HPC LASER LTD
MPC6610
Controller of CNC Router

User Manual

(V 1.0)

Copyright Statement

Contents

Chapter 1 Preface

Thank you for the use of MPC6610 Controller of CNC Router!

Please read carefully User Manual before using MPC6610.

! Caution	Please take full account of machine moving protection measures to avoid machine damage or casualties.
🚫 Prohibition	Please do not use freely the controller before reading user manual!
🚫 Prohibition	Please do not disassemble or replace chips and components without authorization!
🚫 Prohibition	Please protect it from water, corrosive solution or gas!

Chapter 2 Overview

2.1 MPC6610 Introduction

MPC6610 Controller is a newly-developed type of motion controller, particularly for Mechanical engraving and cutting technology. It can be fully realized work offline. Standard G code file processed in the software of upper computer can be downloaded to the controller by USB Disk or USB data cable. All machine setting parameters can be input to the controller.

2.2 Components of Controller
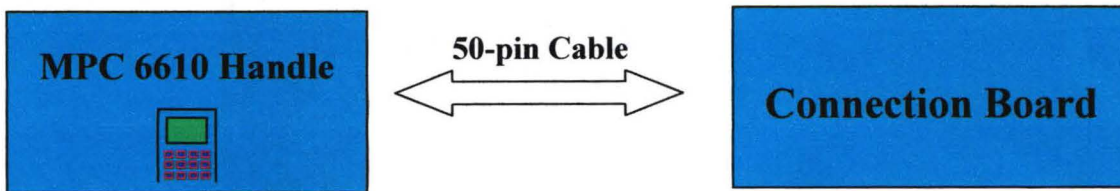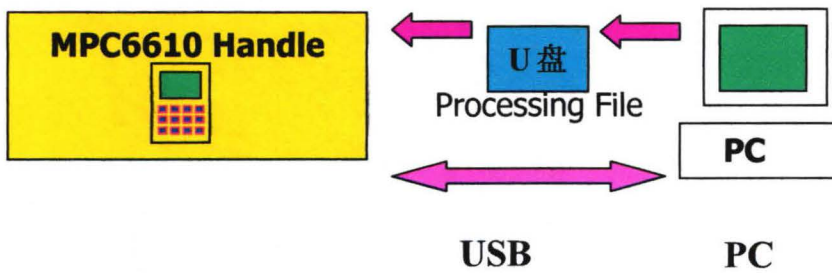
MPC6610 Components of Controller

1) Handle
2) Connection Board
3) 50-pin Cable

4
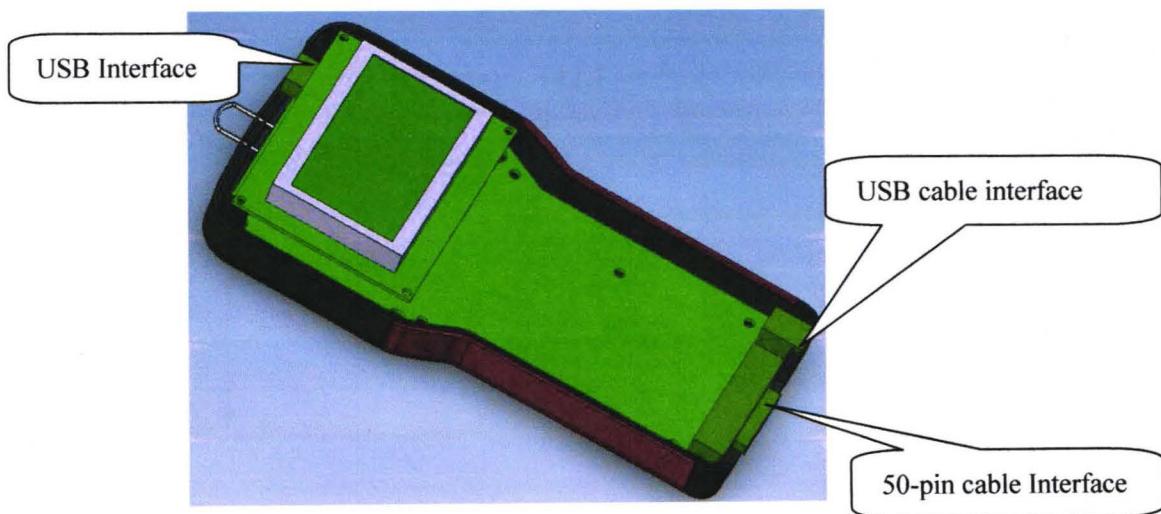
Chapter 3 MPC6610 Dimension

3.1 Handle Dimension

3.2 P50 Connection Board Dimension

Chapter 4 MPC6610 Hardware Interface

4.1 MPC6610 Hardware Interface Introduction

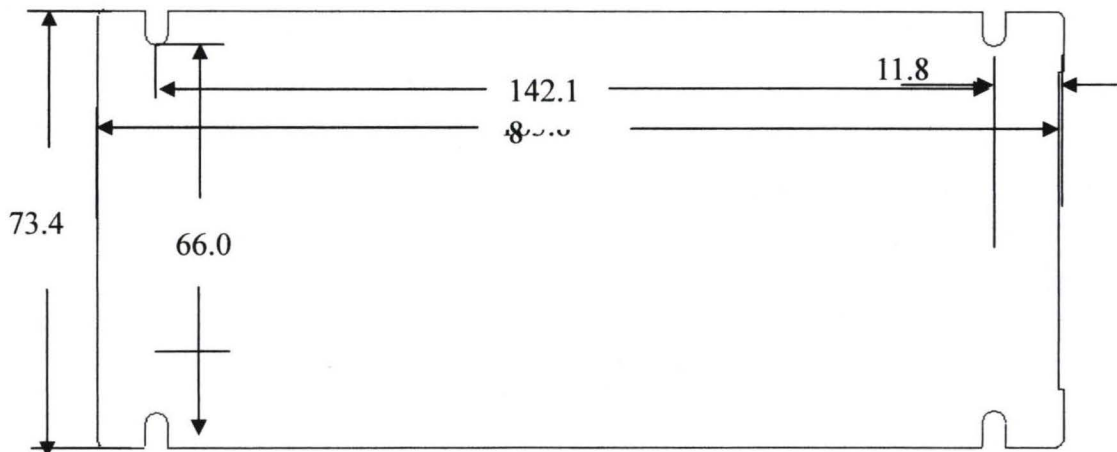| Name	Pin Definition					
	1	**2**	**3**	**4**	**5**	**6**
POWER1	24V Power +	GND				
X1	X Axis + limit	X Axis -limit	YAxis+limit	YAxis-limit	ZAxis+limit	Z Axis - limit
X2	X Axis Home	Y Axis Home	Z Axis Home	U Axis Home	GND	24V
X3	IN1	IN2	IN3	IN4	GND	
Y1	X axis pulse	X Axis Dir	5V			
Y2	Y axis pulse	Y Axis Dir	5V			
Y3	Z axis pulse	Z Axis Dir	5V			
Y4	U axis pulse	U Axis Dir	5V			
Y5	OUT1	OUT2	OUT3	OUT4	GND	
Y6	SP0	SP1	SP2	SP+	GND	
J1	50-pin cable connector					

1）POWER1：Power input Interface（24VDC）

2）Note：MPC6610 adopts 24VDC power supply. The other power pin is output power from the controller

⚠ **Caution**	MPC6610 adopts 24VDC power supply. Please make sure the correct and reliable power in order to avoid the part damage, and abnormal work.

🚫 **Prohibition**	All power supply is only used to control signals. It is prohibited to use is as the power supply of driver.

⚠ **Caution** c	The 3rd Pin of Y1、Y2、Y3、Y4 is 5v power supply from MPC6610. Please do not connect the exterior 5v power supply to the 3rd Pin.

① **Notice**	Both input and output adopt single end mode.

