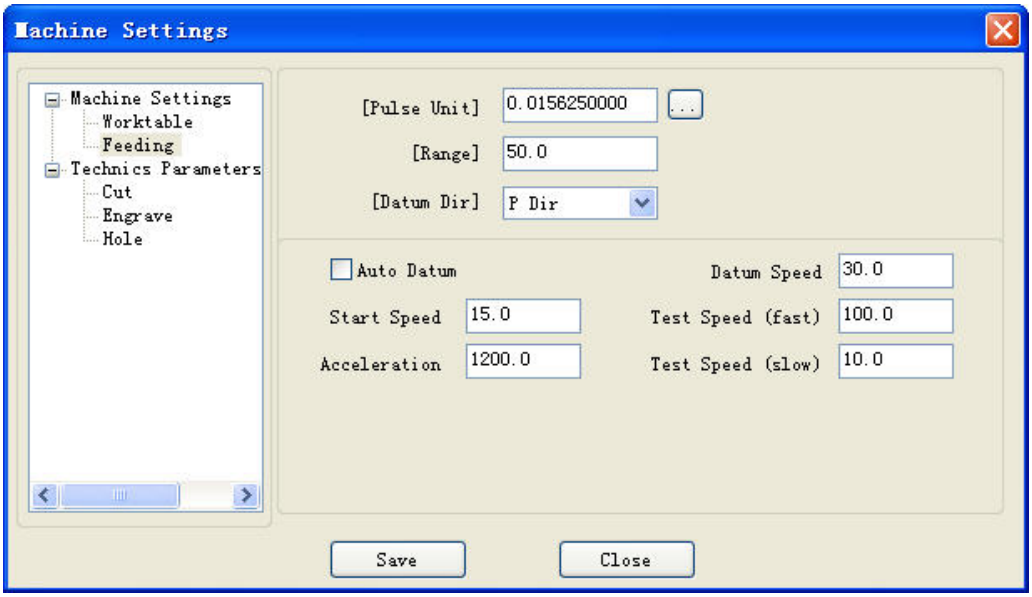
4.1.11 Test Speed (slow)

This is the speed that you move the laser head when you don’t select auto datum.

4.2 Feeding

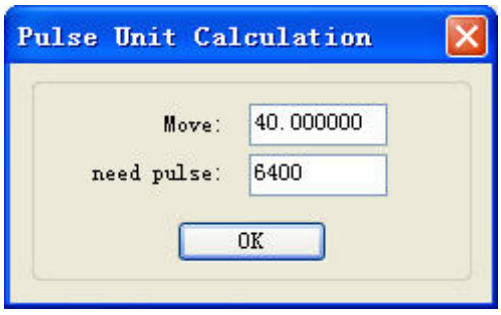
The feeding axis can be used as feeding and lift working table.

The parameters of feeding are as following.



4.2.1 Pulse unit

It means the distance that the laser head moves when the control system output a pulse. If you don't know this numerical value, please click ....



Move: When the stepping motor moves a circuit, the laser head will move a relative length. You need to input the number in it.

need pulse: The number is "driver's subdivision number" ×200.

4.2.2 Range

It is the available processing area of the machine. If you change the number, the reference frame of the main interface will be changed accordingly. The moving range of the 1st and the 2nd axis will be restricted by this parameter.

4.2.3 Datum Dir (Datum Direction)

It is determined by the position (right or left, up 0r down) of original switch.

4.2.4 Auto Datum

If you select this function, when you run the software, the feeding axis will be reset automatically. The software can remember the location of the feeding axis. So you can move the feeding axis very quickly without worrying that it will overstep the worktable. If this function is canceled, you can only move the feeding axis slowly (the speed is "slow velocity" and you can change it the "machine parameter setting" dialog box). And when you move the feeding axis, you have to be very careful to avoid striking the machine.

4.2.5 Datum Speed

It determines the speed of datum.

4.2.6 Start Speed

It is the start speed of all axes. Normally, the number should be chosen from 5-30mm/s according to different machines. If the number set up is too high, machine will shake intensively.

4.2.7 Acceleration

It is the acceleration from begin speed to fast speed.

