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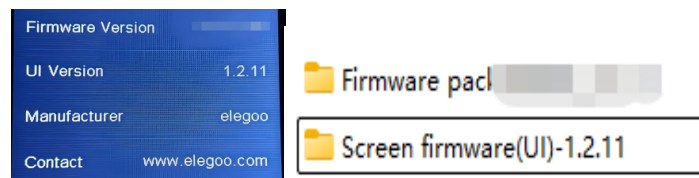
# Update Content and Usage Guidelines (must Read)

This update includes: main control board firmware update package and screen firmware update package. After all updates, vibration optimization should be performed in [Settings-Advanced Settings-Vibration Optimization], and the leveling and Z-offset should be reset.

## 1. Do You Need to Update the Screen Firmware? (version Changed)

- a. Operation screen, in [Settings-Information] to view the current UI version.
- b. View the screen firmware version in the firmware folder.

If the corresponding pair exists, there is no need to update the screen firmware.



## Need to Use

### 1. U Disk (for Master Board Firmware Package)

It is recommended to choose the randomly included USB drive. If you choose another USB drive, please confirm that it is USB2.0 Norms. Some USB3.0 U disks may not be read properly.



### 2. TF Card (for Updating Screen Firmware)

It is recommended to bring a TF card and format it as:

File system (F): FAT32      Allocation unit size (A): 4096 bytes

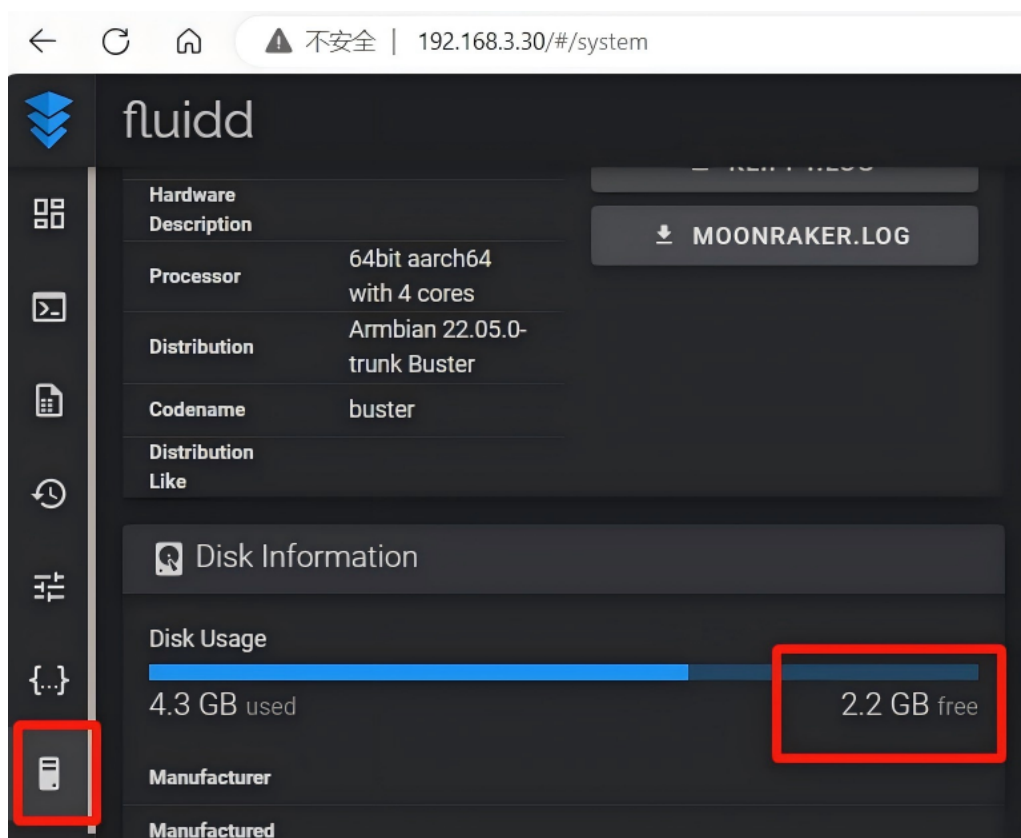
## Before Installation, Please Confirm:

### 1. Confirm that the master board system can be started normally

The firmware package is only available on machines where the main control board's Armbian system can start normally. If there are any abnormalities during printing, please first refer to the first item of the FAQ to determine whether the Armbian system is starting properly.

### 2. Ensure that the printer disk memory is greater than 500MB

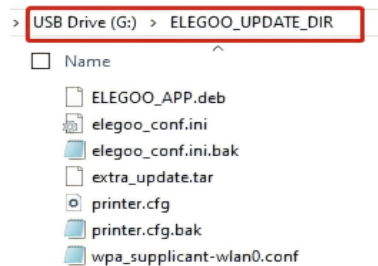
If you are used to uploading print files from the web for printing, ensure that the remaining disk memory is greater than 500MB.



