Read this manual before operation

➢　The content include of electric connections and operating steps

➢　Read the manual to operate the systems

RDC6334G

Laser cutting system hardware user manual

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CERTIFICATION DECLARATION

CE

The product has been certified by the CE (Commutate European) safety certification.   It has passed the corresponding conformity assessment procedure and the manufacturer's declaration of conformity, in accordance with the relevant EU directive.

ROHS

This product has been certified by EU legislation (Restriction of Hazardous Substances) Safety certification; comply with relevant EU environmental regulations.

FCC

This product has been certified by the Federal Communications Commission for safety, Comply with us electronic safety regulations.

SAFETY INFORMATION

When using this system, please make sure the operation is correct and the usage is safe. Some signs or text will be used to remind you to pay attention to the dangerous matters and some important information.

Dangerous：

Indicates a serious danger. In the process of use, if the operation is improper or the way of use is wrong, it may cause serious injury or even death to the user. Please do not operate it easily until you have made sure that the operation method is correct and the way of use is correct.

Warning：

Danger.n the process of use, if the operation is improper or the use is wrong, which may lead to the injury of the personnel, please do not operate the personnel and related personnel easily, until ensure the correct operation method and use method is correct before use.

Cautious：

Represents the potential risk of the product. In the process of use, if the use method is wrong or improper operation, it may cause damage to the product or some parts. Please do not use it until you have made sure that the operation method is correct and the usage is correct.

Important：

Represents important information to be paid attention to during the use of the product.Please do not ignore this information, this information will provide effective operational help.

This sign indicates laser radiation, which is usually posted on products with laser output. Please be careful with laser and pay attention to safety when using this kind of equipment.

Sign in、Devanning、Examine cargo

The product itself with plastic or metal shell, can protect the external electrical components from damage. The products are packed in foam bags and anti-static bags. If there is any external damage to the package, check the equipment and notify the carrier and carrier in writing of the damage.

Inportant:
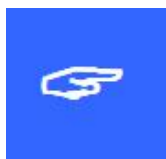
After receiving the product, please check whether the outer package is intact, check whether the product is complete after unpacking and whether all parts are intact. If any damage is found, please contact ruida immediately.

Remove all cargo from package and keep packing material and wiring parts. Please take care of the safety of the goods when unpacking them.After taking out the goods, please check whether the parts are complete and intact. If any missing parts or damaged parts are found, please contact ruida technology immediately.Do not install or debug the equipment if any obvious damage is found.

Contents

Section 1　Brief introduction of HMI and keys function

CONTENTS:

■ **HMI**
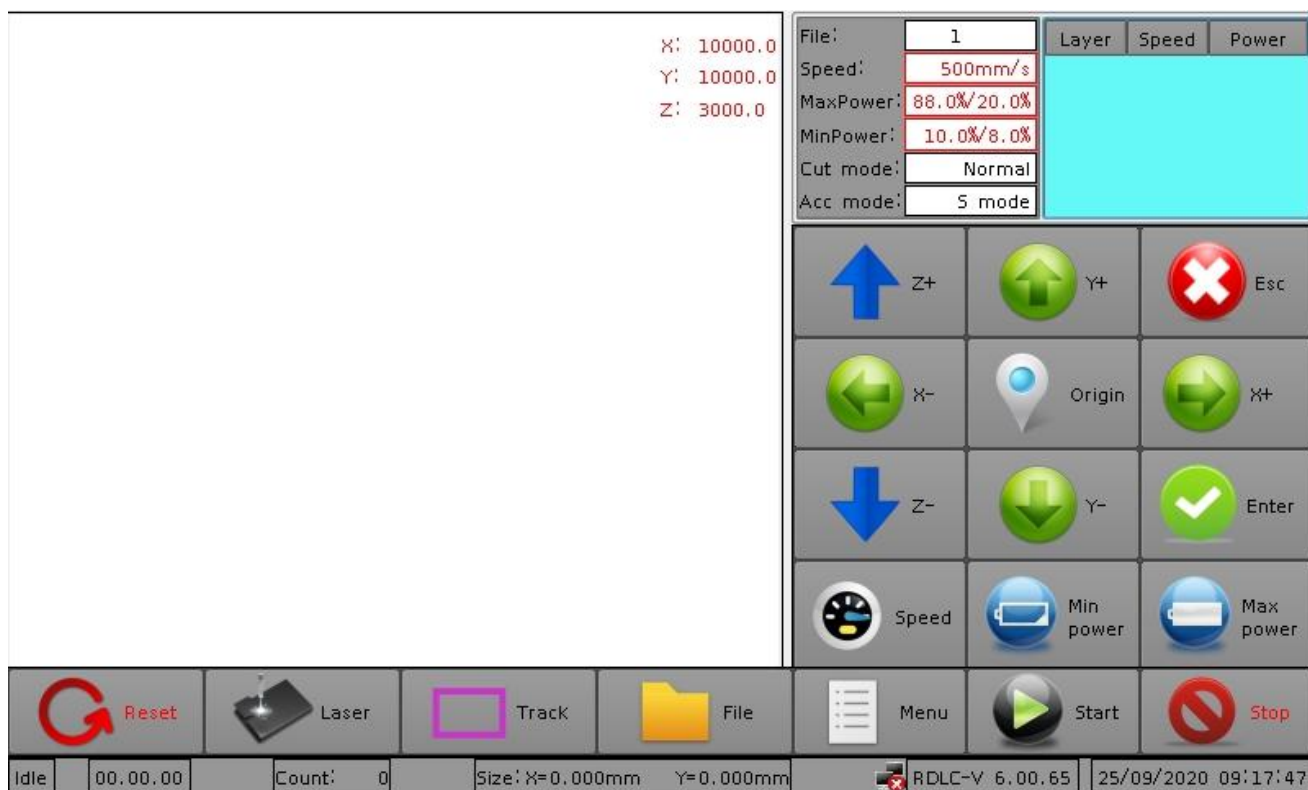
■ **Introduction of key function**

1.1 HMI

Figure 1.1 HMI

1.2 Key function introduction

● "Reset": Reset the motherboard

● "Origin": Set locating point

● "Laser": Laser on/off

● "Track": To track current processing file

● "File": memory document and U disk file management

● "Speed": Set the current processing speed value

● "Max power": Set the current maximum power value

● "Min power": Set the current minimum power value

● "Menu": System configuration, users' parameter setting, Vendor parameter setting, etc.

