

# **BOSSLASER™**

## **Operators Manual for AWC 708C Control Panel**

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## 1. Panel Preview



## 2. Buttons Function

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

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

**【Pulse】** : For optical testing. Once pressed, the CO2 laser will fire.

**【Box】** : Frames the working area from the origin point of the current file.

**【Origin】** : Setting machine's starting point of the current file.

**【Menu】** : To show the main menu.

**【Stop】** : Once pressed, the machine will stop its current function and move back to its origin.

**【Shift】** : The second function switching button (for example, exchanging the Max & Min Power of the four laser sources in the main menu).

**【Start/Pause】** : Pause the machine and keep it stay at location. Press again to resume.

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

**【↑】 【↓】 【←】 【→】** : For moving the X & Y Axis. Also used to navigate the menus.

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

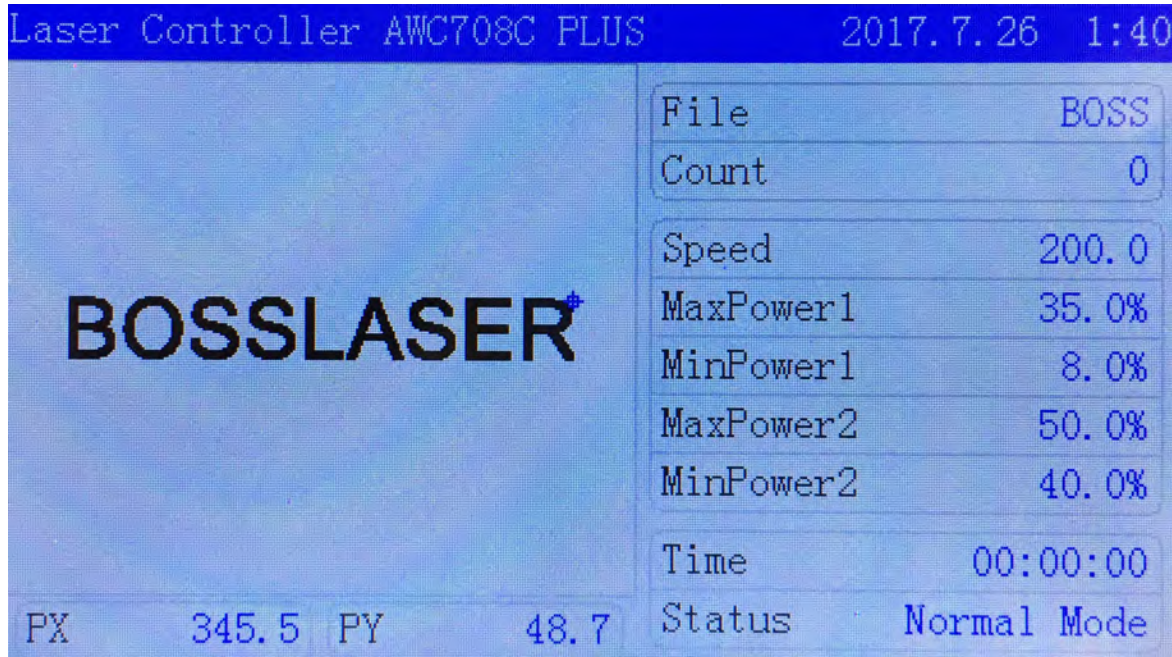
**【ESC】** : Exit edit mode ( Exit cursor ). Return to previous menu.

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

**【Numbers 1-9】** : Quickly modify the parameters, as well as quick access to digital corresponding menu item.

**【C】** : For backspace when you are modifying the parameters.

### 3. Main Menu Function Introduction



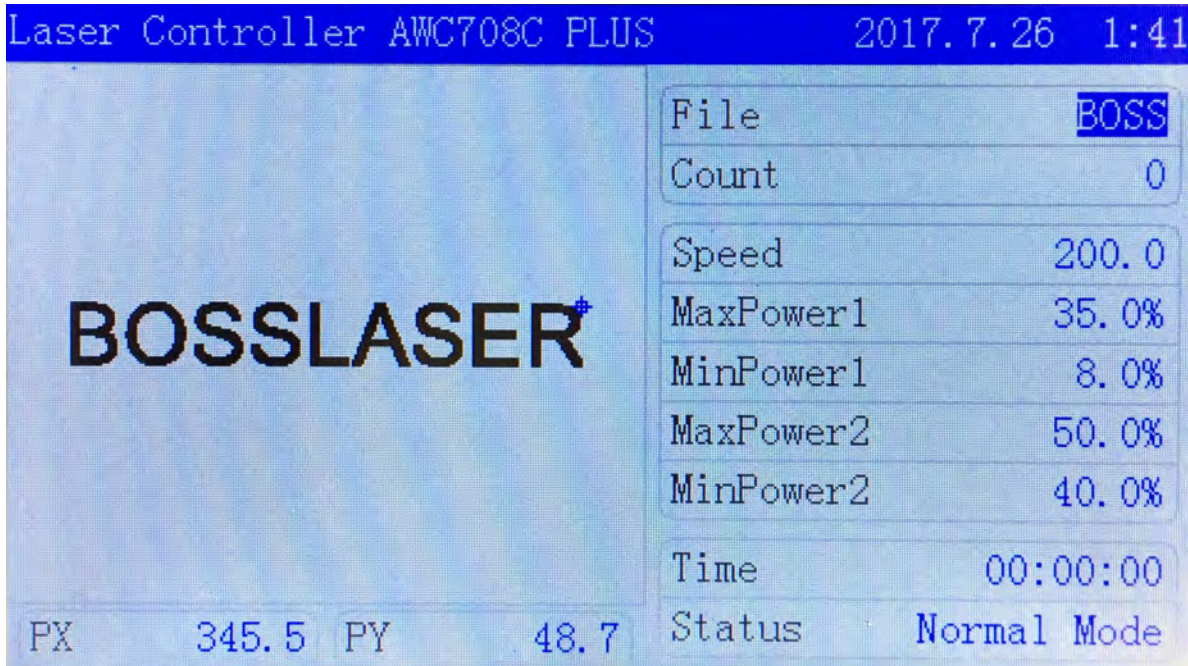
- **Top bar:** Displays the control system software version, date and time.
- **File:** Displays the file name currently being processed.
- **Count:** This number accounts for the amount of times the file currently being processed has finished.
- **Speed:** Displays the default speed of this current file.
- **MaxPower 1 MinPower1 / MaxPower2 MinPower2:** Displays the Max & Min power of laser 1 and 2. Max power means working power. Min power means turning power.
- **Time:** Displays the amount of time worked with this task.
- **Status:** Displays the machine state. Includes working state, idle state, pause state. There will be a percentage to show the working process of the current file under working state.
- **PX PY:** Displays the X & Y coordinate in the working state.



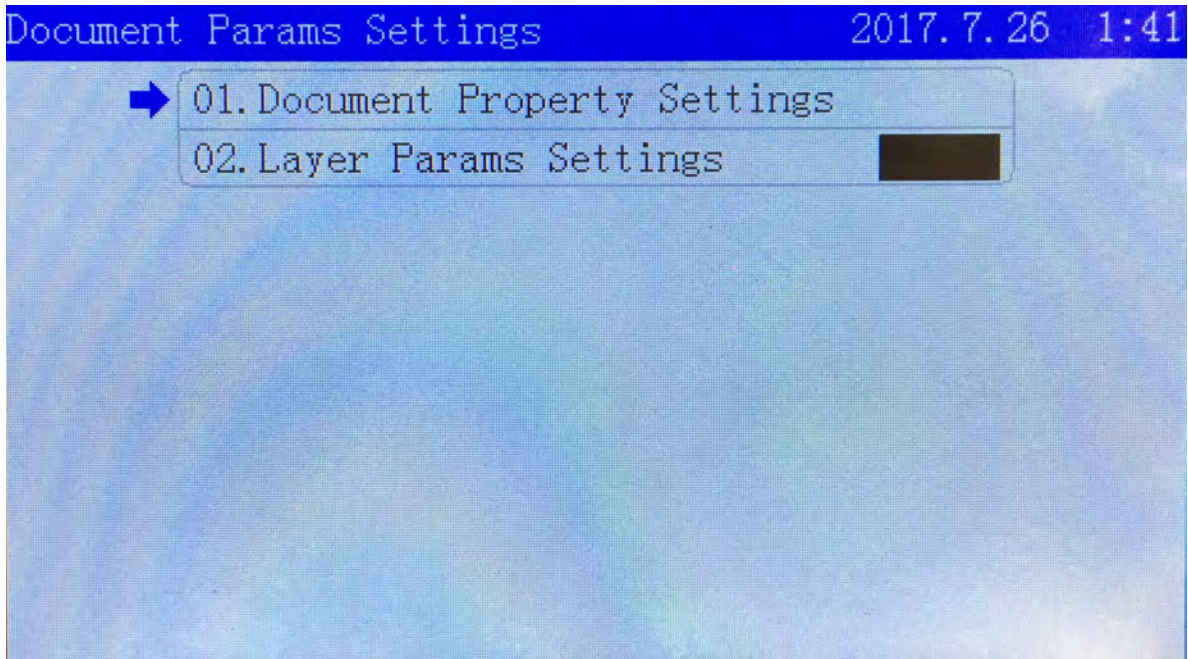
#### 4. Main Menu Function Settings

##### 4.1 Document parameters settings

In the Main Menu area press **【Enter】** to make the file name highlighted as shown below.