Chapter 5 MPC6610 Operation Interface

5.1 MPC6610 Panel Keypad

5.2 MPC6610 Main Interface

5.2.1 Main Interface

Turn on the controller, it will show the following screen:

Then 5 seconds later, it automatically enters " Datum" screen as follows:

Press , the machine goes home, and the screen enters **Main interface** as follows, or Press

 to enter **Main interface.**

```
1X    0.000   Stop
1Y    0.000   Off
1Z    0.000   High
Step
```

1) **X, Y, Z** shows current **absolute coordinate** of three axes. For example: "X 10.997" shows that current X axis absolute coordinate is 10.997

2) "**Stop**" shows the machine state is " Stop". It shows different condition according to the machine current state. For example, it shows **"Run"** while it is working. It shows **"Pause"** if you suspend the machine while working. It shows **"Home"** if the machine goes to machinery origin. It shows **"Manl (Manual)"** while operating manually and so on.

3) "**Off**" shows the spindle state is " off ". It will show the spindle grade state No. while working.

4) "**High**" means that the current max speed depends on the user setup " Manual High". Press , it switches to "**Low**", The current max speed depends on the user setup" Manual Low".

5) (Manual) **Mode (Continuous** mode, **Step** mode, **DST(Distance)** mode)

Press Three Manual move modes switches as follows:

"**Step**" X, Y, Z axis move once 0.1mm while pressing 、、、、、

 . 0.1mm is stable. Please contact the factory if you want to amend it.

"**Continuous**": X, Y, Z axis begins to move while pressing 、、、、

 、 , and stop till the button releases

DST(Distance): In this mode, the machine move once according to the setup distance while

pressing once 、 、 、 、 、 ,

Remarks: In the following mode, you can modify the distance.

Such state, you can input any distance you want, and then press to confirm it.
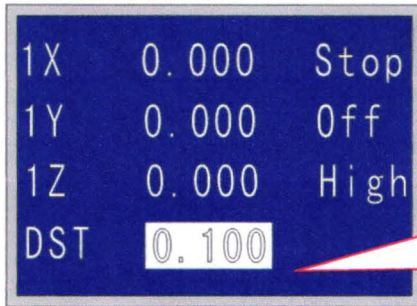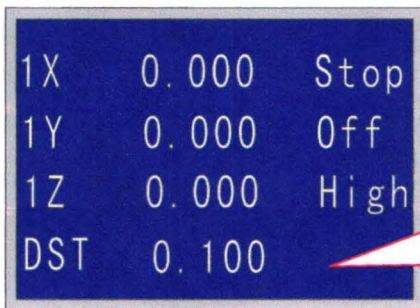
（**Figure 1**）

Such state, you can press to switch to the state of **Figure 1** to amend distance.

（**Figure 2**）

5.2.2 Switch H Wigh (speed) / Low (Speed)

Press to switch 【**High**】、【**Low**】

5.2.3 Modify High / Low value

Press as follows:

9

```
Manual: (mm/min)
Low        600
High       6000
DST.    0.100
```
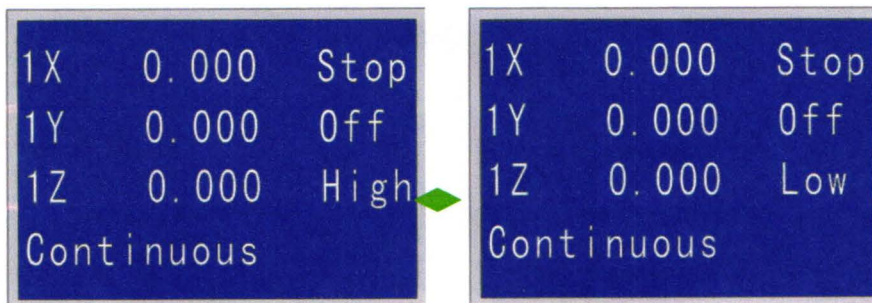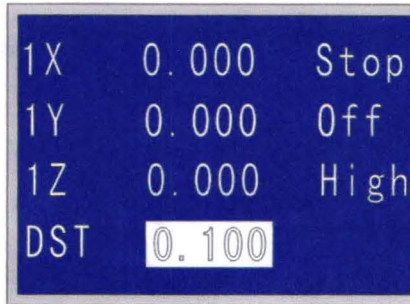
While manual Mode, Low speed is 600mm/ min. High speed is 9000/min Herein, DST (distance) is the same with manual moving DST (distance)

```
Manual: (mm/min)
Low        600
High       6000
DST.   [0.100]
```

```
1X    0.000    Stop
1Y    0.000    Off
1Z    0.000    High
DST   [0.100]
```
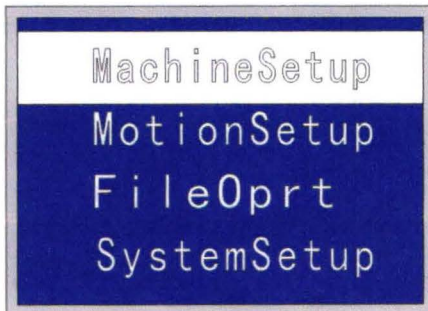
Remarks: The above two DST (Distance) settings are the same. While modifying one setting number, the other setting number will change to the same automatically.
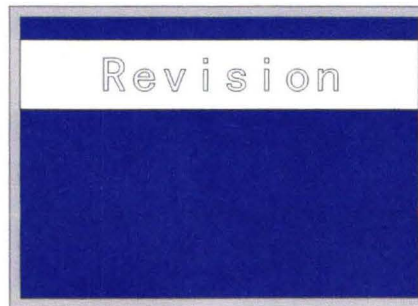
5.3 Menu

Press 菜单 MENU to **Enter Setting List**

```
MachineSetup
MotionSetup
FileOprt
SystemSetup
```
and
```
Revision
```

5.3.1 Menu Item Switch

1. Press X− 1◄ 、 X+ 4► to move the cursor among the menu item in one page.

2. Press Y− 2▼ 、 Y+ 5▲ to move the cursor to the next page.

3. Press 确认 OK to enter Menu item. Press 取消 CANCEL to return main interface.

5.3.2 Modify setting parameter. （**Modify the table size to illustrate：**）

Enter "**Machine Setup**" , and then press 确认 OK to enter 【**Table Size**】

```
Table Size:(mm)
X      1200.00
Y      2500.00
Z:      200.00
```

Second Step: Press [归零 ORIGIN] as follows:

```
Table Size:(mm)
X      1200.00
Y      2500.00
Z:      200.00
```

Press [归零 ORIGIN] to modify the number

Third step: Input correct number value according to the actual size:

```
Table Size:(mm)
X      1200.00
Y      2500.00
Z:      200.00
```

Press [取消 CANCEL] to modify the value if the input is wrong.

Fourth Step: Press [确认 OK] to confirm the table size setting.

Remarks: All modifying steps are the same as the above steps.

5.4 Machine Setup

5.4.1 Pulse Equiv (Equivalent)

First Step: Press [菜单 MENU] to enter as follows:

```
MachineSetup
MotionSetup
FileOprt
SystemSetup
```

Second Step: Press [确认 OK] to enter as follows:

```
Pulse Equiv
Table Size
Home Setting
Spindle Setup
```

Third Step: Press [确认 OK] to enter as follows:

```
Pulse/mm
X: 101.860
Y: 101.860
Z: 320.000
```

1、 Pulse Equivalent means the driver pulse number when the axis moves 1mm.
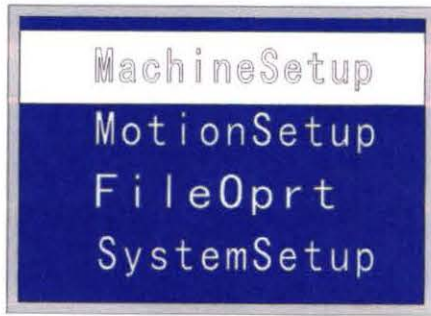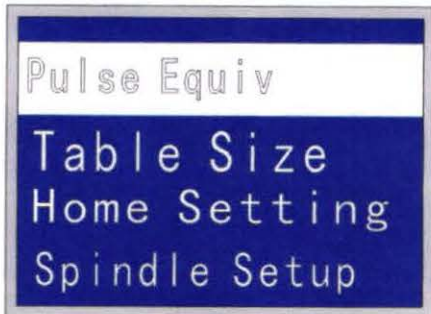
2、 Pulse Unit: Pulse/mm

[归零 ORIGIN]
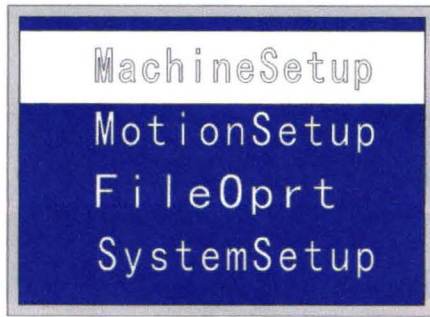
3、 Please press [归零 ORIGIN] to modify the number

If the working size in X Y axis is not correct, please modify the pulse equivalent as follows.