● "Stop": Stop working

● "Start": Start or pause

● "X+/-": x axis movement

● "Y+/-": Y axis movement

- "Esc": To stop working and cancel file preview when suspend working

- "Enter": To set layer parameter

Section 2　Main interface and functions introduction

CONTENTS:

- Boot interface
- Main interface
- Speed setting
- Max/Min power settings
- Layer parameter setting

2.1 Boot interface

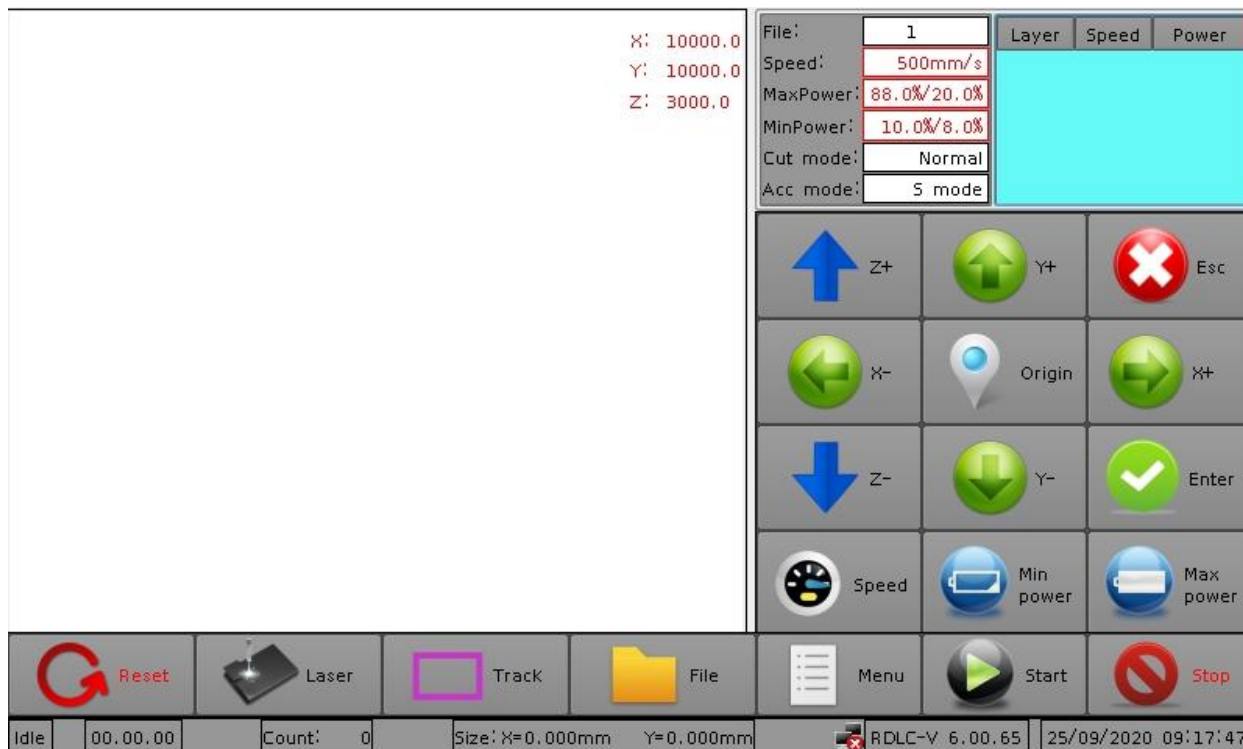Boot screen will display when system is resetting as shown below:

Figure 2.1 Boot screen

Boot screen could be modified by users, by importing defined picture via PC software and then download. It will be displayed when the system is switched on again after switch off.

2.2 Main interface

Main interface will display when system reset is complete as shown below:

Coordinates display area: The laser head coordinates display in this area during file processing or manual operation.

Graphics display area: This area is used for file preview and processing to trace the movement of the laser tube.

Working status area: To display the current working status of the system, which are system idle, system pause, system completed, system running.

Network connection status: To display the network status of the mainboard. When the network communication is used and connected, there will be a network connected icon in this area; otherwise it is a disconnected icon.

Layer parameter setting: When layer information displays in the main interface, click the layer parameter list with your finger or mouse. If there are multiple layers, you can press and hold the middle of the list and drag down with your finger. At this time, the layer list will scroll down correspondingly and when a

layer is in the highlighted state, press "Enter" to access layer parameter modification interface.

In the state of system idle, users can perform file processing, parameter setting, file preview and other operations.

2.3 Speed setting

Press "Speed" button in the main interface, a dialog box will pop up as following:
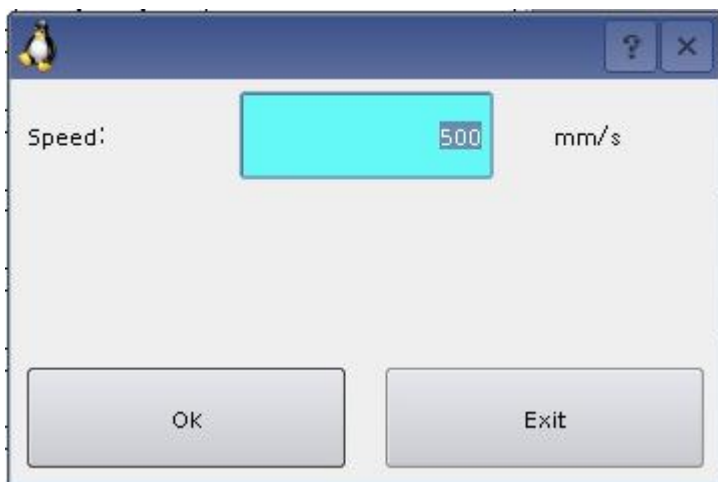