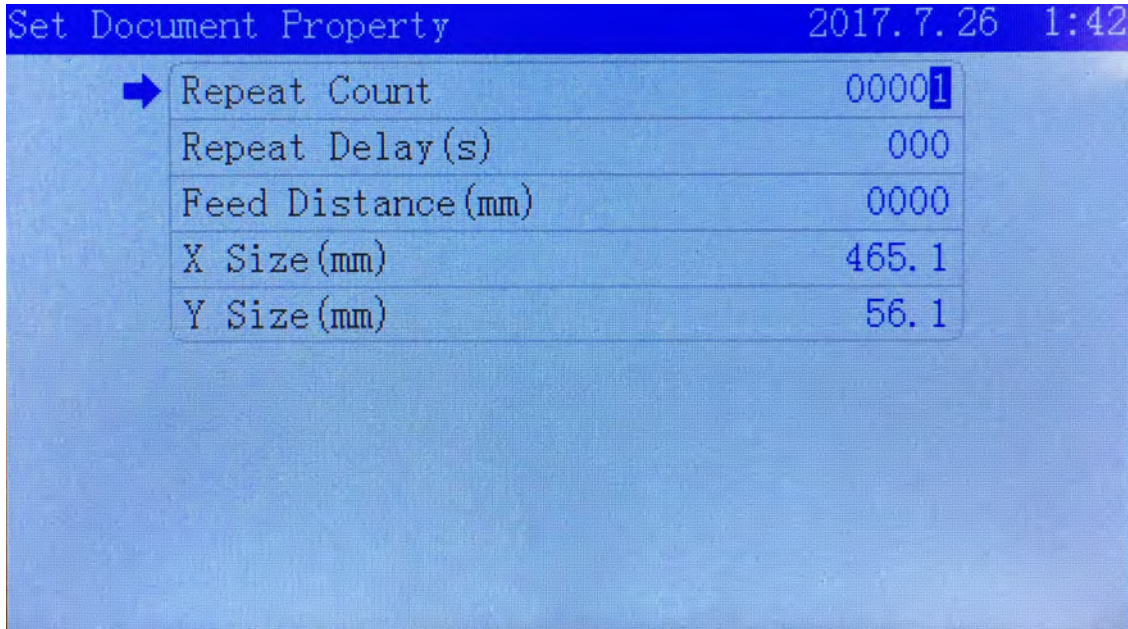


Pressing **【Enter】** a second time to enter the file parameter settings. Move the cursor to **【Document Params Settings】**, Press **【Enter】** to enter the document parameters settings as shown below.



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

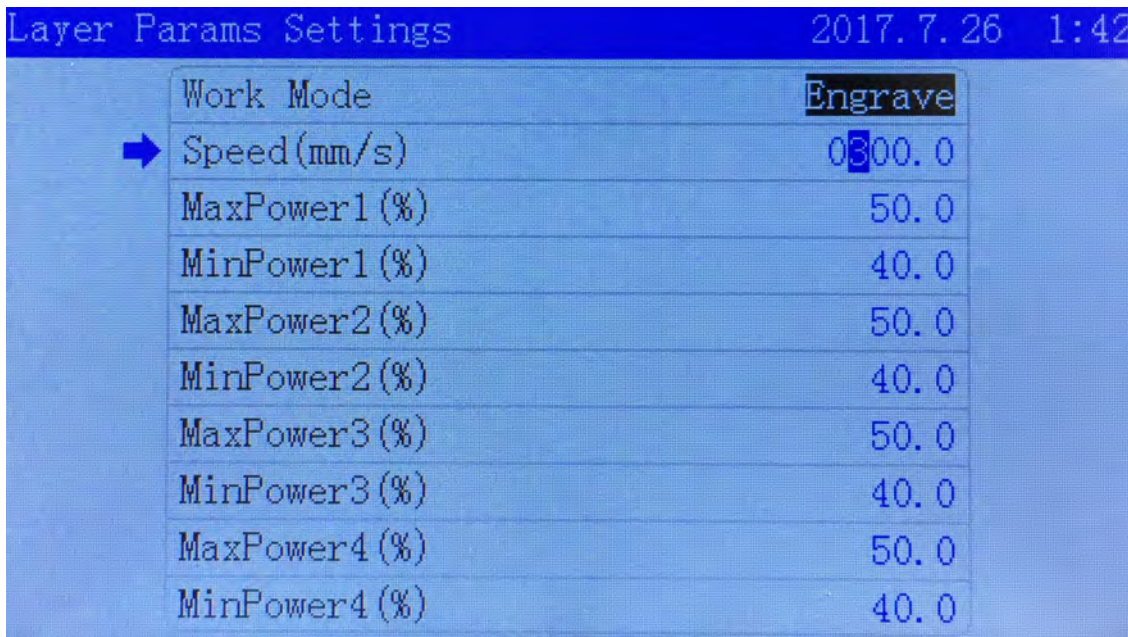




- **Repeat Count:** Machine repeat working times.
- **Repeat Delay(s):** The interval between the initial file being finished and the next one of the same file.
- **Feed Distance(mm):** Distance of each movement of the feeding axis .
- **X Size(mm):** The size in the X direction of the file
- **Y Size(mm):**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

**4.2 Layer Parameters Settings**

In the file parameter settings, press **【↓】** to move the cursor to **【Layer Params Settings】**, Press **【Enter】** to enter Layer Parameter Settings.



