



Better life since you joined us!



SINJOE TECH CO.,LTD

User Manual

Product Name:

[Co2 Laser Cutter Engraver Driller Dsp Control System Awc708C LITE](#)

Supplier: Sinjoe Technology Co.,Limited

Copyright (c) Sinjoe Technology Co.,Limited All Rights Reserved

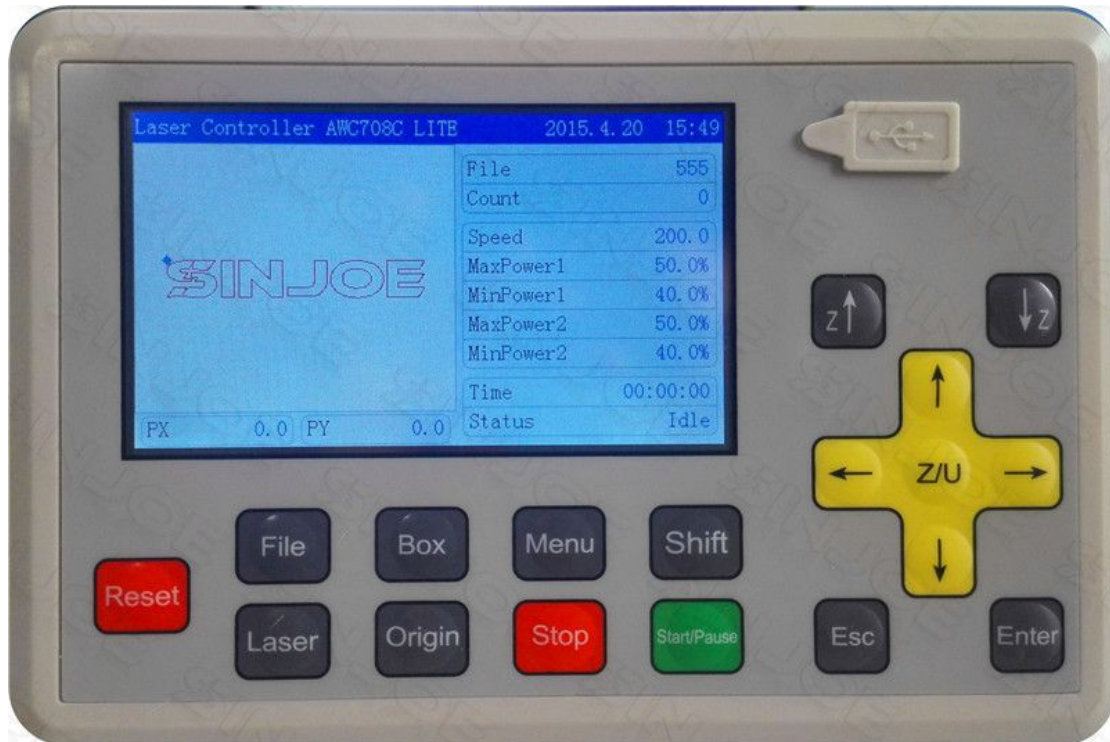
Refuse Rewrite!

Sinjoe Tech Awc708c Lite Controller User Manual SJ 7.10L

Category

1.Panel Preview.....	4
2.Buttons Function Introduction.....	4
3.Main Menu Function Introduction.....	5
4.Main Menu Function Settings.....	5
4.1 Document parameters settings.....	6
4.2 Layer Parameters Settings.....	7
4.3 Cleaning Total Count.....	8
4.4 Set Work Property.....	9
5.Main Menu Function Settings.....	9
5.1U Disk Files.....	9
5.1.1U Disk Work Files.....	10
5.1.2 Config Files.....	10
5.1.3Upgrade Files.....	11
5.1.4Save Current Config to U Disk.....	12
5.1.5U Disk Format	12
5.2 Origin Manage.....	13
5.3 Jog Control.....	14
5.4 Cut Box.....	15
5.5 Axes Control.....	15
5.6 Motion Parameters Settings.....	15
5.7 Common Parameters Settings.....	16
5.7.1 Work Mode.....	17
5.7.2 Common Parameters	18
5.7.3 Axis Speed Parameters.....	18
5.7.4 Rotate Engraving & Cutting	19
5.8 Network Settings.....	20
5.9 Language.....	21
5.10 System Version.....	21
6.Manufacturer Parameters Settings.....	21
6.1 Axes Parameters Settings.....	22
6.2 Laser Parameters.....	22
6.3 IO Parameters.....	23
6.4 AutoReset settings.....	23
6.5 HardLimit Settings.....	23
6.6 MultiHead Settings.....	24
6.7 Function Config.....	26

1.Panel Preview



2.Buttons Function Introduction

【Rest】 : No matter what the state of the machine is,pressing this button will make it enter the resetting state.

【File】 :Browsing the files stored in the controller main board.

【Pulse】 :For optical testing.Once pulse pressed,once co2 laser tube output.It is for optic way adjustment.

【Box】 :Testing the working area and origin point of the current file.

【Origin】 :Setting machine's starting point.

【Menu】 :To present the main menu.

【Stop】 :Once it has been pressed,the working machine will be stopped.And location would be back to the planned origin point.

【Shift】 :The second function switching button.To be used for exchange the Max and mini power of the four laser sources in the main menu.

【Start/Pause】 :Pause the machine and keep it stay at location.

【Z↑】 【Z↓】 :Directly control the upward,downward,left and right movement in the main menu.When not covered by cursor,it can be used for parameters changing.When Cursor covered the **【↑】 【↓】 【←】 【→】** ,it could be used for moving the cursor.

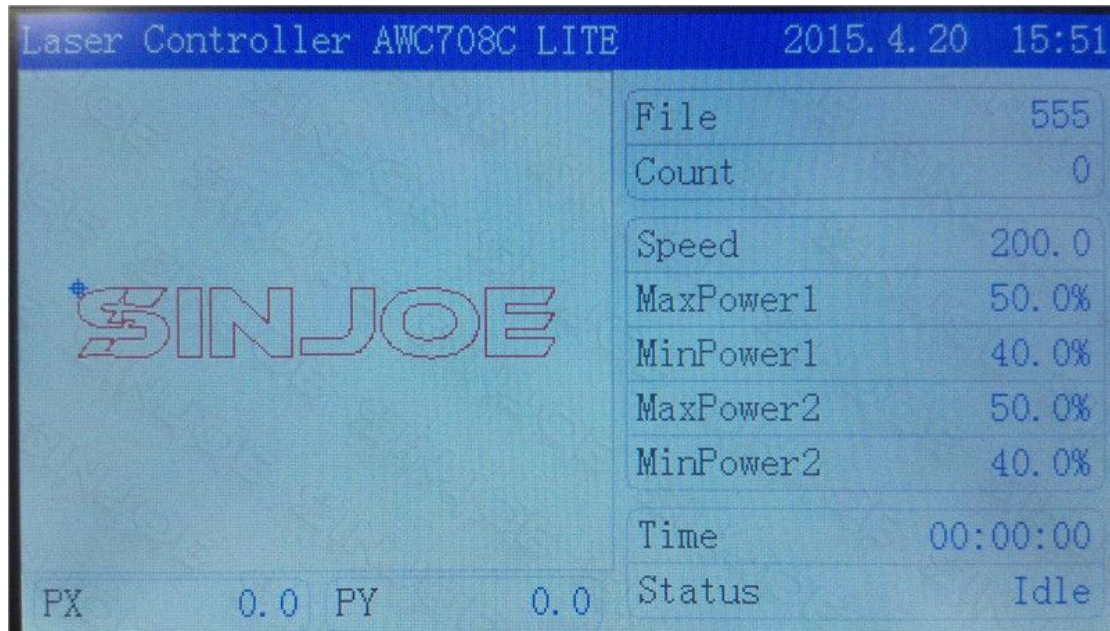
【↑】 【↓】 【←】 【→】 : For moving the XY Axes.Also could be used for the current cursor in current view.What's more,you may use it to change the options in the current view.

【Z/U】 : Z axis with auto focus.And Z,U,V,W axes movement functions.

【ESC】 : Exit edit mode (Exit cursor).Return to previous menu.

【Enter】 : Enter edit mode (start cursor).Confirm the current operation.

3.Main Menu Function Introduction



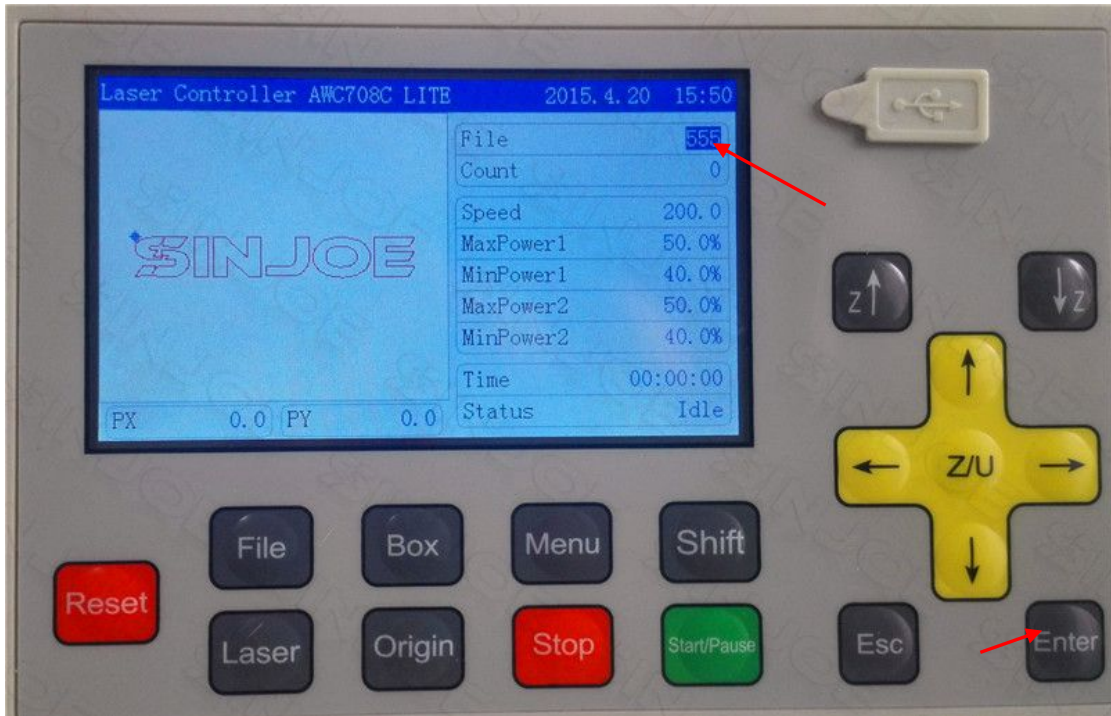
Laser Controller AWC708C LITE		2015.4.20 15:51	
File		555	
Count		0	
Speed		200.0	
MaxPower1		50.0%	
MinPower1		40.0%	
MaxPower2		50.0%	
MinPower2		40.0%	
Time		00:00:00	
Status		Idle	
PX	0.0	PY	0.0

- Top bar :To display control system software version, date and time.
- File: To display the file name currently being processed.(Not allowed Chinese name)
- Count :To show the finished number
- Speed :To display the default speed of this current file.
- MaxPower 1 MinPower1 /MaxPower2 MinPower2 :To display max and mini power of laser 1 and 2.Max power means working power.Mini power means turning power.
- Time :To display the time machine already worked with this task..
- Status :To display the machine states.Including working state,idle state,pause state.There will be a percent way to show the working process of the current file under working state.
- PX PY :To display the XY coordinate in the working state.

