UNIFORMATION

GKtwo Manual

Dear customer,

Thank you for choosing the Uniformation GKTwo Printer! The successor to our popular GKOne printer. We have listened to the community to make the improvements most requested.

Please read the ENTIRE manually carefully before attempting to print. The manual contains techniques and precautions that are important to avoid damage and improve your experience.

Support	
	If you have any questions, scan the QR code or go to www.uniformation3d.com to contact us. You will also find models to print, videos to help you get started, and the latest versions of the software for your printer.

Safety Instructions

Always follow the safety instructions during assembly and usage, to avoid unnecessary damage to the 3D printer or individual injury

		If you encounter any problems, please contact customer support. The QR code and URL are included in this manual.
		Be cautious when using the scraper. Always scrap away from the body and hands.
		In case of emergency, please immediately shut off the power to the printer.
		There are moving parts inside the printer, please do not touch any part of the internal machine while in use.
		Safety glasses and gloves should be worn as PPE.
		Keep the printer and its accessories out of the reach of children. Keep uncured resin out of the reach of children.
		Vapors or fumes may be irritating. Always use the printer in an open and well ventilated area or wear a ventilator.
		Never expose the printer to the elements such as rain and

		wind
		The optimal working temperature is 10 - 40 ◦c, relative humidity is 30%-60%, use outside this range, may bring bad printing effect.

Contents

1 Technical Specification

1.1 Printing

Model	GKtwo
User Interface Operation	5" capacitive touch screen
Slicer Software	UniFormation Slicer
Connectivity	USB memory stick

1.2 Specifications

Technique	LCD Shadow Masking
Light source	UV-LED (wavelength 405nm)
XY Resolution	29.7μm 7680*4320 (8K 10.3")
Z-axis Accuracy	0.01mm
Suggested Layer Thickness	0.03mm/0.05mm/ 0.1mm
Suggested Print Speed Rated	MAX 35mm/h
Exposure speed	2-3S/layer（0.05mm）
Rated Power	120W
Heating Power	200W

1.3 Physical Dimensions

Machine size	350mm*315mm*455mm
Build volume	228.1(L)*128.3(W)*245(H)mm
Resin type	405nm UV-resin
Operating temperature	25°C,30°C,35°C
Weight	19KG (Package included)

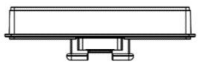
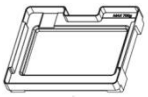
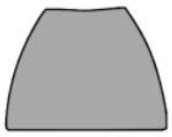
1.4 Recommended Printing Parameters

Layer Thickness	0.05mm
Normal Exposure Time	3s
Bottom Exposure Time	30s
Bottom Layers	20
Z Lift Distance	4mm
Z Lift Speed	50mm/min
Z Retract Speed	150mm/min

Note:

The recommended printing parameters above are for reference only, which are calibrated for Uniformation resins. Please consult the resin manufacturer for settings of a specific resin.

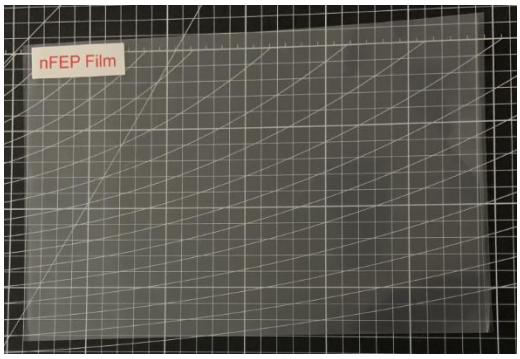
2 Packing List

<table>
<tr><td colspan="2" rowspan="2"> 
</td><td>  </td><td>  </td></tr>
<tr><td>Build Plate</td><td>Resin Vat</td></tr>
<tr><td colspan="2" rowspan="2">3D Printer</td><td>  </td><td>  </td></tr>
<tr><td>Power cord</td><td>U Disk</td></tr>
<tr><td>  </td><td>  </td><td></td><td>  </td></tr>
<tr><td>USB WiFi</td><td>Metal Scraper</td><td>nFEP Film</td><td>Plier</td></tr>
<tr><td>  </td><td>  </td><td>  </td><td>  </td></tr>
<tr><td>Tools</td><td>Funnel</td><td>Rubber Scraper</td><td>Screen Protector</td></tr>
</table>

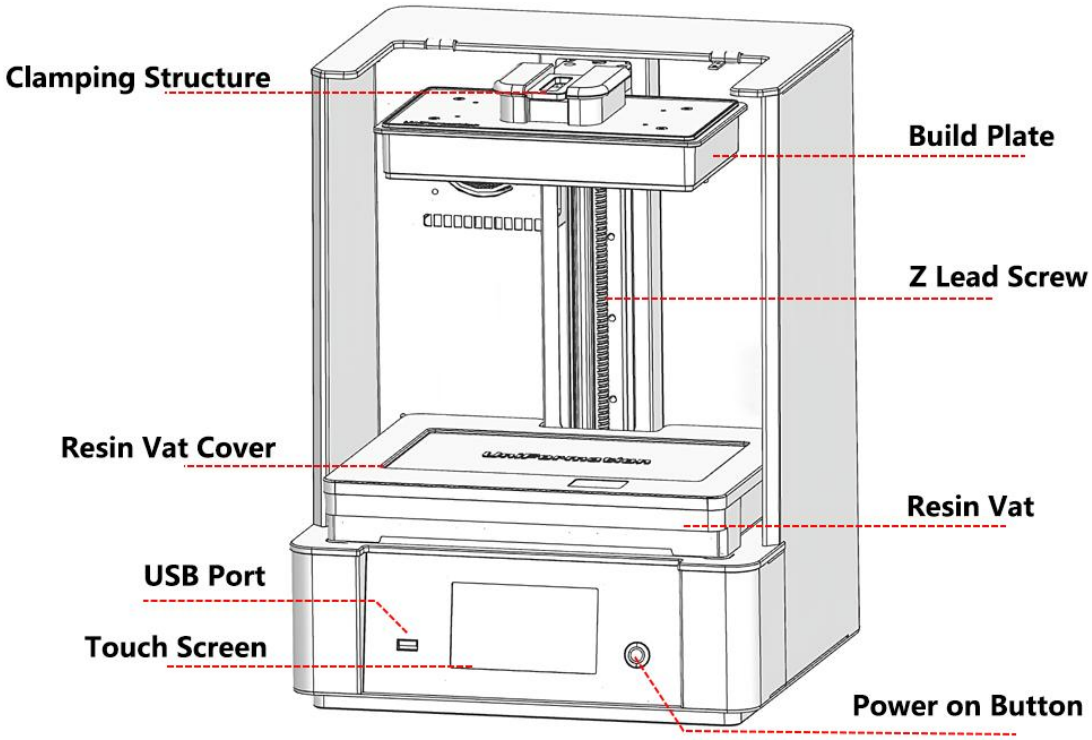
Accessories included with GKtwo:

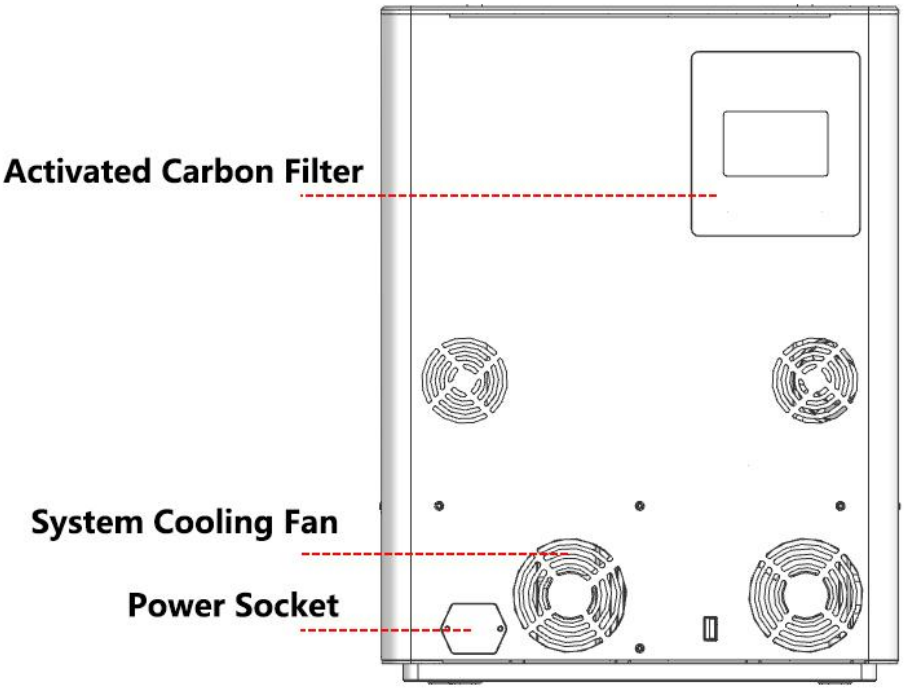
GKtwo comes with an extra **nFEP film** and **screen protector**, if these two parts are scratched during transportation, please replace them with the included film.

GKtwo comes with 4 spare **resin vat clips** in the tool box. There are also some spare screws for fixing the **resin vat metal frame**.