(Please Note: Pulse equivalent is certain according to the machine hardware, such as driver, and machine structure. Random change will lead to incorrect work and wrong speed) Please contact the manufacturer before modifying.)
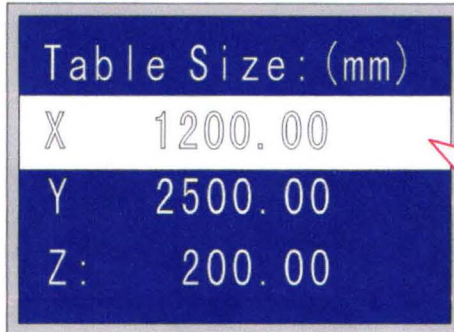
1、 For example, the theoretical cutting square size is 100 X100mm
2、 But the actual cutting square size is 90×90 mm
3、 Correct pulse equivalent = （101.86×100）/ 90
4、 Then input the correct pulse equivalent.

5.4.2 Table size

[菜单 MENU]

First Step: Press [菜单 MENU] to enter 【Machine Setup】 as follows:

```
MachineSetup
MotionSetup
FileOprt
SystemSetup
```

Second step: Press [确认 OK] to enter 【Table Size】 as follows：

```
Table Size: (mm)
X       1200.00
Y       2500.00
Z:       200.00
```

1、X Y Z Size unit：mm

[归零 ORIGIN]
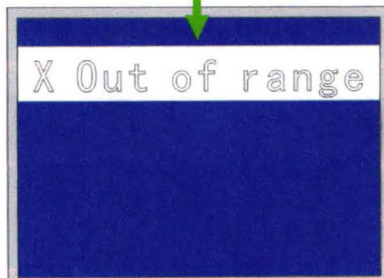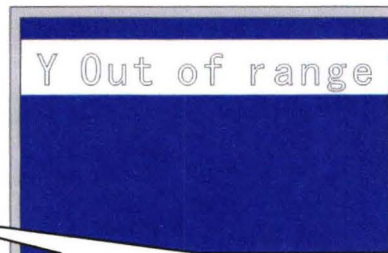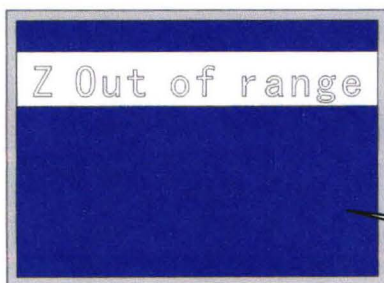
2、Press [ ] to modify the number

Remarks：

1、The number value means the max moving size in X、Y、Z axis after the machine go home. For example："X：1200" means the max moving area in X axis direction is 1200mm.

2、In manual moving, it stops moving while it exceeds table size, and the limit error report will shows as follows:

```
Z Out of range
```

```
Y Out of range
```

```
X Out of range
```

1、Limit error reports begins from Z axis, then X Y axis error.

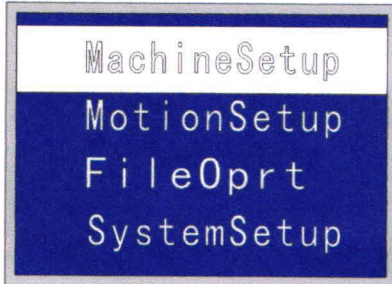2、This function is valid only after MPC6610 controller goes home.

Problem Solution:

1. Please check Pulse Equivalent is correct or not

2. Please check the file size to make sure the size does not exceed the table size.

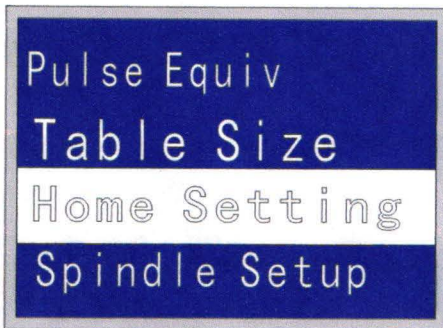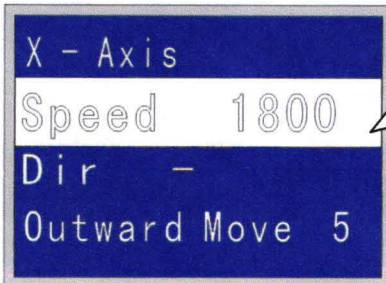3. Please contact with the manufacturer.

5.4.3 Home Setup

First Step: Press [菜单 MENU] to enter 【Machine Setup】 as follows:

```
MachineSetup
MotionSetup
FileOprt
SystemSetup
```

Step 2: Press [X+ 1▶]、or [X- 4◀] to choose 【Home Setting】,:

```
Pulse Equiv
Table Size
Home Setting
Spindle Setup
```

Step 3: Press [确认 OK] to enter 【Home Setting】 as follows:

```
X - Axis
Speed     1800
Dir        -
Outward Move  5
```

1、Speed Unit：mm/min, Max Home speed
2、Dir(Direction)：－ refers to Negative Direction, + refers to Positive Direction
3、Outward Move:: It refers to the backward moving distance after going home.

```
Y - Axis
Speed     1800
Dir        -
Outward Move  5
```

```
Z - Axis
Speed     1200
Dir        +
Outward Move  5
```
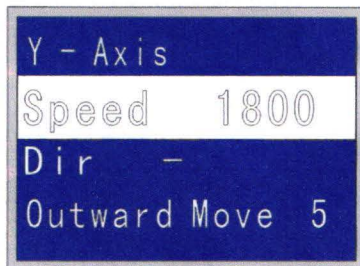
1、Press [X+ 1▶]、[X- 4◀] to move the cursor among the menu item in one page. Press [Y+ 2▲]、[Y- 5▼] to move the cursor to the next page.
2、Speed (Max Home speed) is set up according to the machinery

5.4.4 Spindle Setup

1） **0** Spindle startup/ stop(the current spindle start to rotate at the lowest setting

speed). The spindle rotational speed can be adjusted after pressing **Shift** 、

Shift after the spindle starups and processing work stops

2)

First Step: Press **MENU** to choose 【Machine Setup】

```
MachineSetup
MotionSetup
FileOprt
SystemSetup
```

Second Step：Press **1▶** 、or **4◀** to choose 【Spindle Setup】:

```
Pulse Equiv
Table Size
Home Setting
Spindle Setup
```

> 1、 Generally there is no need to modify the default spindle setup.
> 2、 Spindle Grade State: Low, Medium, and high. There are 8 （state speed. Every state speed depends on the Inverter setup.

Third Step：Press **OK** to enter 【Spindle Setup】 as follows：

```
Wait time:(ms)
2000
Grate State:
8
```
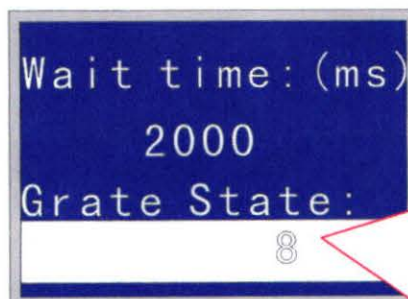
> 1. Wait time：It refers to the waiting time to move after press
>
> **RUN/PAUSE** .(It depends on the inverter setup)
>
> 2、 Please press **ORIGIN** to modify the number value.