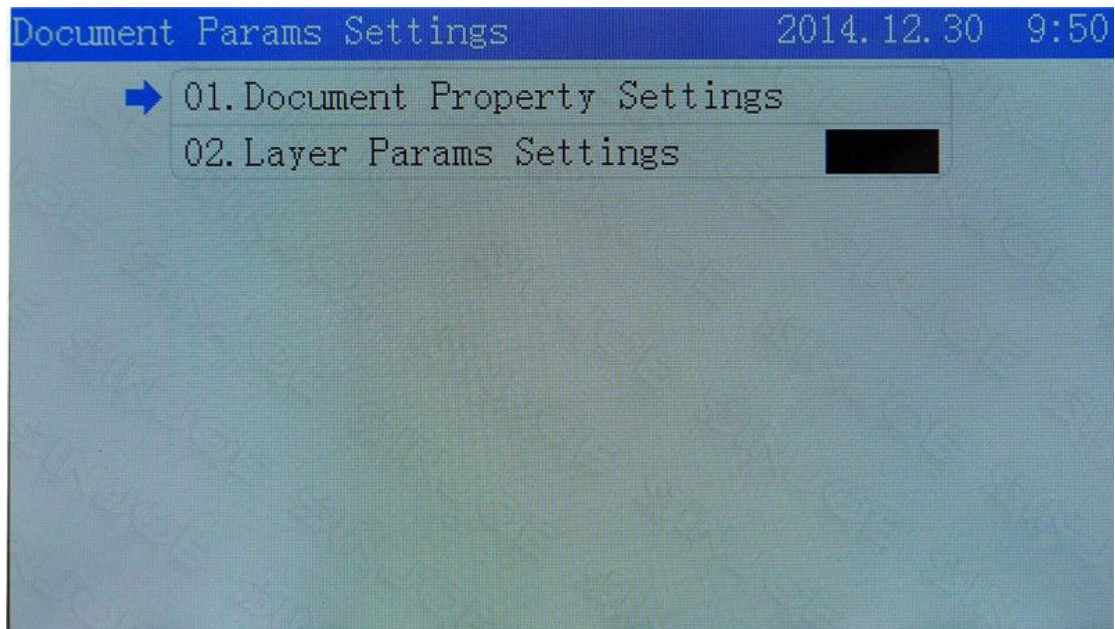
4.Main Menu Function Settings

4.1 Document parameters settings

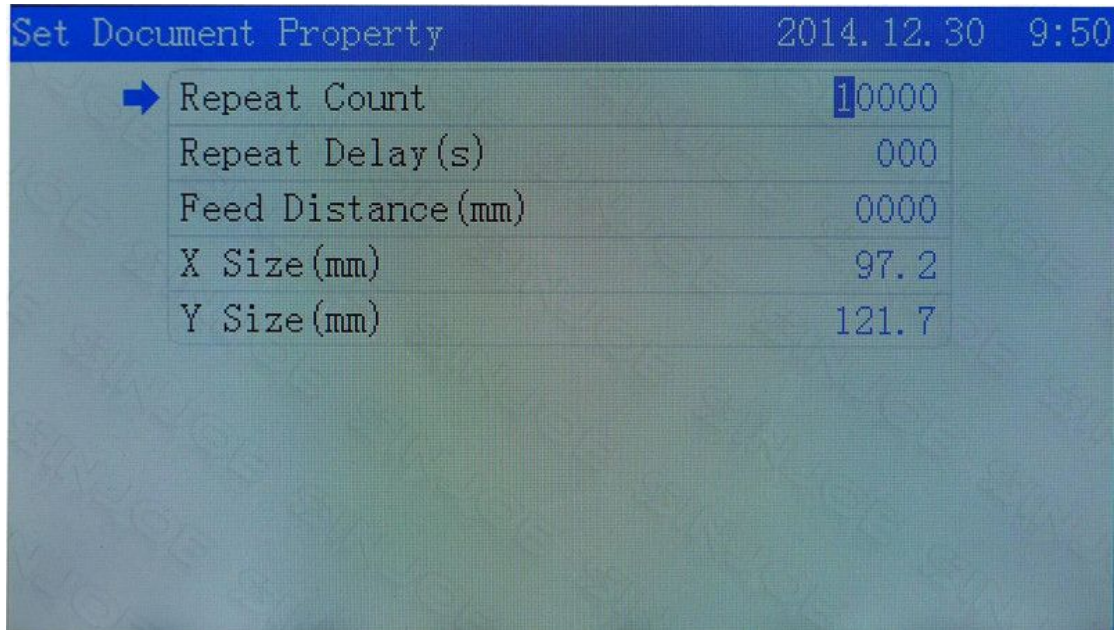
In the Main menu area press **【Enter】** to make the file name be anti-color displayed.



Second press **【Enter】** to enter file parameters setting area. Move cursor to **【Document Params Settings】**, Press **【Enter】** to enter the document parameters settings area.



Move cursor to the options you want to change, input numbers, then press **【enter】** to finish it.



- Repeat Count: Machine repeat working times.
- Repeat Delay(s): The period between the front file finished and the next repeat working the same file.
- Feed Distance(mm): Distance of each movement of the feeding axis .
- X Size(mm): The size in the X direction of the file
- Y Size(mm): The size in the Y direction of the file

4.2 Layer Parameters Settings

In the file parameters setting area,press **【↓】**to move the cursor to **【Layer Params Settings】**,Press **【Enter】** to enter Layer Parameters Settings area.

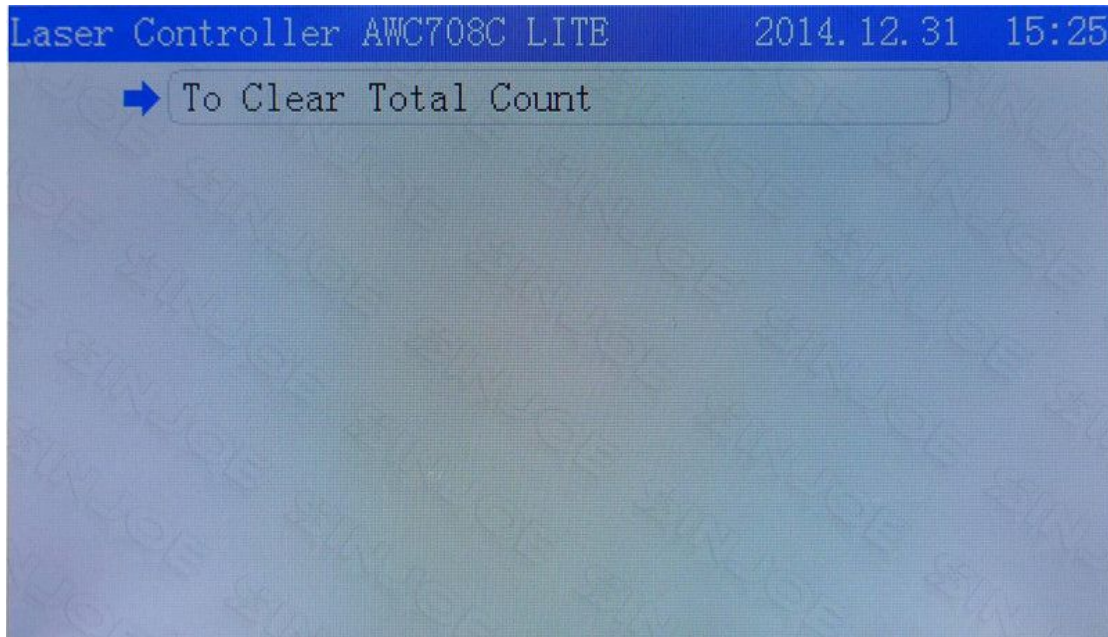


- Work Mode: To choose the working state of the processed file.
- Speed(mm/s): The speed of the processed file.

- Max Power :The max power of the laser head also means the working power of laser.
 - Min Power :The mini power of the laser head also means the turning power of laser.
- In the layer parameters area, move cursor to the options you want to change, Press **【Z↑】** **【Z↓】** to change the numbers.Then press **【Enter】** to finish it.

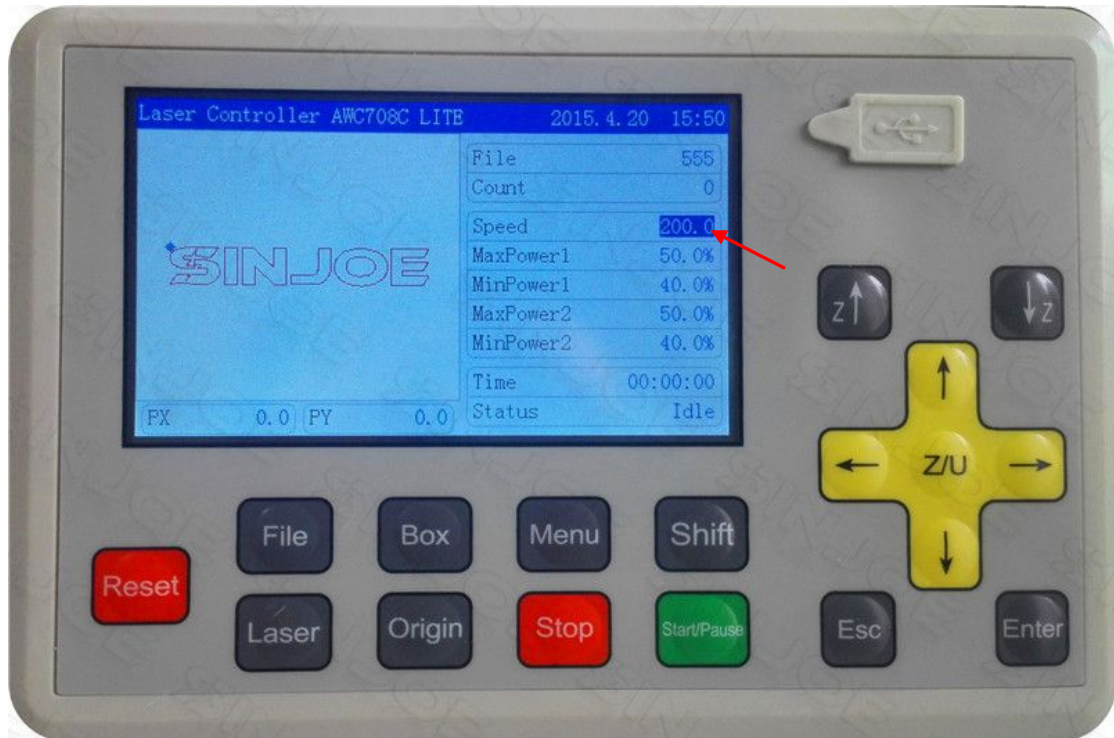
4.3 Cleaning Total Count

In the main menu press **【Enter】** to make the cursor anti-color displayed.And move it to **【Count】** ,then Press **【Enter】** to move it to **【To Clear Total Count】** and press **【Enter】**

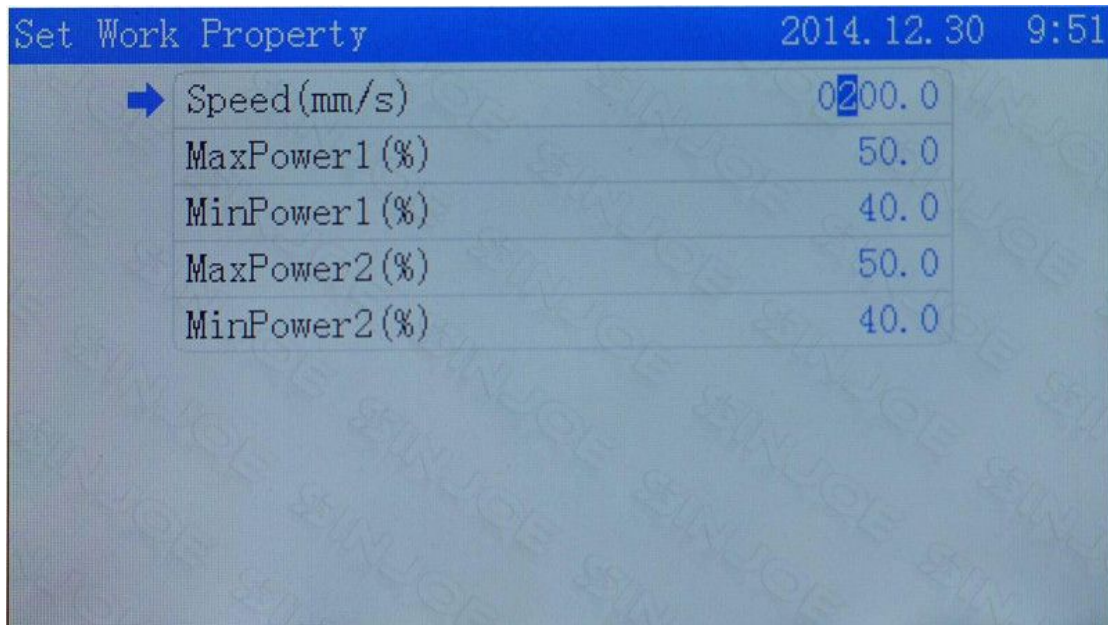


4.4 Set Work Property

In the main menu press **【Enter】** to make the cursor anti-color displayed. Move it to **【Speed】** ,press **【Enter】** then find **【Set Work Property】** .