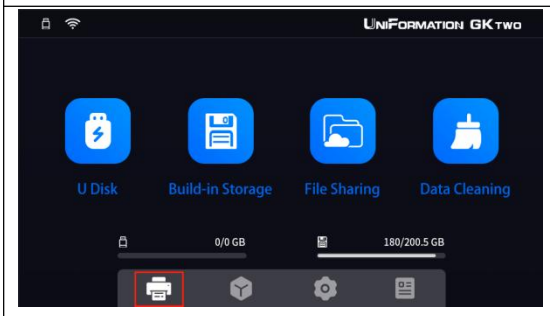
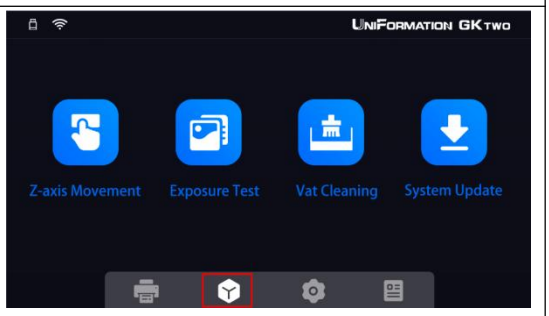


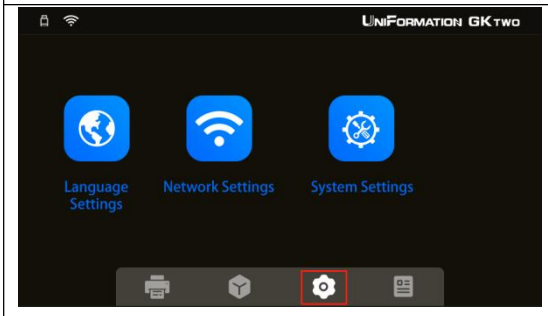
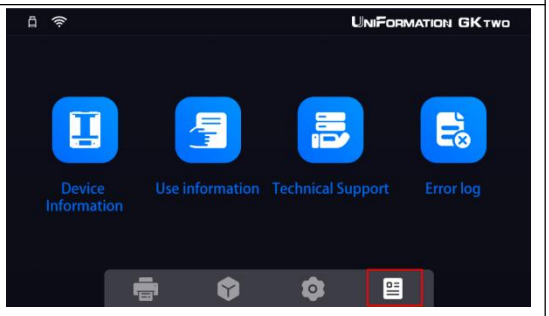
3 Product Overview



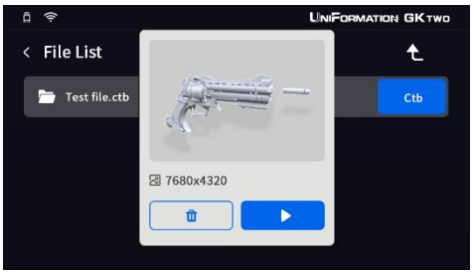
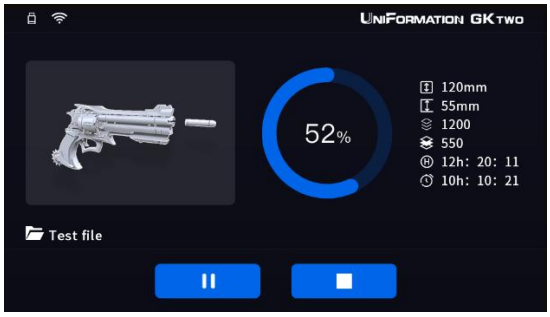
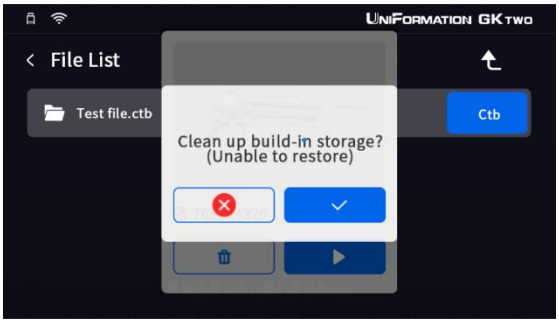


4 Menu Directory

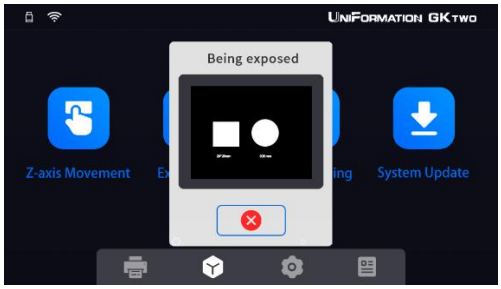
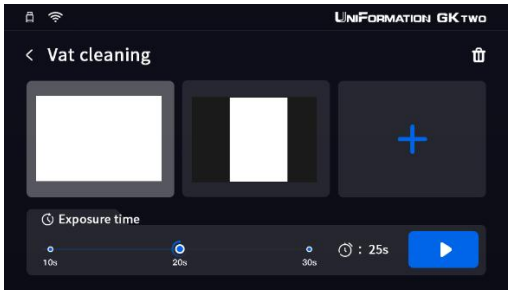
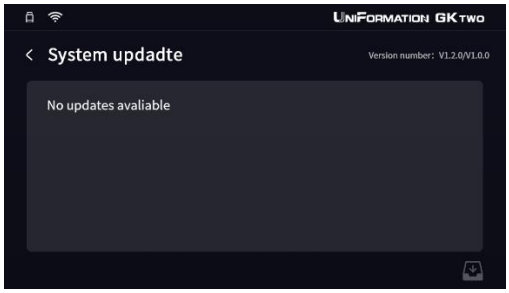
Print	Function
	

Settings	Info
	

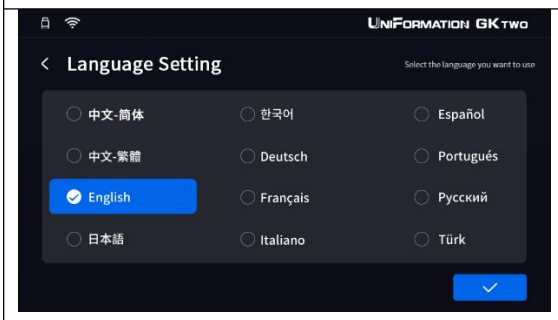
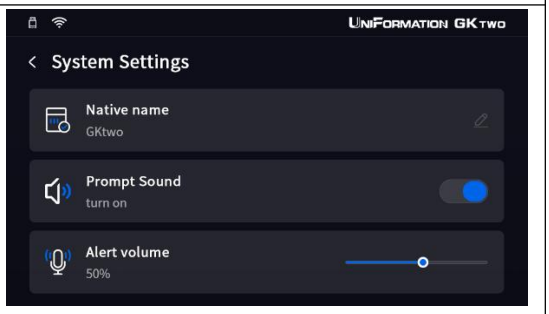
Print

File List	Preview and print
This screen displays the files loaded onto the printer.	This screen is used to view the model before starting the print.
	
Print process information	**Data cleaning**
This screen displays the current status of the print in progress. Percent complete and print settings are shown	This screen is used to manage and remove files no longer needed. Please clean up the built-in storage regularly to avoid too many files
	

Function

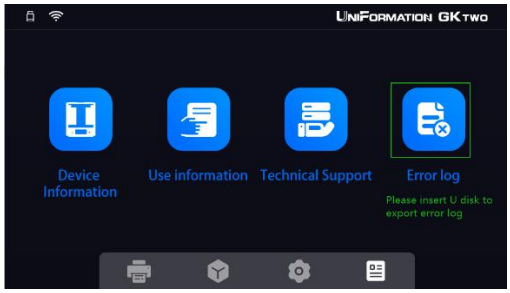
Z-axis Movement	Exposure Testing
This screen is used to control the build plate movement.	This screen is used to verify the UV and screen function properly an image will display on the LCD screen. Please do not look directly at it (see 5.2).
	
Vat cleaning	**System Updates**
This screen exposes the entire screen for a short time, this creates a thin layer of resin that can be peeled off to clean the vat.	This screen is used to perform firmware and system updates.
	

Settings

Language Setting	System Settings
This screen is to set the desired language.	This screen set the heating or sound options
	

Information

Device Information	Usage Information
This screen displays the current firmware and other system information that can be used for diagnostics.	This screen helps you track printer usage for maintenance. It will help prevent leaks from worn parts.
	
Technical Support	**Error log**
This screen shows the ways to contact support.	This screen displays any errors that the machine has reported.



5 Assembly

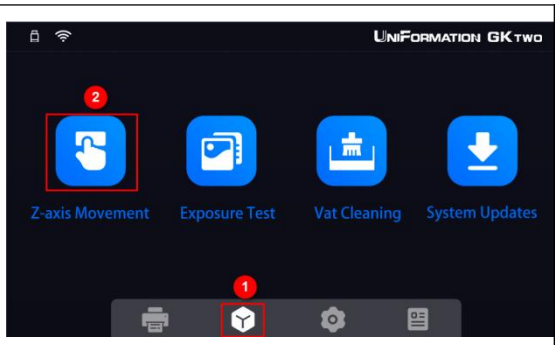
5.1 Printer set up

- Unpack the machine.