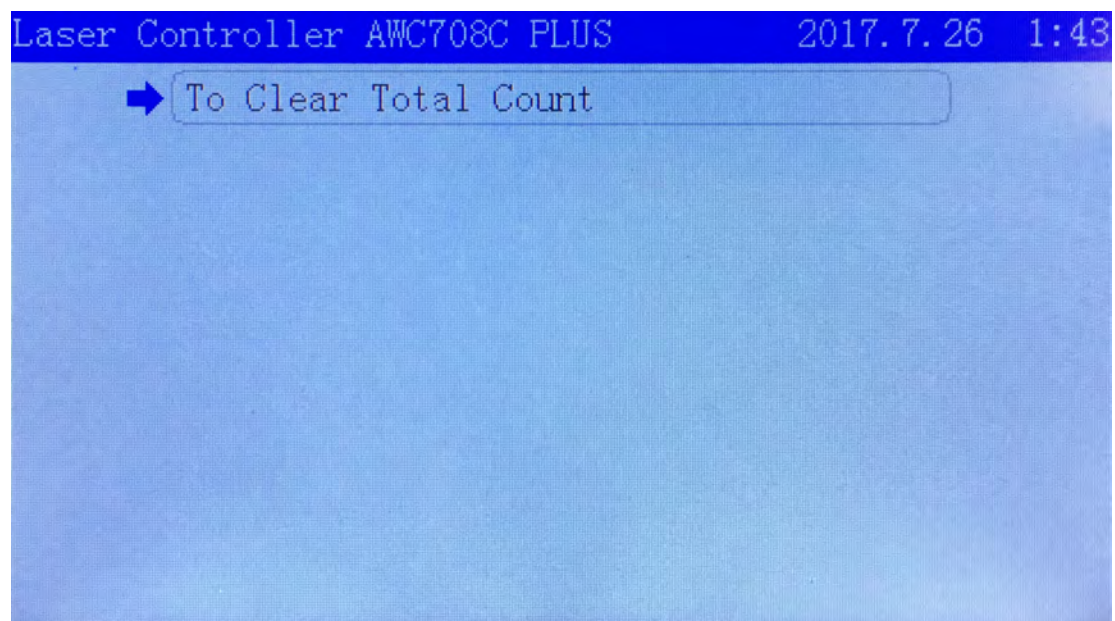
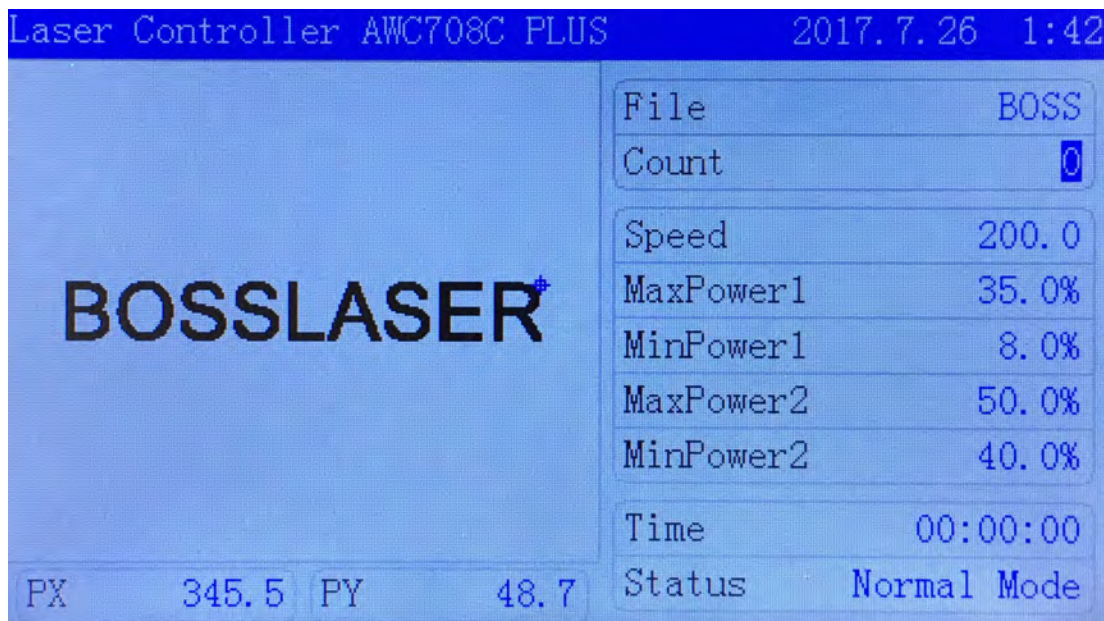
- **Work Mode:** Choose the working state of the processed file.
- **Speed(mm/s):** Set the speed of the processed file.

- Max Power : Max power of the laser head. Also known as the working power of laser.
- Min Power : Min power of the laser head. Also known as the turning power of laser.

In the layer parameters, move the cursor to the options you want to change, press **【Z↑】** **【Z↓】** or input numbers 0-9 to change the numbers. Then press **【Enter】** to accept the changes.

#### 4.3 Clearing Total Count

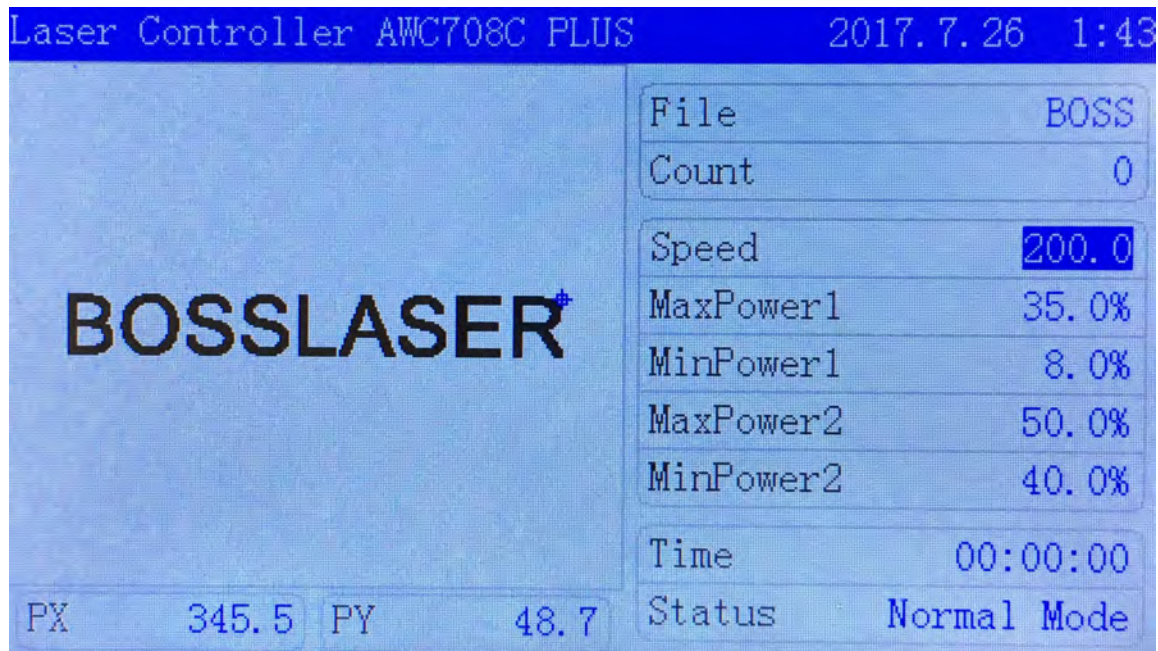
In the main menu, press **【Enter】** to make the highlighted cursor to be displayed. Then move it to **【Count】** , then press **【Enter】** to move it to **【To Clear Total Count】** and press **【Enter】** as shown below.





#### 4.4 Set Work Property

In the main menu, press **【Enter】** to make the highlighted cursor to be displayed. Move it to **【Speed】**, press **【Enter】**, then find **【Set Work Property】** as shown below.



Move the cursor to the options you want to change, Press **【Z↑】** **【Z↓】** or input numbers 0-9 to change the numbers, then press **【Enter】** to accept the changes.