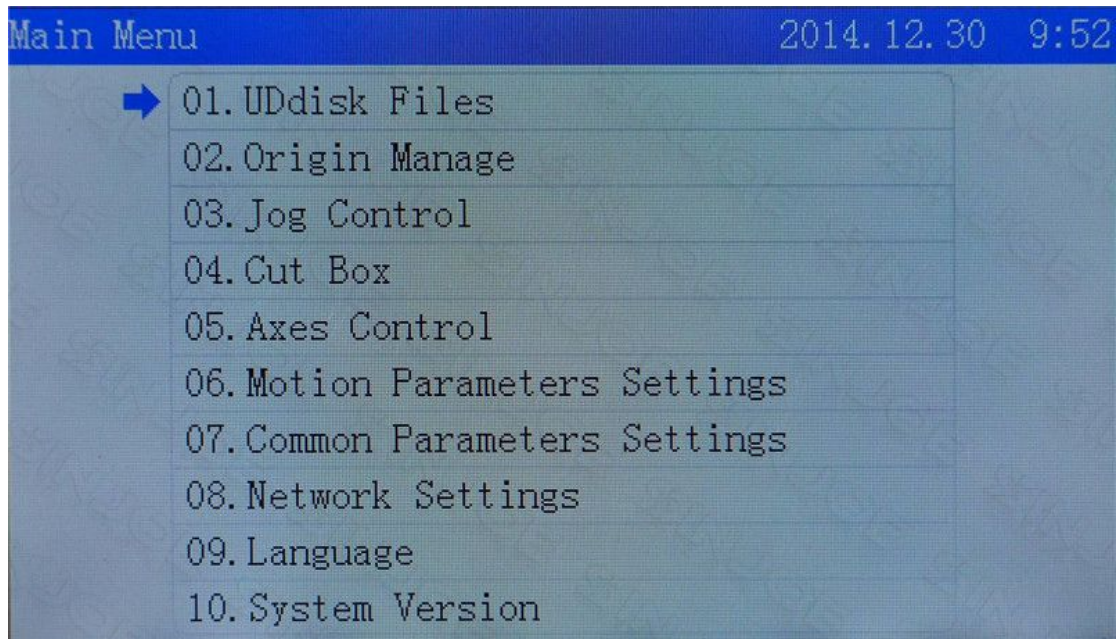
Move cursor to the options you want to change, Press **【Z↑】** **【Z↓】** to change the numbers . then press **【Enter】** to finish it.




5. Main Menu Function Settings

5.1 U Disk Files

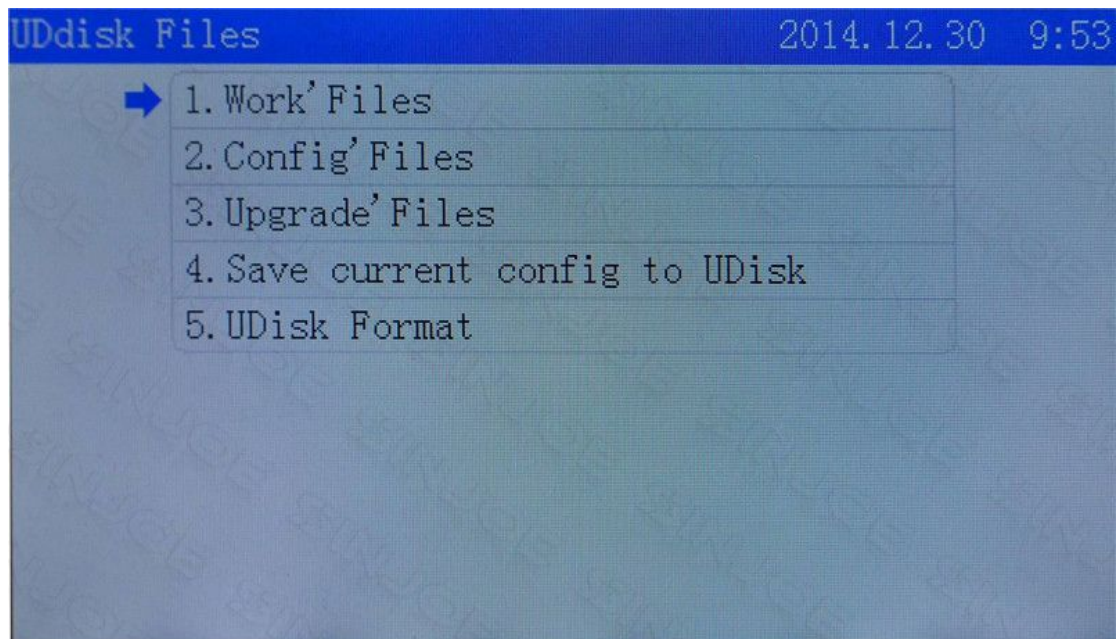
Insert U disk to USB port. After U disk indicator worked, press **【Menu】** to enter the main menu, move cursor to **【U Disk Files】** then press **【Enter】** to enter U disk files management.



	<ul style="list-style-type: none"> ① U disk should be formatted to FAT 32 File system.Quick Format is forbidden .Any other files formations are not supported. ② Recommend use U disk with Indicator to ensure if U disk connected successfully with main board ③ Please use origin and regular U disk.When the U disk has never been able to read , try to replace other U disk.
--	--

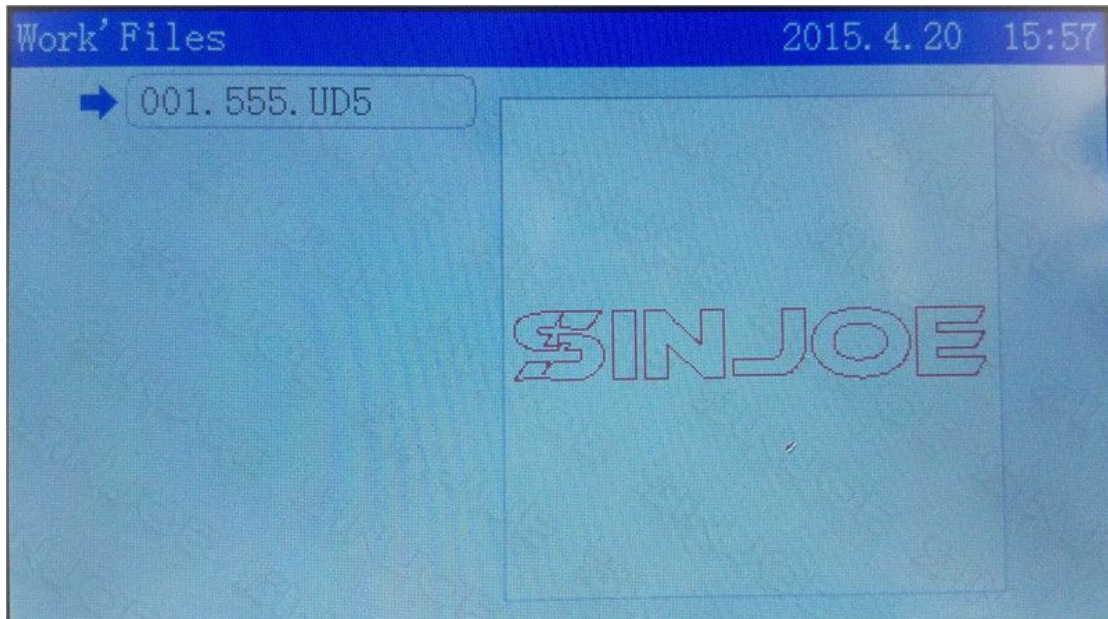
5.1.1U Disk Work Files

Move cursor to **【Work' Files】** then press **【Enter】**



In panel the working file in U disk will be presented.The right side shows the working file

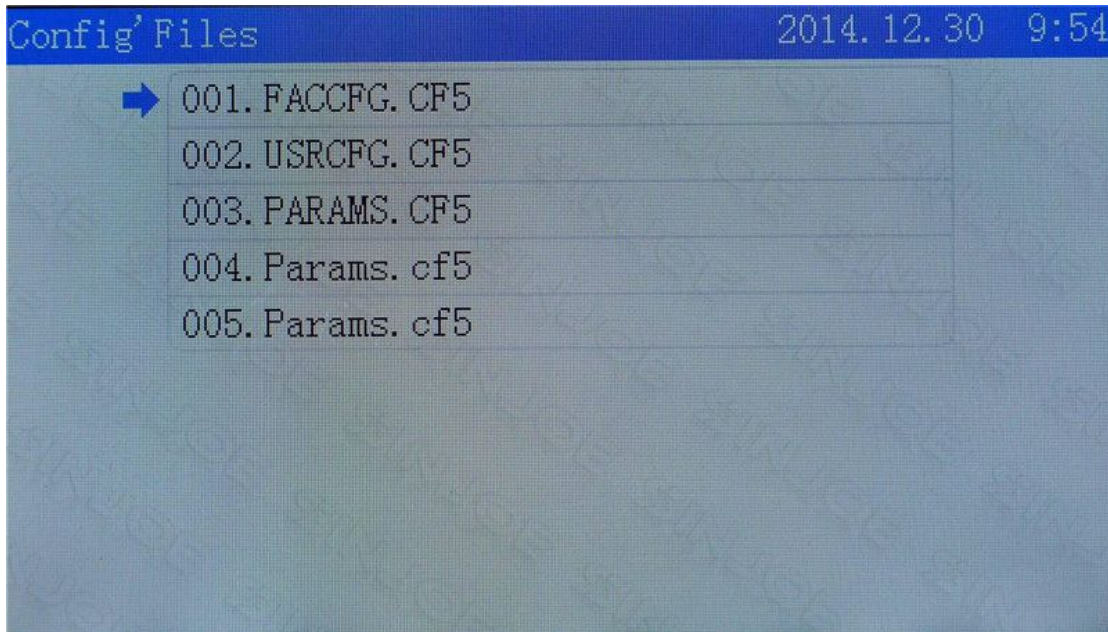
previewing.Press **【Enter】** to copy the working file from U disk to main board storage.



The working file in U disk means off-line file saved in U disk that with file suffix ud5.Files with JPEG formation saved in U disk cannot be read directly.

5.1.2 Config Files.

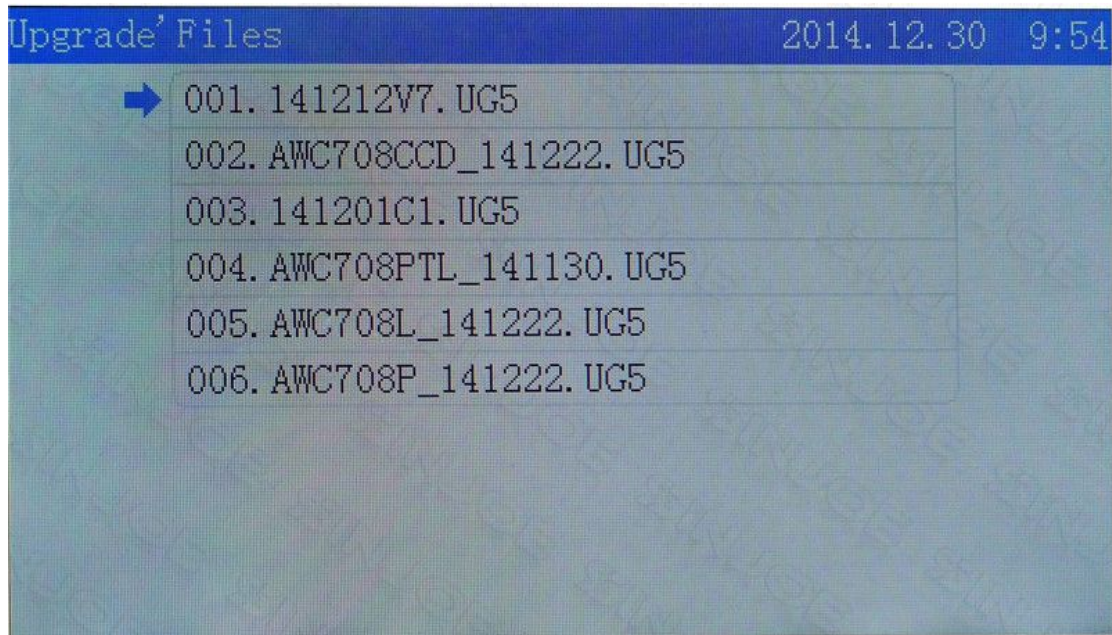
Move cursor to **【Config' Files】**, press **【Enter】** to enter it.Move cursor to the file which you need to copy to main board.Press **【Enter】** to finish it.