4.2.8 Test Speed (fast)

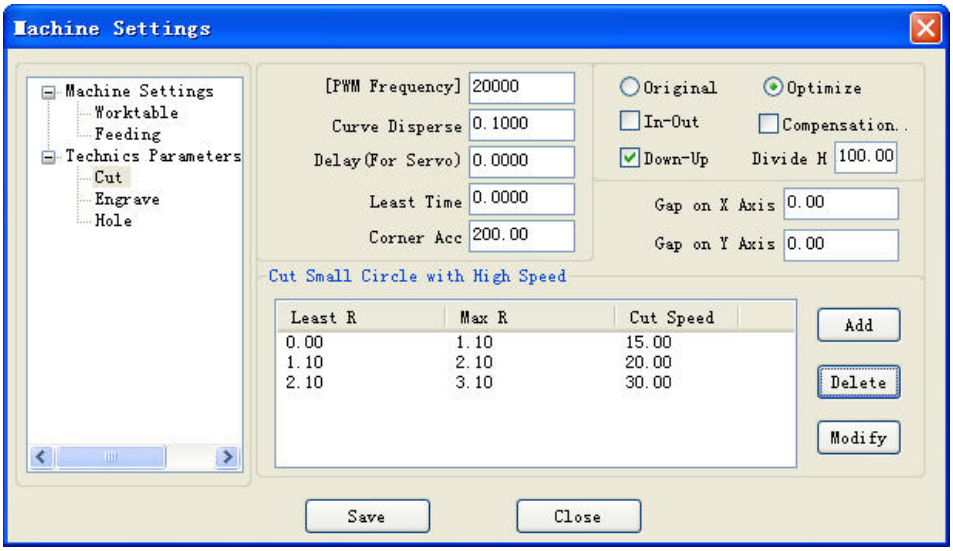
This is the speed that you move the laser head when you select auto datum.

4.2.9 Test Speed (slow)

This is the speed that you move the laser head when you don't select auto datum.

4.3 Cut

The parameters of cut are as following.



4.3.1 PWM Frequency

It determines the frequency of PWM signal.

4.3.2 Curve Disperse

It determines the precision of graph data. If the number is smaller, the precision will be higher and cost more time to calculate processing data.

4.3.3 Delay (For Servo)

It is the pause time that the laser head moves to corners. This is only for servo motors.

4.3.4 Least Time

When the time between the former blowing off and the next blowing on is less than the number, the machine will not blow off to protect the blowing switch.

4.3.5 Corner Acc

It determines the processing precise when the processing route turns the corner.

When the machine can't draw lines smoothly, please input a smaller number in "Acceleration" and "Corner Acc".

4.3.6 Original

The machine draws the graph according the route as it is been made.

4.3.7 Optimize

The software will calculate the route to improve processing efficiency. If you select this option, there are 3 options.

In-Out: cut from inner to outer.

Down-Up: cut from down to up according the number of Divide-H.

Divide-H (Divide-Height): divide the graph into several parts.

4.3.8 Compensation

Because of the mechanical gap, some closed graph can't be cut closed. This tool can compensate the gap automatically. But this will increase the processing time.

4.3.9 Gap on X Axis

Compensation gap when the motor changes direction. This parameter only works when cut with even speed.

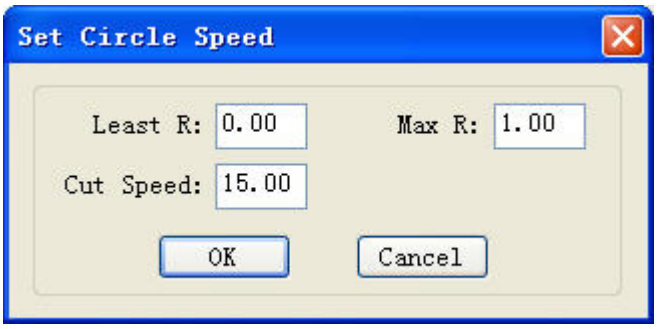
4.3.10 Gap on Y Axis

Compensation gap when the motor changes direction. This parameter only works when cut with even speed.

4.3.11 Cut Small Circle with High Speed

When cutting small circle (the diameter is especially between 1to 3) with high speed, it will be distorted. The parameters of “Set Circle Speed” are used to reduce distortion.

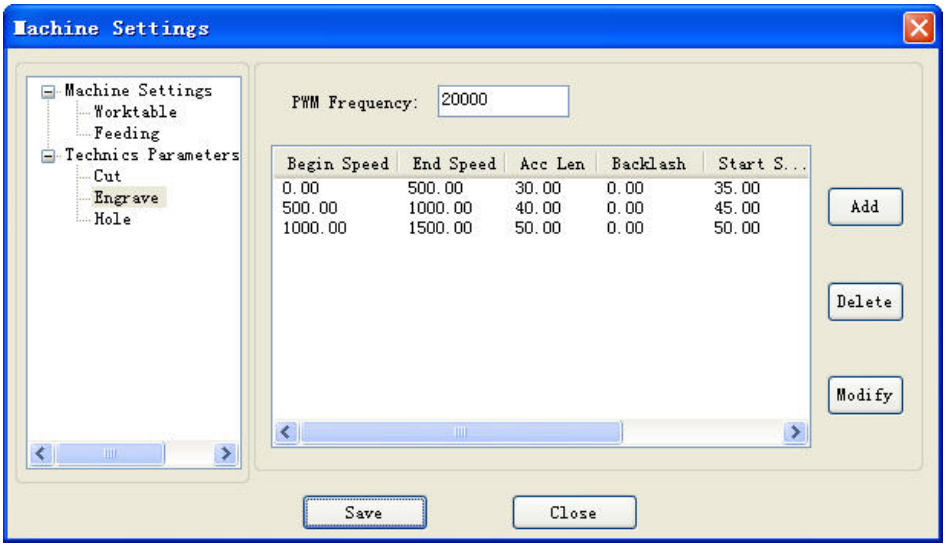
Double-click ether row of the list.