# Master Board Firmware Update Steps:

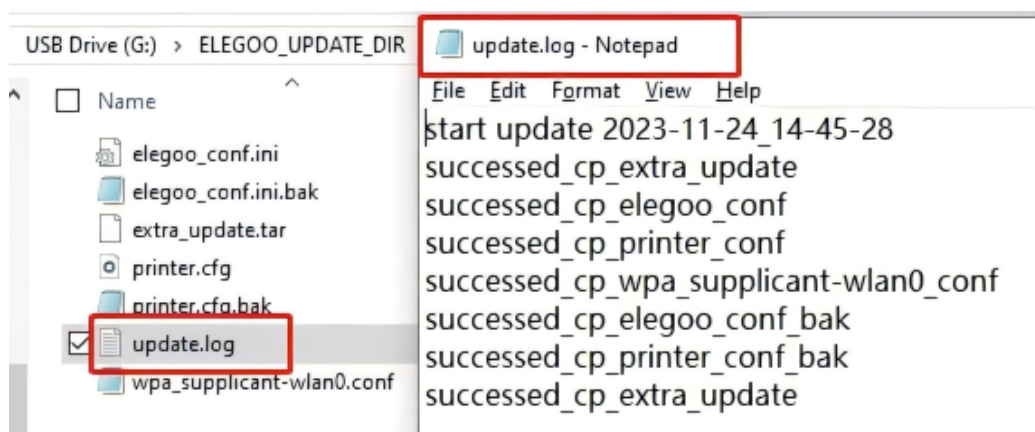
This product does not support updating to the official Klipper, Moonraker, fluidd and other servers, otherwise the machine will not work properly. If you consider installing more Klipper official plugins and expanding more features, it is recommended that you prepare an EMMC ADAPTER, to avoid errors, you need to reinstall the system image to restore the machine.

1. Ensure that the printer is in normal startup state (or can enter the [Information] interface)
2. Copy the "ELEGOO\_UPDATE\_DIR" folder from the main control board firmware package to the U Under the root directory.



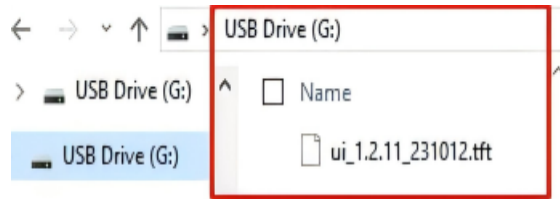
3. Insert the U disk into the printer.
4. Click the screen [Settings] - [Information], then click the arrow below, and confirm the update as instructed.
5. The update is complete and you can wait for the automatic restart.
6. How to confirm whether the firmware of the main control board is updated successfully:

If you can see a file named "update.log" in the U disk update directory, the update is successful.

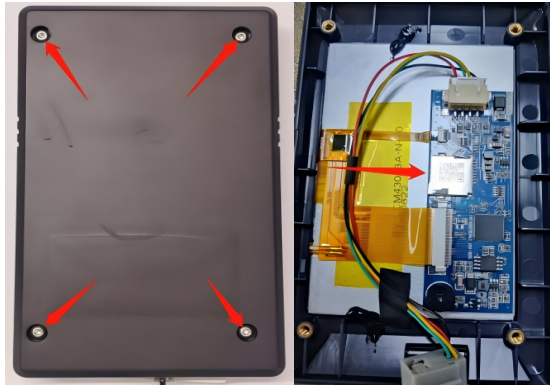


## Screen Firmware Update Steps:

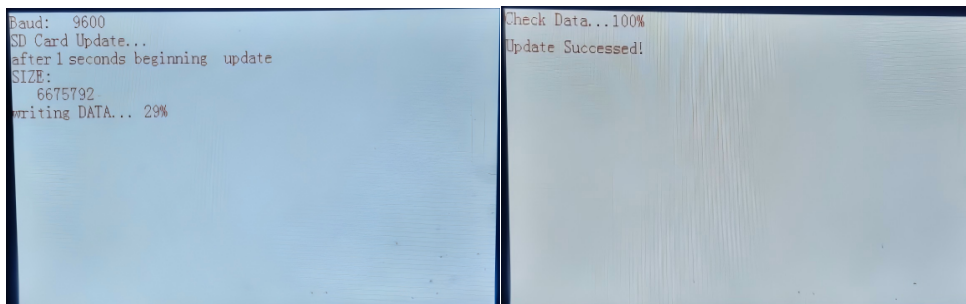
1. Copy files from the screen firmware folder to the formatted TF in the Kagan directory, as shown in the figure.