5.1.3 Upgrade Files

Mover cursor to **【 Upgrade' Files】** and press **【 Enter】** to enter Upgrade Files area. Mover cursor to the file you need,press **【 Enter】** then it will be finished.LITE version upgrade files are

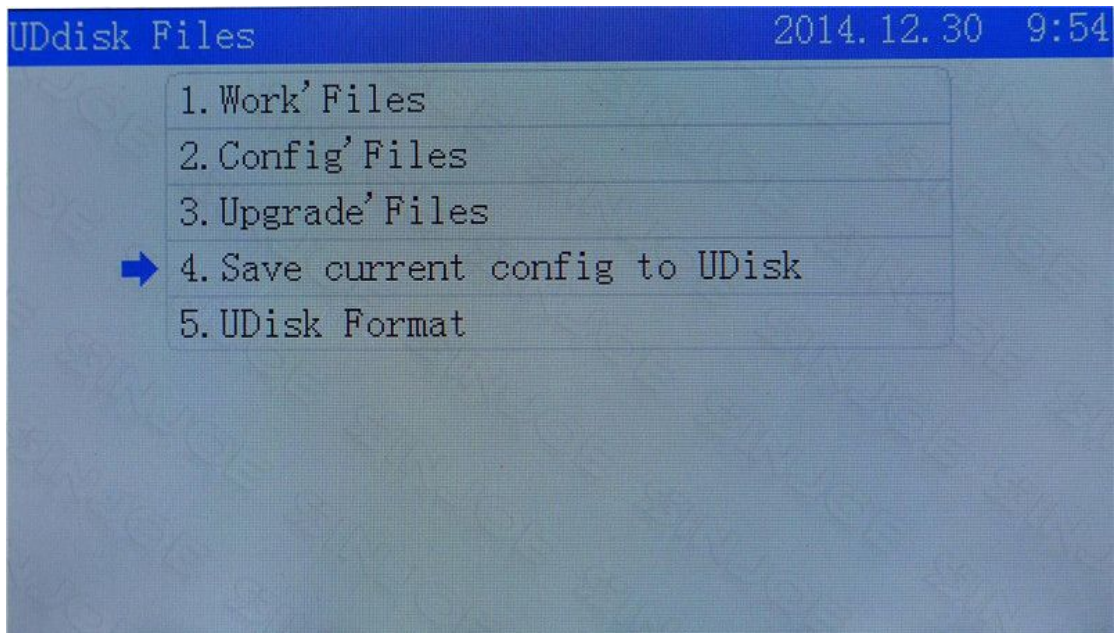
AWC708L.....



Don't cut off electricity before upgrade finished.Or it may lead a burnt out.Upgrade period lasts 30 seconds.After that,main board will finish a resetting.

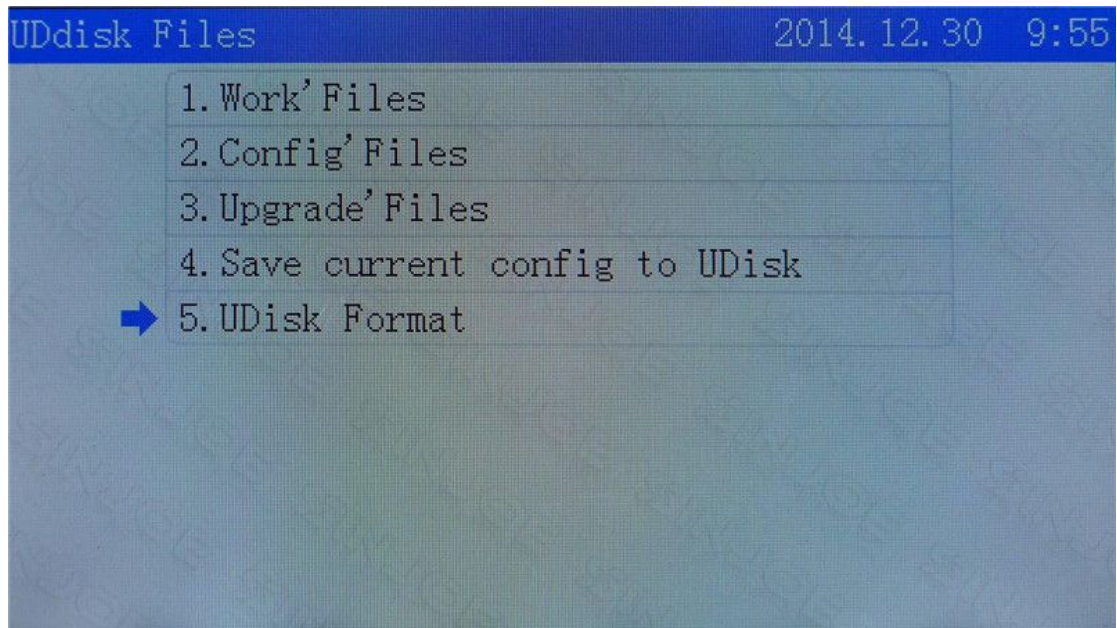
5.1.4 Save Current Config to U Disk

Move cursor to **【 Save current config to U disk 】【 Enter 】【** to finish it.The file saved as a "Params.cf5" name.



5.1.5 U Disk Format

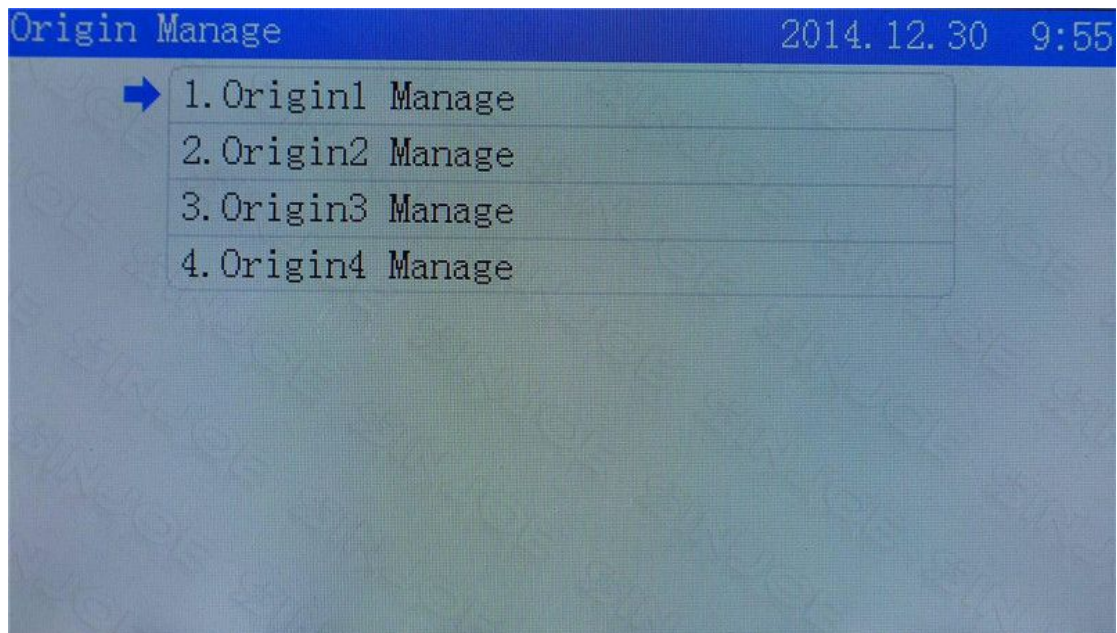
Move cursor to **【 U Disk Format 】【 Enter 】【**



Choose "U disk format" will lead all files lost!

5.2 Origin Manage

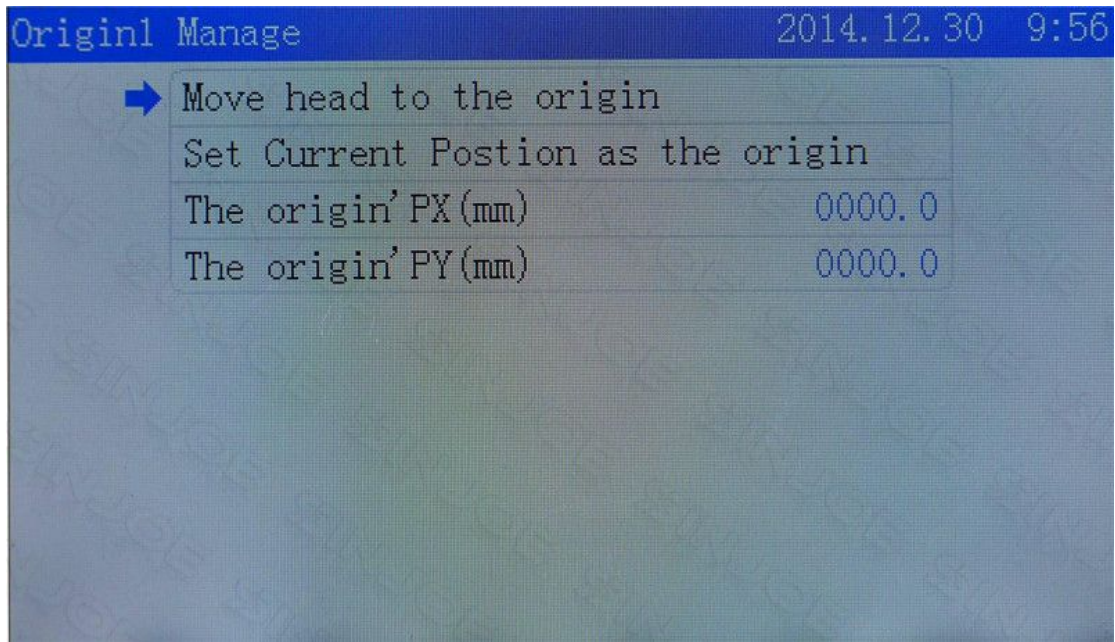
In main manual area press **【Menu】** then move cursor to **【Origin Manage】** .



Move cursor to **【Origin1 Manage】** press **【Enter】** to enter the Origin 1 management interface.

Move cursor to **【Set current position as the origin】** press **【Enter】** to set the current actual laser head position as origin point.

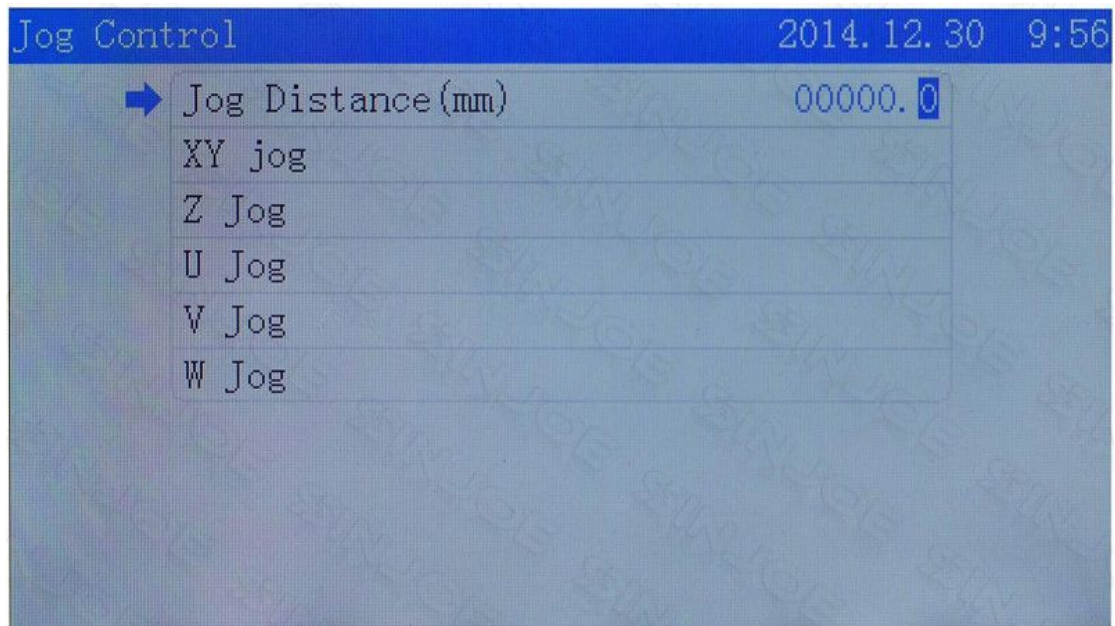
Move cursor to "The origin'PX(mm)" and "The origin'PY(mm)". Press **【Z↑】** **【Z↓】** to change the numbers and the location. Press **【Enter】** to confirm the changes.