Figure 2.3-1 Speed Setting

Click parameter region with your finger or mouse and an input keyboard will pop up afterwards, as shown below:
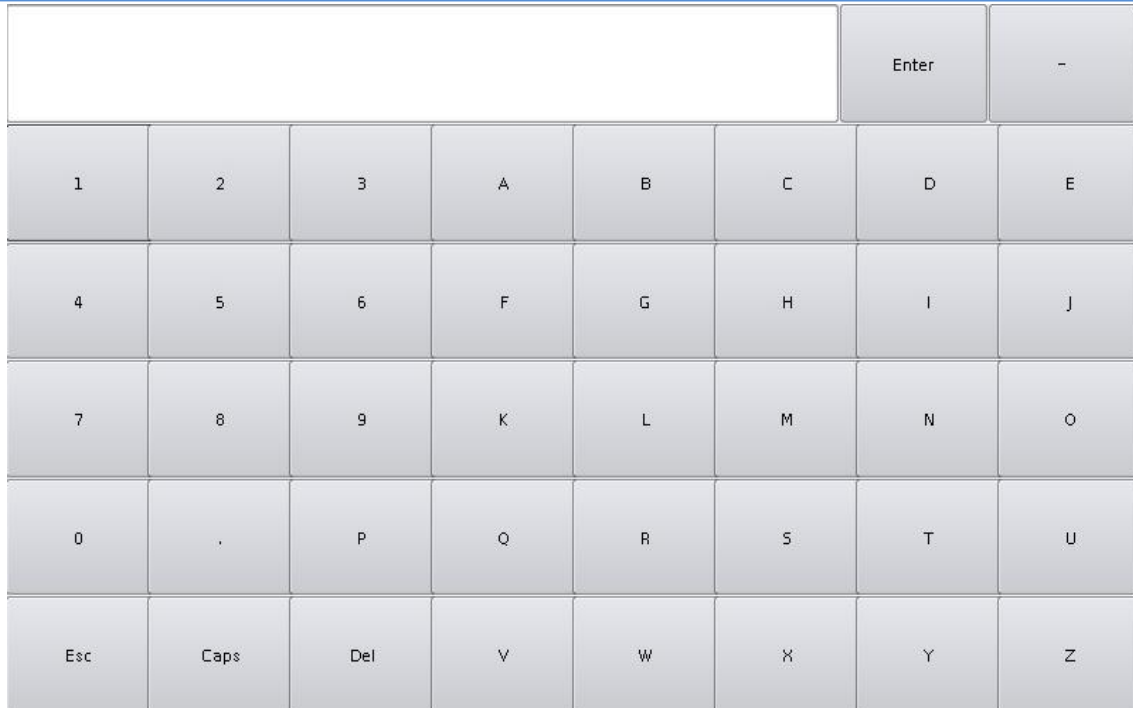
Figure 2.3-2

Press number keys to enter a new value, press "Enter" to confirm the input. Press "Esc" to cancel the input and return to the previous interface, press "Del" to delete the current value.

2.4 Max/Min power setting

Press "Max power" or "Min power" key in the main interface, dialog boxes will pop up respectively as shown below:
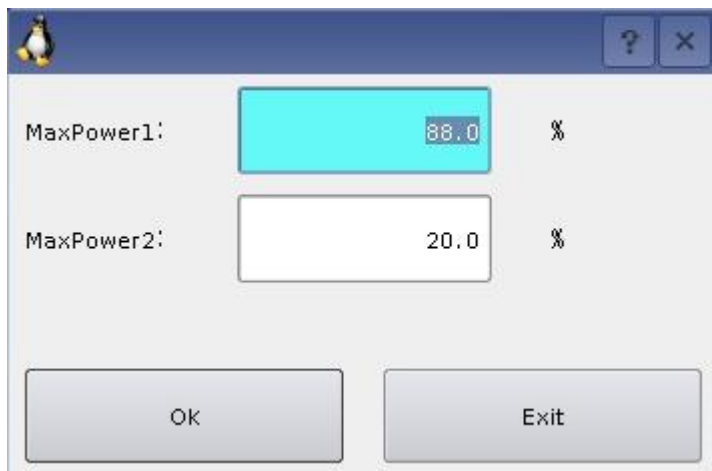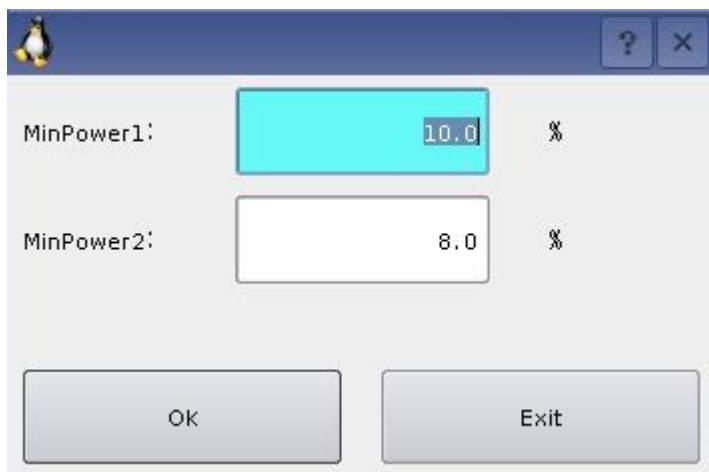

Figure 2.4-1

Figure 2.4-2

Refer to speed setting for parameter setting method.