2. Loosen the screw and remove the screen back cover. Note the direction of the card and insert the TF card.



3. After pulling out, insert the display plug (or restart the power supply) and wait for the firmware loading to complete. The firmware loading process and the completed interface display are shown in the figure (screen firmware update takes time: about 90 seconds).



4. After the load is complete, you must remove the TF card and restart the machine.

## FAQ:

### 1) The following methods can be used to determine whether the armbian system starts normally:

- a. Through debugging the serial port login access, if you can successfully log in, it means that the system can start normally.

If you do not have the serial port debugging Conditions you can check whether the onboard indicator light of the main control board continues to flash after 30 seconds of power on (the green light is always on and the yellow light is flashing). Under normal circumstances, the indicator light continues to flash, indicating that the system is running.

- b. If the main control board only has a yellow light flashing (the green light does not stay on) one minute after booting, the reason may be that the EMMC is not securely inserted or the system in the EMMC is corrupted. In this case, you need to reinstall the system image. For instructions, please refer to the "Image Installation Method" at the bottom of this page.

### 2) According to the steps, the operation shows "Update failed..."?

Some USB3.0 drives may not be readable properly. Please use the randomly distributed USB 2.0 drive or replace it with another one USB.

### 3) After updating the firmwaresome interfaces can not be normally transferred or display the PASS page when operating the screen?

The master board firmware needs to match the screen firmware, otherwise compatibility problems like this may occur.

Please update the screen firmware.

### 4) Does this product support users to update to the official klipper?

This product utilizes an optimized open-source solution based on the klipper framework.

Some features may not be compatible with the official version, and updates to the official Klipper are not supported.

If you have already updated the official open-source klipper via a serial debugging tool or SSH, modified firmware configurations, or expanded functionality through DIY modifications, updating the firmware might cause abnormal errors. In such cases, please describe your specific operation steps to help us reproduce the issue and resolve it for you.

### 5) Do I need to recalibrate after firmware update?

It is necessary to re-perform the automatic leveling and set the Z-offset, and also to carry out the vibration optimization for the XY axes in Settings - Advanced Settings - Vibration Optimization.

### 6) How to Update the Firmware When the Machine Can Not Be Started Normally?

- a. Check to ensure that the system is running properly: Check whether the onboard indicator light on the main control board continues to flash after 30 seconds of power on (green light on and yellow light flashing). In general, the indicator light continues to flash, indicating that the system is running.

- b. The EMMC system disk is damaged. You need to purchase an EMMC adapter to install the system image. For details, please refer to the "Image Installation Method" at the bottom of this page.

**7) After updating the new version of firmware, there will be a long preparation time before leveling and printing?**

Based on user feedback, we've implemented a series of internal detection measures. We'll continue to optimize this section based on the feedback results. Action flow and time.

**8) After updating the firmware, will selecting restore after the printing process is paused squeeze out a piece of wire?**

Normal phenomenon. In order to restore the extrusion pressure at the nozzle after printing, avoid missing too many printing line segments during printing.

**9) Does the nozzle temperature decrease after triggering the suspension of material break detection?**

Normal operation. Default setting: Reduce nozzle temperature after 10 minutes (maintain hot bed temperature and XYZ stepper motor).

After the point recovery, it will first Automatically warm up to the previous printing temperature before pausing.

This prevents the nozzle from carbonizing due to prolonged high temperatures, which could lead to severe nozzle failure.

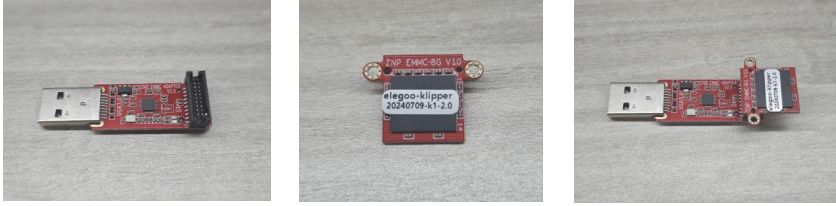
**10) After updating the new firmware, if you manually pause or trigger the material shortage detection to stop the printer, and then click "Resume Printing", but the printer shows no response?**

If no action is taken for ten minutes after the printer triggers a material cut-off detection or manual pause, the nozzle temperature will be reduced.

At this point Hit restore print, the machine will first heat to the temperature before printing, and then print action, this process takes about 3 minutes.

## NEPTUNE4 & 4PROMirror Installation Method

### Prepare tools:



EMMC ADAPTER (self-purchased)

Remove the EMMC module from the motherboard

Mirror burning software: <https://www.raspberrypi.com/software/>

Mirror download address: please contact after-sales technical support to obtain.