5.3 Jog Control

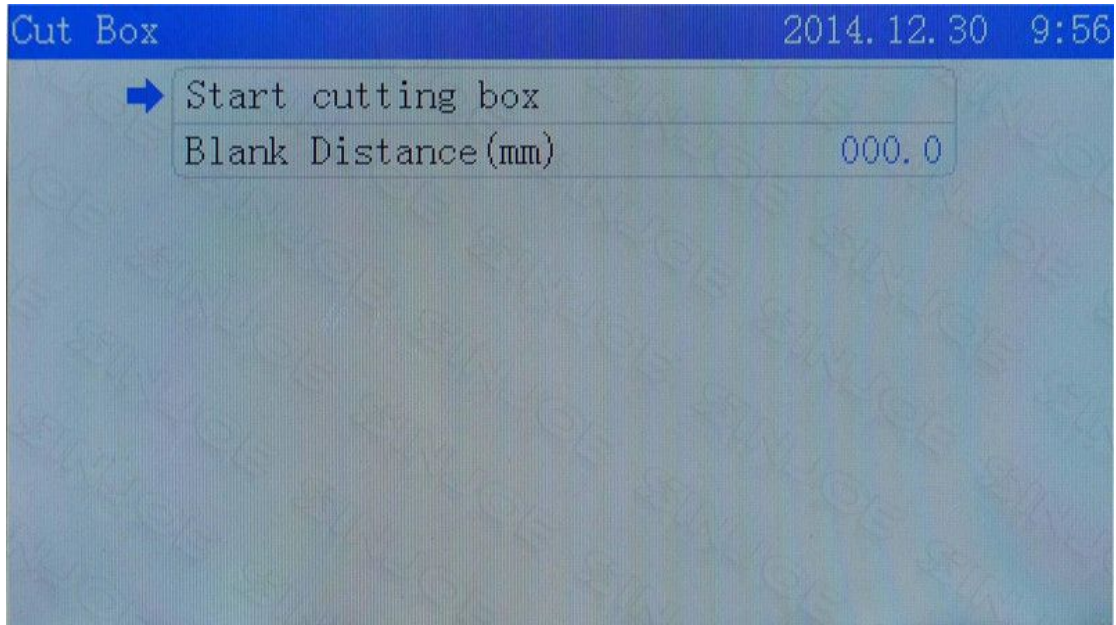
In main menu interface press **【Menu】**.Move cursor to **【Jog Control】** press **【Enter】**.Press **【Z↑】** **【Z↓】** to change the jog distance you want to change.Press **【Enter】** to finish it.

In Jog control interface press **【Z↑】** **【Z↓】** move cursor to relative joy axes.Press **【↑】** **【↓】** **【←】** **【→】** can control their movement.



5.4 Cut Box

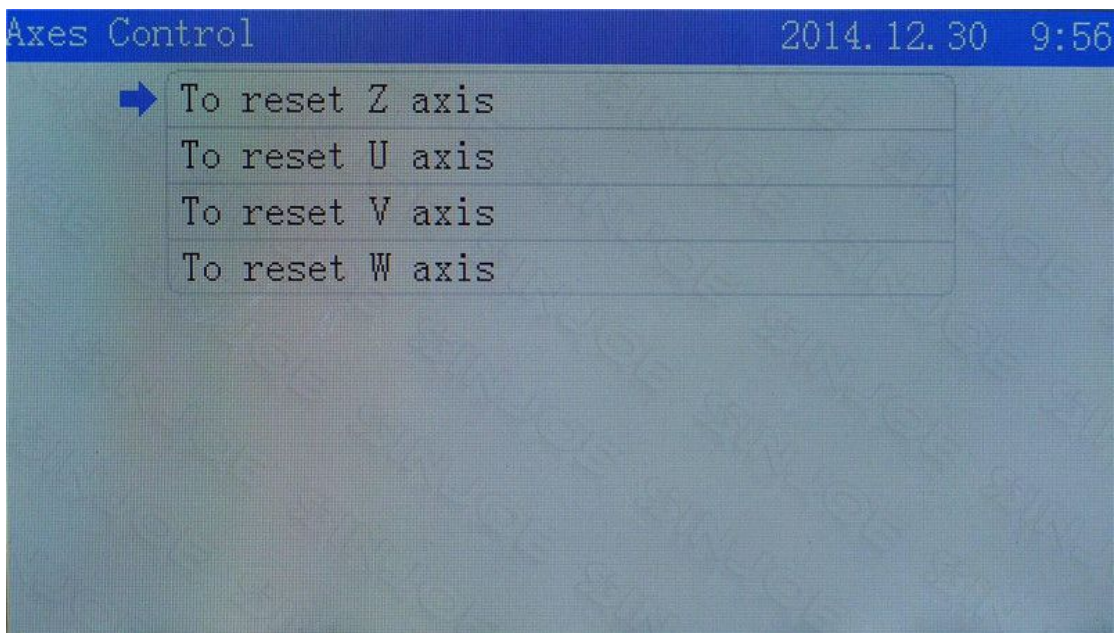
In main menu interface press **【 Menu】** and move cursor to **【Cut Box】**.Press **【Enter】**to enter “Cut box”.Move cursor to “Blank Distance(mm)”.Press **【Z↑】** **【Z↓】** to edit the blank distance.After that you can choose **【Start cutting box】** and press **【Enter】** to start cutting box.



➤ Blank Distance(mm):The distance from File box position to actual cutting box position.

5.5 Axes Control

In main menu interface press **【 Menu 】** and move cursor to **【 Axes Control 】** Press **【 Enter 】** to enter “Axes Control”Interface.Move cursor to the axes option you need to do reset.Press **【 Enter 】** to finish it.



5.6 Motion Parameters Settings

In main menu interface press **【 Menu 】** .Move cursor to **【 Motion Parameters Settings 】** press **【 Enter 】** .Press **【 Z↑ 】** **【 Z↓ 】** to change the numbers.Press **【 Enter 】** to finish it.

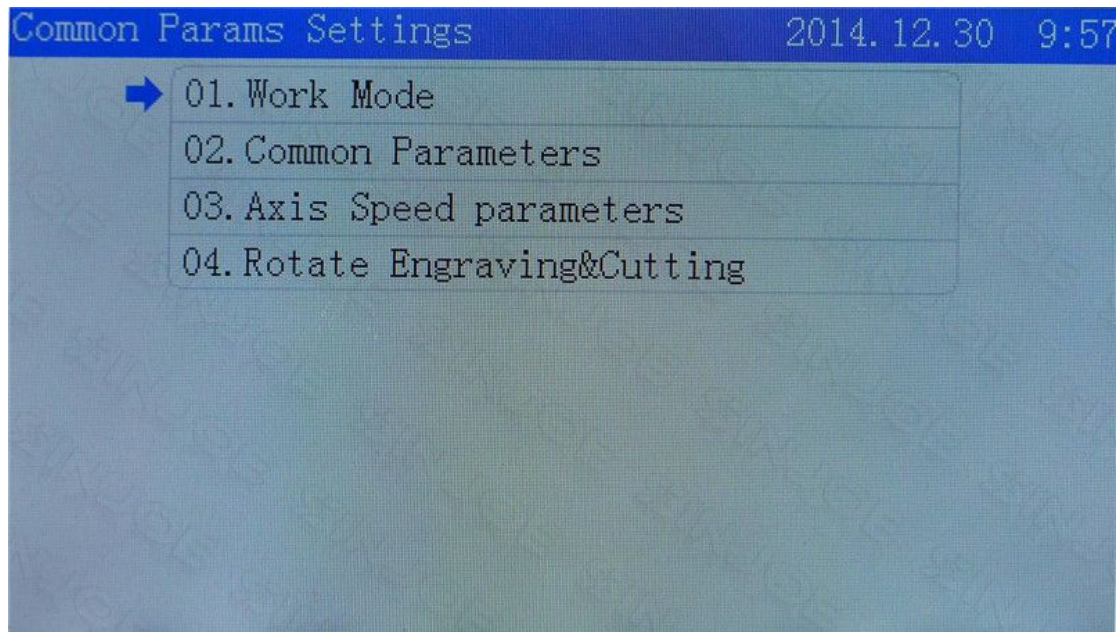
Motion Parameters Settings		2014.12.30 9:57
➔ Space Speed(mm/s)		0300.0
Cut Jerk (mm/s ³)		050000
Space Jerk (mm/s ³)		080000
Min Acc (mm/s ²)		00150
Cut Acc (mm/s ²)		03000
Space Acc (mm/s ²)		03000
Engrave Acc (mm/s ²)		10000
Start Speed (mm/s)		10.0
Speed Factor		3.0

- Space Speed(mm/s):When laser not output,the movement speed of laser head.
- Cut Jerk(mm/s³): Cutting speed jerk of axes.
- Space Jerk(mm/s³):When laser not output,the Jerk speed of axes
- Min Acc(mm/s²): Mini acceleration when axes doing speed up and down motion cutting.
- Cut Acc(mm/s²): Cutting acceleration when axes doing speed up and down motion cutting.
- Space Acc(mm/s²):When laser not output,the acceleration speed of axes.
- Engrave Acc(mm/s²):Engraving acceleration when axes doing speed up and down motion cutting.
- Start Speed(mm/s): Speed of axes from stillness to startup.

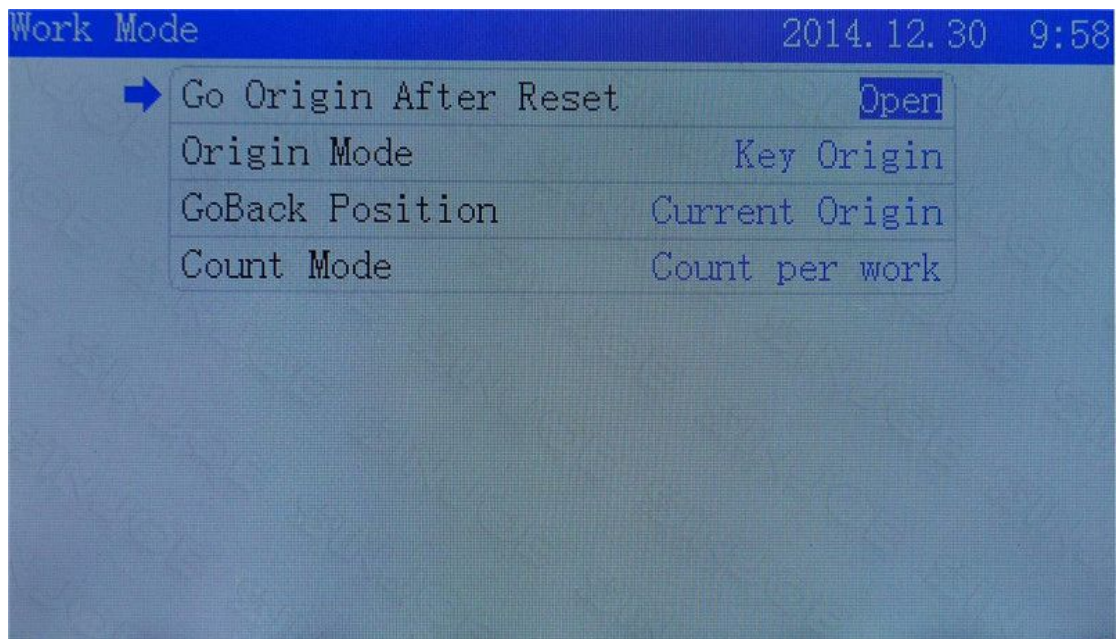
5.7 Common Parameters Settings

In main menu interface press **【Menu】** .Move cursor to **【Common Parameters Settings】** press **【Enter】** .

5.7.1 Work Mode



Move cursor to **【Work Mode】** press **【Enter】** .



Move cursor to **【Go Origin After Rest】** and press **【←】 【→】** .Can choose “back to origin point after a reset”as on or off.

Move cursor to **【Origin Mode】** and press **【←】 【→】** . Can switch origin mode as **【Software Origin】 【Machine Zero As Origin】 【Current Position】 【Key Origin】** .Press **【Enter】** to finish changes.

Move cursor to **【GoBack Position】** and Press **【←】 【→】** .Can switch back position mode as **【Goback Machine Zero】 【Current Position】 【Current Origin】** .Press**【Enter】**to finish the changes.

Move cursor to**【Count Mode】**and press**【←】【→】**to switch the count mode as**【Count Per Work】 【Count Per Light】 【Single of Array】** and press **【Enter】** to finish the changes.

Go Origin after Reset: When it's opened,laser head will be back to Origin after resetting.Or It

will stay at machine origin point.