Fifth Step：Press 归零 ORIGIN, and input 【8】 as follows:

```
Wait time:(ms)
      2000
Grate State:
         8
```
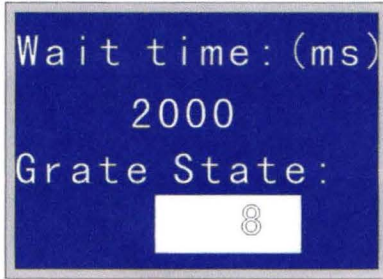
Sixth Step：Press 确认 OK to enter the following interface. (Remarks: There is no need to modify the following interface)

```
Off Spindle
Output:
          0 1 2 3
          ↑↑↑↓
```

```
1 Grade Speed
Output:
           0 1 2 3
           ↓↑↑↑
```

5.4.5 Voltage Setup

First step: Press 菜单 MENU to enter

```
MachineSetup
MotionSetup
FileOprt
SystemSetup
```

```
Voltage Setup
Tool Sensor
Backlash
Z Max Speed
```
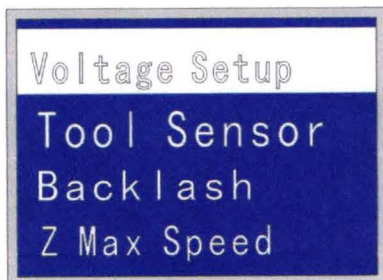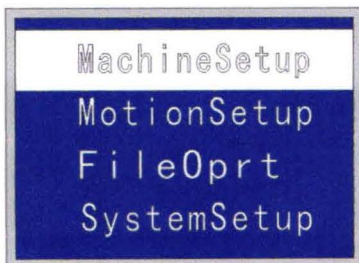
Third Step：press 确认 OK to enter 【Voltage Setup】 as follows

Active Level:

Low

High

It means that limit sensor signal, home signal, input signal, and output signal work at effective high voltage (about DC0.6V) or effective low voltage (about DC24V).

5.2.6 Tool sensor

First Step: Press 菜单 MENU to choose 【Machine Setup】

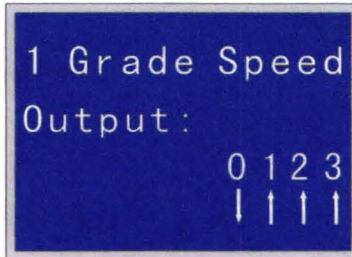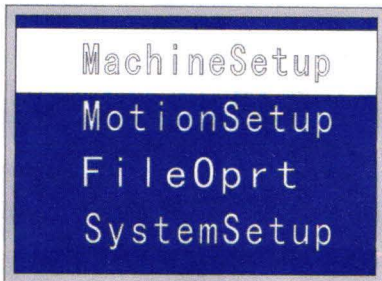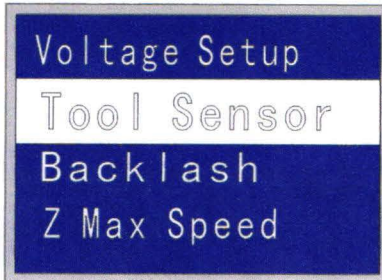MachineSetup
MotionSetup
FileOprt
SystemSetup

Second Step：press X+ 1▶ 、or X- 4◀ to choose【Tool Sensor】 as follows：（Press Y+ 2▲、Y- 5▼

to enter the next page）

Voltage Setup
Tool Sensor
Backlash
Z Max Speed

Third Step：Press 确认 OK to enter 【Tool Sensor】 as follows:

Sensor Thickness:

10.00 mm
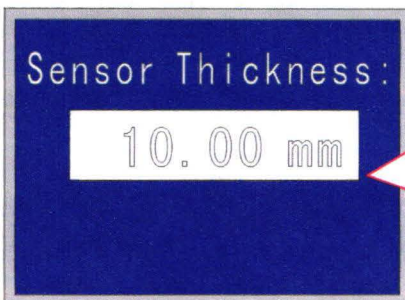
1、 Input the number value according to the tool sensor thickness supplied by the manufacturer. Unit：mm

2、 Press 确认 OK + Z-0 8 automatic tool setting

Remarks: After press 确认 OK + Z-0 8 to set tool automatically, please do not press Z-0 8 to make Z axis origin setting.

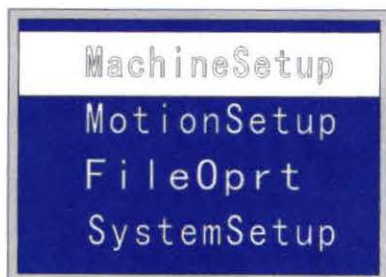### 5.2.7 Backlash

First Step : Press ⬤MENU to choose 【Machine Setup】

```
MachineSetup
MotionSetup
FileOprt
SystemSetup
```

Second Step: Press ⬤X+1▶ or ⬤X-4◀ choose 【Backlash】（Press ⬤Y+2▲ or ⬤Y-5▼ to enter next page.）

```
Voltage Setup
Tool Sensor
Backlash
Z Max Speed
```

Third Step: Press ⬤OK to enter 【Backlash】

```
Backlash:(mm)
X:      0.000
Y:      0.000
Z:      0.000
```

There is no need to change the number value. Unit: mm

5.2.8 Z axis Max speed

First Step : Press ⬤MENU to choose 【Machine Setup】

18

```
MachineSetup
MotionSetup
FileOprt
SystemSetup
```

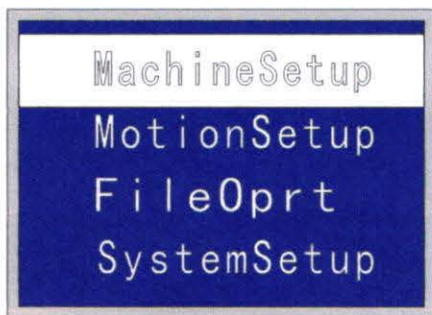Second Step: Press ⊞X+1▶ or ⊟X-4◀ choose 【Z Max Speed】（Press ⊞Y+2▲ or ⊟Y-5▼ to enter next page.）

```
Voltage Setup
Tool Sensor
Backlash
Z Max Speed
```

Third Step: Press 确认OK to enter 【Z Max Speed】 as follows:

```
Z Axis Max Speed
      1200
```
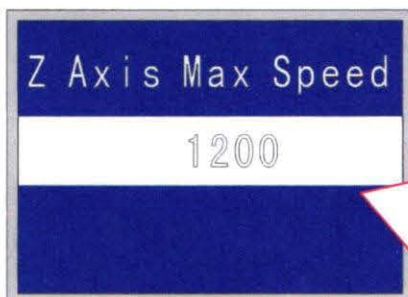
1. Speed Unit: mm/min
2. At manual Mode, it limits 【High】、【Low】.
   In normal processing, it limits Z axis max speed.(Remarks: Z ball screw lead generally is 5mm. 10mm.
3. Z axis max speed is normally set up 1200

5.3 Motion Setup

First Step : Press 菜单MENU , and press ⊞X+1▶ 、or ⊟X-4◀ , to choose 【Motion Setup】,

```
MachineSetup
MotionSetup
FileOprt
SystemSetup
```

Second Step: Press **确认 OK** to enter as follows:

```
Work Acc:
  1000mm/S2
Curve Acc:
  2000mm/S2
```
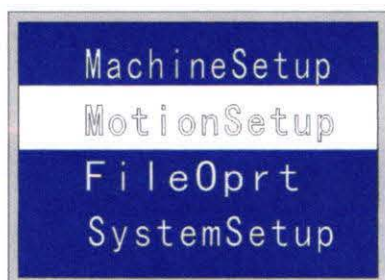
1、 Acceleration Unit:: mm/S²
2、 【Curve Acc(Acceleration)】 is two times as much as 【Work Acc (Acceleration)】
3、 The number value is empirical value.
4、 Please subject to the actual debugging to adjust Curve Acc and Work Acc.

Third Step: Press **Y- 5▼** to next page as follows:

```
Idle Speed:
  1800mm/min
Idle Acc:
  1000mm/S2
```

1、 Speed Unit: mm/min
2、 Please press **归零 ORIGIN** to modify the setting number.
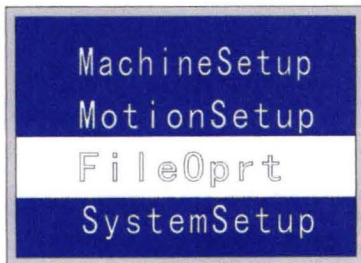3、 Idle speed is set up according to the mechanism.

Remarks:
  Please contact the manufacturer to open the hidden interface if you have any problem!