- Remove the foam inside the package.

- Take out the activated carbon filter and build a plate inside the foam, then install the activated carbon filter as the picture shows. (After installing the activated carbon filter for the first time, please note if there is any activated carbon debris, please clean it up first to avoid it falling into the resin vat.)

- Connect the power cable to the power outlet on the back of the printer, then power on the printer by pressing the power button located on the front. Follow the steps below to manually raise the build plate arm a distance to make it easier to remove the resin vat.

<table>
<tr>
<td>  </td>
<td> 
</td>
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<tr>
<td> 
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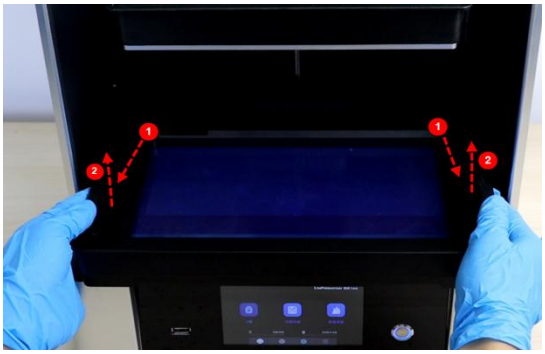
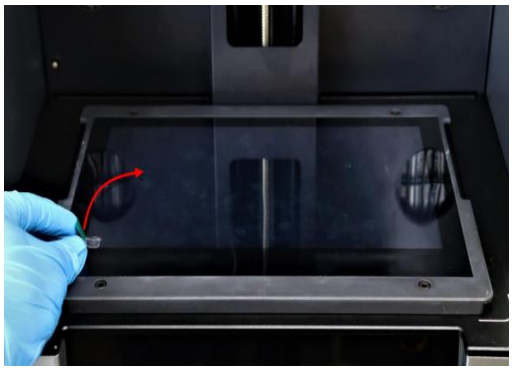
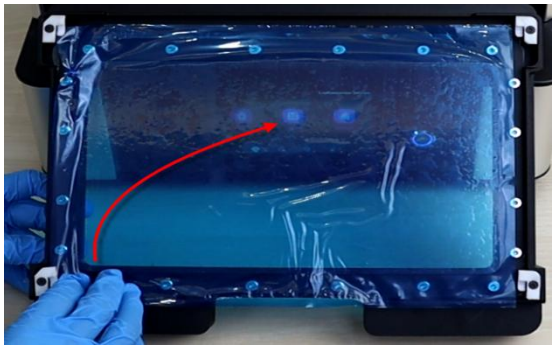
<td> 
</td>
</tr>
</table>

- Carefully pull the resin vat outward a little bit., and remove it by lifting upward.

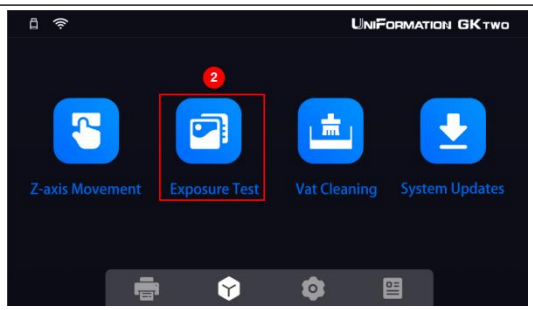
- Remove the protective film on the screen and the protective film under the resin vat.



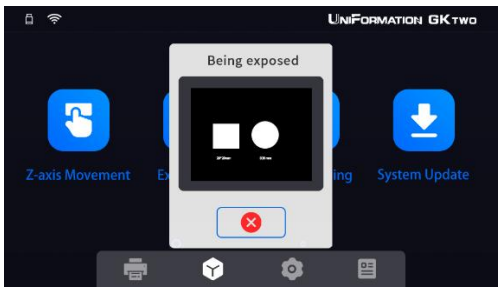


5.2 Testing UV light

Please select the icons shown below to perform a screen validation test.



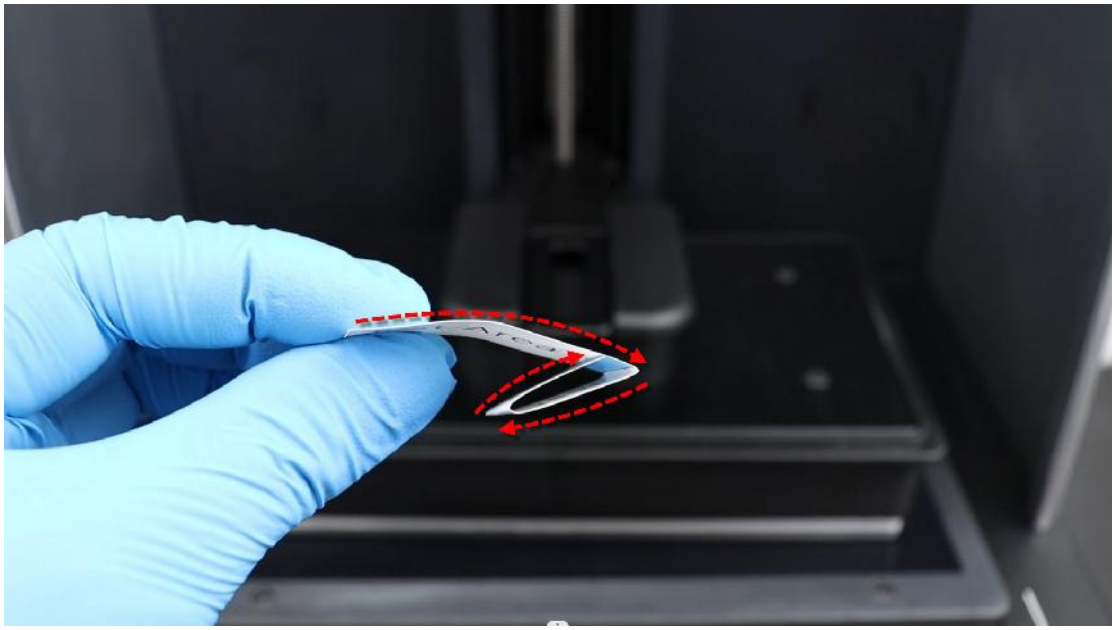
The LCD screen should display the sample image below (triangle and square). If the screen shows anything else (or nothing at all) please contact support for assistance.

5.3 Leveling Test Instructions

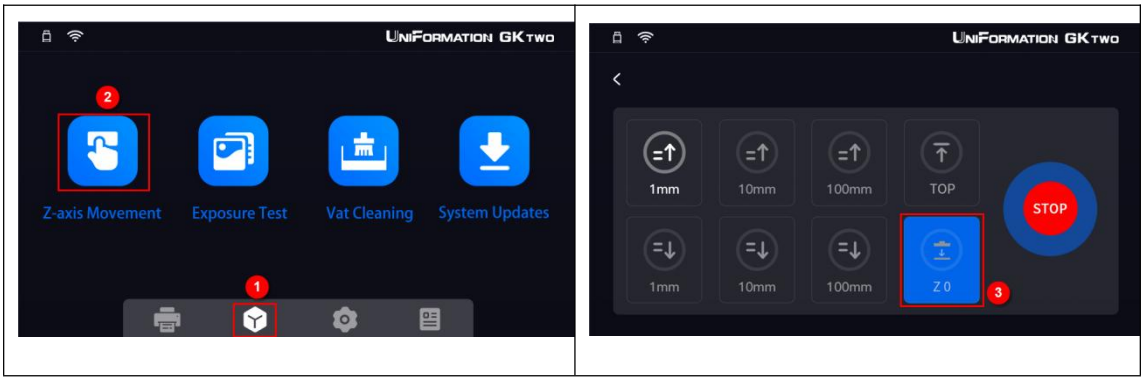
Even though the machine is leveled before leaving the factory, the long shipping journey may have caused a shift, and verifying the printer is level is critical. You could damage the printer if this is not performed.

Fold the test strip twice which is equal to the thickness of 3 sheets of paper, as shown below.



5.3.1 Using the menu on the printer touch screen, select the “Function” icon, “Z-axis Movement”, then select the “Z 0” icon. The build plate will descend to the button and press down on the paper strips and leveling paper.

Note: The build plate can only be manually moved to the top after the “Z 0” operation



5.3.2 Try to pull out the 4 strips, it should be tight to pull each corner. If you can move them it is too loose. Please watch the video on the USB drive if you are unsure.