### Overall operation process:

1. Remove the EMMC module from the master board
2. Burn the image (according to the steps below "Burn the Image Steps")
3. Reinsert the EMMC module into the master control board
4. According to the "Repair Package Usage Steps", update the corresponding model firmware repair package

### Burn the image steps:

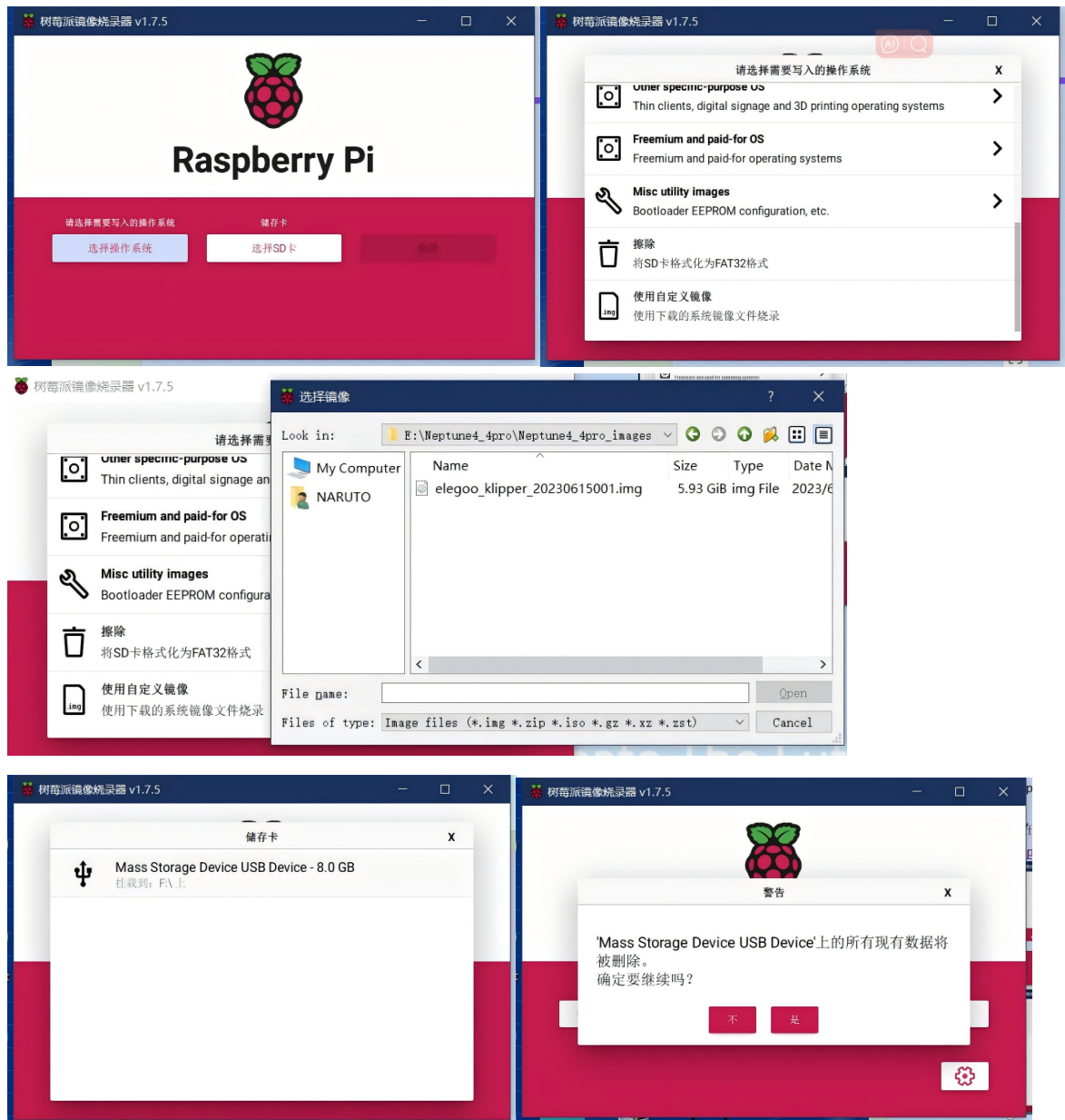
- a. Install the image burning software
- b. Decompress the download image package to get the system image file with the suffix
- c. Connect the EMMC module to the computer and confirm that it reads normally
- d. Open the installed image burning software
- e. Click [Select Operating System], select [Use Custom Image], and select the system image file
- f. Click [Select SD Card] to select the USB storage device that was just inserted



g. Click Burn

h. Wait until the write and verify is complete

After verification is completed, it may prompt errors in the image, or it may indicate that formatting the disk is normal. Just remove the EMMC module. Note that there are still steps below.





### pay attention to :

If you use Raspberry Pi Imager on a Windows 10 system that has enabled controlled folder access, you need to explicitly grant Raspberry Pi Imager the permission to write to the SD card. If this is not done, the process of writing the system image will fail and display the error "Unable to write".