When the radius of circle is in the range between Least R and Max R, the cut speed will automatically be changed to the number of Cut Speed.

4.4 Engrave

The parameters of engrave are as following.

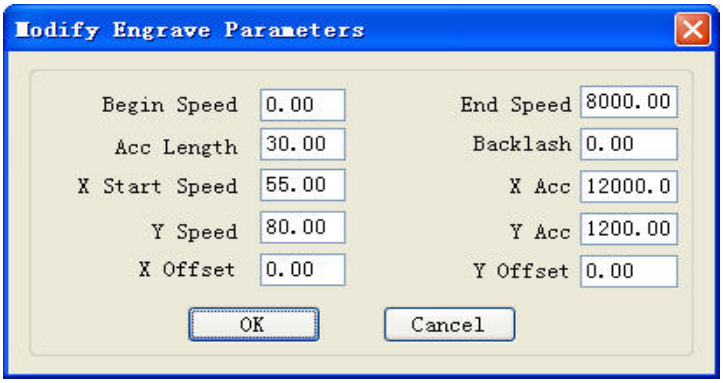


4.4.1 PWM Frequency

It determines the frequency of PWM signal.

4.4.2 Modify Engrave Parameters

Double-click ether row of the list.



Begin Speed and End Speed: When the engrave speed is set in the range between Begin Speed and End Speed, the system will automatically apply the numbers of Acc Length, Backlash…

Acc Length: It is the engraving length without laser emitting. It determines the distance that the X-axis moves from start speed to (working) speed. If it is not long enough, the machine will shake intensively.

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

X Start Speed: It is the start speed of X-axis when engraving.

X Acc: It is the acceleration of X-axis from start speed to (working) speed.

Y Speed: It is the speed of Y-axis when engraving.

Y Acc: It is the acceleration of Y-axis from start speed to “Y Speed”.

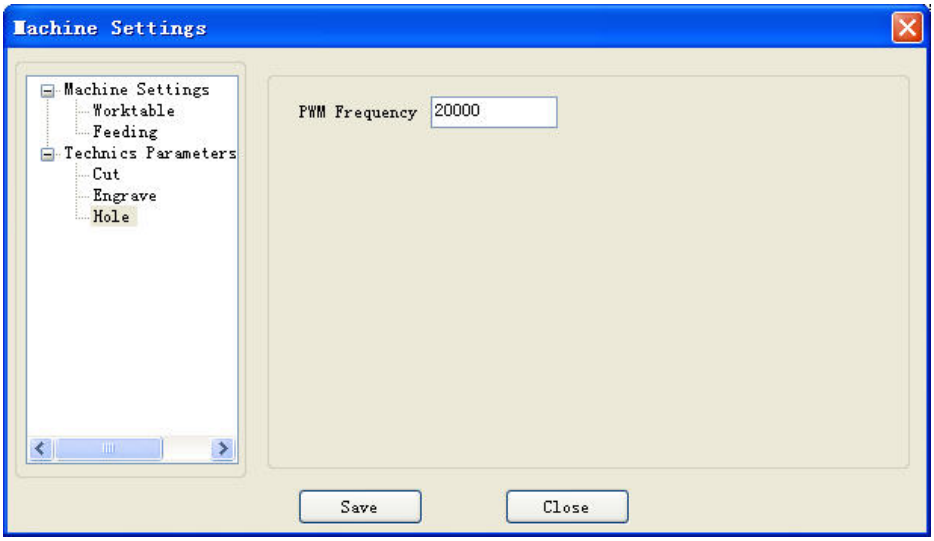
If you find graphics error happens (that is, motor lost step), you can set up a bigger number in “Accelerator Length” or a smaller number in “Acceleration”.

X Offset: when engraving graph is not be the actual position. There is an offset. Input the offset is OK.

Y Offset: when engraving graph is not be the actual position. There is an offset. Input the offset is OK.

4.5 Hole

The parameter of hole is as following.



4.5.1 PWM Frequency

It determines the frequency of PWM signal.

Chapter 5 Comments of tool programs

Tool programs are for checking if the control card is normal. It is helpful to find where the trouble is quickly.