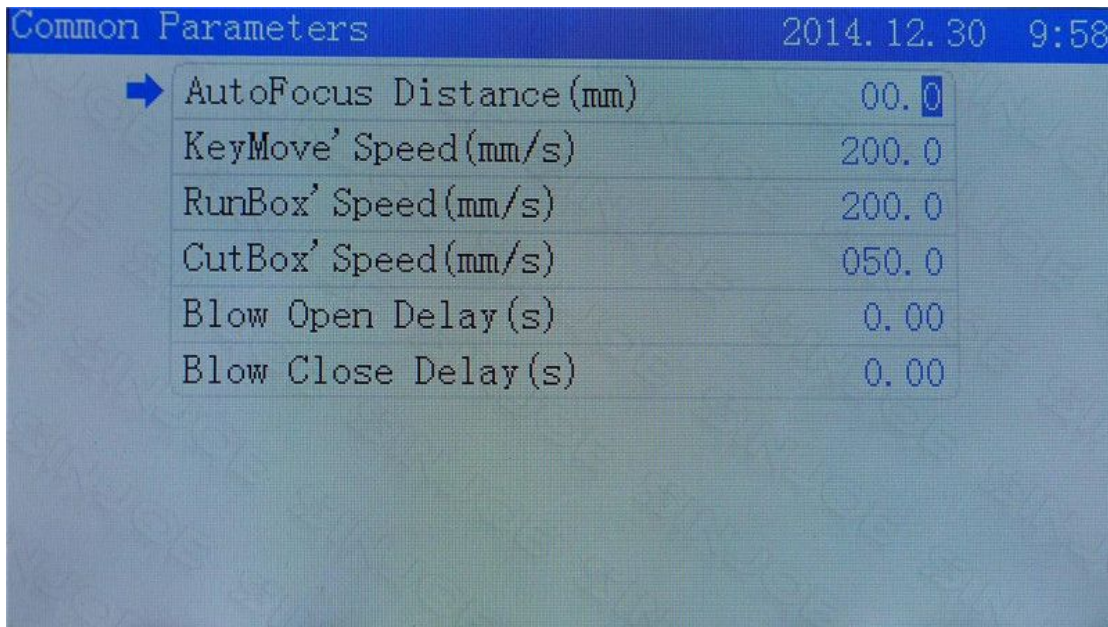
Origin Mode: Current Origin,or keep the current origin point of machine;Key Origin,or press panel “Origin”button after laser head moved to the chosen position;Software Origin means the origin point when drawing a file;Machine Zero As Origin means set a appointed position as machine’s origin point.

GoBack Position: Current Position means laser head stay at where task finished;Current Origin means go back to Origin point after that;Goback Machine Zero means back to machine zero point since all finished.

Count Mode: Count Per Work means it will be counted as once after all files cut;Count Per Light means it will be counted as once after laser optical output one time;Single of Array means it will be counted as once after one of all files in this task is cut.

5.7.2 Common Parameters

In main menu interface press【Menu】.Move cursor to 【Common Parameters】press【 Enter】.Press 【Z↑】 【Z↓】 to change the numbers and finish it.Then press 【 Enter】 .



- AutoFocus Distance(mm): The Distance from Laser head lens focus point to the origin point of Z axis.
- KeyMove' Speed(mm/s): The speed of axis movement when buttons in the panel pressed.
- RunBox' Speed(mm/s): The speed of laser head running in space state,or running box without laser output.
- CutBox's Speed(mm/s): The speed of laser head optical output and cutting box.
- Blow Open Delay(s): The period between laser head optical output and air blowing started.
- Blow Close Delay(s): The period between laser head optical output stopped and air blowing stopped.

5.7.3 Axis Speed Parameters

In main menu interface press 【 Menu 】 .Move cursor to 【 Axis Speed Parameters 】 press 【 Enter 】 .Press 【 Z↑】 【 Z↓】 to change the numbers and finish it.

Axis Speed parameters		2014.12.30 9:58
→ Z Work Speed (mm/s)		080.0
U Work Speed (mm/s)		200.0
V Work Speed (mm/s)		100.0
W Work Speed (mm/s)		100.0
XY Home Speed		050.0
Z Home Speed (mm/s)		040.0
U Home Speed (mm/s)		050.0
V Home Speed (mm/s)		050.0
W Home Speed (mm/s)		050.0

- Z/U/V/W Work Speed: Z/U/V/W axes working speed.
- XY/Z/U/V/W Home Speed: XY/Z/U/V/W axes resetting speed.

5.7.4 Rotate Engraving & Cutting

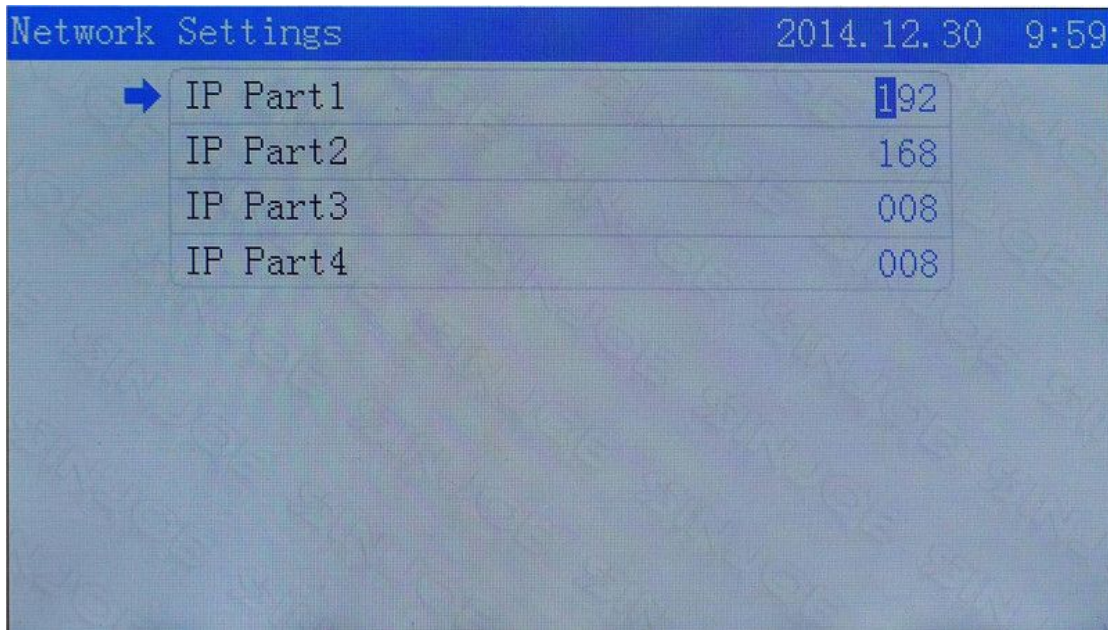
In main menu interface press **【Menu】**. Move cursor to **【Rotate Engraving & Cutting】** and press **【Enter】**, Press **【←】** **【→】** to switch each item. Press **【Z↑】** **【Z↓】** to do relative changes. Then Press **【Enter】** to finish it.

Rotate Engraving&Cutting		2014.12.30 9:58
→ Rotate Fun		Close
Rotate Axis		X
Pulse Count Per Rotate		010000
Current Diameter (mm)		100.0

- Rotate Function: The switch of rotate engraving function. Keep it open if you need.
- Rotate Axis: the chosen axis when rotate engraving function be used with.
- Pulse Count Per Rotate: The Pulse parameters for motor to make rotate axis rotary one circle.
- Current Diameter(mm): The diameter of processed materials.

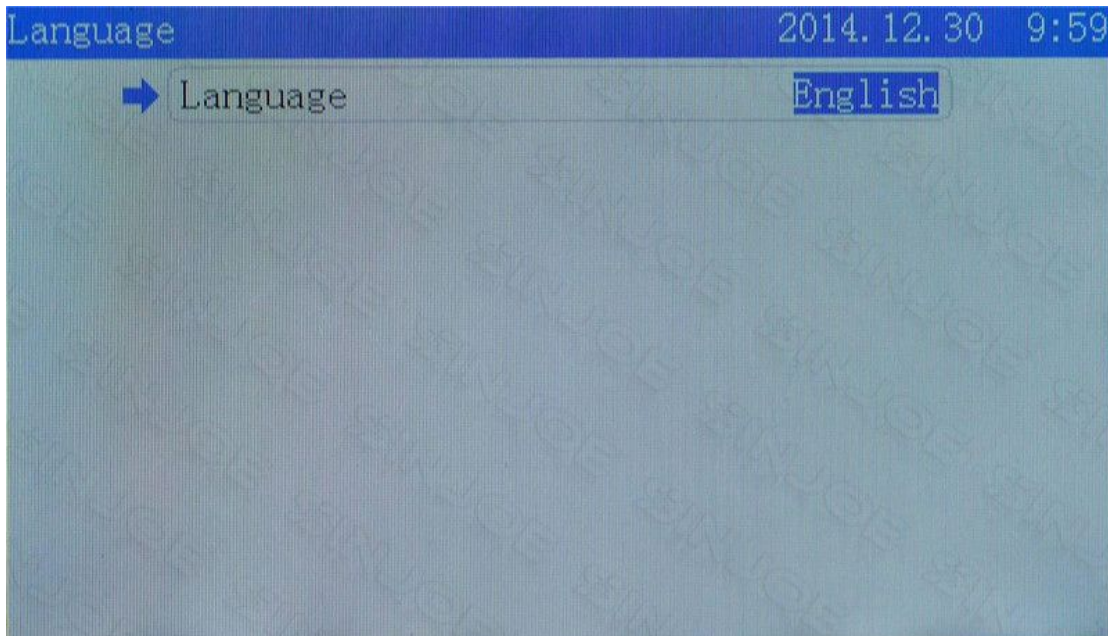
5.8 Network Settings

In main menu interface press【Menu】.Move cursor to 【Network Settings】and press【 Enter】.Then press 【↑】 【↓】 to move cursor.Press 【Z↑】 【Z↓】 to change the numbers and finish it.



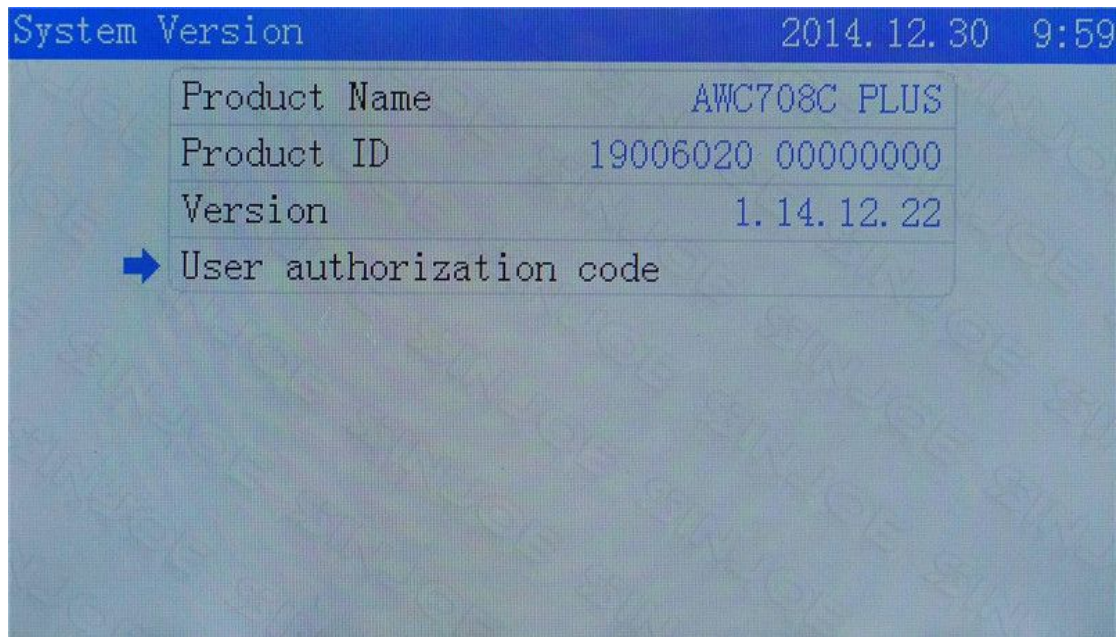
5.9 Language

In main menu interface press【Menu】.Move cursor to 【Language】and press【 Enter】.Then press 【←】 【→】 to switch languages and press 【 Enter】 to finish it.



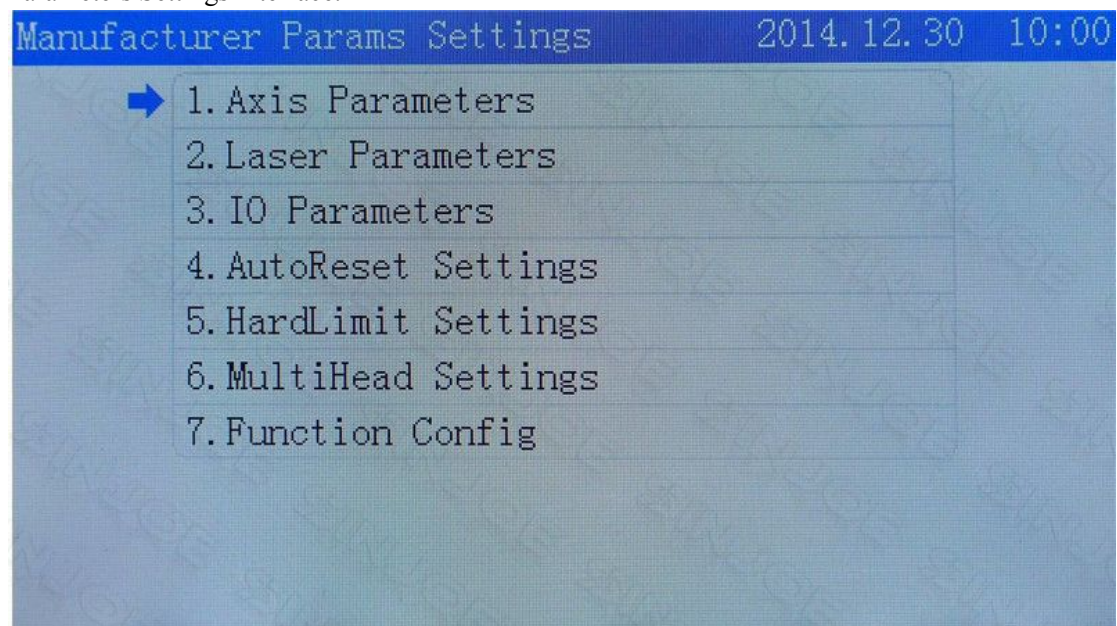
5.10 System Version

In main menu interface press 【Menu】 .Move cursor to 【Language】 and press 【 Enter】 to check the controller system version information.