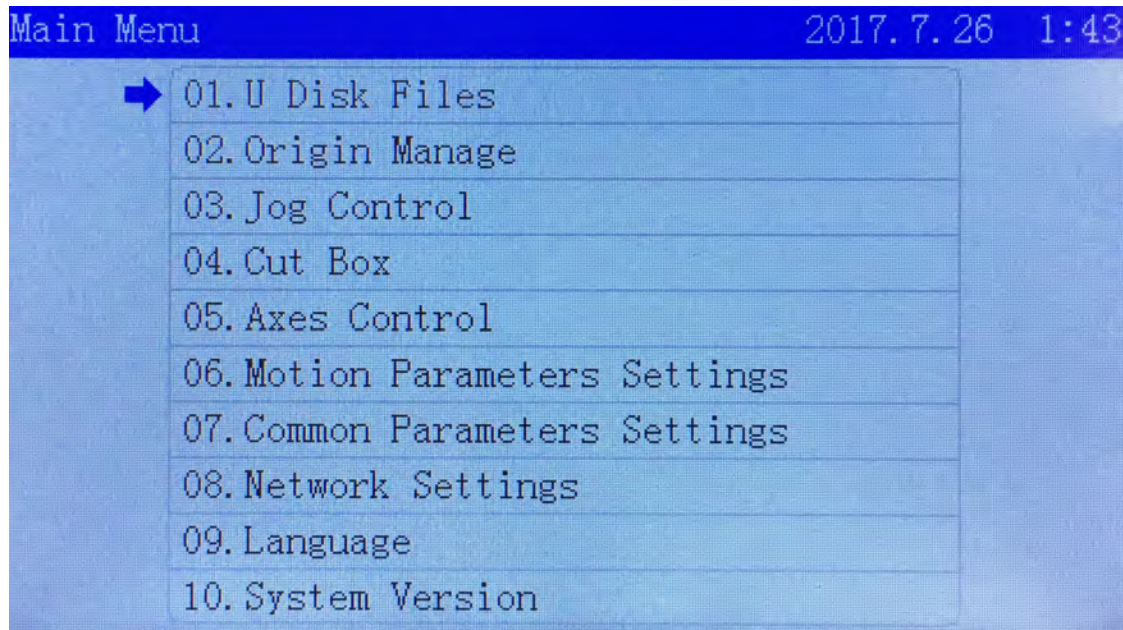





## 5. Main Menu Function Settings

### 5.1 U Disk Files

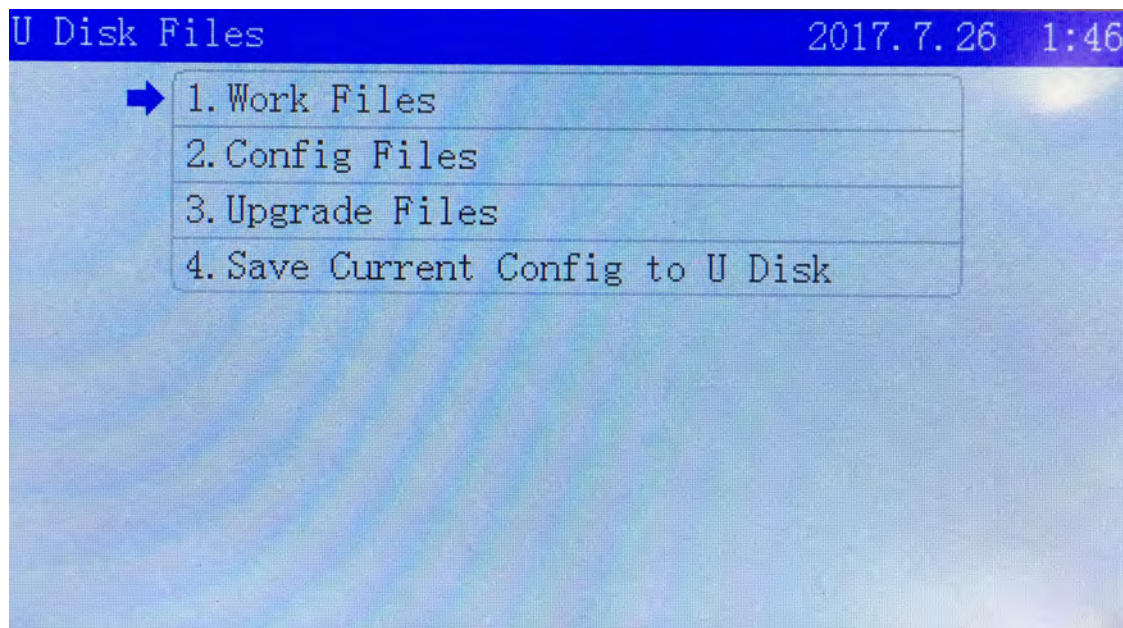
Insert U disk to USB port. If your U disk has a "light indicator" (shows connectivity) and shows that it's connected, press **【Menu】** to enter the main menu, move the cursor to **【U Disk Files】** then press **【Enter】** to enter U disk files management.



	<ul style="list-style-type: none"> <li>① U disk should be formatted to FAT 32 File system. Quick Format is forbidden. Any other files formations are not supported.</li> <li>② Recommend using a U disk with a "light indicator" to ensure if the U disk is connected successfully with the main board</li> <li>③ When the U disk has never been able to read , try using a different U disk.</li> </ul>
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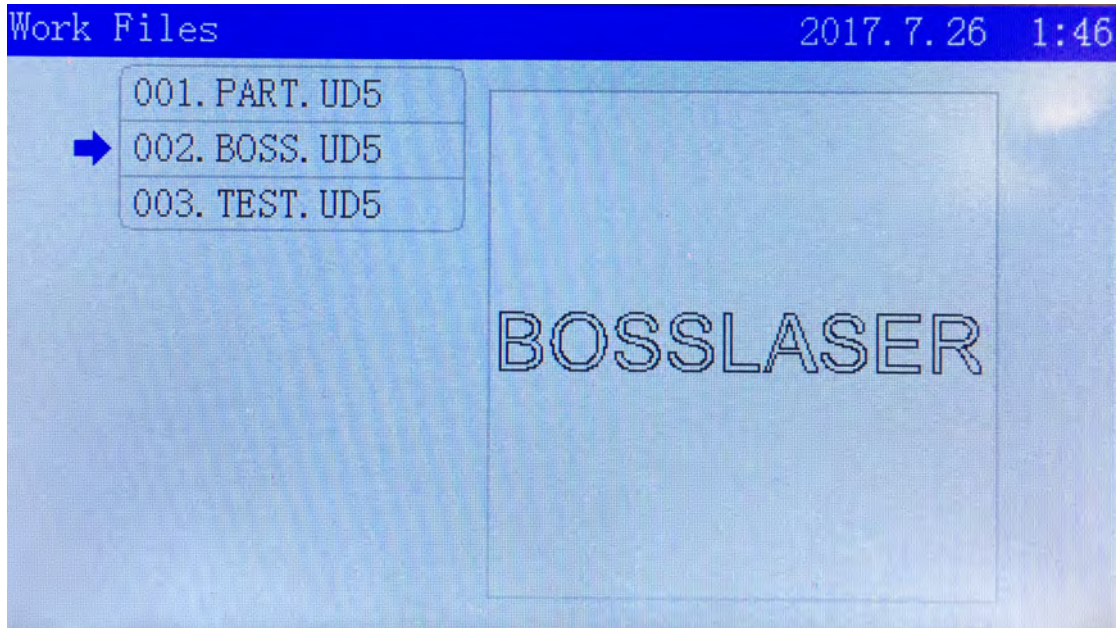
#### 5.1.1 U Disk Work Files


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





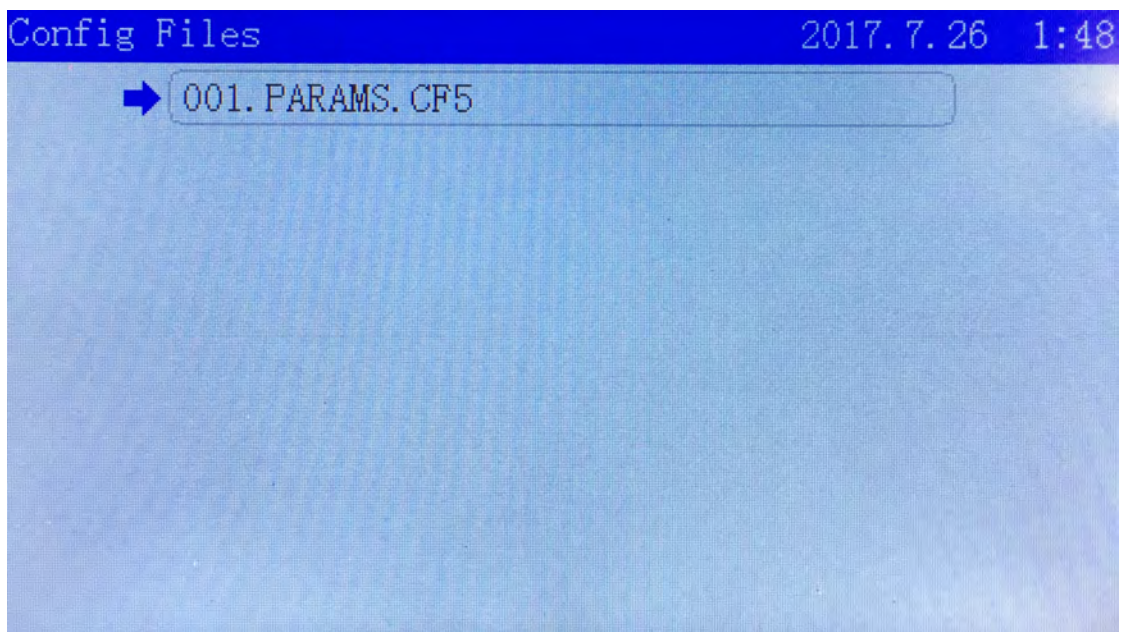
On the panel, the working file in the U disk will be presented. The right side shows the working file previewing. Press **【Enter】** to copy the working file from U disk to main board storage.