2.5 Layer Parameter Setting

When system is idle, when there is layer information, click layer parameter list with your finger or mouse to select a layer. If there are multiple layers, you can press and hold the middle of the list and drag down with your finger. At this time, the layer list will scroll down correspondingly. Then press"Enter" after selecting, and the layer setting dialog box will pop up:
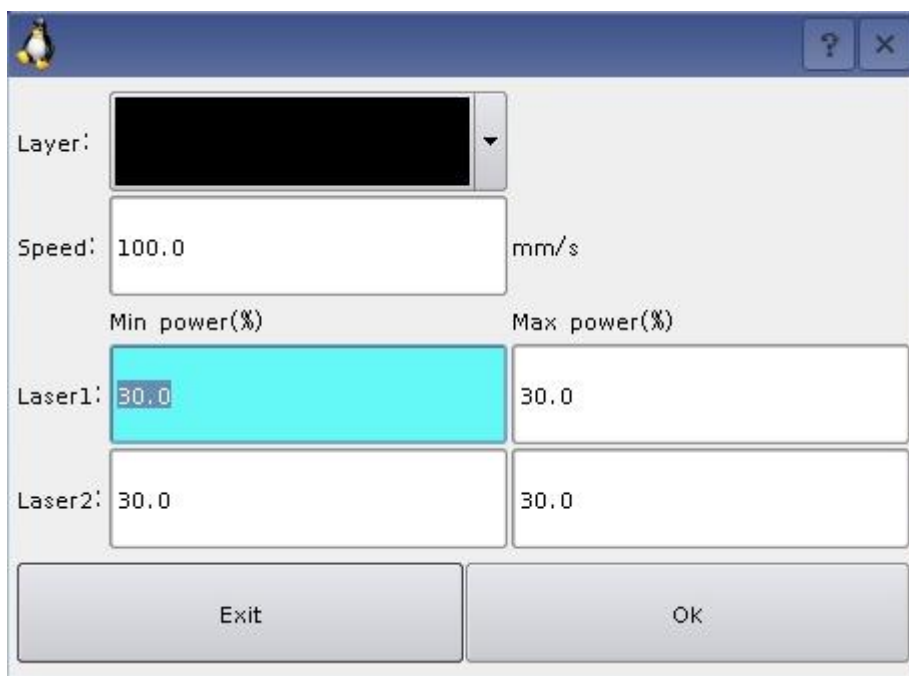

Figure 2.5

Please refer to speed setting for parameter modification method. Press "Enter" key after modifying the

parameters. The panel will prompt "parameter setting successful", then press "Enter" to return main interface.

When modifying another layer parameter without closing the current layer setting window, be sure to save the current layer parameter first (if needed). Then click the "Layer List Box" and the layer list pops up, select the layer to be modified, and then modify the parameters of the layer.

Section3   Menu functions

CONTENTS:

■ **System information**

■ **System Configuration**

■ **Functions**

■ **Users parameter**

■ **Vendor parameter**

■ **Axis Reset Settings**

3.1　System information

Click the "System information" button in the main interface of "Menu", a dialog box will pop up as following:

ystem inf	Limit info	
Total on time:(H:M:S)		00:00:00
Total work time:(H:M:S)		00:00:00
Pre work time(H:M:S)		00:00:00
Total laser:(H:M:S)		00:00:00
Total work times:		0
X Total traval:(m)		0
Y Total traval:(m)		0
Total count:		0
Read	Clear	Exit

Figure 3.1

Click "Read parameters" button, panel will read and display the information of motherboard. Click "Reset" to clear "Total Pieces". Press the "Esc" button to return to the previous menu.

3.2 System Configuration

Click the "System configuration" button in the main interface of "Menu", a dialog box will pop up as following:

Figure 3.2-1

Press "Read Parameters" to read the parameters after entering this interface. Press the "Write Parameters" button to save the modified parameters on the motherboard. Press the "Esc" button to close dialog box and return back to previous interface.

Interface options are Ethernet and USB for selection. Click the "Ethernet/USB" button, a dialog box will pop up to enter the password as following:

Figure 3.2-2

After entering the correct password, enter into communication setting dialog box, as shown below:

Figure 3.2-3

Click "communication interface select box" to choose "USB" or "Ethernet", and press the "Enter" button to save the parameters after selecting. Close the dialog box and return back to previous interface; press "Esc" button to undo and return to "System Configuration" interface. The types of display screen are 128X64 dot matrix screen, 320X240TFT screen, 640X480TFT screen, for display only, users are not allowed to modify.

3.3 Function

Click the "Function" button in the main interface of "Menu", a dialog box will pop up as following:
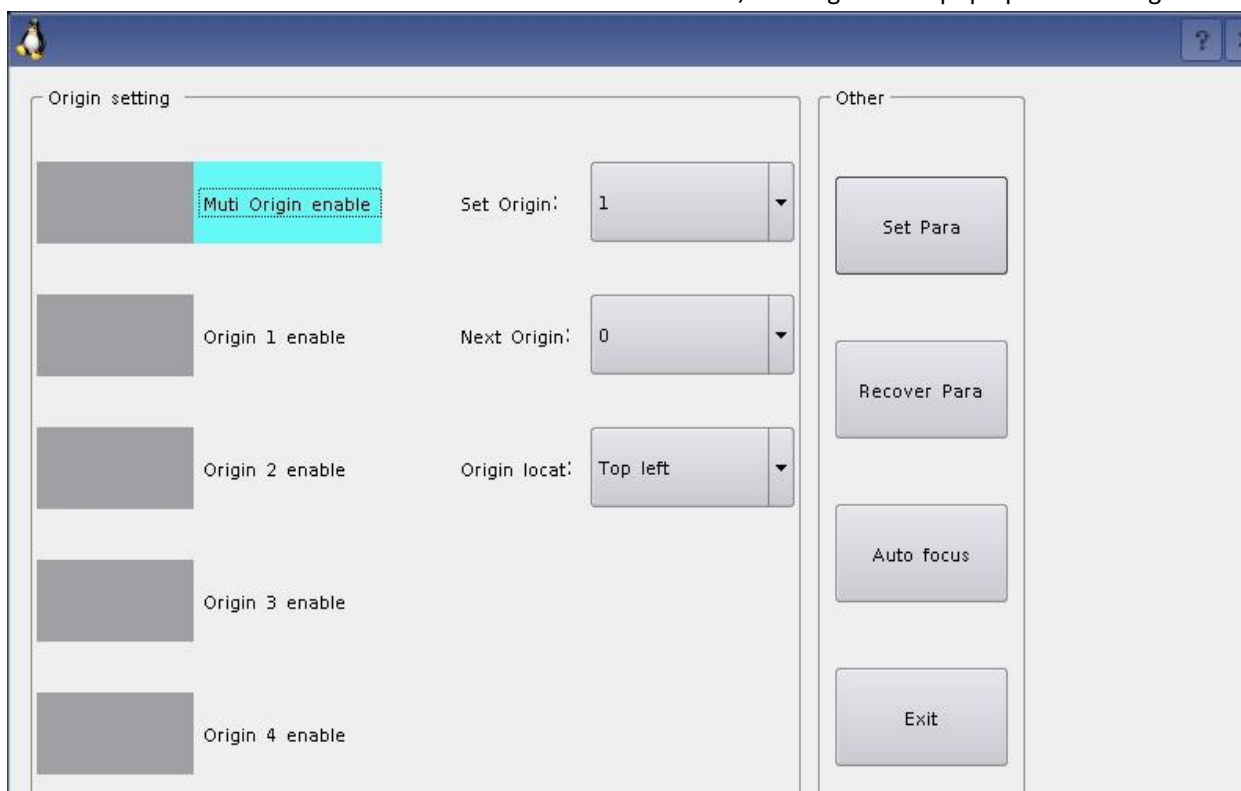
At the column of Origin Point setting, red box on the left of the option means forbidden, green box means enable, you can click to switch back and forth. Parameters are saved before closing the dialog box automatically

The remaining operations are the same as above.