5. 4 File oprt(operation) 【Run File】

5.4.1 Copy U-disk file
First Step: Insert U-disk

Second Step: Press **菜单 MENU** and press **X+ 1▶** or **X- 4◀** to choose 【 File Oprt 】

```
MachineSetup
MotionSetup
FileOprt
SystemSetup
```

Third Step: Press **确认 OK** to enter as follows:

```
Copy U-Disk File
View Memory File
DEL. Memory File
```

Forth Step：Press [OK] to enter.

```
Sel U-Disk File
File1.mmg
File2.U00
File3.NC
```

Fifth Step: Press [X+ 1▶] 、or [X- 4◀] , to choose【Sel U-Disk File：File1.mmg】, and press [OK]

to enter the following interface.

```
Proces 10%
```
↔
```
Sel U-Disk File
File1.mmg
File2.U00
File3.NC
```
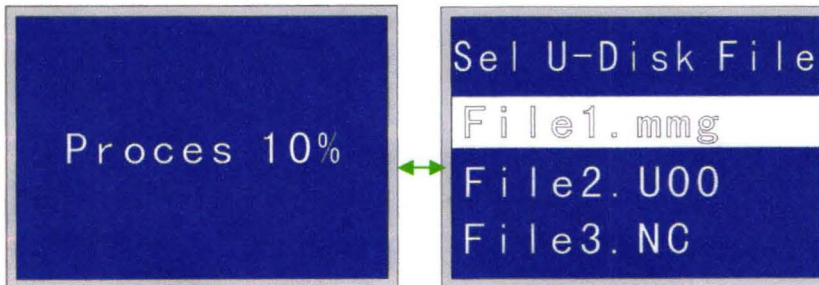
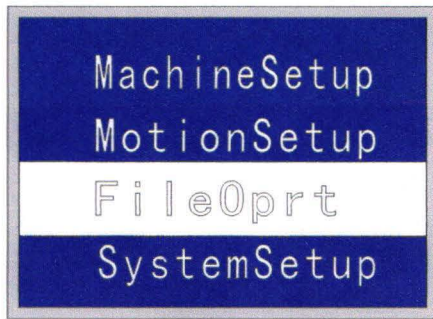Remarks：It will take some minutes if the file is too big.

Sixth Step：Press [CANCEL] to return 【Main Interface】

5．4．2. Run Memory file

Operation 1:

First Step：Press [MENU] and press [X+ 1▶] or [X- 4◀] to choose【File Oprt】as follows:

```
MachineSetup
MotionSetup
FileOprt
SystemSetup
```

Third Step：Press [X+ 1▶] or [X- 4◀] to choose【View Memory File】as follows:
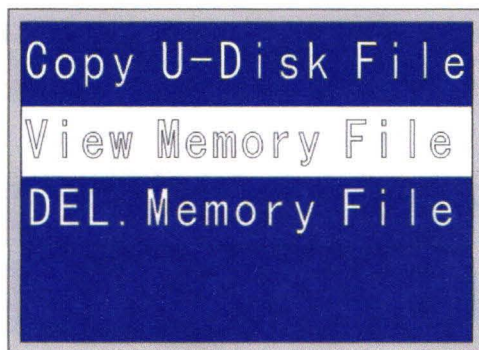
```
Copy U-Disk File
View Memory File
DEL.Memory File
```

Forth Step: Press [X+ 1▶] or [X- 4◀] to choose【Sel Memory File：File1.mmg】, and press [确认 OK]

Run the file

```
Sel Memory File
File1.mmg
```

Fifth Step：Press [运行/暂停 RUN PAUSE] to enter Run(Operation) interface as follows:

```
Work Spd    2000
Idle Spd    1500
Spd State      1
Down Rate    60%
```
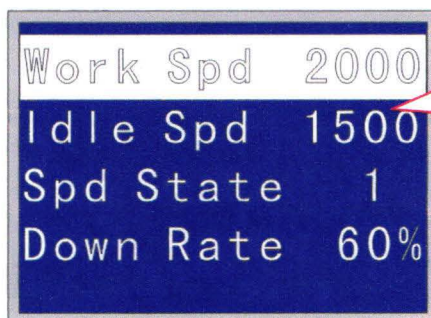
1、 Work Spd(Speed) Unit：mm/min
2、 Idle Spd(Speed) Unit：mm/min
3、 Spd State(Spindle grade State): It refers to the spindle motor speed per minute.
4、Down Rate：Z axis Max speed× Down rate = Z axis down speed of working.

```
Spd Rate    80%
Up DST.      5
```
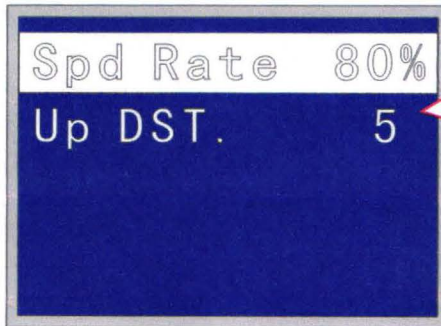
1、 Spd(Speed) Rate：Work speed×Spd Rate = the actual processing speed of X Y axis.

2、 Up DST(Distance)：It refers to Z axis up distance while pressing 停止 STOP . The number value is set up in edit software.

Sixth Step：Press 运行 暂停 RUN/PAUSE again. If the file is processed for the first time, the following interface will appear. If the file is not processed for the first time, the following interface will not appear. It will enter **Seventh Step.**
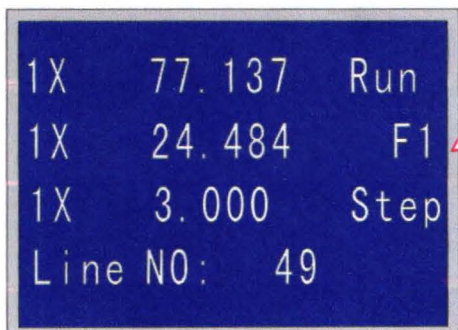
```
Proces 10%
```
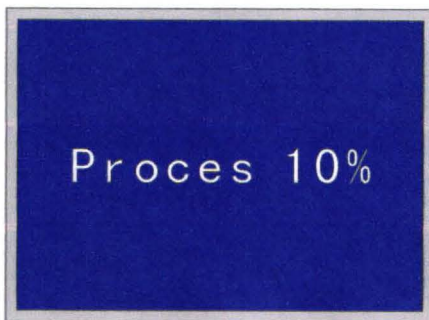
Seven Step：After Processing 100%, the following interface appears:

```
1X    77.137    Run
1X    24.484    F1
1X     3.000    Step
Speed Rate:    100%
```
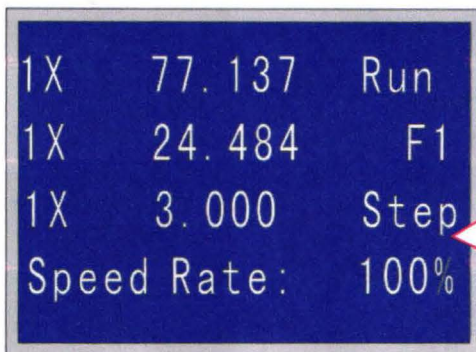
1、【Speed Rate】、【Line No.】、【spd】、【Counter】automatic switching display

2、 归零 ORIGIN + Digit（1~6）：Switch to multiple workpiece origin(coordinates) 【Up to 6 coordinates】

3、 Spindle grade state：off、F1、F2、F3、F4、F5、F6、

```
1X    77.137    Run
1X    24.484    F1
1X     3.000    Step
Line NO:    49
```

1、 While processing, press 确认 OK + 调速↑ shift 、 调速↓ shift to change the spindle state.

2、 While processing, only 【Step】 mode works，and every manual move default distance is 0.1mm. Please contact the manufacturer if you want to modify this number value.

```
1X      77.137    Run
1X      24.484     F1
1X       3.000    Step
Speed :  20 mm/min
```
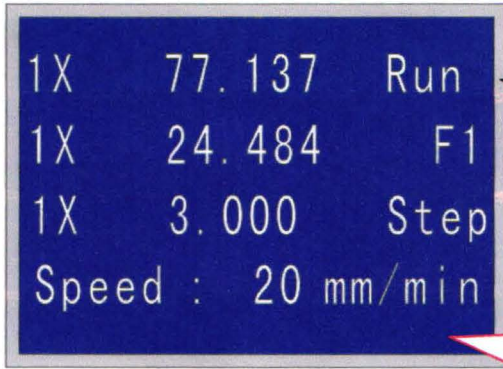
1、 Herein, it shows 【Run】 while processing. While pause, it shows 【Pause】

1、 While processing, press [调速↑ shift]、[调速↓ shift] to adjust the speed. The speed change 5% times every press.