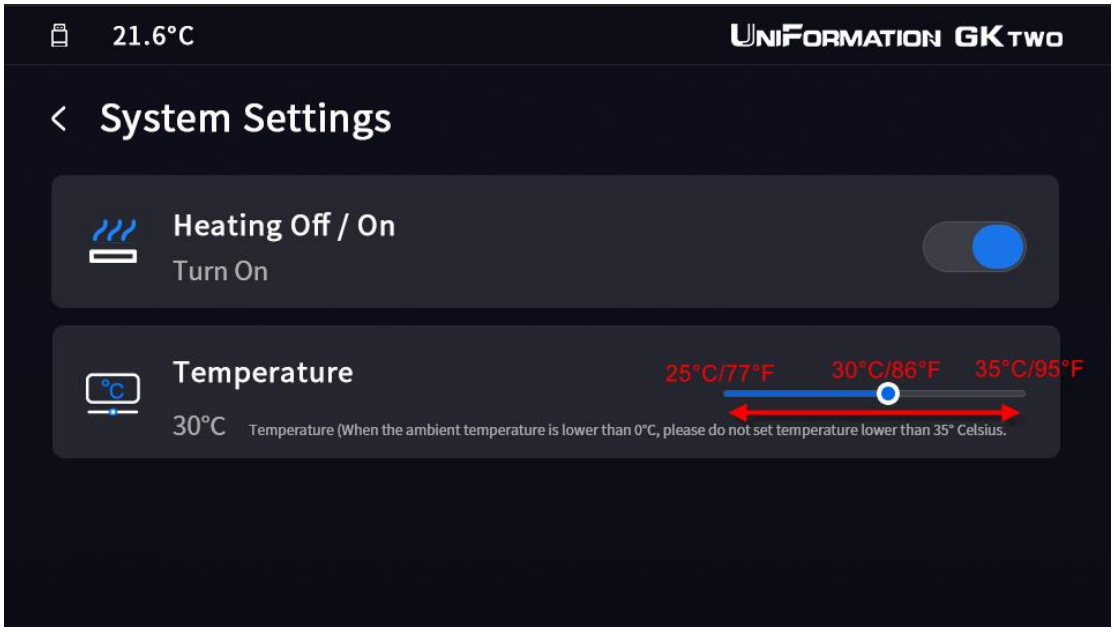
5.4 Heating Function

The heating function can be set in the system settings menu, enter the system settings menu, slide down to find the heating option

1. If the heating function is turned off, the printer will start printing immediately.

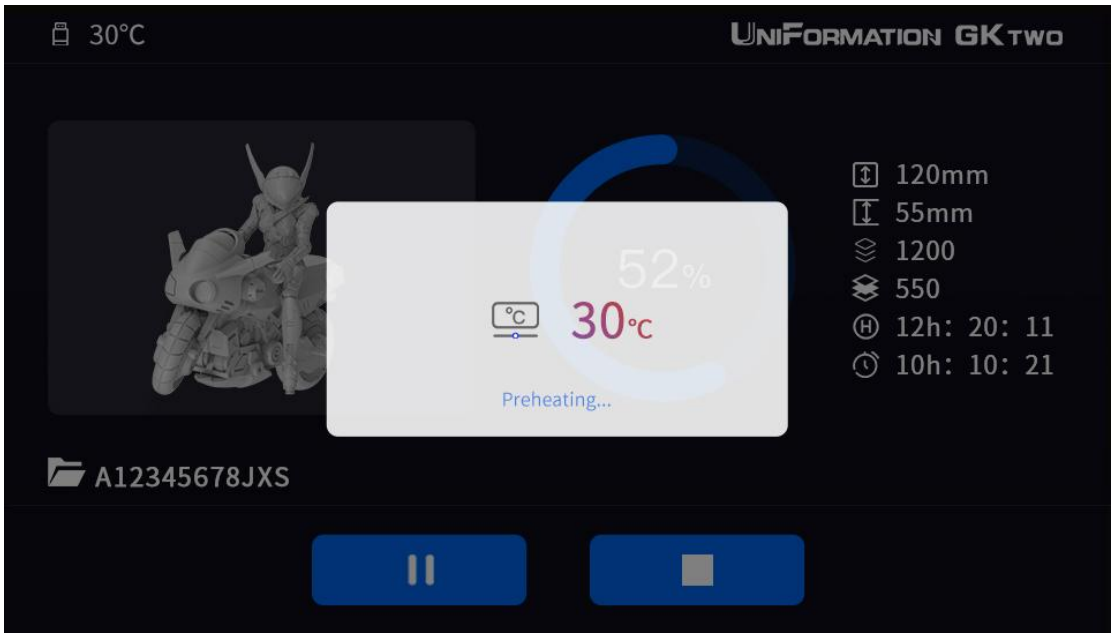
2、If the heating function is enabled, the printer will start printing after preheating to the set temperature. The upper left corner displays the real-time temperature detected by the temperature sensor.

Note: Please try to set the heat temperature to 25°C when the ambient temperature is lower than 10°C to avoid the heater not being able to reach the heat temperature due to the low ambient temperature.

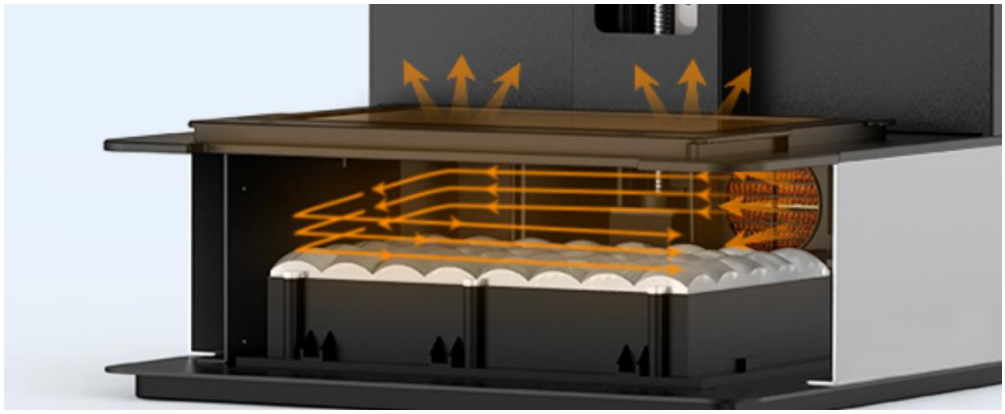


There are 3 heating temperature settings to choose, 25°C, 30°C and 35°C. Usually 25°C heating options is the recommended printing temperature.

When the ambient temperature is lower than 5°C, please do not set temperature higher than 25°C, to avoid the printer reporting an error if the preset temperature is not reached within 30 minutes..



Heating schematic：



Note: Since the heating temperature does not exceed the normal operating temperature of the panel, the life span of the screen won’t be affected.

5.5 WiFi file sharing function

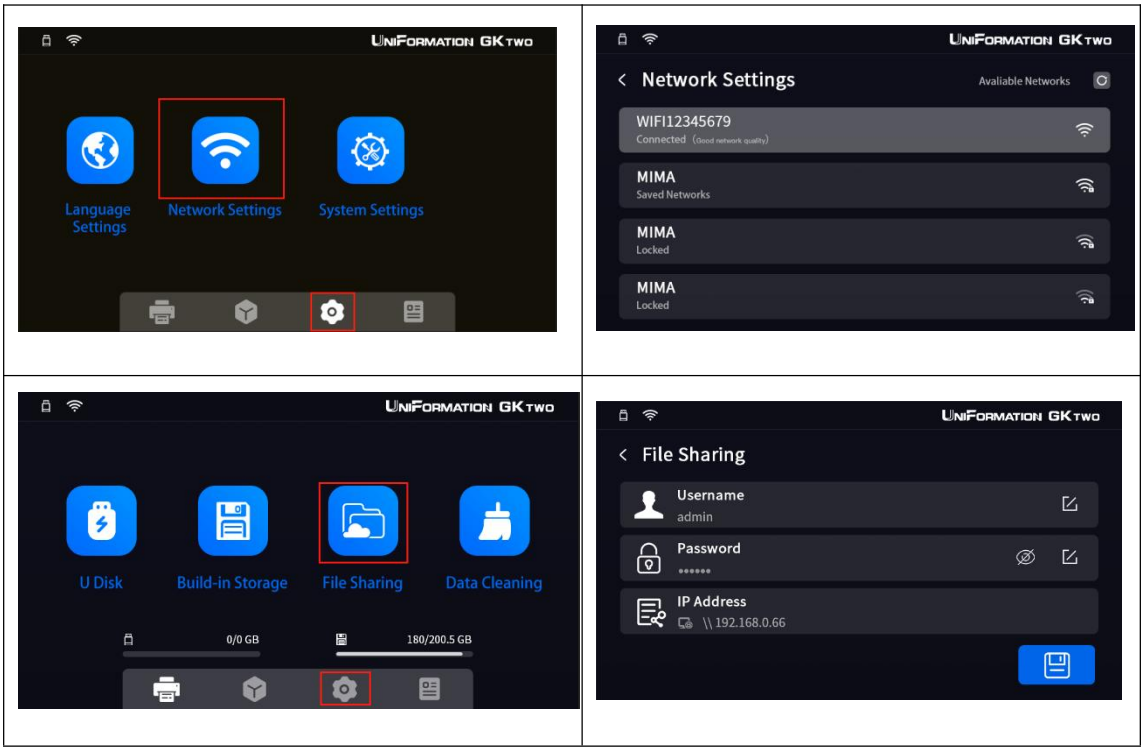
(This feature requires a compatible USB wireless adapter to work with it.)

This function mainly works by sending slice files from your computer to the GKtwo's built-in memory for printing via wireless LAN. At the moment it can only copy and delete files from a shared folder, but there is no way to remotely control the printer or check its status.