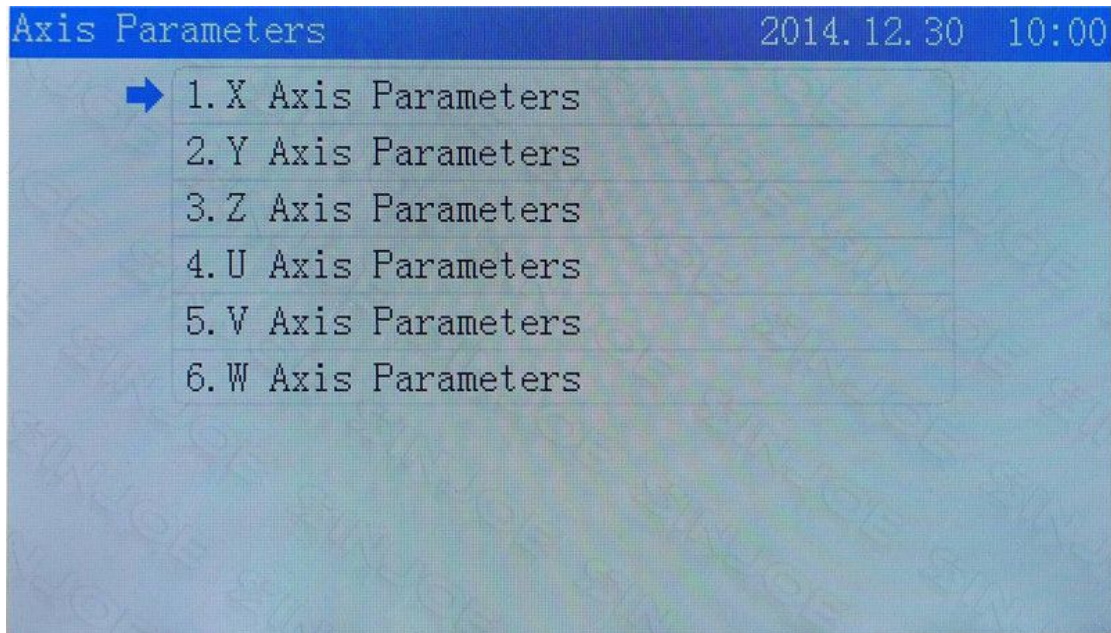
6.Manufacturer Parameters Settings

Press **【 Stop 】** button and not loose it.Then input numbers **【 shift 】** to enter Manufacturer Parameters Settings interface.

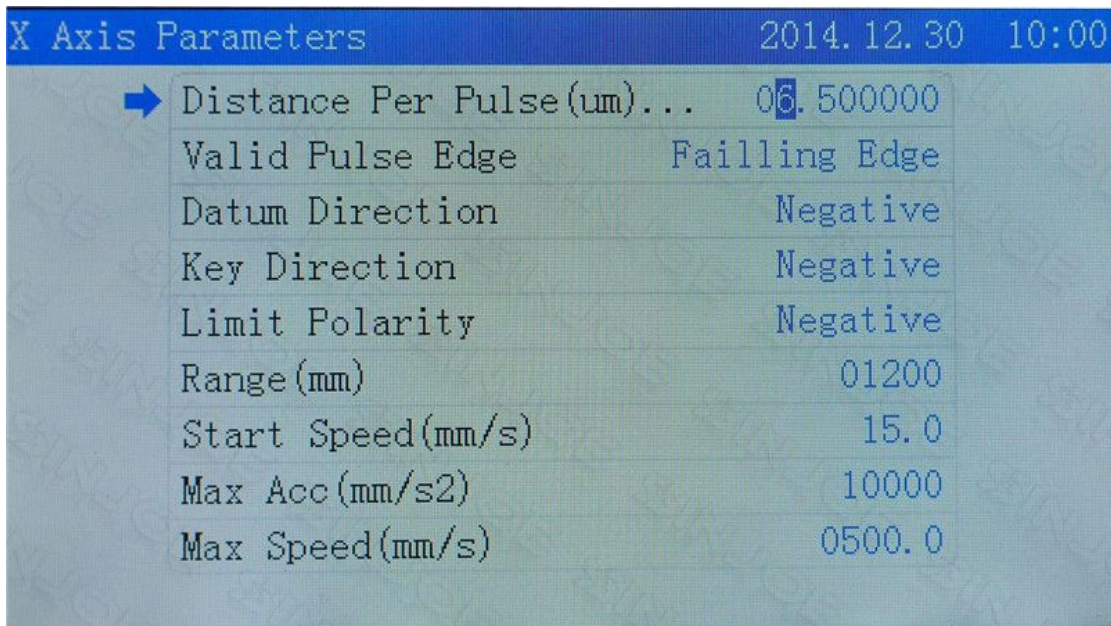


6.1 Axis Parameters

Move cursor to **【 Axis Parameters 】** and press **【 Enter 】**



In Axis Parameters setting interface ,move cursor to X axis parameters option.Press **【Enter】** to enter it.Move cursors to options you want to change.Press **【←】** **【→】** then **【Enter】** to finish the changes.



Distance Per Pulse(um): The distance of a position control movement as a controller output one position control pulse.

Valid Pulse Edge: The virtual value of driver electronic level changes.

Datum Direction: The machine movement direction when resetting.A wrong operation on it will lead your machine move to reversed direction.

Key Direction: The direction of axis when pressing buttons in panel.A wrong operation on it will lead axis move to reversed direction.

Limit Polarity: The control electronic level that limit switch send to controller main board.A wrong operation on it will lead limit switch stop working.

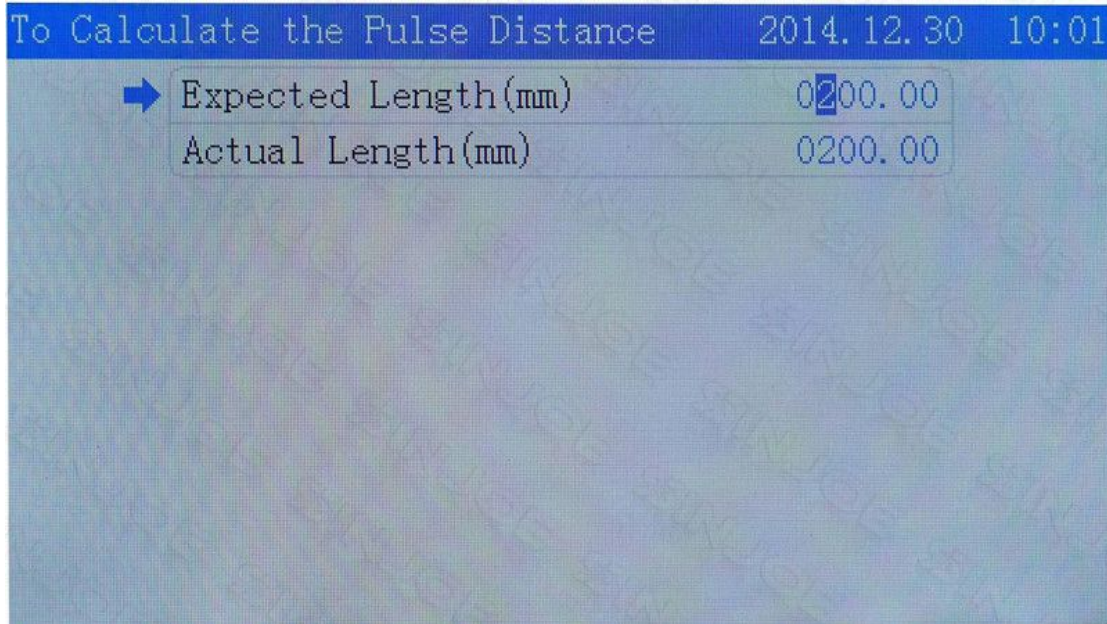
Range(mm): The working area of the machine.

Start Speed(mm/s): Speed of axes from stillness to startup.

Max Acc(mm/s²): Max acceleration when axes doing speed up and down motion.

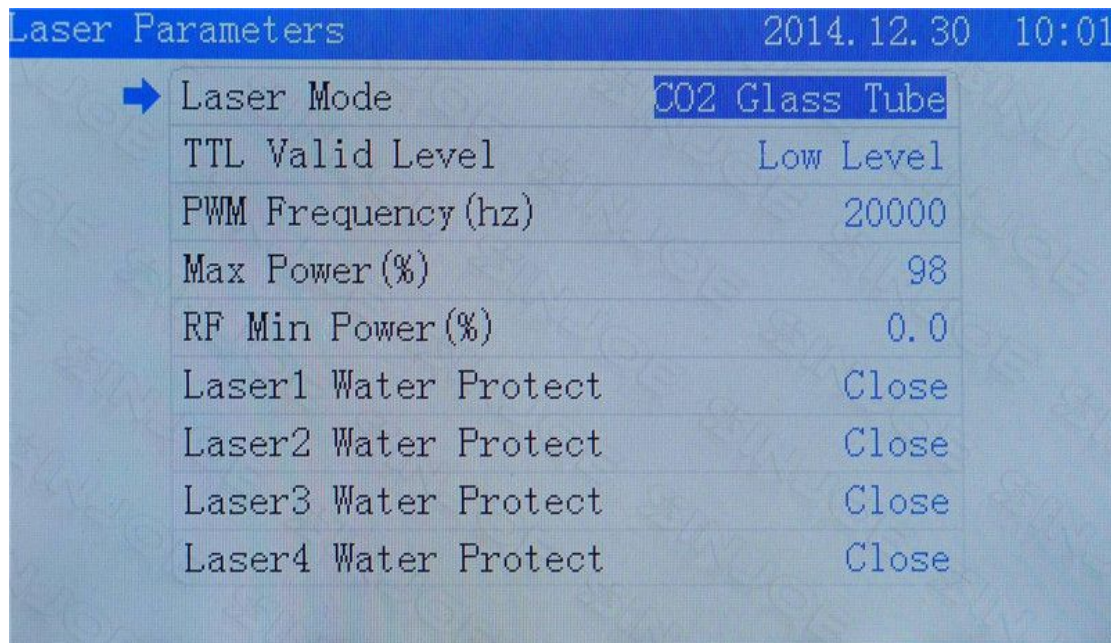
Max Speed(mm/s): Max speed limitation that axis can run with.

move cursor to **【To Calculate the Pulse Distance】** .Press **【Enter】** to enter it.Press **【Z↑】 【Z↓】** to change the numbers and try to measure the actual length of each axis then Distance Per Pulse could be automatically calculated.



6.2 Laser Parameters

In Manufacturer Parameters setting interface ,move cursor to Laser Parameters option.Press **【Enter】** to enter it.Move cursor to do changes you need.Press **【←】 【→】** then press **【Enter】** to finish it.