Operation 2：Press [运行/暂停 RUN/PAUSE] to run the memory file.

First Step：Press [运行/暂停 RUN/PAUSE] and [X+ 1▶] or [X- 4◀] to choose 【Memory File】

```
U-Disk File
Memory File
Stop Point
Advance
```

Second Step：Press [确认 OK] to enter as follows:

```
Sel Memory File
File1.mmg
```

Third Step：Press [X+ 1▶]、or [X- 4◀] to choose 【Sel Memory File：File1.mmg】

(Press [Y+ 2▲] or [Y- 5▼] to the next page).

Forth Step: Press to enter the following interface. The following step is the same with above Operation 1.

5.4.3. Run U-Disk File

First Step: Insert U-disk.

Second Step : Press , and press or to 【U-Disk File】
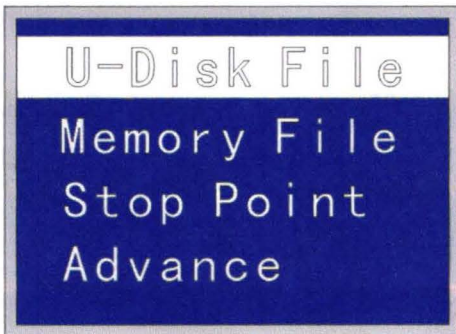
Third Step: Press to enter as follows:

Forth Step: Press 、 or , or to choose 【Sel U-Disk File: File1.mmg】 The following step is the same with above Run Memory File or

5. 4. 4. Stop point and Adjust Z axis height

25

First Step: Press [RUN/PAUSE] two times and enter the following interface:

```
1X      77.137    Run
1X      24.484     F1
1X       3.000    Step
Speed Rate:      100%
```

Second Step: Press [RUN/PAUSE] to enter 【Pause】 interface, then press [Z+ 3▲], [Z- 6▼] to adjust Z axis height as follows:

```
1X      77.137    Pauz
1X      24.484     F1
1X       3.000    Step
Speed Rate:      100%
```

Press [RUN/PAUSE] to stop the work if the material is not flat during processing, and then adjust Z axis down deepness.

Third Step: Press [Z- 6▼] to adjust Z axis height as follow:

```
1X      77.137    Pauz
1X      24.484     F1
1X       2.900    Step
Speed Rate:      100%
```

1、Under the mode of 【Manual】, default manual move distance is 0.1mm,
Please contact the manufacturer if you want to modify the distance.

Forth Step: Press [RUN/PAUSE] to enter as follows after adjusting Z height in Pause state.

Original ?

1、Press 确认 OK to continue to run the file according to old Z height.(New Z height setting is canceled). Press 取消 CANCEL to run the file according to new Z height,

Fifth Step：After press 确认 OK or 取消 CANCEL, the interface is shows as follows:

```
1X     77.137     Run
1X     24.484      F1
1X      2.900     Step
Speed Rate:      100%
```

Sixth Step：Press 运行 暂停 RUN PAUSE to enter 【Pause】 state:

```
1X     77.137     Pauz
1X     24.484      F1
1X      2.900     Step
Speed Rate:      100%
```

Seven Step：Press 菜单 MENU to enter as follows:

1、Current Stop point line is at the 19th G-code.

Please press 归零 ORIGIN to modify this number.

Press 确认 OK to save Start line, and then press 运行 暂停 RUN PAUSE to continue to run the file.

27

```
Line NO:
              19
Start Line NO:
              19
```


Eighth Step：Press to enter the following interface.

```
1X      77.137      Run
1X      24.484      F1
1X       2.900     Step
Speed Rate:      100%
```
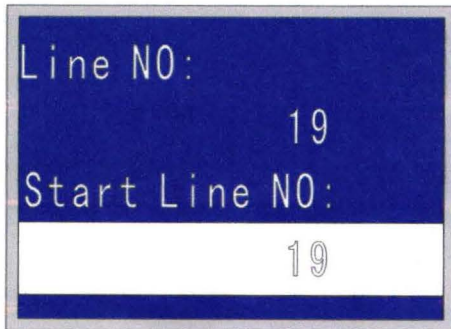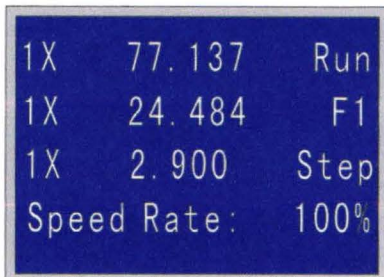
Ninth Step：Press ，and then press to enter the following：

```
1X      77.137     Pauz
1X      24.484      F1
1X      -0.200     Step
SaveStopPoint?   ✳
```
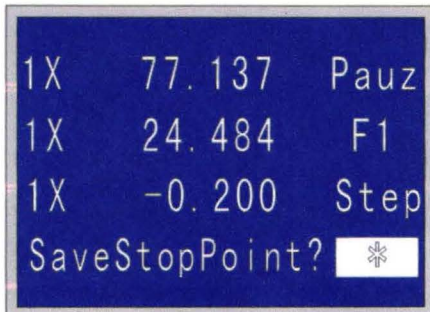
Tenth Step: Input any number among 1-6 , and then press to save Stop point.

```
1X      77.137     Pauz
1X      24.484      F1
1X      -0.200     Step
SaveStopPoint?   1
```
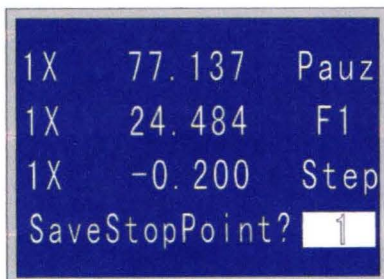
5.4.5 Stop point

First Step: Press ![RUN/PAUSE], and press ![X+ 1▶] 、 or ![X- 4◀], ![Y+ 2▲] or ![Y- 5▼] to choose 【Stop Point】 as follows:

```
U-Disk File
Memory File
Stop Point
Advance
```

Second Step: Press ![OK] to enter as follows:

```
Stop Point: ✳
```

Third Step: Input the previous saved Stop point 1:

```
Stop Point: 1
```

Forth Step: Press ![OK] to enter the following interface.

```
Line NO:
          19
Start Line NO:
          19
```
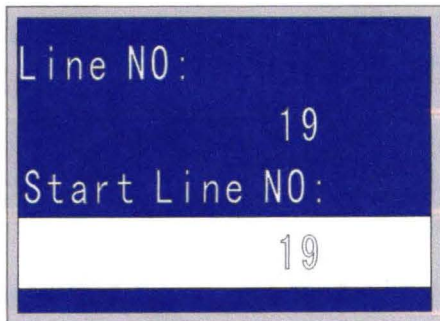
Fifth Step: Press ![RUN/PAUSE] to enter the following interface if you want to continue to run the file from Start Line No.19,

```
Work Spd   2000
Idle Spd   1500
Spd State     1
Down Rate   60%
```
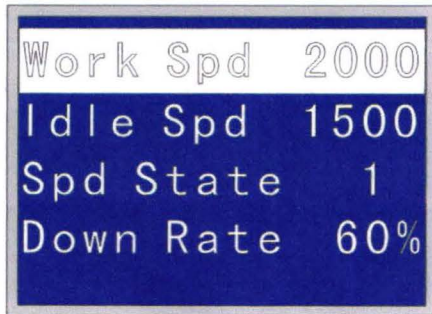
Sixth Step: Press [RUN PAUSE] to continue to run and enter the normal interface as follows:

```
1X    77.137    Run
1X    24.484    F1
1X     2.900    Step
Speed Rate:   100%
```
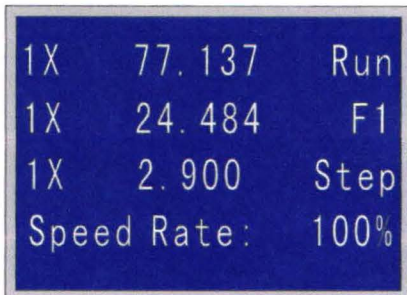
Remarks:

1. In the case of going home, continue to run the file from the saved Stop Point at any time
2. In the case of no going home, only while the tool head does not work can the saved Stop Point be available.