	<p>The working file in the U disk is saved with a suffix of UD5. Files other than the .UD5 file extension will not readable.</p>
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**5.1.2 Config Files.**

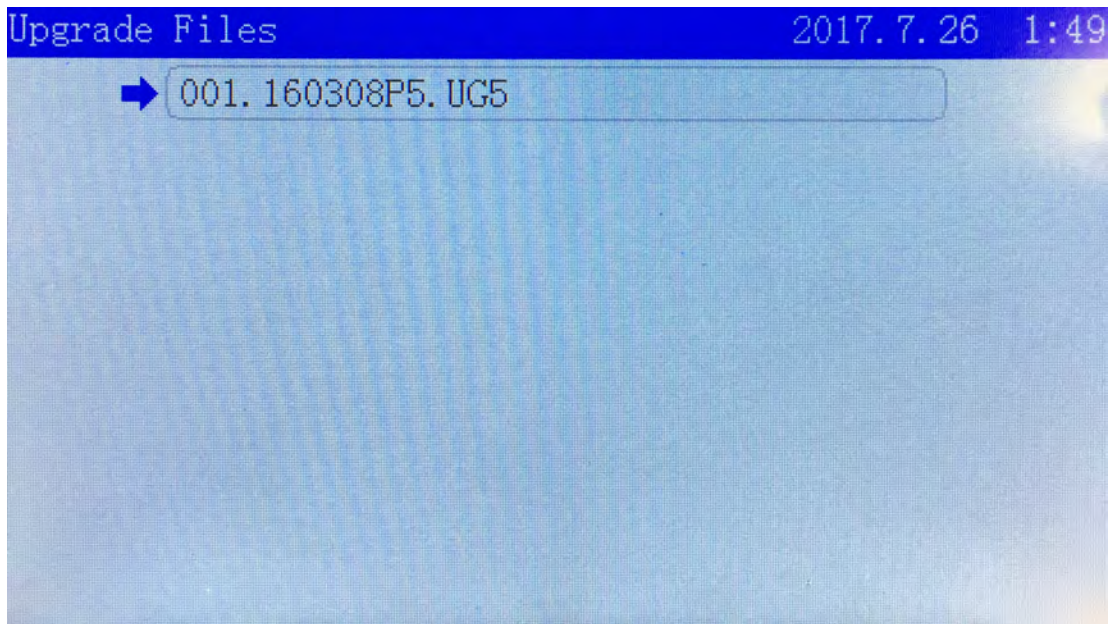
Move the cursor to **【Config' Files】**, press **【Enter】** to enter it. Move the cursor to the file which you need to copy to main board. Press **【Enter】** to accept the changes.




**5.1.3 Upgrade Files**

Move the cursor to **【Upgrade' Files】** and press **【Enter】** to enter Upgrade Files screen. Move the cursor to the file you need, press **【Enter】** then it will start the upgrading process.

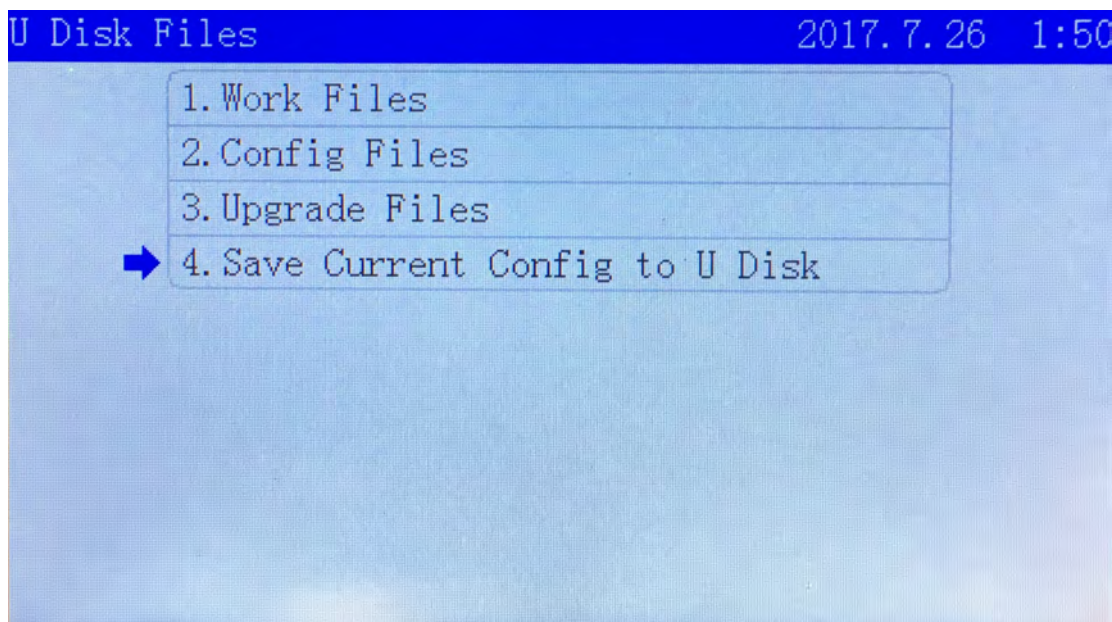
*PLUS version upgrade files are listed as AWC708P...*



	<p><b>Do NOT cut off electricity before the upgrade has finished. Otherwise it may lead to a burn out. The upgrade period lasts for 30 seconds. After that, the main board will reset.</b></p>
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**5.1.4 Save Current Config to U Disk**

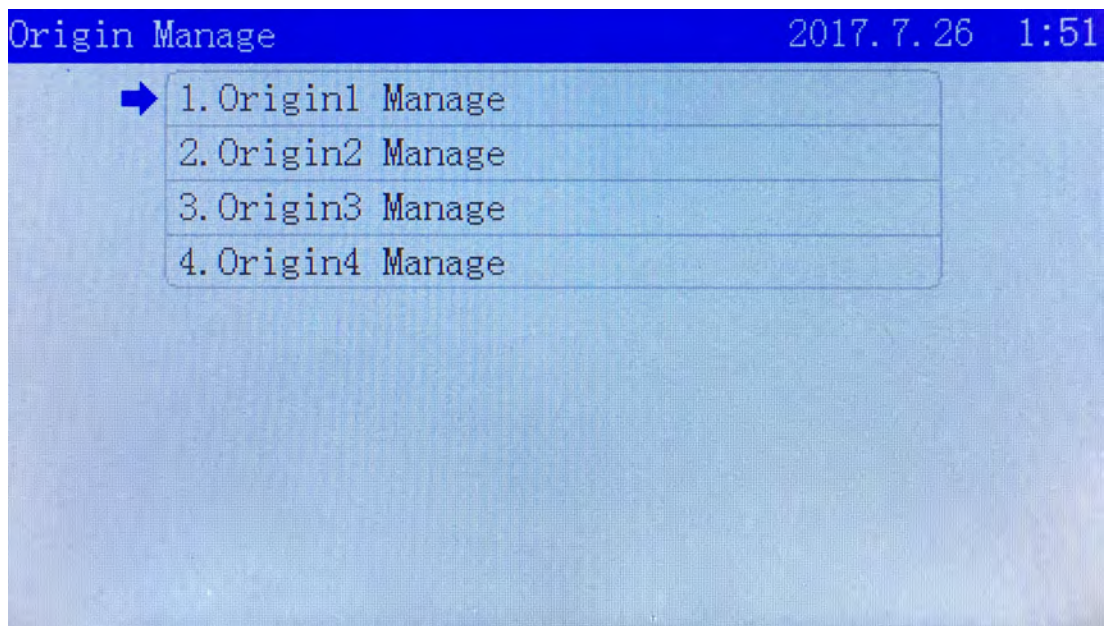
Move the cursor to **【Save current config to Udisk】** then press **【Enter】** to save onto the U disk. The file will be saved as a “Params.CF5” name.





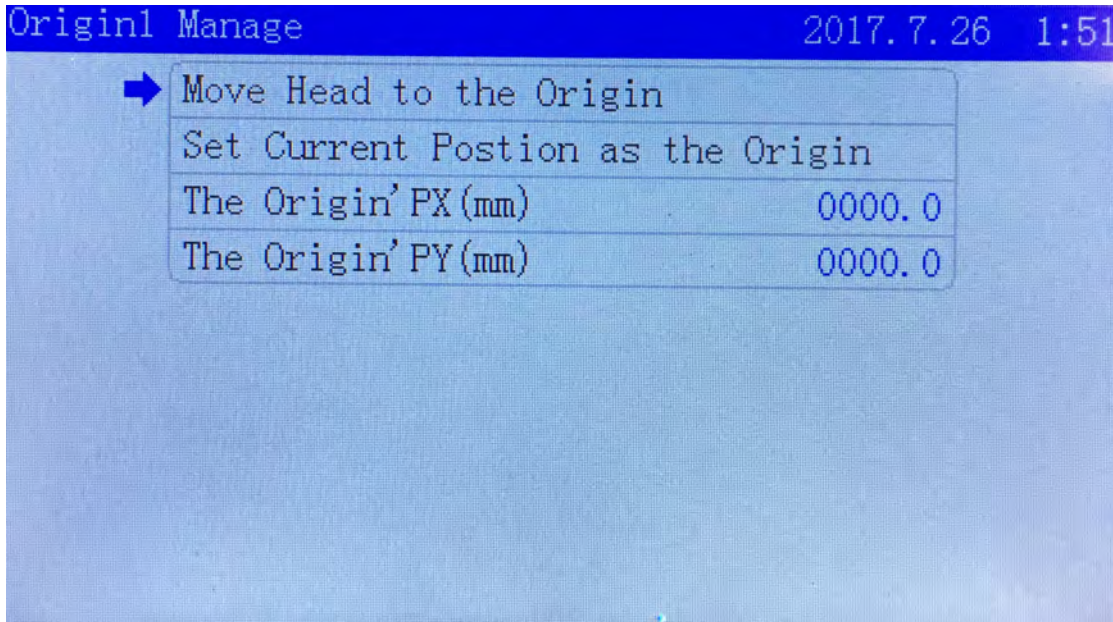
### 5.2 Origin Manage

In main menu, press **【Menu】** then move the cursor to **【Origin Manage】** as shown below.