5.5.1 WiFi Setting

Plug the compatible wireless network adapter for to the USB port.

Go to the Settings menu and select Network Settings, then select and connect to WiFi, go to the Print menu and select File Sharing, set the file sharing account and password or leave them as default and click Save to view the sharing IP address.

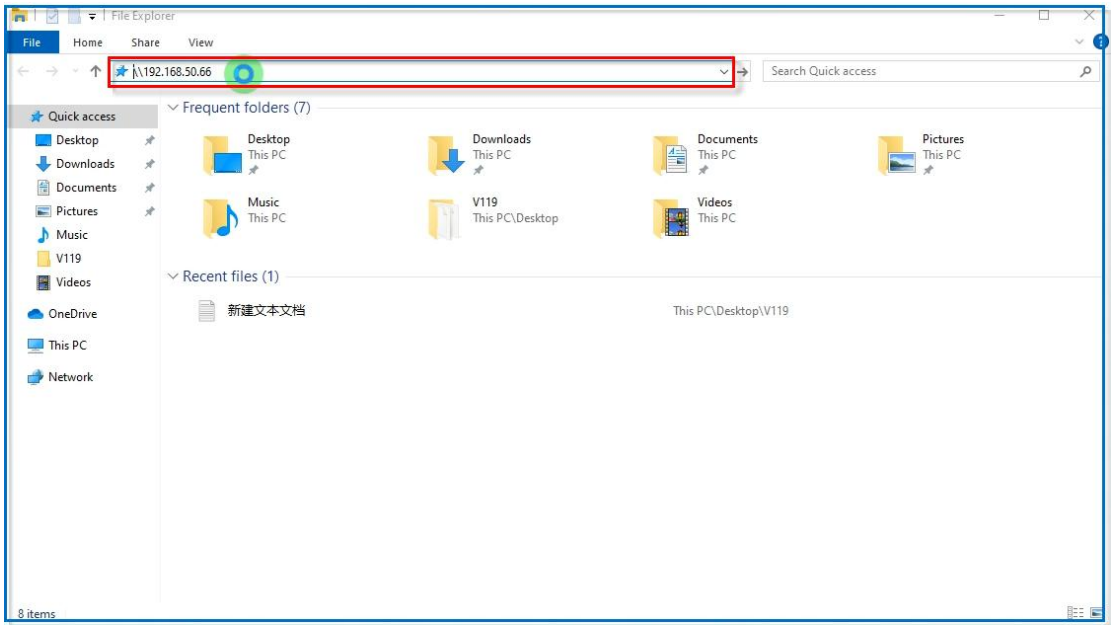


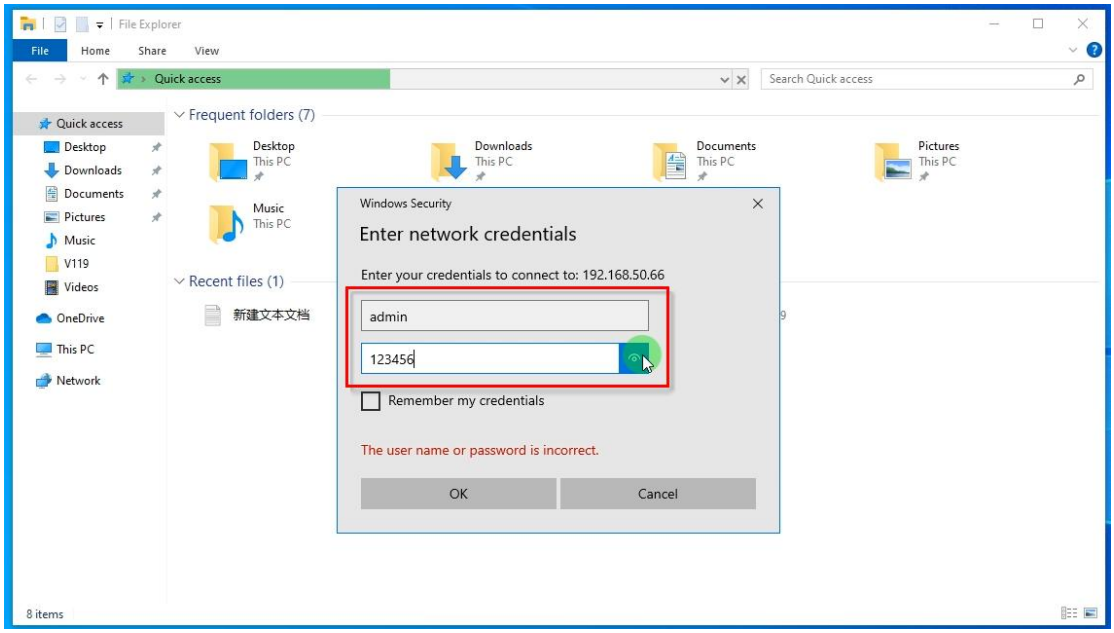
5.5.2 Shared Folder Access

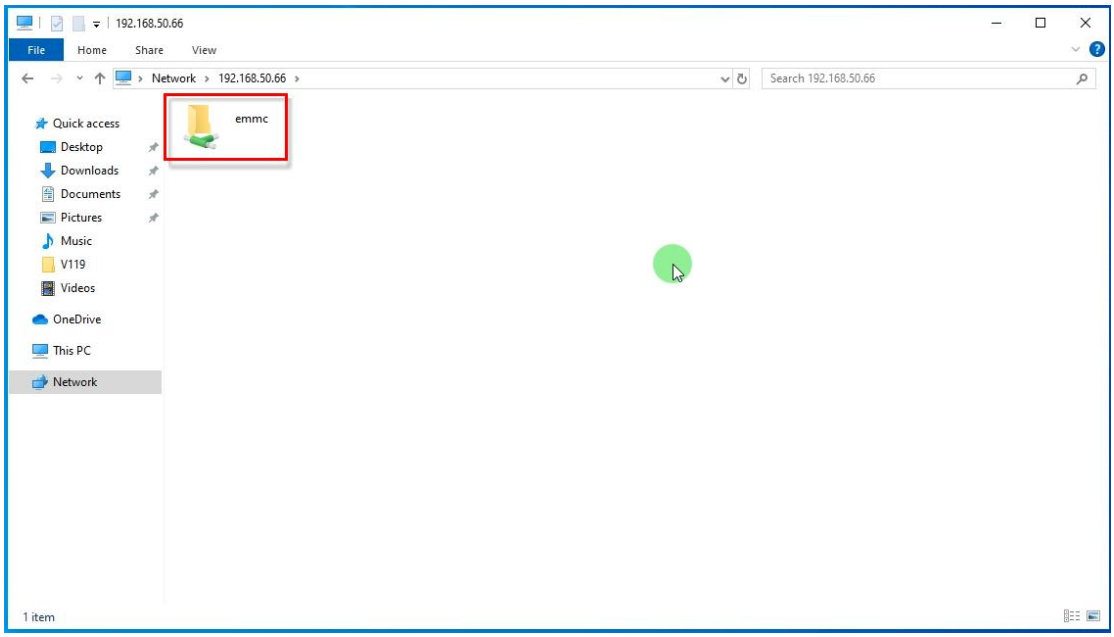
Access via System File Manager：

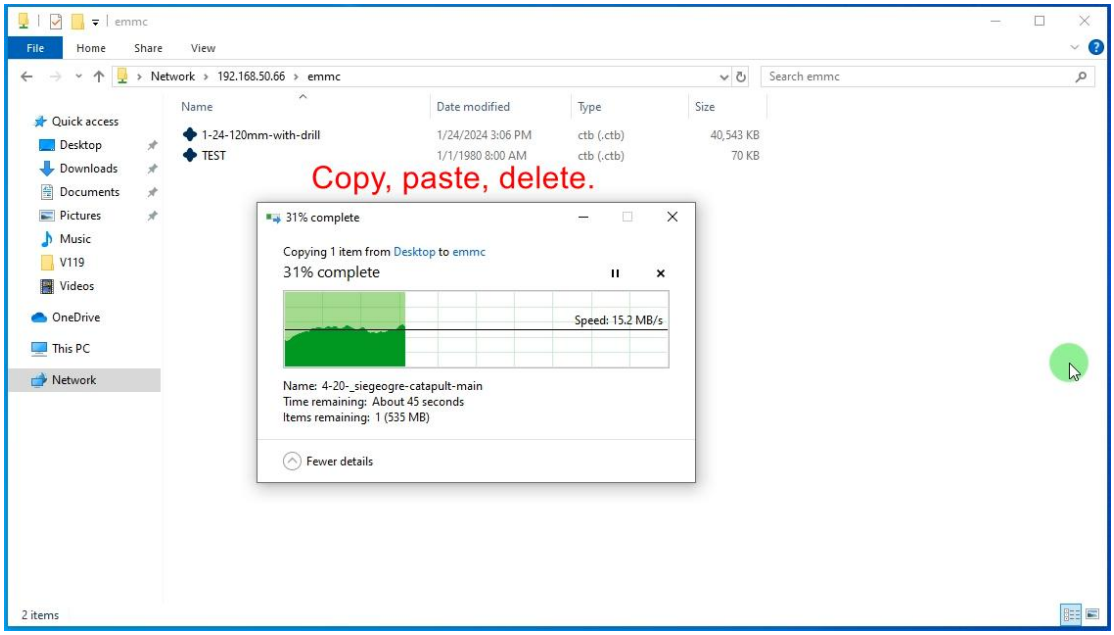
Type the share address in the address bar of the Windows file manager, for example 192.168.50.66 (note that in Windows the address slash is above the Enter key), type the address and press Enter. A window for entering your account password should appear.