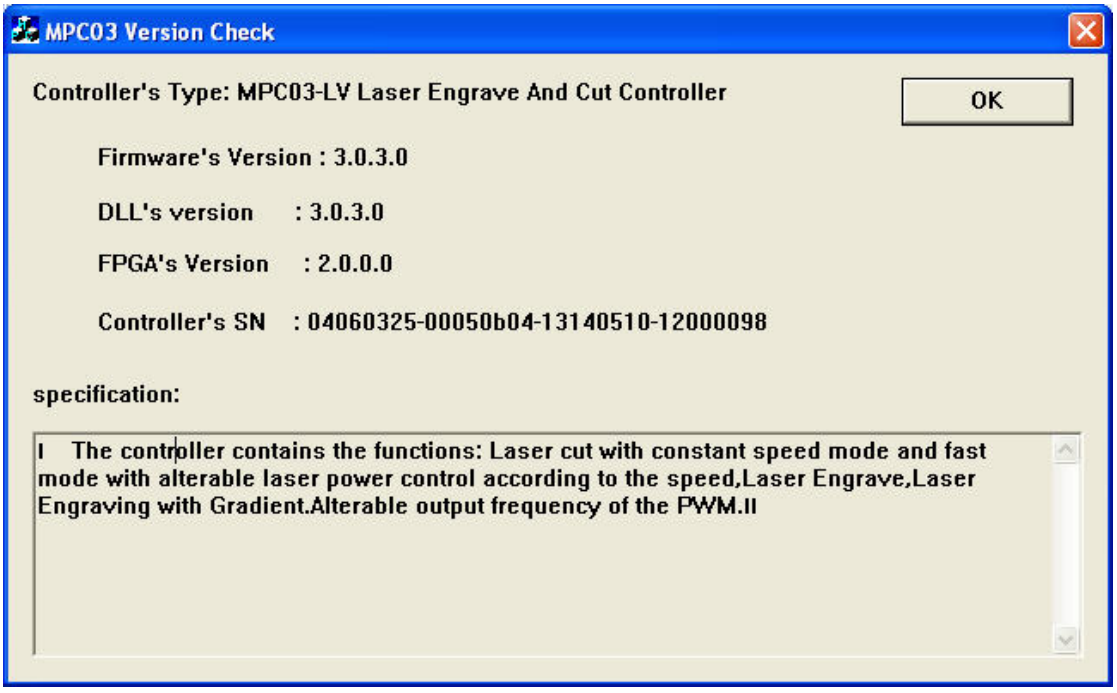
5.1 Version check program

If the version numbers of card and DLL don't match, the card won't work. Generally, the version numbers of card can't be changed (unless update the firmware). Proper DLL has to be found out to match the card. Version check program can indicate the version numbers of card and DLL.

DLL is laid in [Bin], and the filename is mpc03ls.dll.

Version check program is laid in [Bin], and the filename is Vercheck.exe.

Run the program, if the version numbers are match, it is as shown below.



Run the program, if the version numbers are not match, it is as shown below.

Note down the version numbers of card and DLL, and get the proper DLL from the supplier.

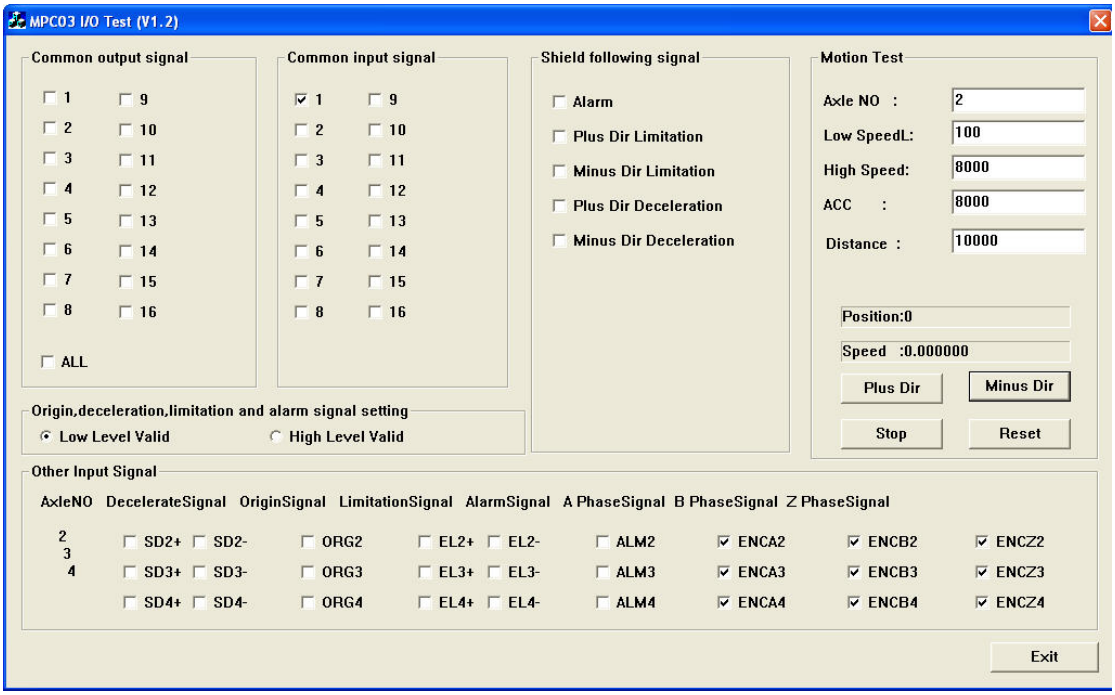
5.2 IO check program

IO check program is for checking the input and output signal. When the machine doesn't work normally, it is helpful to find where the trouble is quickly. This program can

run without softdog.

IO check program is laid in [Bin], and the filename is IOCheck.exe.