Move the cursor to **【Origin1 Manage】** , press **【Enter】** to enter the Origin 1 management interface. Move the cursor to **【Set current position as the origin】**, press **【Enter】** to set the current laser head position as origin point.

Move the cursor to “The origin’PX(mm)”and “The origin’PY(mm)”. Press **【Z↑】****【Z↓】** or input numbers 0-9 to change the numbers and the location. Press **【Enter】** to confirm the changes.

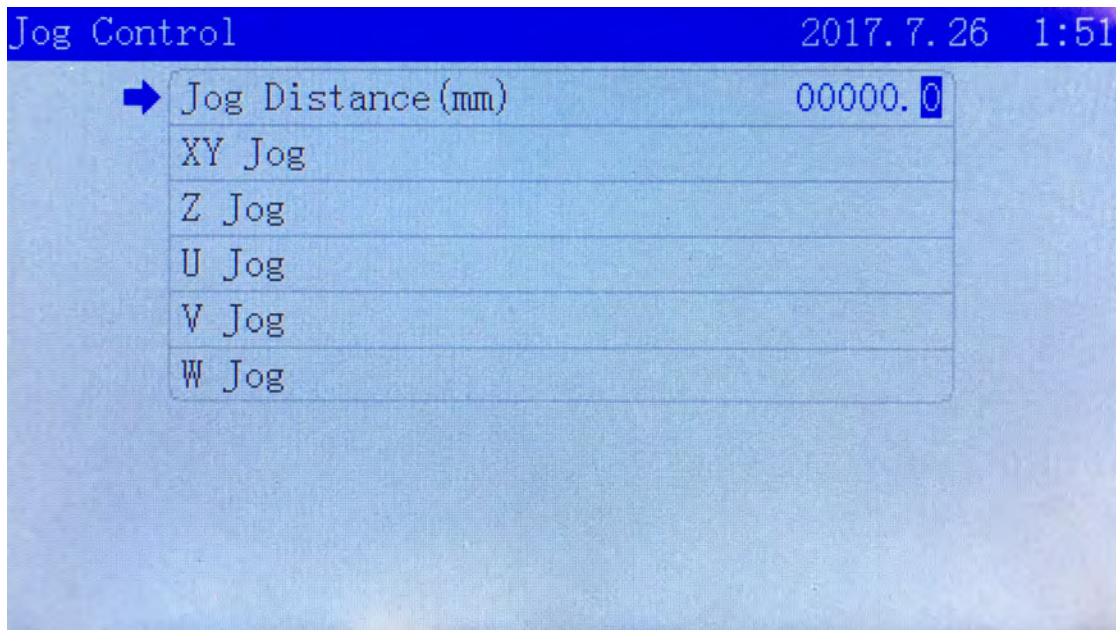


### 5.3 Jog Control

In main menu, press **【Menu】** .Move the cursor to **【Jog Control】** , press **【Enter】** . Press **【Z↑】** **【Z↓】** or input numbers 0-9 to change the jog distance. Press **【Enter】** to accept the changes.

In Jog control screen, press **【Z↑】** **【Z↓】** move cursor to a relative joy axis.

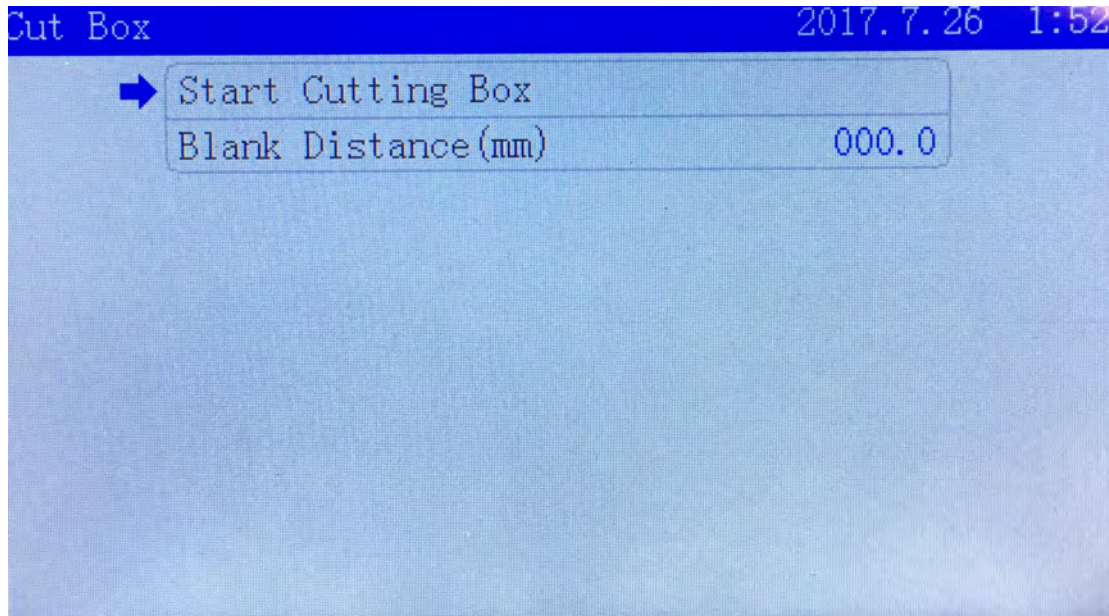
Press **【↑】** **【↓】** **【←】** **【→】** can control their movement.





### 5.4 Cut Box

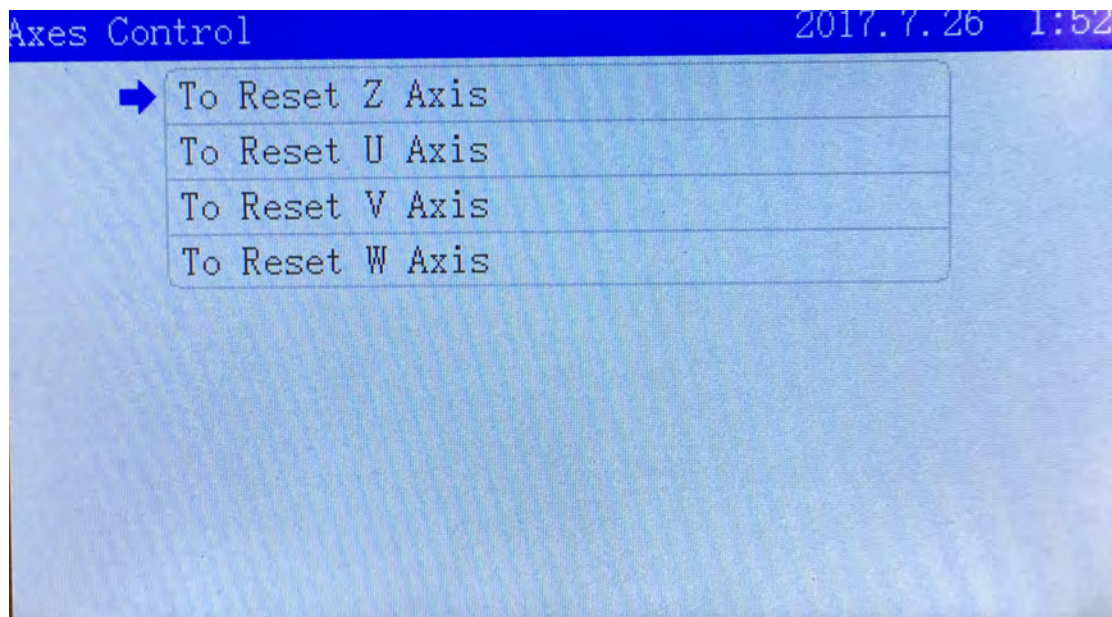
In main menu screen, press **【Menu】** and move the cursor to **【Cut Box】**. Press **【Enter】** to enter “Cut box”. Move the cursor to “Blank Distance(mm)”. Press **【Z↑】** **【Z↓】** or input numbers 0-9 to edit the blank distance. After that you can choose **【Start cutting box】** and press **【Enter】** to start cutting box.