Multiple origin points enable: "Yes" or "No" are optional. When "No" is selected, system uses single origin point logic, press "Origin" button on the keyboard to set origin point and only this set origin point takes effect. When "Yes" is selected, system uses multiple origin points logic, "Origin" button on the keyboard invalid. User need to set the value of each origin point in the menu, see below.

Set origin point 1/2/3/4: after enabling multiple origin points logic, place the cursor on "Set as anchor point 1/2/3/4", and press the "OK" key on the keyboard at this time, the system will use the current X/Y axis coordinate value as the coordinate value of the corresponding origin point 1/2/3/4.

Next origin point: 0 to 4 is optional, it shows the origin points that will be used in the next picture that is ready to work. Origin point No.0 represents origin point set by "Origin" button on the panel in the single origin point logic. 1 to 4 indicates origin point sequence number in the multiple origin points logic. The next origin point can be modified to any point from 1 to 4, so as to control the starting position of the next work (provided that the origin point is enabled), and cannot be modified to the No.0 origin point (if it is a single origin point logic, always take No.0 origin point).

Origin point 1 to 4 enable: when multiple origin points logic is enabled, the four origin points can be individually disabled and enabled.

	Once multiple origin points logic is selected, if the next origin point sequence number is 1, and four origin points are all enabled, when initiate memory files (including keyboard and PC start), or PC uses direct output to activate task and when the option "Use original point as origin point" is selected, different origin points will be used for each job started. The alternating sequence of origin point is 1->2->3->4->1->2... When PC uses direct output to activate task, select "Take the current point as origin point", then the system takes current point as origin point all the time.

Original position: Set the original position of display screen here, and choose different original position to mirror the displayed graphics in different X/Y directions.

When choose "Set as default parameters", system will set all the current manufacturer parameters and user parameters as default parameters. After the entry is pressed, a password is required.

When choose "Recover default parameters", system will overwrite all current user parameters and manufacturer parameters with the default parameters set before.

	Use the function "set as default parameters" to backup all debugged manufacturer parameters and user parameters before delivery . After that, at any time, "Recover default parameters" can be used to recover all manufacturer and user parameters by one-key.