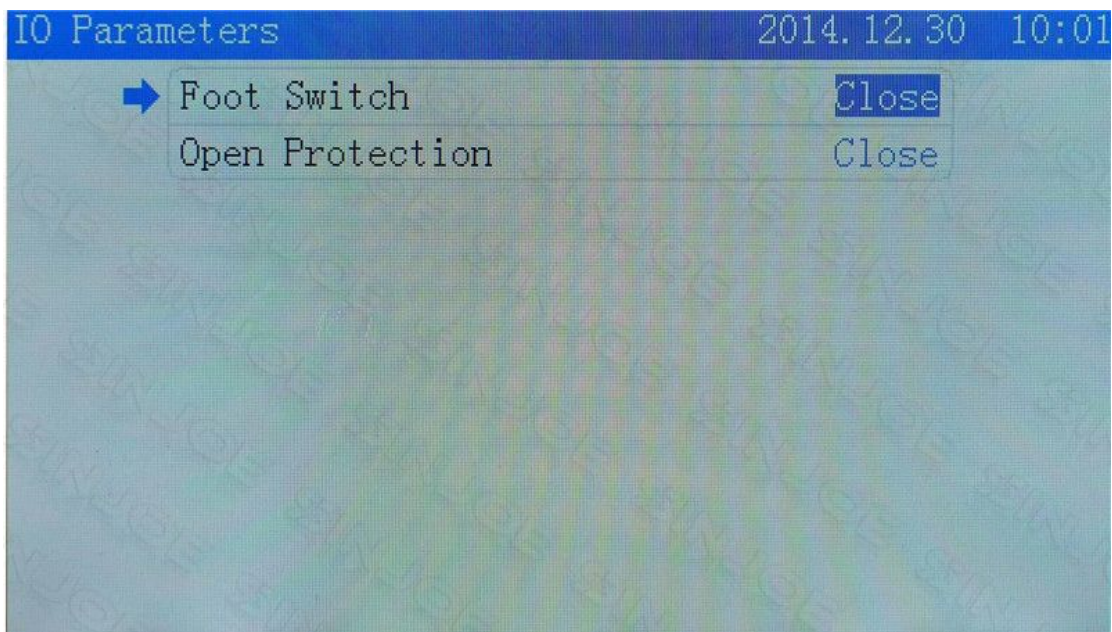


➤ Laser Mode: laser tubes mode.

- TTL Valid Level: means control level of laser tube.A wrong operation will lead output and stop output with reversed instruction.
- PWM Frequency(hz): To change the pulse frequency of control signal that laser source used.
- Max Power(%): Max power of laser tube or max limitation of laser source.The highest power operator adjusted cannot be beyond this.It is always presented wit a percent way.
- RF Min Power(%):Mini power of laser tube.The lowest power operator adjusted cannot be smaller than this.
- Laser Water Protect:Switch of laser water protection.If you want to start it,keep this open.

6.3 IO Parameters

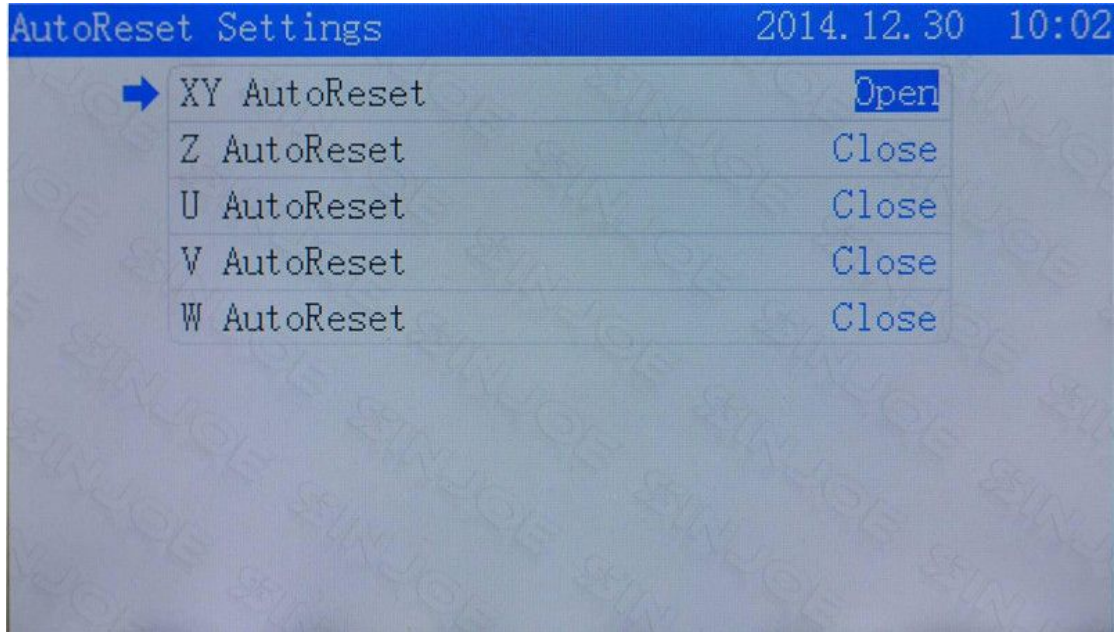
In Manufacturer Parameters setting interface ,move cursor to IO Parameters option.Press **【Enter】** to enter it.Move cursor to do changes you need.Press **【←】** **【→】** then press **【Enter】** to finish it.



- Foot Switch: Switch of foot.If you want to use it,keep it open.
- Open Protection: Switch of open protection.If you want to use it,keep it open.

6.4 AutoReset Settings

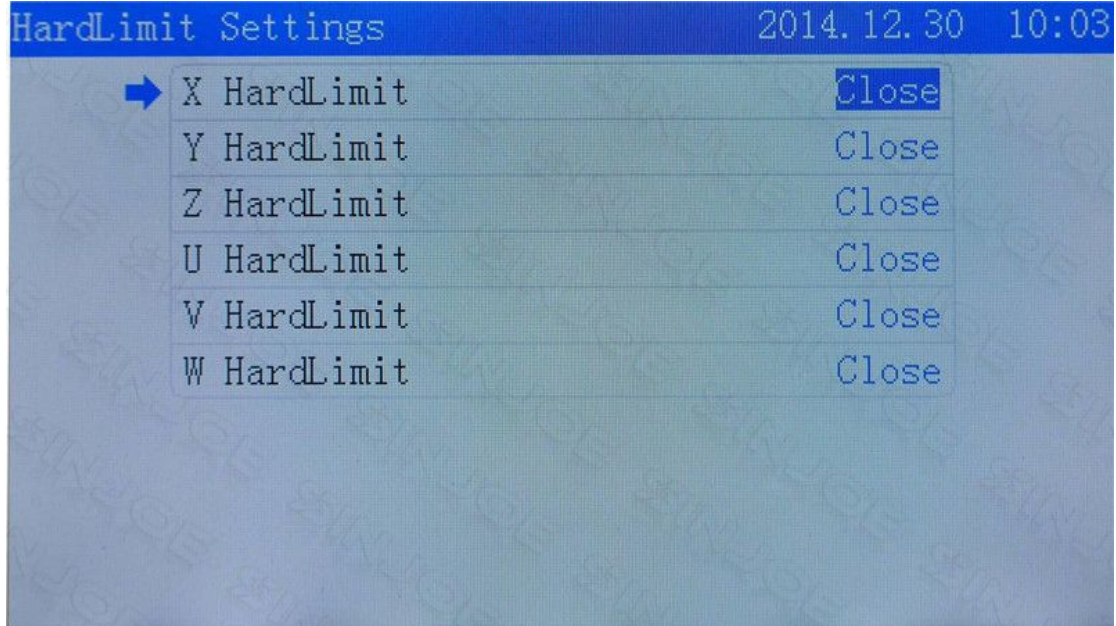
n Manufacturer Parameters setting interface ,move cursor to AutoReset Settings option.Press **【Enter】** to enter it.Move cursor to do changes you need.Press **【←】** **【→】** then press **【Enter】** to finish it.



- XY/Z/U/V/W AutoReset: If you want to use it, please keep relative axis option open.

6.5 HardLimit Settings

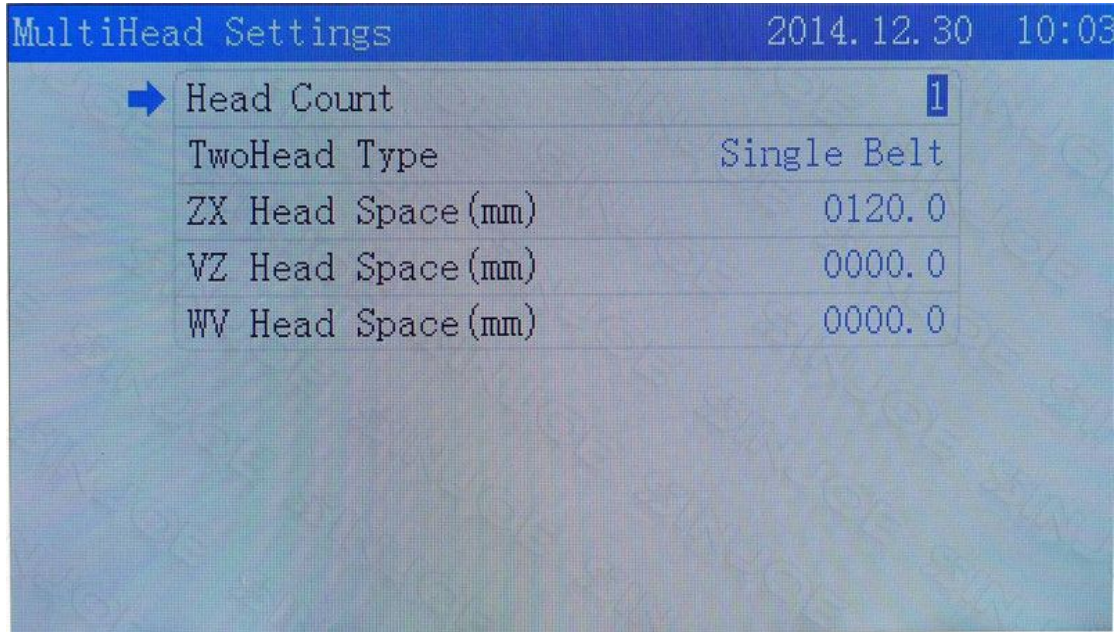
In Manufacturer Parameters setting interface ,move cursor to Hard Limit Settings option.Press **【Enter】** to enter it.Move cursor to do changes you need.Press **【←】** **【→】** then press **【Enter】** to finish it.



- X/Y/Z/U/V/W HardLimit: Hardware limit switch,if need please keep it open.

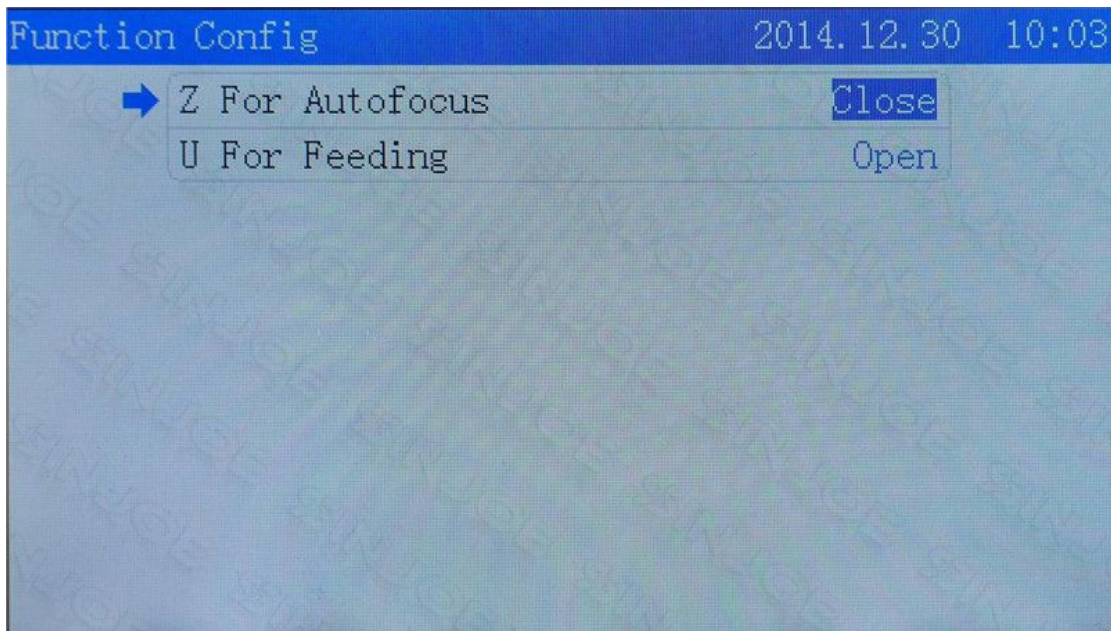
6.6 MultiHead Settings

In Manufacturer Parameters setting interface ,move cursor to MultiHead Settings.Press **【Enter】** to enter it.Move cursor to do changes you need.And Press **【Z↑】** **【Z↓】** to change parameters.Press **【←】** **【→】** then press **【Enter】** to finish it.



6.7 Function Config

In Manufacturer Parameters setting interface ,move cursor to Function Config.Press 【 Enter 】 to enter it.Move cursor to do changes you need.Press 【←】 【→】 then press 【Enter】 to finish it.



- Z For Autofocus: Switch of Z axis auto focus option.If need keep it open.
- If need U axis for auto feeding ,keep it open.