Run the program, it is as shown below.



5.2.1 General output signals

No use.

5.2.2 General input signals

No use.

5.2.3 Shield input signals

This can make some input signal useless. But it is seldom used.

5.2.4 Motion test

It can test if a certain axis works normally.

Axis No.: 2, 3 or 4 should be input.

2 represents feeding axis;

3 represents Y axis;

4 represents X axis.

Low speed: start speed (pulse per second)

High speed: work speed (pulse per second)

Acceleration: acceleration from low speed to high speed (pulse per second^2)

Distance: move distance (pulse)

When the motor moves, the program will show the current speed and position of the motor. If input 1000 in [Distance] and the [Position] show 1000, the control card is OK.

5.2.5 Set signal mode

It has to match the type of origin switch, decelerate switch, limit switch and alarm switch. If the switches are open normally, [Low level] should be chose. If the switches are close normally, [High level] should be chose.

5.2.6 Other input signals

Decelerate signal: ☑ indicates that the signal is input. The software doesn't use this signal. If the program indicates that this signal is input, circuitry must have something wrong.

Origin signal: ☑ indicates that the signal is input. When the laser head doesn't contact the origin switch, if the program indicates that this signal is input, circuitry must have something wrong or the switch has been damaged.

Limit signal: ☑ indicates that the signal is input. When the laser head doesn't contact the limit switch, if the program indicates that this signal is input, circuitry must have something wrong or the switch has been damaged.

Alarm signal: ☑ indicates that the signal is input. If the program indicates that this signal is input, the machine won't work.

A, B, Z signal: ☐ indicates that the signal is input. These signals are used as "Start", "Pause", and "Stop" etc. The corresponding relation is as shown below.

ENCA2	ENCB2	ENCZ2	ENCA3	ENCB3	ENCZ3	ENCA4	ENCB4	ENCZ4
Pause	Datum	Stop	Down	Right	Up	Run frame	Start	Left

5.3 Notes of error code

Code	Explanation
00010001	Loading control card's DLL failed. 1, Check if the driver of control card is installed. 2, Pull out the control card, and clean the PCI interface of card PCI slot of PC. Then insert the control card again.
00010002	The PC can't connect with control card, please replace the control card.
00010003	The version of DLL can't match that of control card, please replace the mpc03ls.dll.
00020001	The PC can't connect with control card, please replace the control card.

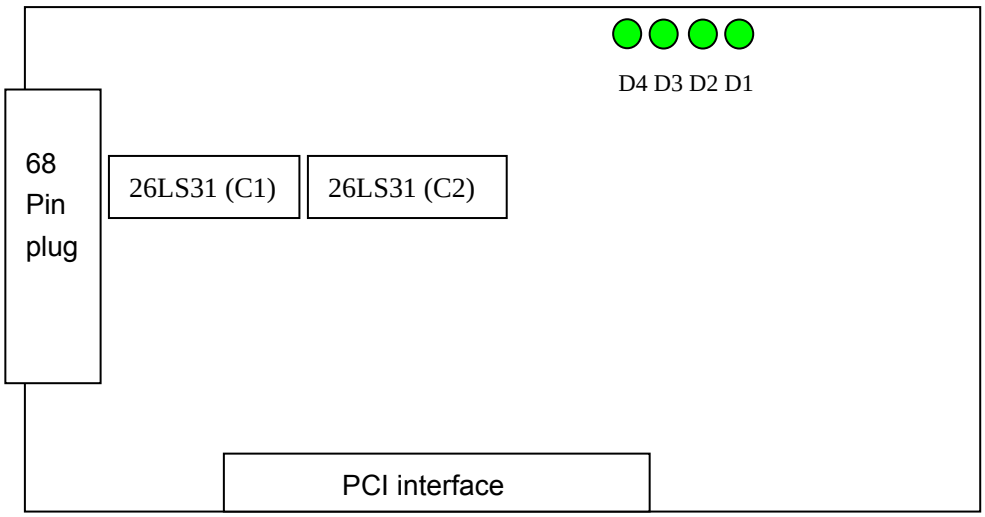
Chapter 6 Addenda

6.1 How to deal with mass data

A mass data will expense long time to calculate. When you click “Start”, the machine will wait long time to move.

Divide the data into several layers by colors. More layers, and the calculate time shorter. One layer overlaps with another doesn’t matter.

6.2 FAQ



D1：Indicate the status of control card. D1 shining, control card is OK.

D2：Indicate the status of feeding axis. D2 shining, feeding axis is OK.

D3：Indicate the status of Y axis. D2 shining, Y axis is OK.

D4：Indicate the status of X axis. D2 shining, X axis is OK.

6.2.1 X,Y axis can’t move

Run IOcheck.exe，and input 3 (or 4) in axis number. Click positive (or negative). If D3 (or D4) doesn’t shine, the control card is damaged. Please replace the control card. If D3 (or D4) shines, please follow the next step.

Measure the voltage between Pin 14 and Pin 18 by multimeter. If it is not about 5V, the switching power supply is damaged. Please replace the switching power supply. If it is about 5V, please follow the next step.