3.4 User parameters

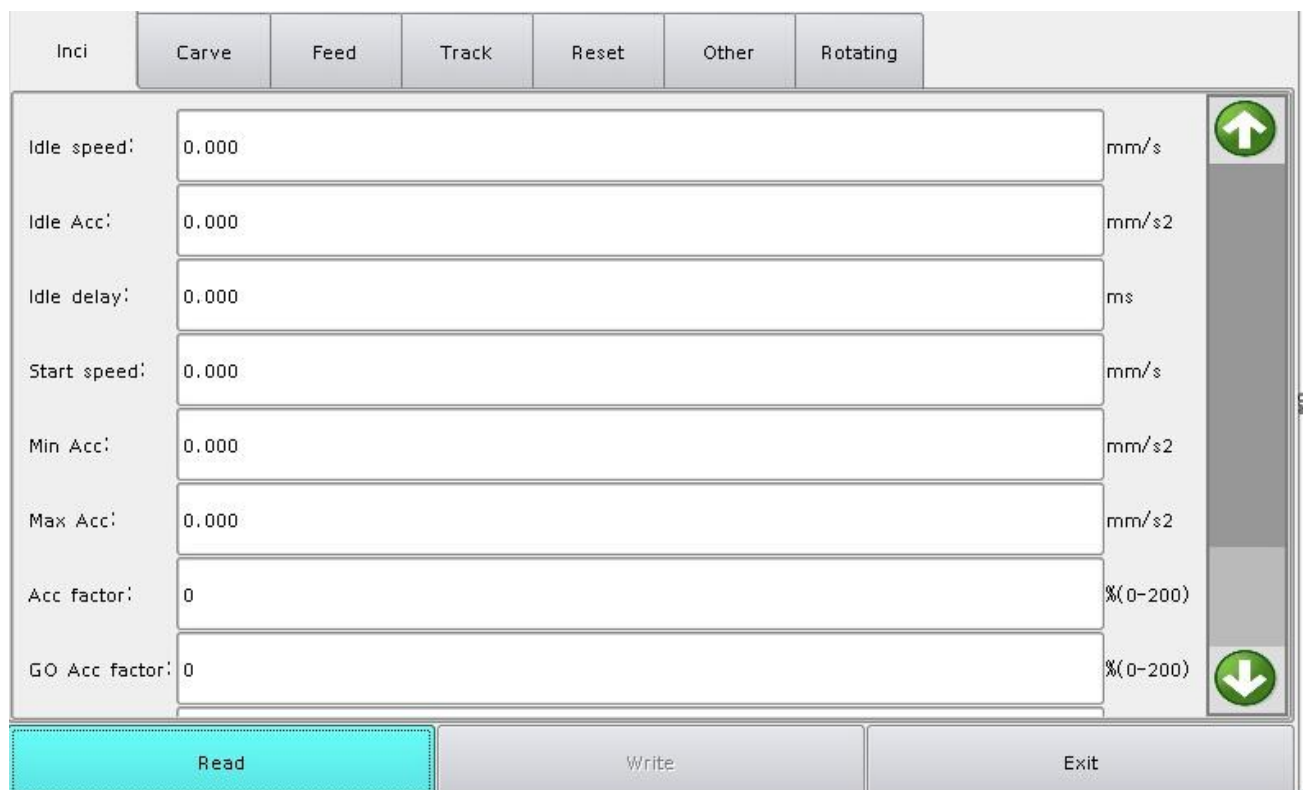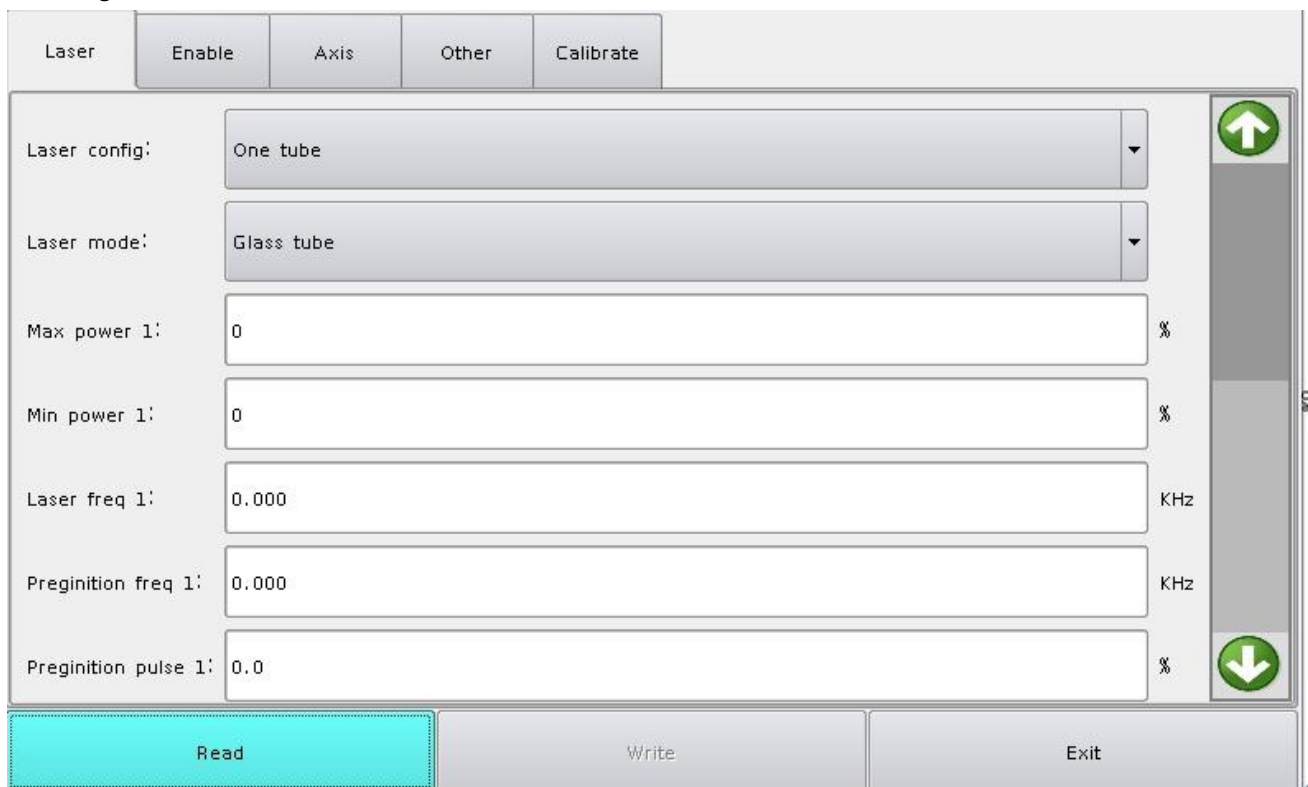Click the "User parameters" button in the main interface of "Menu", a dialog box will pop up as following:

Figure 3.4

Operations are the same as above. Please refer to the mainboard manual for the description of each parameter.

3.5 Vendor Parameter

Click the "Vendor parameters" button in the main interface of "Menu", a dialog box will pop up as following:

Pic 3.5

Operations are the same as above,. Please refer to the mainboard manual for the description of each parameter.

3.6 Axis Reset setting

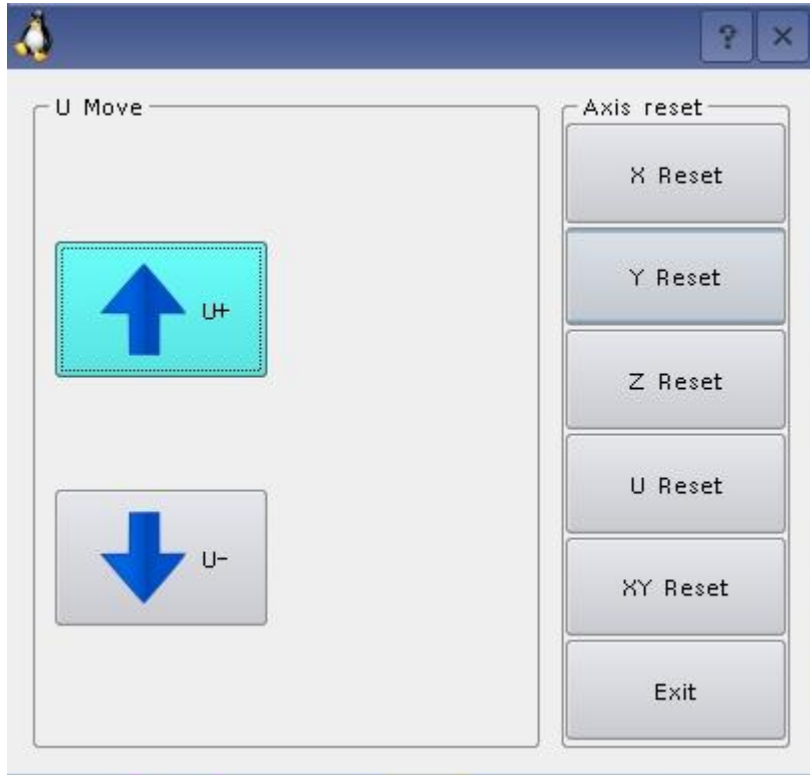Click the "Home" button in the main interface of "Menu", a dialog box will pop up as following:

Figure 3.6

Operations are the same as above.