- **Blank Distance(mm)**: The distance from File Box position to the actual cutting box position.

### 5.5 Axes Control

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



### 5.6 Motion Parameters Settings

In main menu interface press **【Menu】** .Move cursor to **【Motion Parameters Settings】** press **【Enter】** .Press **【Z↑】** **【Z↓】** or input numbers 0-9 to change the numbers.Press **【Enter】** to finish it.

Motion Parameters Settings		2017.7.26 1:52
→ Space Speed (mm/s)		0200.0
Cut Jerk (mm/s <sup>3</sup> )		040000
Space Jerk (mm/s <sup>3</sup> )		060000
Min Acc (mm/s <sup>2</sup> )		00100
Cut Acc (mm/s <sup>2</sup> )		01500
Space Acc (mm/s <sup>2</sup> )		03000
Engrave Acc (mm/s <sup>2</sup> )		10000
Start Speed (mm/s)		10.0
Speed Factor		1.0

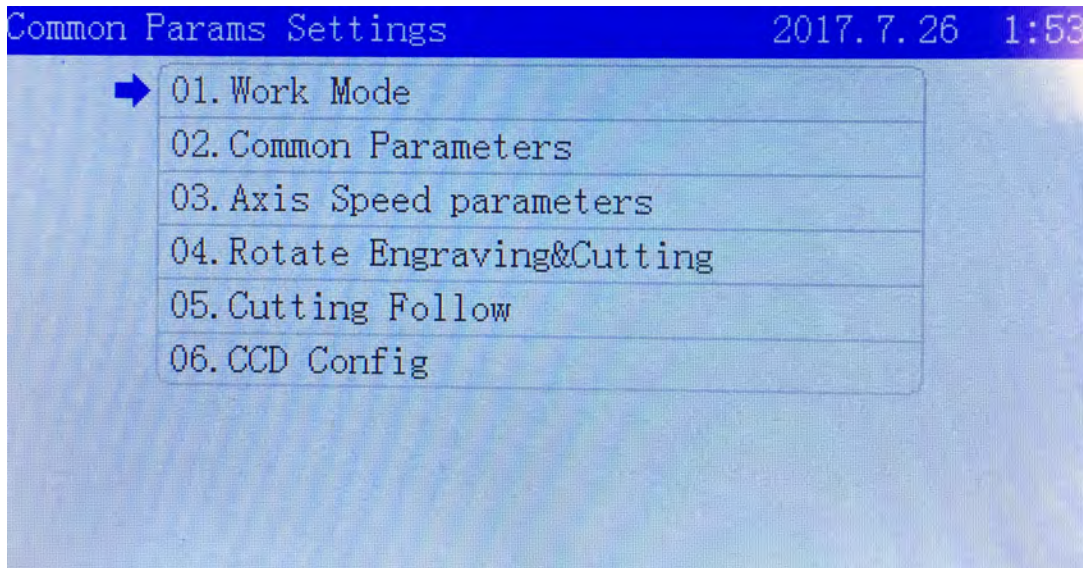
- **Space Speed(mm/s):** The movement speed of laser head when there is no laser output.
- **Cut Jerk(mm/s<sup>3</sup>):** Cutting speed jerk of axes.
- **Space Jerk(mm/s<sup>3</sup>):** The Jerk speed of axes when there is no laser output.
- **Min Acc(mm/s<sup>2</sup>):** Min acceleration when axes are sped up and down during motion cutting.
- **Cut Acc(mm/s<sup>2</sup>):** Cutting acceleration when axes are sped up and down during motion cutting.
- **Space Acc(mm/s<sup>2</sup>):** The Acceleration speed of axes when there is no laser output.
- **Engrave Acc(mm/s<sup>2</sup>):** Engraving acceleration when axes are sped up and down during motion cutting.
- **Start Speed(mm/s):** Speed of axes from no movement to startup.



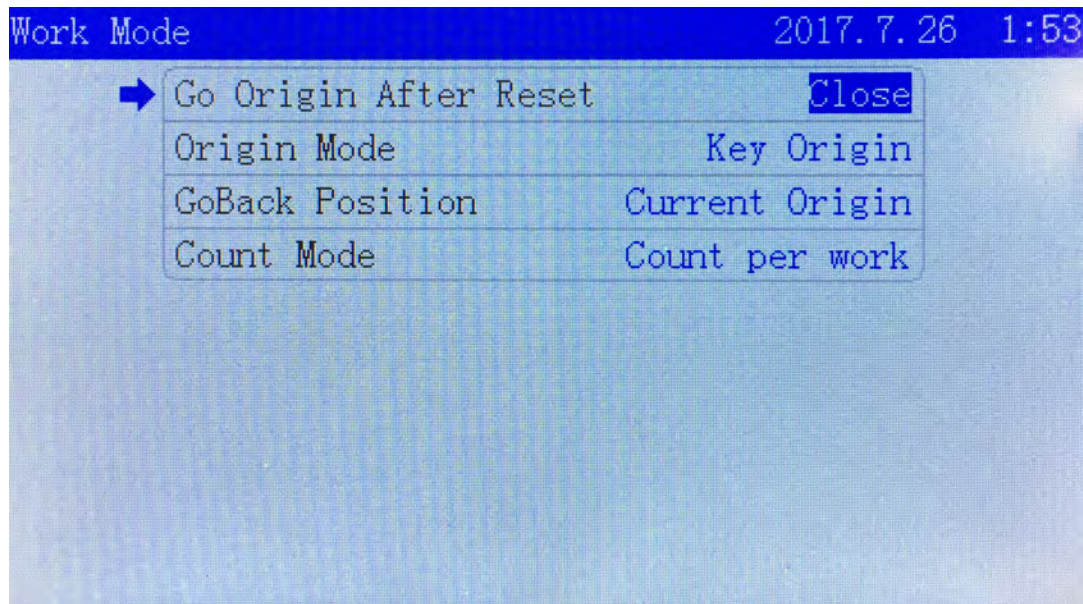
### 5.7 Common Parameters Settings

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

#### 5.7.1 Work Mode



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



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

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

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

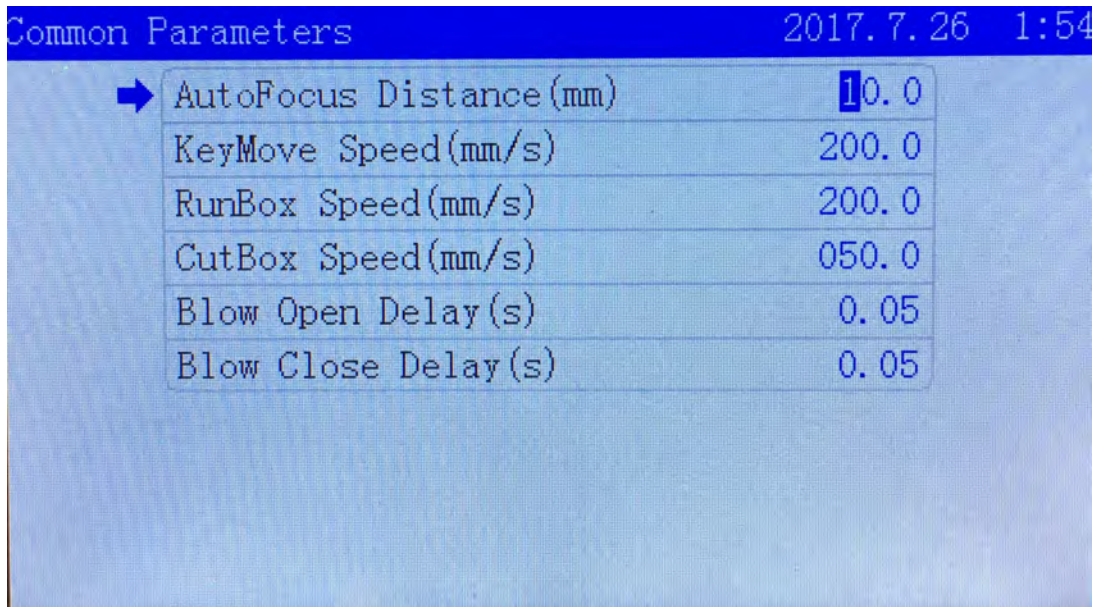
**Origin Mode:** *Current Origin*, or keep the current origin point of machine; *Key Origin*, or press panel "Origin" button after laser head moved to the chosen position; *Software Origin* means the origin point when drawing a file; *Machine Zero As Origin* means set a appointed position as machine's 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 screen, press【Menu】. Move the cursor to 【Common Parameters】press【Enter】. Press 【Z↑】 【Z↓】 or input numbers 0-9 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 using the control panel keys.
- **RunBox' Speed(mm/s):** The speed of laser head running in space state, or running box without the 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**