Measure the voltage between Pin 14 and Pin 50 (axis number is 3) or Pin 14 and Pin 54 (axis number is 4) by multimeter. Click positive (or negative). Normally, it is about 2.8V. If it is not about 2.8V, the control card is damaged. Please replace the control card. If it is about 2.8V, please follow the next step.

Check if the indicating lamp on drivers is shining. If it doesn’t shine, the driver is damaged. If it shines red, it is damaged.

6.2.2 X axis is OK; Y axis can’t move

Run IOcheck.exe，and input 3 in axis number. Click positive (or negative). If D3 doesn’t shine, the control card is damaged. Please replace the control card. If D3 shines, please follow the next step.

Measure the voltage between Pin 14 and Pin 50 by multimeter. Click positive (or

negative). Normally, it is about 2.8V. If it is not about 2.8V, the control card is damaged. Please replace the control card. If it is about 2.8V, please follow the next step.

Exchange the output junction connector (generally, it is labeled A+, A-, B+ and B-) of X and Y drivers. Click positive (or negative). If X axis is OK, the Y motor is damaged. Please replace the motor. If X axis doesn't move, the Y driver is damaged. Please replace this driver.

6.2.3 Y axis is OK; X axis can't move

Run IOcheck.exe，and input 4 in axis number. Click positive (or negative). If D4 doesn't shine, the control card is damaged. Please replace the control card. If D4 shines, please follow the next step.

Measure the voltage between Pin 14 and Pin 54 by multimeter. Click positive (or negative). Normally, it is about 2.8V. If it is not about 2.8V, the control card is damaged. Please replace the control card. If it is about 2.8V, please follow the next step.

Exchange the output junction connector (generally, it is labeled A+, A-, B+ and B-) of X and Y drivers. Click positive (or negative). If Y axis is OK, the X motor is damaged. Please replace this motor. If Y axis doesn't move, the X driver is damaged. Please replace this driver.

6.2.4 X axis only moves on one direction

Run IOcheck.exe，and input 4 in axis number. Click positive in the beginning and negative in the end). Measure the voltage between Pin 14 and Pin 56 by multimeter. Normally, in the beginning it is high level (or low level) and in the end it is low level (or high level).

High level: exceed 2.8V. Low level: less than 0.8V.

If it is always high level (or low level), the control card is damaged. Please replace the control card. If it is not, please check if the driver is OK.

6.2.5 Y axis only moves on one direction

Run IOcheck.exe，and input 3 in axis number. Click positive in the beginning and negative in the end). Measure the voltage between Pin 14 and Pin 52 by multimeter. Normally, in the beginning it is high level (or low level) and in the end it is low level (or high level).

High level: exceed 2.8V. Low level: less than 0.8V.

If it is always high level (or low level), the control card is damaged. Please replace the control card. If it is not, please check if the driver is OK.

6.2.6 Laser always on (or off)

Enter the "Test Machine" interface, click  and  . Measure the voltage between Pin 14 and Pin 15 by multimeter. Normally, in the beginning it is high level (or low level) and in the end it is low level (or high level).

High level: exceed 2.8V. Low level: less than 0.8V.

If it is always high level (or low level), the control card is damaged. Please replace the control card. If it is not, please check if the laser power supply is OK.

If the control card is damaged, you can replace a certain chip to maintain it.

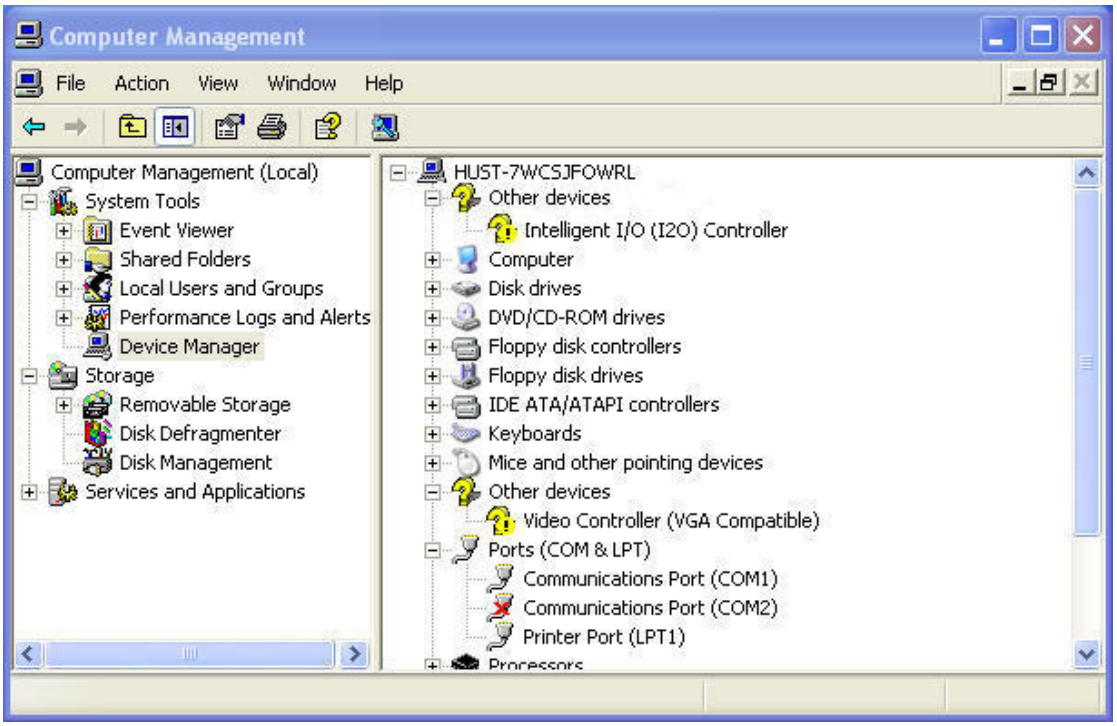
If the X axis is in trouble, please replace 26LS31 (C1).