5. 4. 6 Advance

First Step: Press [RUN PAUSE], and press [X+ 1▶] 、 or [X- 4◀], to choose 【Advance】 as follows:

```
U-Disk File
Memory File
Stop Point
Advance
```

Second Step : Press [OK] , and press [X+ 1▶] 、 or [X- 4◀] to choose 【 Milling 】

```
Milling
Matrix
```

Third Step: Press 确认 OK

```
X DST.    100.00
Y DST.    100.00
Depth     0.50
FeedDST.  0.50
```
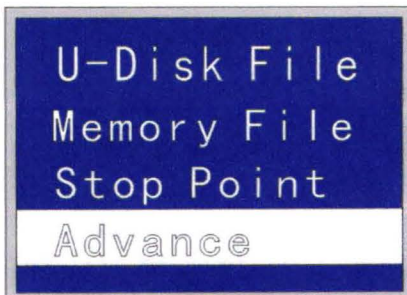
1、This function is only for milling flat table.

Forth Step: Press X+ 1▶ 、or X- 4◀ choose【Matrix】

```
Row NO        1
Col NO        1
Row Pitch     1mm
Col Pitch     1mm
```
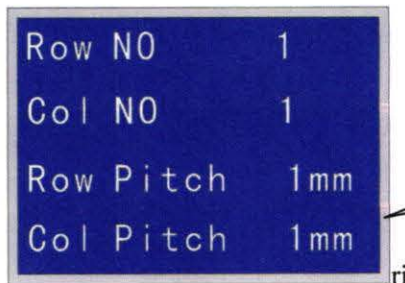
It is only used for processing the same graphics file.

ri

5. 4. 7 Go Home Setup

Go home Setup decides if the power-off protection and Stop-point are valid or not.
Setup 1.:【Hint home: No】、【Home on Start: No】

```
Home on Start: No
Hint Home: No
```

【Home on start: Yes】: Go home automatically after MPC6610 controller turn on.
【Home on Start: No】: Do not go home after MPC6610 controller turn on.

Then enter the following interface while MPC6610 controller turns on.

```
G-Code Executant
```

```
1X      0.000    Stop
1X      0.000    Off
1X      0.000    High
Step
```

Remarks:

    1、   Stop-point and Power-off protection are not valid in this manner of such setting.

    2、   Only after going home, stop-point and power-off protection are not valid.

Setup 2：【Hint home：No】、【Home on Start：No】

```
Home on Start: Yes

Hint Home: No
```

【Home on Start：Yes】：Go home automatically after MPC6610 controller turn on.

【Home on Start：No】：Do not go home after MPC6610 controller turn on.

Then enter the following interface while MPC6610 controller turns on.

```
G-Code Executant
```

```
1X    66.10    Home
1Y    66.10    Off
1Z    30.00    High
Continuous
```

Herein, Hint 【Hint】,
After going home, stop-point and power-off protection are both valid.

```
1X    0.000    Stop
1Y    0.000    Off
1Z    200.00   High
Continuous
```

Setup 3: 【Hint Home: Yes】

```
Home on Start: No
Hint Home: Yes
```

【Hint Home: Yes】: After MPC6610 controller turn on, it hints【Datum?】, Press 确认OK to go home. Otherwise press 取消CANCEL to enter Main interface instead of going home.

【Home on Start: No】: Enter Main interface after turning on.

Then enter the following interface while MPC6610 controller turns on.

```
G-Code Executant
```

```
Datum?
```

Herein, Hint 【Datum】

33

Operation 1: Press [OK 确认] to go home and enter the following interface.

Stop-point and Power-off protection are valid in this manner of such setting.

```
1X    66.10    Home
1Y    66.10    Off
1Z    30.00    High
Continuous
```

```
1X     0.000   Stop
1Y     0.000   Off
1Z    200.00   High
Continuous
```

Operation 2 : Press [CANCEL 取消] to enter the following Main interface instead of going home.

```
1X     0.000   Stop
1Y     0.000   Off
1Z    200.00   High
Continuous
```

Remarks:

1. Stop-point and Power-off protection are not valid in this manner of such setting.

2. If 【Hint home: Yes】, and press [OK 确认], and 【Home at start: Yes】, stop-point and power-off protection are not valid in this manner of such setting.

5. 4. 8 Power off Protection

First Step: Turn on the handle to enter the following interface:

```
Datum?
```

Second Step：Press 确认 OK , then the machine go home automatically and enter as follows:

```
1X     0.000    Stop
1Y     0.000    Off
1Z    200.00    High
Continuous
```

Third Step：Run file to enter the normal processing interface:

```
1X     66.10    Run
1Y     66.10    F1
1Z     30.00    Step
Speed 18000mm/min
```

Forth Step：Suddenly the power is off. Then turn on the handle to enter the following:

```
Datum?
```

Fifth Step：Press 确认 OK , the machine go home automatically, the handle shows as follows:

```
1X    0.000   Stop
1Y    0.000   Off
1Z   200.00   High
Continuous
```

Power-off Protection / Continue?

```
Protect Valib!
Start Work?
```

Sixth Step: Press [OK 确认 OK] 、or [CANCEL 取消 CANCEL] to choose if Continue work or not

1、Press [OK 确认 OK] to enter the following to continue the processing work.
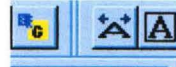
```
1X    66.10   Run
1Y    66.10   F1
1Z    30.00   Step
Speed 18000mm/min
```

1. Press [CANCEL 取消 CANCEL] to cancel 【Power off Protection】
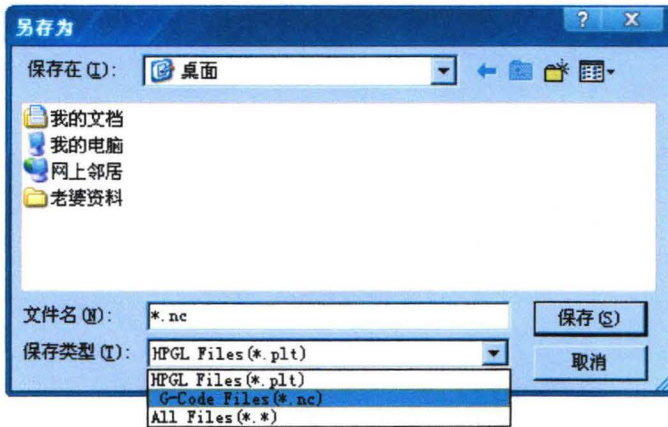
```
1X    0.000   Stop
1Y    0.000   Off
1Z   200.00   High
Continuous
```

5．4．9．Read processing file.