Enter the username and password you set up for file sharing and click OK. If the connection is successful, you can copy files directly from your computer to the printer.


File Explorer
File
Home
Share
View
\\192.168.50.66
Search Quick access
Quick access
Desktop
Downloads
Documents
Pictures
Music
V119
Videos
OneDrive
This PC
Network
Frequent folders (7)
Desktop
This PC
Downloads
This PC
Documents
This PC
Pictures
This PC
Music
This PC
V119
This PC\Desktop
Videos
This PC
Recent files (1)
新建文本文档
This PC\Desktop\V119
8 items


File Explorer
File
Home
Share
View
Quick access
Search Quick access
Frequent folders (7)
Desktop
This PC
Downloads
This PC
Documents
This PC
Pictures
This PC
Music
This PC
Recent files (1)
新建文本文档
Windows Security
Enter network credentials
Enter your credentials to connect to: 192.168.50.66
admin
123456
Remember my credentials
The user name or password is incorrect.
OK
Cancel
8 items



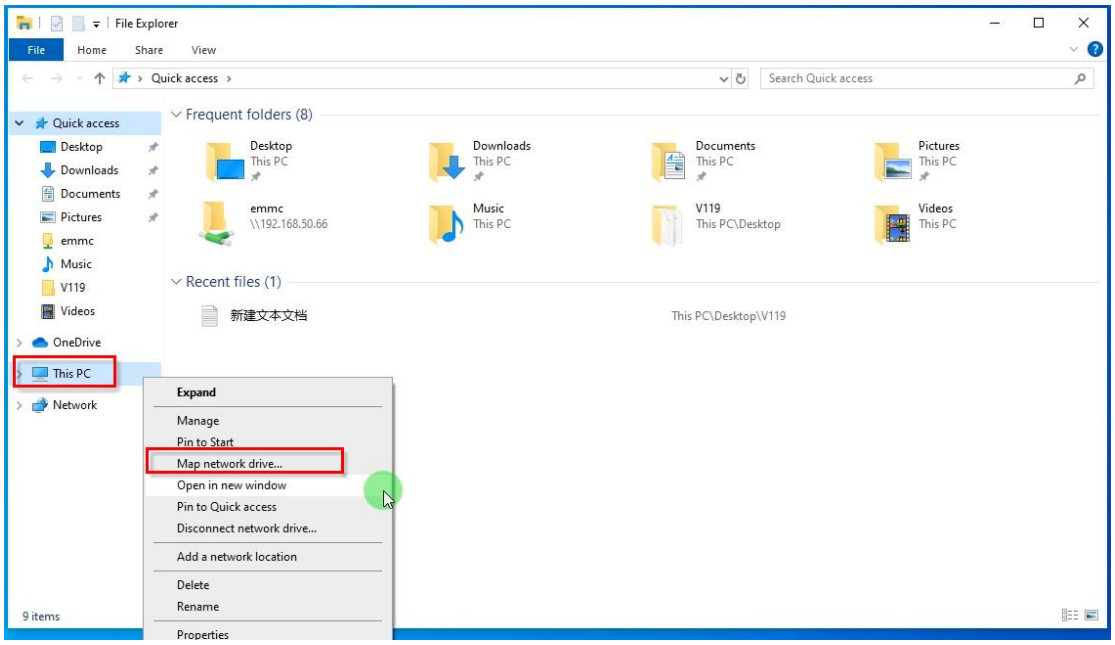


5.5.3 Mapping Network Drivers

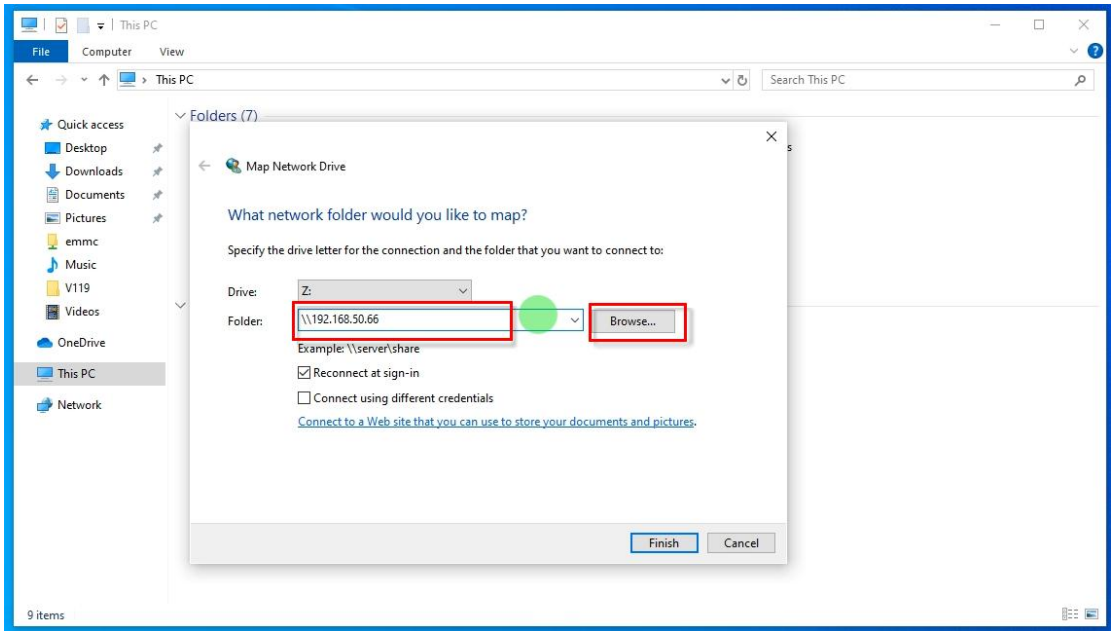
It is possible to map a GKtwo shared folder as a network drive.

(This is more convenient. However, if there is a problem with the mapping, it may cause the system file manager to run slowly).

Right click on the "This PC" icon and select "Map network drive".