Section 4   File functions

CONTENTS:

■ **Memory files**

■ **U disk files**

4.1 Memory files

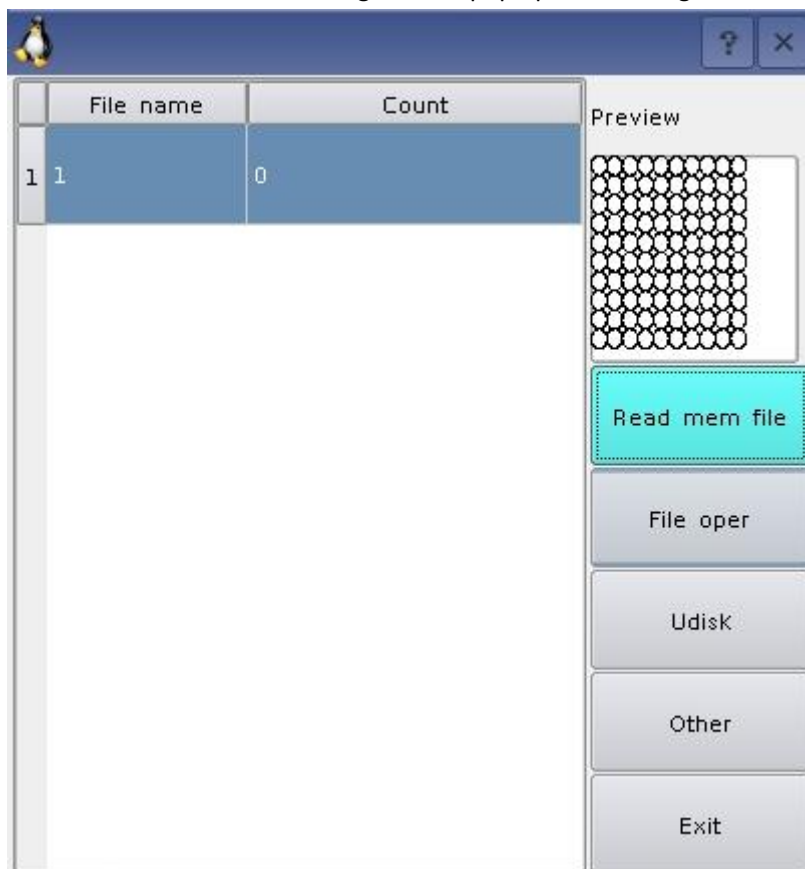Click the "file" button in the main interface, a dialog box will pop up as following:

Figure 4.1-1

When entering this interface, the system memory file will be read automatically, the file name and the number of processed pieces will be displayed on the list, and the selected file will be previewed in the preview area on the right. When there are multiple files, click to select a file, the file will be previewed, and the graph will be displayed on the upper right of the screen. If you want to cancel the preview, press the "Exit" button.

After selecting a file in the file list, click the "File Operation" button, a file operation dialog box will pop up, as shown below:
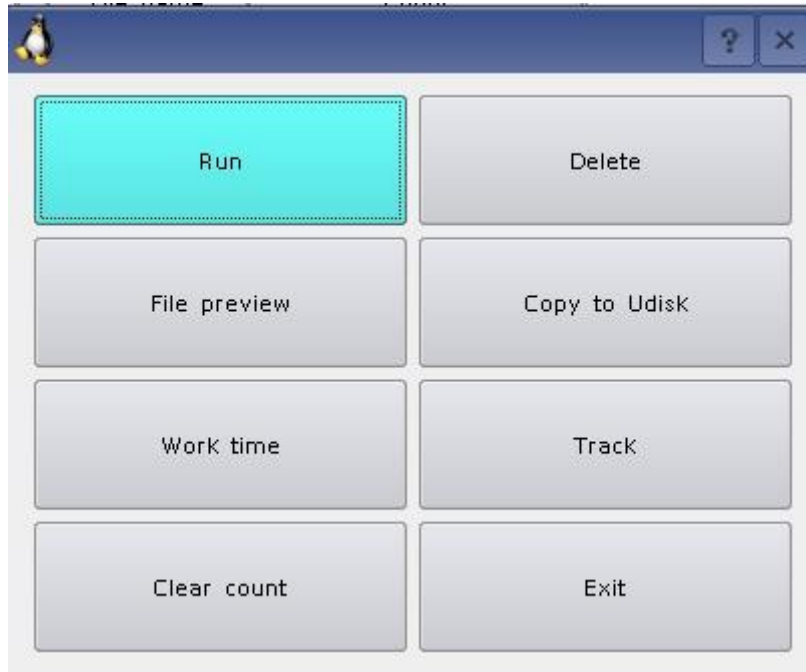
Figure 4.1-2

After click the "File Preview" button, the file will be previewed in the main interface, all the current dialog boxes will be closed automatically, and click "Cancel" button in the main interface to cancel preview operation

Working hours preview: display the total time of file processing

The remaining operations in this interface are the same as above.

Click the "Other" button on the "File" menu, a file operation dialog box will pop up, as shown below:
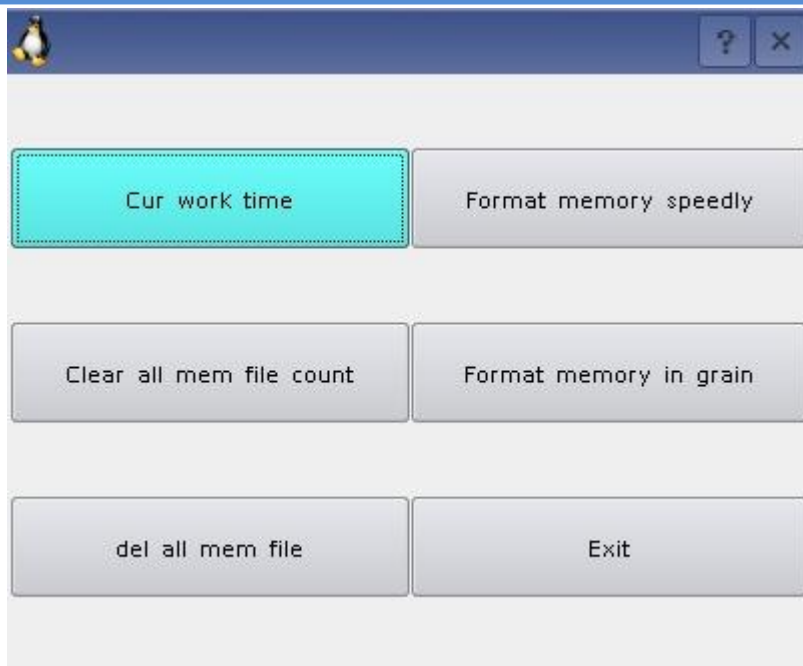
Figure 4.1-3

The operations in this interface are the same as above.