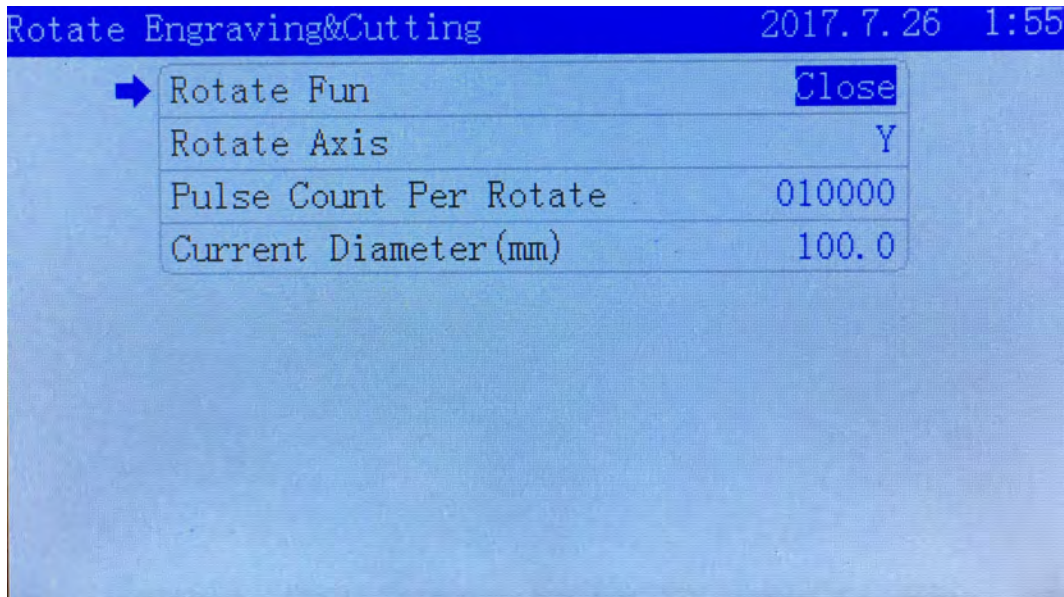
In main menu screen, press **【 Menu 】** . Move the cursor to **【 Axis Speed Parameters 】** press **【Enter】** . Press **【Z↑】 【Z↓】** or input numbers 0-9 to change the numbers and accept changes.

Axis Speed parameters		2017.7.26 1:54
→ Z Work Speed (mm/s)		100.0
U Work Speed (mm/s)		008.0
V Work Speed (mm/s)		100.0
W Work Speed (mm/s)		100.0
XY Home Speed		050.0
Z Home Speed (mm/s)		008.0
U Home Speed (mm/s)		008.0
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 screen, press **【Menu】** . Move the cursor to **【Rotate Engraving & Cutting】** and press **【Enter】** , Press **【←】** **【→】** to switch each item. Press **【Z↑】** **【Z↓】** or input numbers 0-9 to make any changes. Then Press **【Enter】** to accept changes.

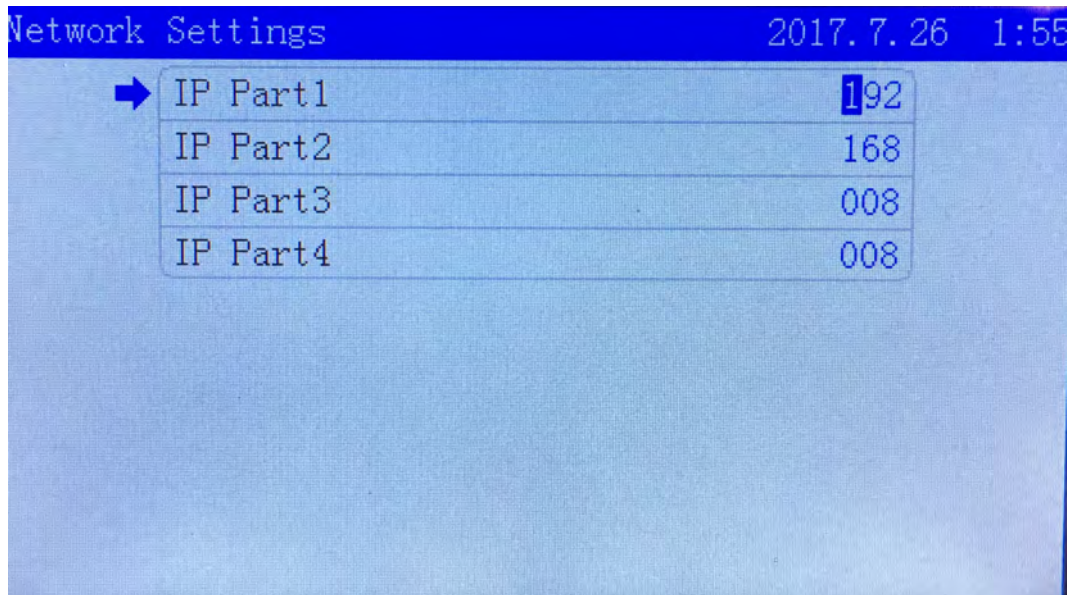


- **Rotate Function:** To enable or disable the rotate engraving function.
- **Rotate Axis:** The chosen axis when rotate engraving function be used with.
- **Pulse Count Per Rotate:** The pulse parameters for the motor to make the rotary axis rotate one circle.
- **Current Diameter(mm):** The diameter of the material being processed.



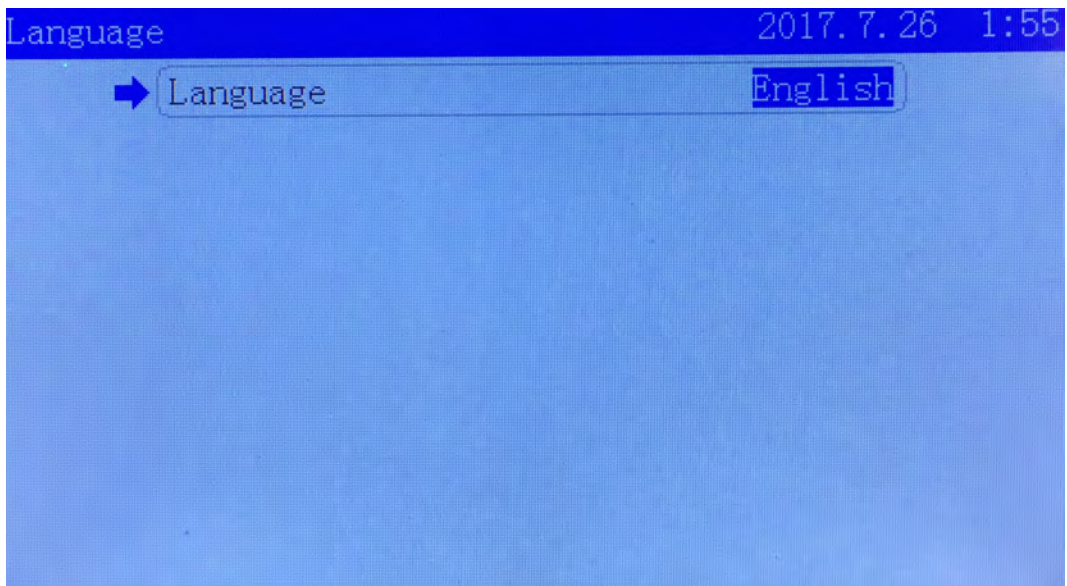
### 5.8 Network Settings

In main menu screen, press【Menu】. Move the cursor to 【Network Settings】and press【Enter】. Then press 【↑】 【↓】 to move the cursor. Press 【Z↑】 【Z↓】 or input numbers 0-9 to change the numbers and accept changes.



### 5.9 Language

In main menu screen, press【Menu】. Move the cursor to 【Language】and press【Enter】. Then press 【←】 【→】 to switch languages and press 【Enter】 to accept changes.



### 5.10 System Version

In main menu screen, press **【Menu】**. Move the cursor to **【System Version】** and press **【Enter】** to check the controller's system version information.