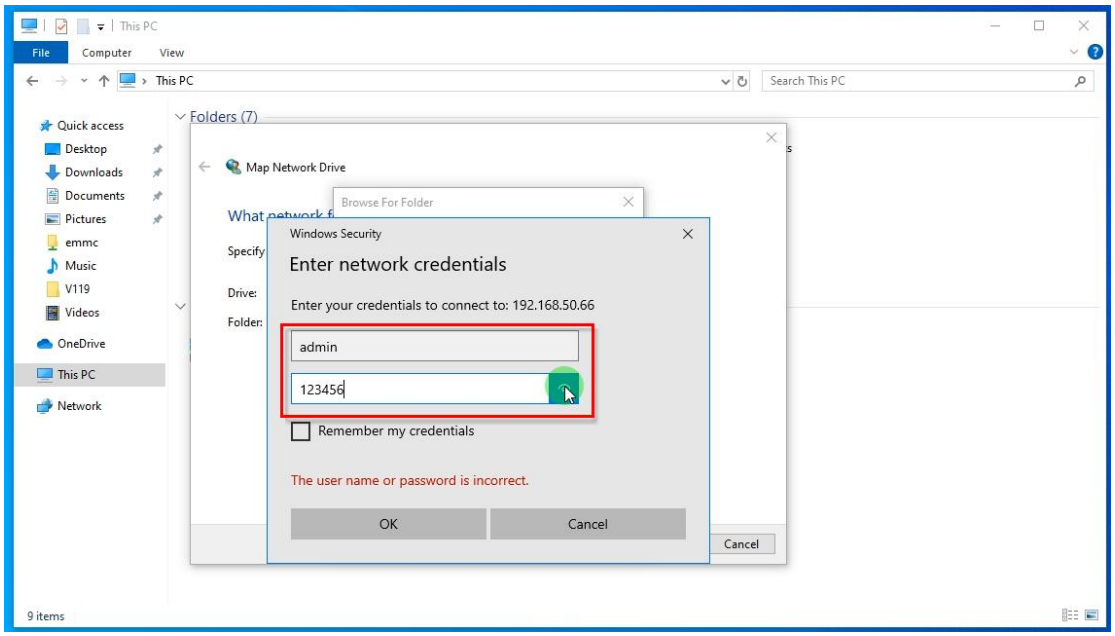


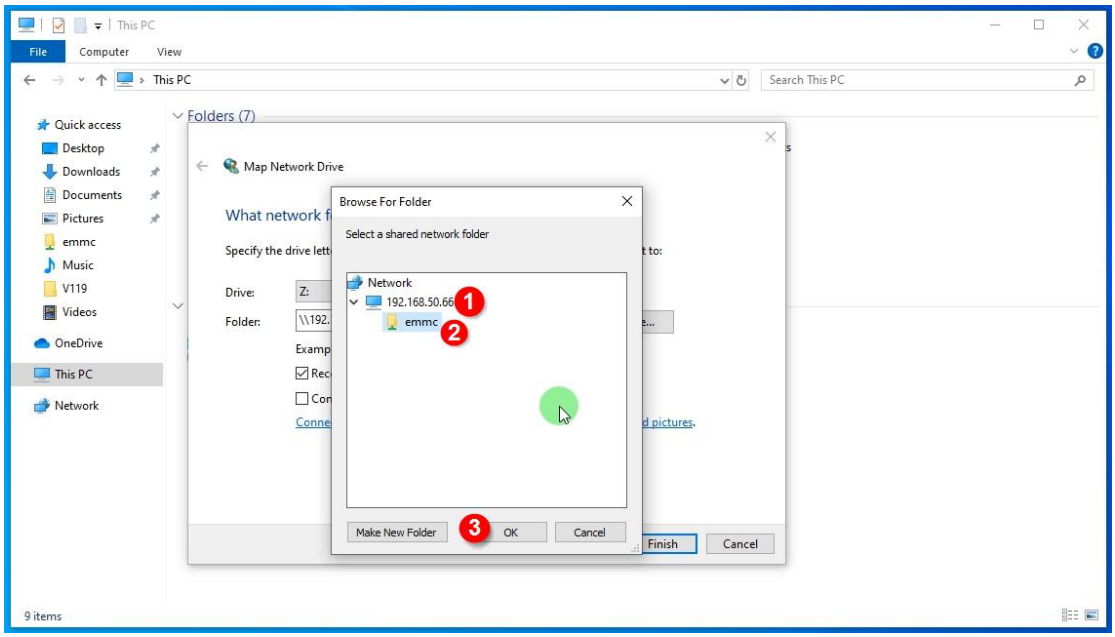
Select a network drive ID to be displayed such as "Z" and enter your Gktwo shared folder address in the address box below, e.g. \\192.168.50.66 and click browse.

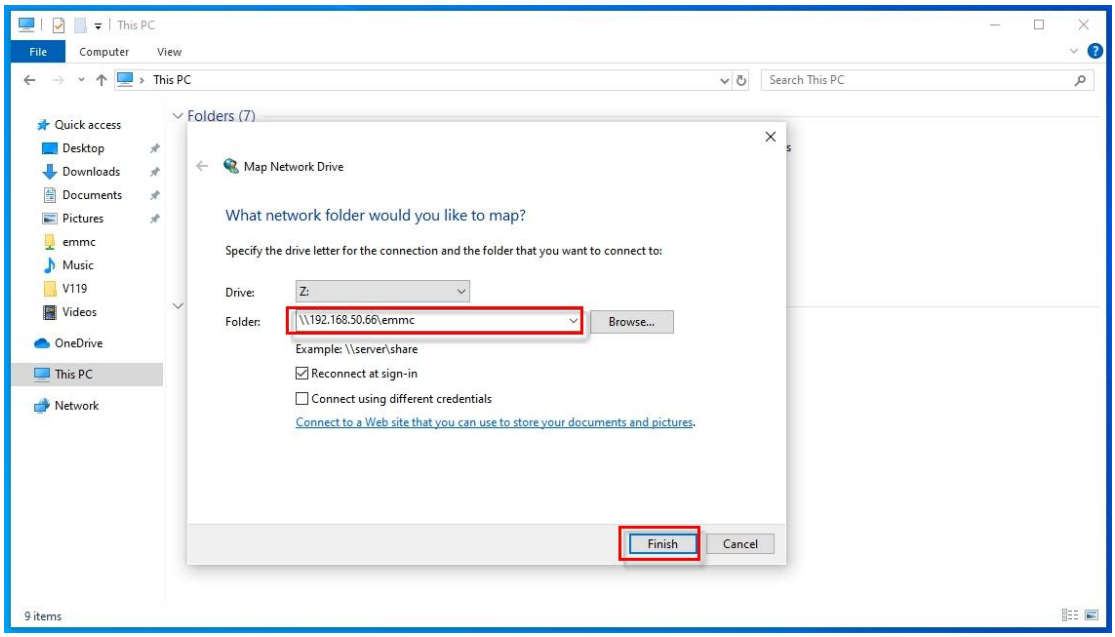


Enter account and password， after connecting, unfold the shared folder,

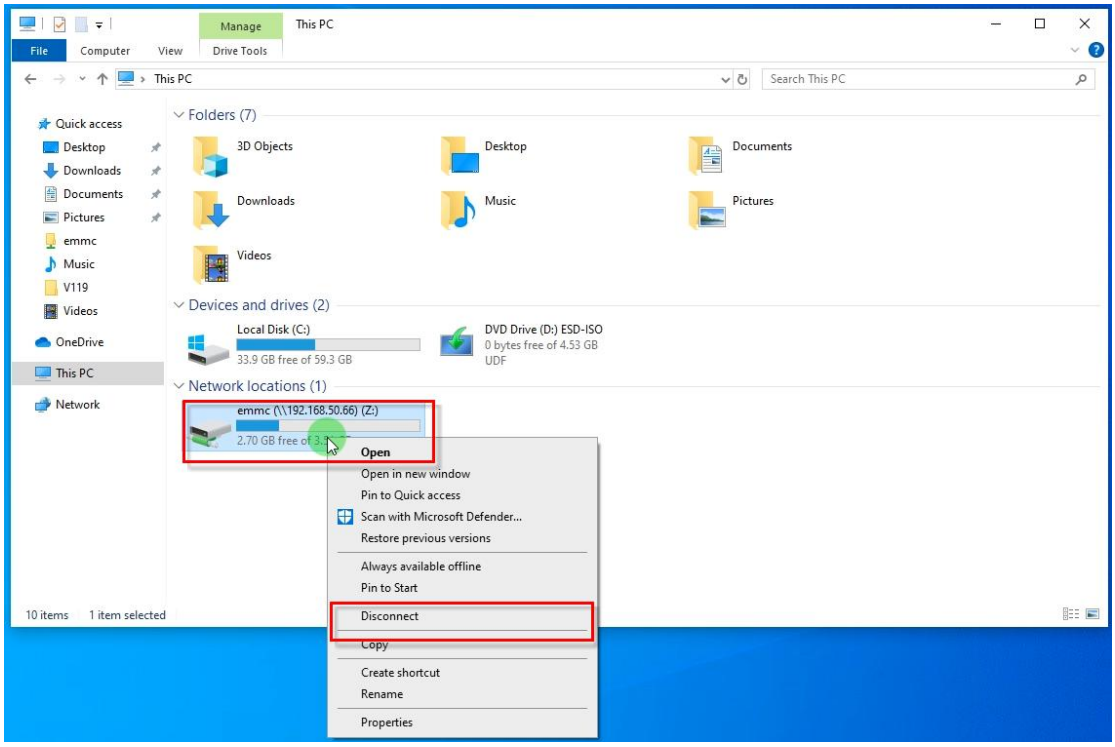
then select the "emmc" folder and click OK!







When the process is finished, you will see the network drive you have just added under 'This PC'. If you don't need it or are having problems connecting to it, right-click on the drive icon and select 'Disconnect' to remove the drive mapping.



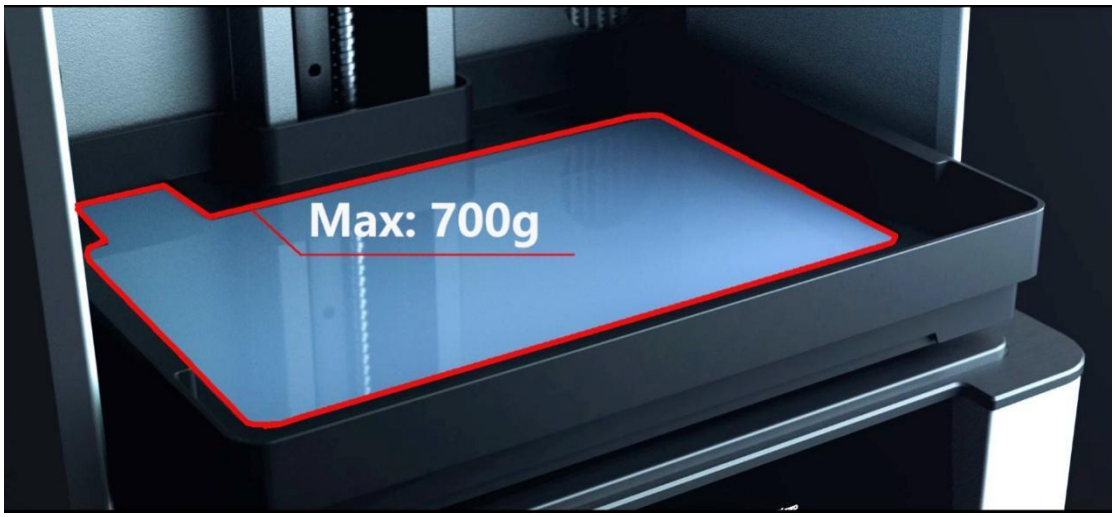
6 First Print Instructions

Before and after each printing, examine the FEP to ensure there are no holes, tears, rips, obvious dents, or other imperfections. If you see anything, please replace the FEP film with a new one to ensure no leaking occurs.