4.2 U disk files

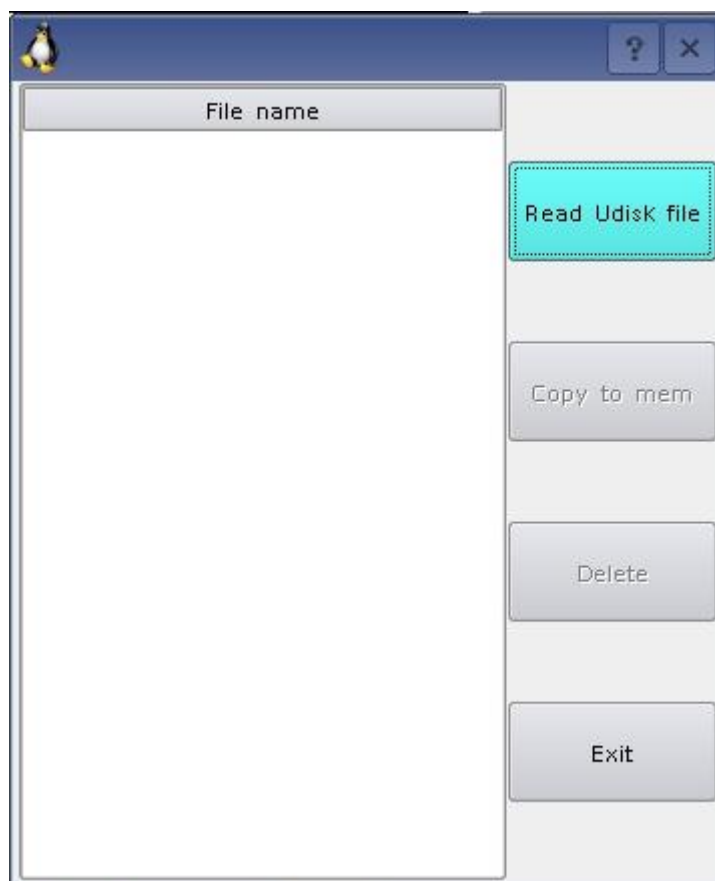Click "U Disk" button on the menu of "File" to pop up U disk file list, as shown below:

Figure.2

The operations in this interface are the same as above.

✎ 提示	FAT32 and FAT16 file format of U disk are supported in this system. Files must be placed in the root directory of the U disk to be recognized by the system. Files named exceeding 8 characters will be cut off automatically by the system. File names won't be displayed other than English and numbers when copied to the motherboard.

Section 5   Alarm information

CONTENTS:

■ Alarm information

5.1 System error

Some alarm information will pop up during users operation or system operations, e.g. water protection failure, hard limit protection, track out of bounds, etc. Here's an example:

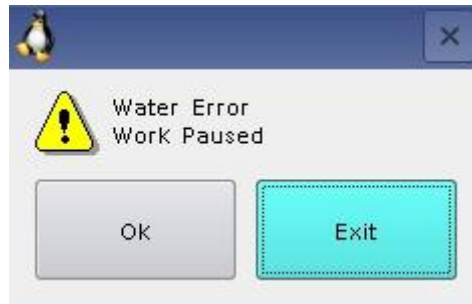The system has a water protection failure, as shown below:

Figure 5.1

User can click "OK" or "Exit" button. The system will perform related operation after that.

Section 6　Installation size

CONTENTS:

■ **Installation size**
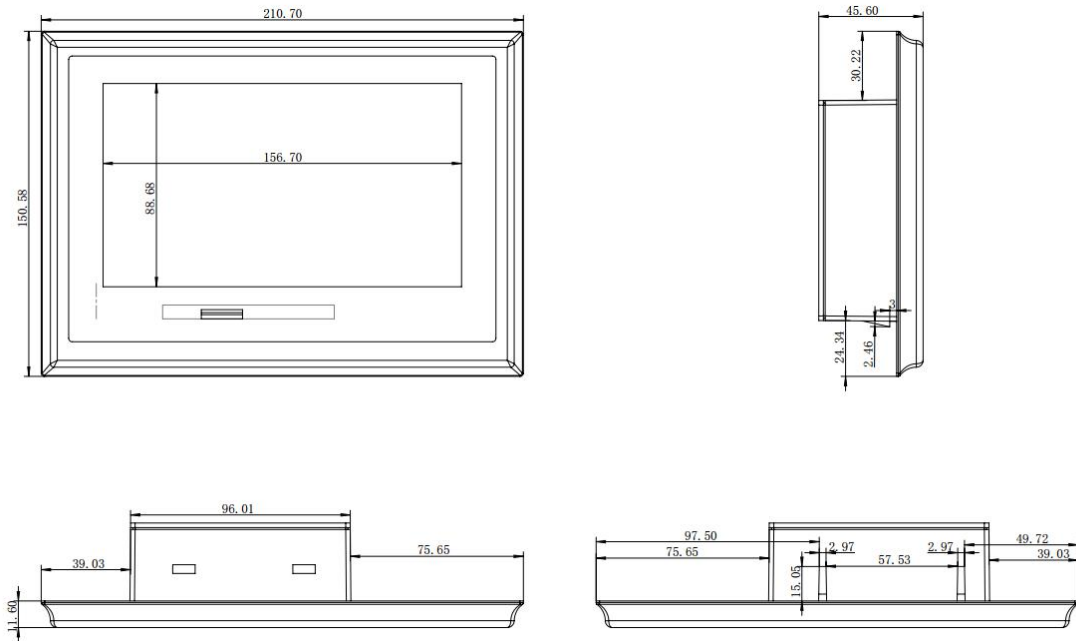
6.1 Installation size

Unit: mm

Figure 6.1

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