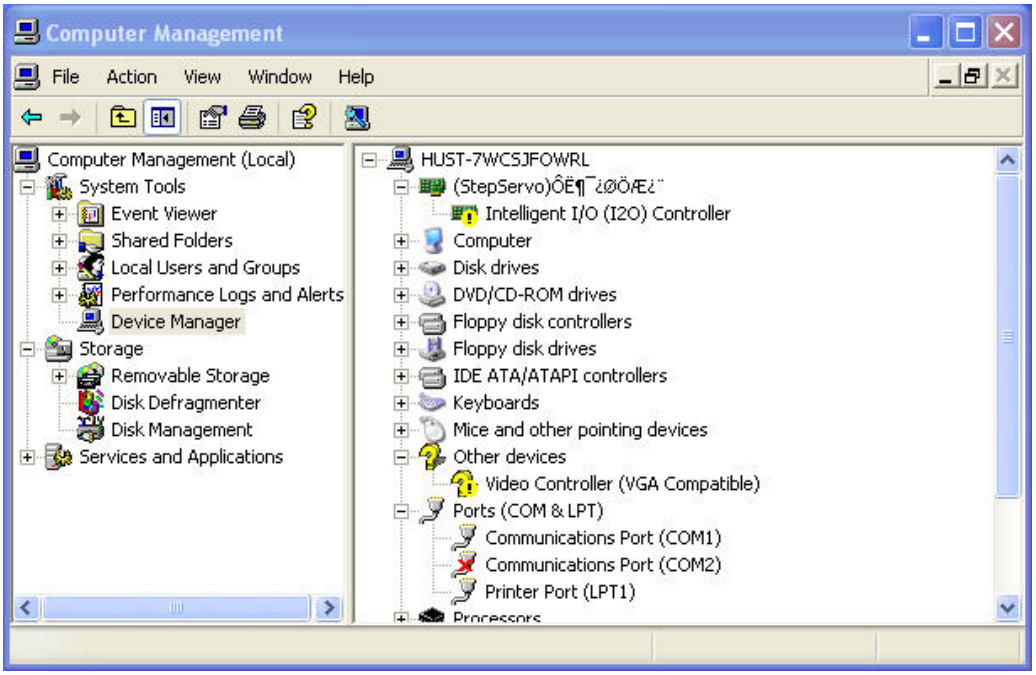
If the Y axis is in trouble, please replace 26LS31 (C2).

If the laser is always on (or off), please replace 26LS31 (C2).

6.2.7 When run the software, it may show the following dialog box.

Enter the “Computer Management”.





It means that driver of control card has not been installed. Please install the driver.

There are two folders in “Drivers”: Win2000 and Win XP. If the OS is Win2000, you should run the files in “Win2000”. If the OS is Win XP, you should run the files in “Win XP”.

Run the file “SetupMpc03.exe”, the drivers will be installed automatically.

If this failed, please follow the next step.

Find the file “Mpc03ls.inf” in “C:\WINDOWS\INF” and delete it.

Find the file “MPC03LS.SYS” in “C:\WINDOWS\SYSTEM32\DRIVERS” and delete it.

Run the file “SetupMpc03.exe”, the drivers will be installed.