1. Wentai saved file format. (Wentai is also called Ucancam, Artcut)
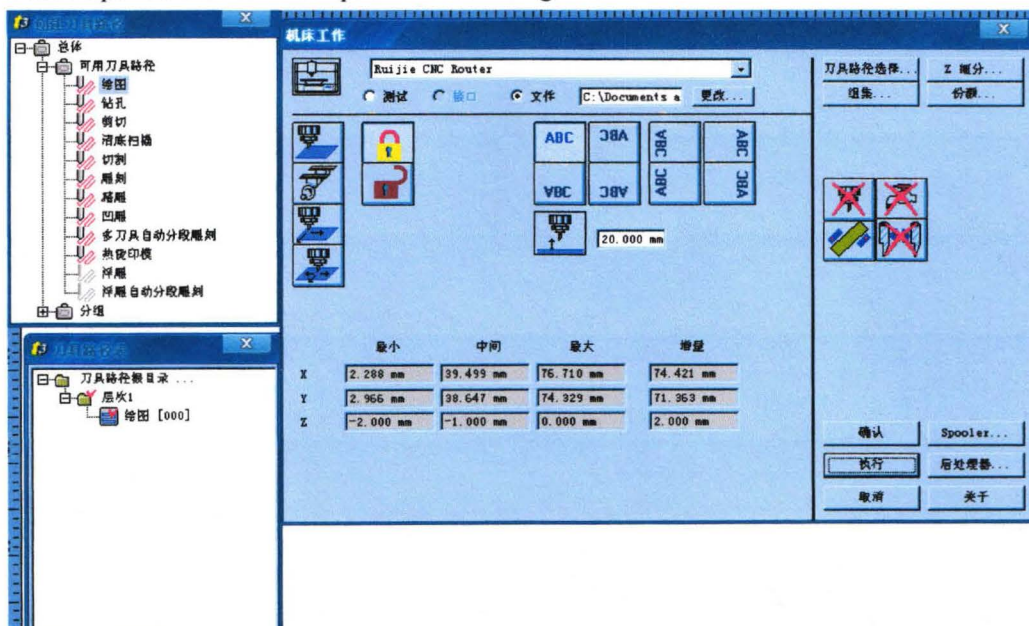

1、Press " Save Tool path" after editing the file in Wentai software. ，
The saved file format in Wentai is G-Code Files(*.nc)

1、 Read Type 3 software file
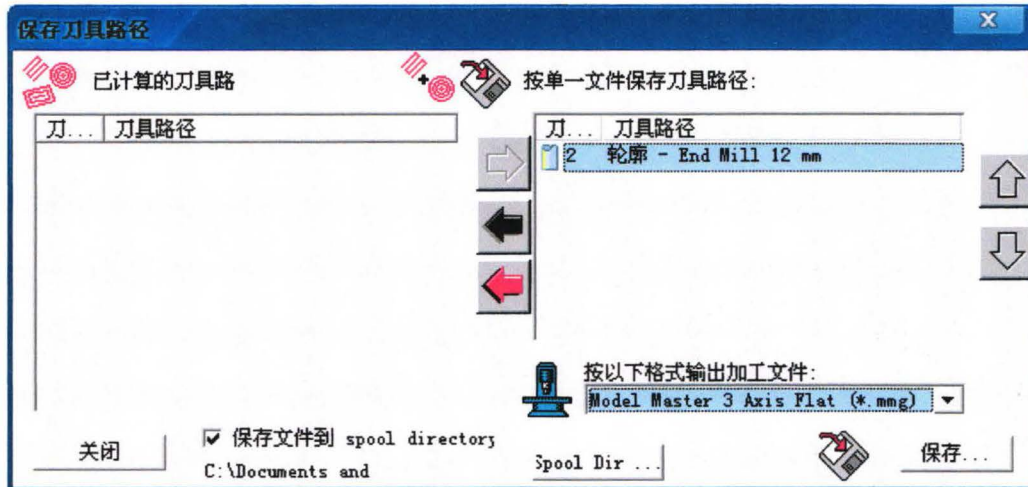
First Step：Save the file tool path after finishing the edit.

37

Second Step：The saved file format in Type 3 is *.UOO

2、ArtCAM Software

First Step：Save tool path in ArtCAM after editing the file as follows:

Second Step：Output the file and save the file in the format "Model Master 3 Axis Flat (*.mmg)"

Third Step：Please use U-disk to download the file to the controller after the tool path is saved.

Remarks：

1、Please make the U-disk format in Fat.

2、Garbled processing file code will make the controller MPC6610 also garbled after downloading.
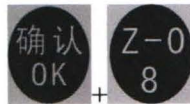
5．4．10 Key Combination.

 ：Run the latest memory file.加工最近一次的内存文件

 +Digit（1~6）：Switch to multiple workpiece origin(coordinates)

 ：Absolute coordinate of Mechanical origin.（Only after the machine go home, will this coordinate value be accurate.）

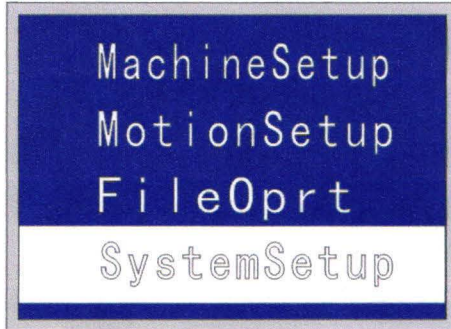 ：Automatic tool setting (Remarks：please do not press singly after auto Tool setting)

 ：Go to workpiece origin.

Please contact the manufacturer if you want to correct the hidden parameters.

5．5　System Setup

5．5．1 Language

First Step：Press ![menu button], and press ![X+ 1▶ button] or ![X- 4◀ button] to choose【System Setup】

```
MachineSetup
MotionSetup
FileOprt
SystemSetup
```

Second Step：Press ![OK button] to enter【Language】:

```
Language
Update
Backup
Restore
```

Third step：Press ![X+ 1▶ button] 、or ![X- 4◀ button] to choose【English】and press ![OK button] to enter English language

```
中文
English
```

5．5．2 Update

First Step：Insert U-disk of Update file.

Second Step：Press ![MENU], and press ![X+ 1▶]、or ![X- 4◀] to choose 【System Setup】，

```
MachineSetup
MotionSetup
FileOprt
SystemSetup
```

Third Step：Choose【Update】

```
Language
Update
Backup
Restore
```
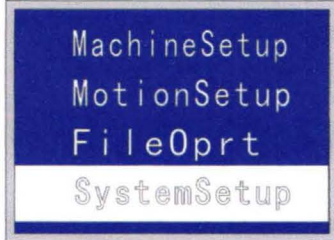
Forth Step：Press ![OK]

```
Updating...
```

Please observe the light state of U-disk. Flash indicates the file downloading. Light on indicates the file downloaded.

```
Updating Succeed
System Restart
```

```
G-Code Executant
```

40

5．5．3 Backup

First Step：Press **菜单 MENU**, and press **X+ 1▶**、or **X- 4◀** to enter 【System Setup】

```
MachineSetup
MotionSetup
FileOprt
SystemSetup
```

Second Step：Press **确认 OK** to choose 【Backup】

```
Language
Update
Backup
Restore
```

Third Step ：press **确认 OK**

```
Successful!
```

5. 5. 4 Restore

First Step: Press [菜单 MENU] and press [X+ 1▶] 、or [X- 4◀] to choose 【System Setup】,

```
MachineSetup
MotionSetup
FileOprt
SystemSetup
```

Second Step: Press [确认 OK] to choose 【Restore】

```
Language
Update
Backup
Restore
```

Third Step: Press [确认 OK] to backup the file:

```
Successful!
```
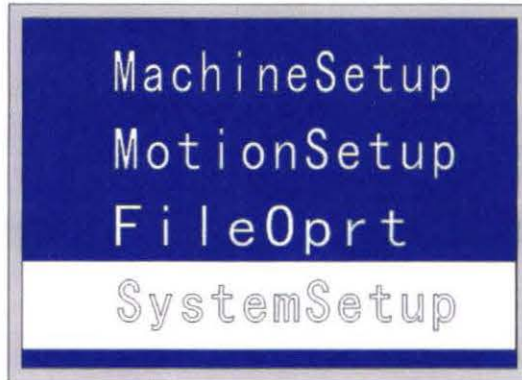
5．6 Revision

First Step：Press ![菜单 MENU] and press ![X+ 1▶] 、 or ![X- 4◀] to choose 【Revision】

Second Step：Press ![确认 OK] as follows:

FMW:v1.0.0.0
HDW:V1.0.1.0
SN: 1
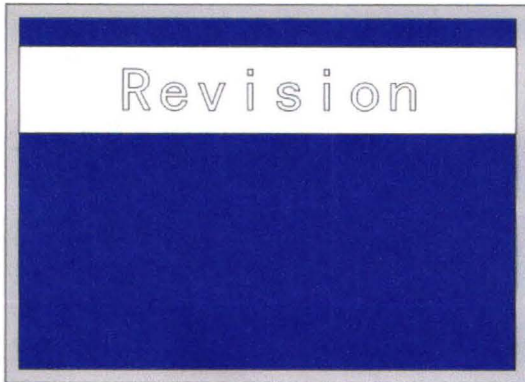
It is to check the current Version for management and maintenance.

Remarks：

Please check the Revision, and contact the manufacturer while there is some wrong with MPC6610 controller.