6.1 Preparing the Resin

Always wear a mask and gloves to avoid direct skin contact with resin Shake the resin bottle for 1 minute, then slowly pour the resin into the vat.

DO NOT exceed the max line of 700g or there is a risk of the spills and splatters.



6.2 Print Model

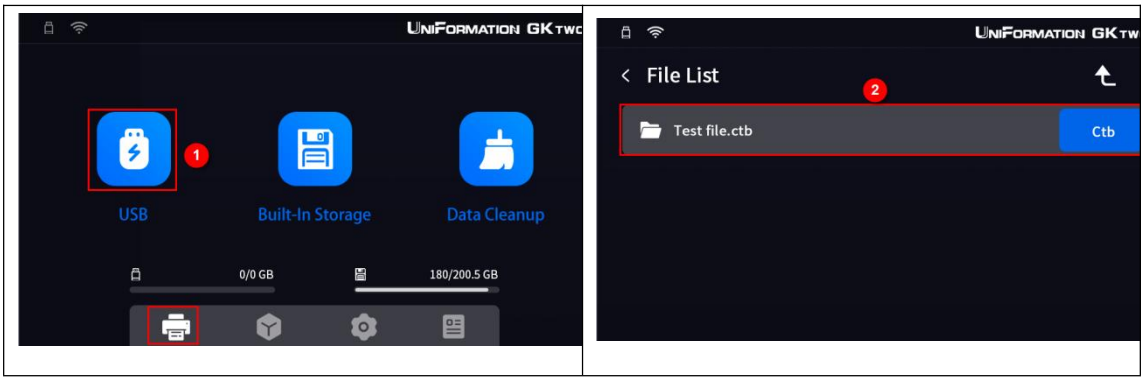
Close the lid, insert the USB flash drive.

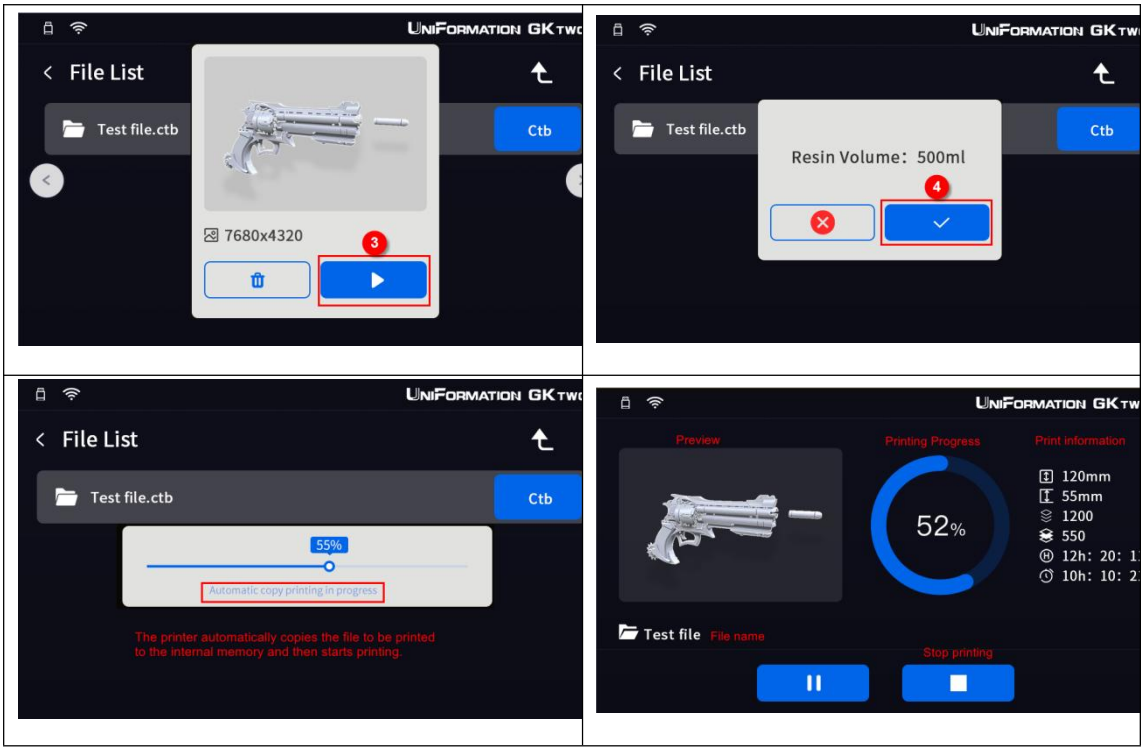
- On the printer touch screen, select Print. The USB should be listed, -please select it then select the sliced file you created in the slicer.

- A preview of the print job will be displayed. Please verify there is enough resin to print (this is an estimate only).

- Click the Print button inside the preview window. You will be asked to confirm printing, please select yes (CHECK), the printer will automatically copy the file to the built-in storage and then start printing.

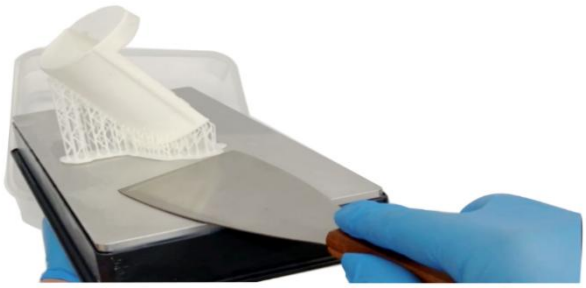
Please note the print time and resin consumption are estimates. No guarantee of their accuracy is given.





6.3 Handling Models and Residues (post-processing)

After a print is completed, wait about 30 mins for the resin to stop dripping from the model and build plate. Remove the model by carefully placing the scraper on the build plate and sliding the edge between the model and the plate. (see illustration)



After removal, the model should be cleaned in minimum of 95% alcohol for several minutes, time depends on the model's complexity and size.

Next, carefully remove any supports your model may have. The printed model may need post-curing to fully solidify by UV-curing box or direct sunlight. Please refer to your specific resin instructions for the recommended post-processing

Eventually, there will be a situation where bits of cured/hardened resin remains in the vat after a print. Failed supports, poor model geometry, and many other factors can cause this. Therefore, it is critical to filter the resin in your vat if you have any suspicion that there may be cured pieces. Failure to do this can lead to major leaks, cracked or damaged screen, and ripped FEP.

Any residual resin on the build plate or in the vat can be wiped off with a microfiber.

7 Slicing Software Overview

For your printer to convert a digital model into a physical object, a process known as slicing needs to be performed. A model is printed layer-by-layer, and stacked on top of the previous layer until the final layers are printed. Slicing is the process of breaking (slicing) a model into these layers that the printer can use to create the actual model. The software will create image files and machine instructions for each layer and creates a file the printer can then use. You load a .stl or .obj file, adjust the settings in the slicer, and export a sliced file in .jxs or .ctb. The printer will use the .jxs or .ctb to print. Transfer the sliced file from the computer to the printer with a USB drive.

Detailed Slicer instructions are on the USB and should be read thoroughly to understand the slicing process.

Note:

In order to avoid the situation that the slicing file is corrupted and causes the printing to stop automatically halfway through.

Please copy the slicing file to the USB drive after the slicing software finishes slicing and prompts success.

Please export the slice file to the computer disk first, and then copy it

from the computer to the USB drive for printing.

8 FAQ and Machine Maintenance

8.1 FAQ

Models do not stick to the platform

1. Bottom exposure time is insufficient, increase the exposure time.
2. Contact area between the model and platform is small, add raft.
3. Bad leveling

Layer separation or splitting

1. There is resin residue in the vat, filter the resin and print again.
2. The lift speed is too fast
3. FEP film is not tight enough or it needs to change to a new one.
4. The printing object is hollowed without holes created. This causes suction issues
5. The machine is not stable during printing.

Layer shift

1. Add or increase supports.

2. Reduce the lift speed.

3. The printing object is hollowed without creating holes.

Particles Left in resin vat

The exposure time is too long. Reduce the normal exposure time and bottom exposure time.

Check if the screen has light leakage

8.2 Machine maintenance

1. Regular lubrication is needed on the z-axis, please use a light oil

2. Always remove any residue or cured pieces from the vat, use the cleaning function to expose the full screen then remove the cured resin sheet which will remove the residue. Do not use sharp objects to scrape off the residues on the FEP film. An old support makes a great handle to pull the sheet of resin

3. Do not leave resin in the vat for more than 2 days. Please filter and store the resin properly. If the resin leaves in the vat for over 2 days, please stir up the resin before the next print.

4. After printing, please clean the build plate Wipe thoroughly with

paper towels or wash with alcohol.

5. Use alcohol to wipe away any resin which may be on the case.

6. Please clean the resin vat when changing to new resin to avoid contamination.

Thank you for purchasing UniFormation products! Under normal usage, the products have a warranty period up to one year. Please visit our Official Website www.uniformation3d.com to report any issues you have.