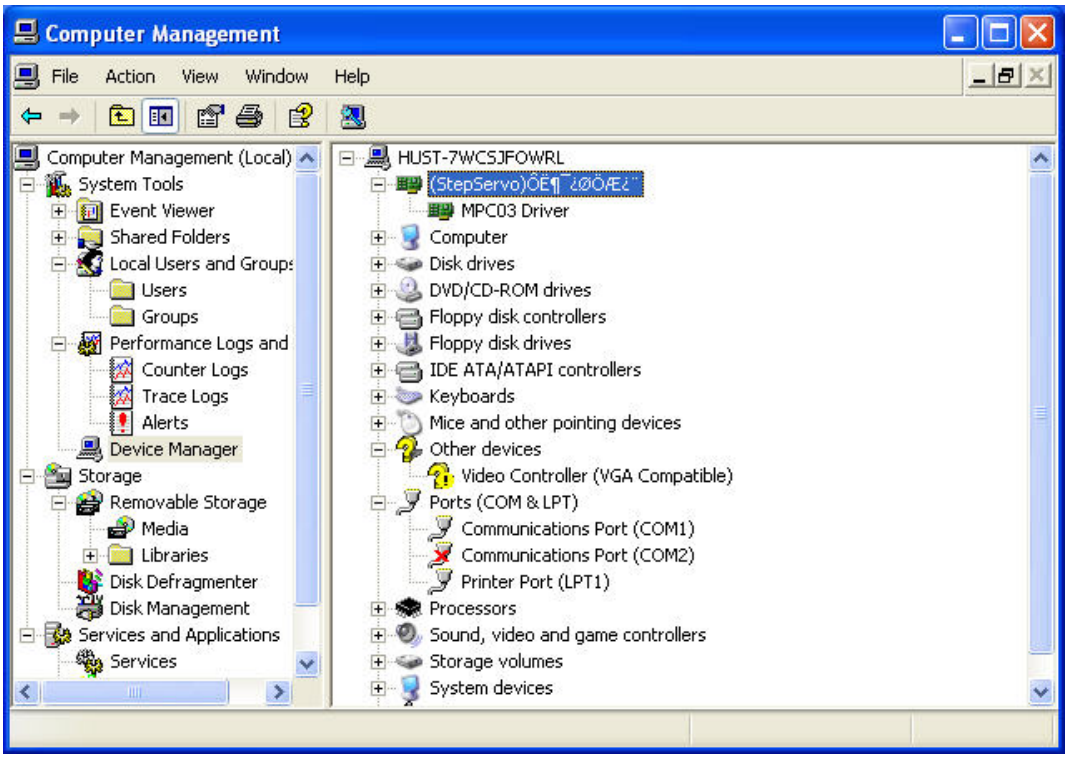
If this failed, please follow the next step.

Copy the file “Mpc03ls.inf” to “C:\WINDOWS\INF”.

Copy the file “MPC03LS.SYS” to “C:\WINDOWS\SYSTEM32\DRIVERS”.

After all the steps, you should restart the PC.

Enter the “Computer Management”.



It means that the version number of control card and DLL don’t match. Run Vercheck.exe.

Inform supplier of the version number of control card, and you can get the correct DLL.

6.2.8 When grade engraving, the graph is superposition.

This always occurs when the graph is very small. Please input a smaller number in “Grade width”.

6.2.9 If the graph can only move on one direction, please click “Shift” key or ”Ctrl” key.

6.2.10 PLT graph can’t be engraved

Please check if the graph is closed. The software only engrave closed graph.

Please check if there are two same graphs superpose together.

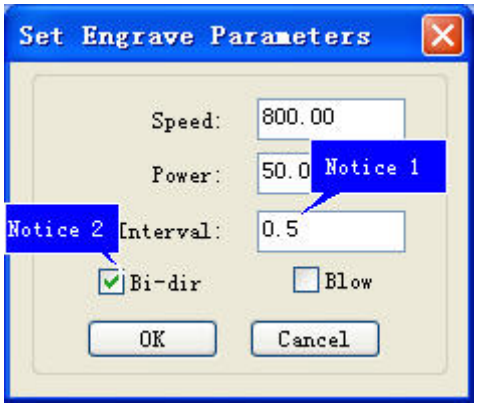
6.2.11 The size of output is not as same as the graph

Please adjust the “Pulse Unit”.

6.2.12 When engraving, the edge is not in order

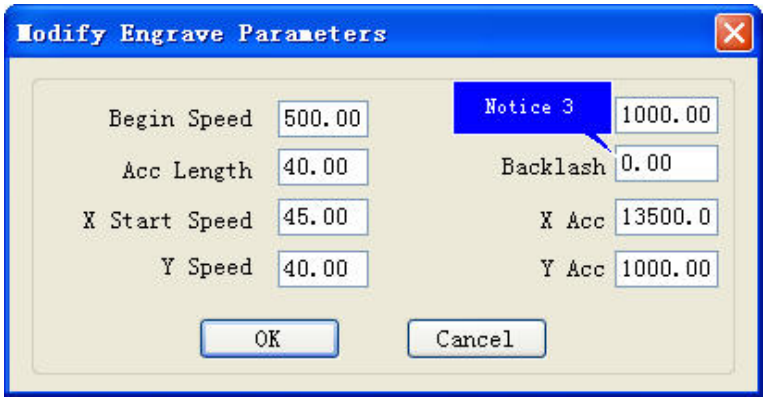
This is caused by the mechanical gap.

Draw a rectangle, and set the mode as “Engrave”. Parameters should be set as the following dialog box.



Generally, the odd row and even row won’t be orderly.

Measure the gap between odd row and even row. And input the number in “Notice 3” of the following dialog box.



The best way is single direction engraving. But this will slow down the efficiency. Parameters should be set as the following dialog box.