UNiFORMATION

Enjoyable Creation, Better Experience

UNiFORMATION
GK3 Ultra

3D Printer User Manual
GK3 Ultra

Dear User

Thank you for choosing UniFormation products!

We greatly appreciate the trust you have placed in our brand. Before your first print, please read this manual carefully and familiarize yourself with the operation, precautions, and usage tips, because this will help ensure proper installation, set-up and use.

To begin your 3D printing journey, please note the following information:

The USB flash drive included in the product packaging contains the machine's software, authorized model files, assembly and usage tutorial videos, along with the manuals.

If you encounter any questions or issues not addressed in this manual, please contact customer service via our website or email us at support@uniformation3d.com. We will do our best to assist you.

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Thank you!
The UniFormation Team.

Contents

1. Before You Start

Always follow the safety instructions during assembly and usage, to avoid unnecessary damage or injury.

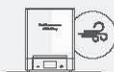|	
After receiving the items, if any accessories are missing, please contact customer service before use for replacements.	Be cautious when using the scraper. Always scrape away from the body and hands.
In case of emergency, immediately shut off the power to the printer.	There are moving parts inside the printer, please do not touch any parts inside the 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.
The optimal environment temperature is 8°C- 40°C, relative humidity is 20%-50%. Use outside this range, may result in printing failure.	When the machine is not used for a long time, please protect the printer from rain and moisture.
Please use the printer in a spacious, flat, and well-ventilated area.	If printing fails, please clear the cured resin in the resin vat to avoid damaging the printer.

2. Product Overview

Machine structure description
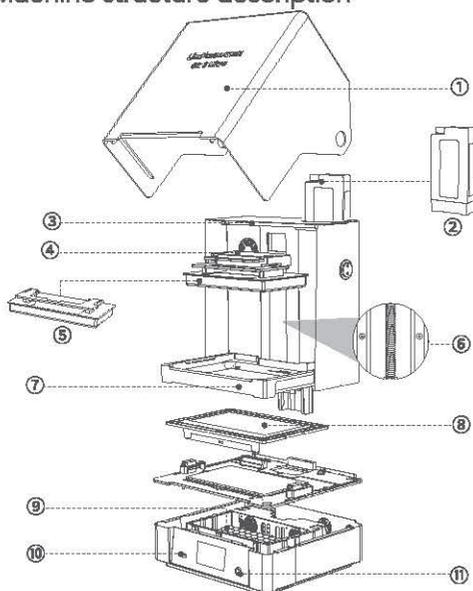
① Flip cover

② Resin storage box installation port: Install the automatic feeding resin box

③ Lighting: Provides auxiliary lighting for the machine

④ Platform fixing handle: Secures the building plate

⑤ Building plate: Model building platform

⑥ Z-axis

⑦ Resin vat: sores the resin required for printing

⑧ LCD screen: Displays the pattern to be printed on each layer

⑨ Built-in heating system

⑩ USB interface: Transfers slice files by USB disk

⑪ Power switch: Controls the power on and off of the machine
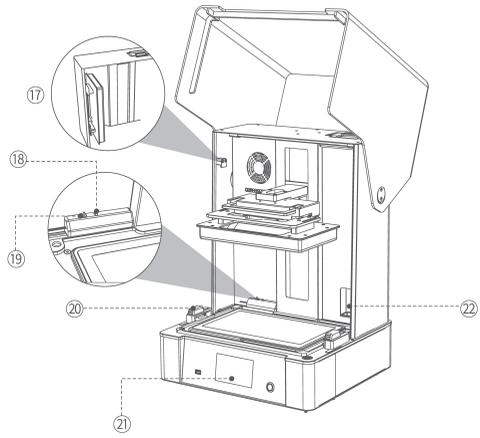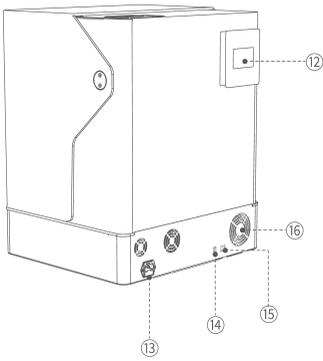
⑫ Activated carbon filter: Absorbs and filters the gas generated by printing.

⑬ Power socket: Connects the power cord.

⑭ Rear USB port: Transfers slice files or installs a USB Wi-Fi adapter.

⑮ Ethernet interface: Transfers files by Ethernet.

⑯ Cooling fan: Cools the printer.

⑰ Building plate side hanging grove: Hangs the building plate on the side to drain the resin.

⑱ Resin vat detection switch: Checks whether the resin tray is installed.

⑲ Resin vat liquid level detection: Connects the sensor on the resin tray to detect the resin level.

⑳ Resin vat fixing device: Secures the resin vat.

㉑ Touch screen: Machine operation interface.

㉒ Automatic feeding outlet: Resin flows out to the resin vat.

3. Packing Lists

Building Plate	Resin Vat	Power Cord	USB Stick
Screen Protector	nFEP Film	Metal Scraper	Plier
Tools	USB WiFi	Funnel	User Manual

GK3 Ultra

4. Product Specifications

4.1 Printer parameters

Product name	GK3 Ultra
Touch screen	5-inch capacitive touch screen
Slicing software	UniFormation Slicer, Chitubox, Lychee
Connection	USB stick, WiFi file sharing, Ethernet

4.2 Specifications

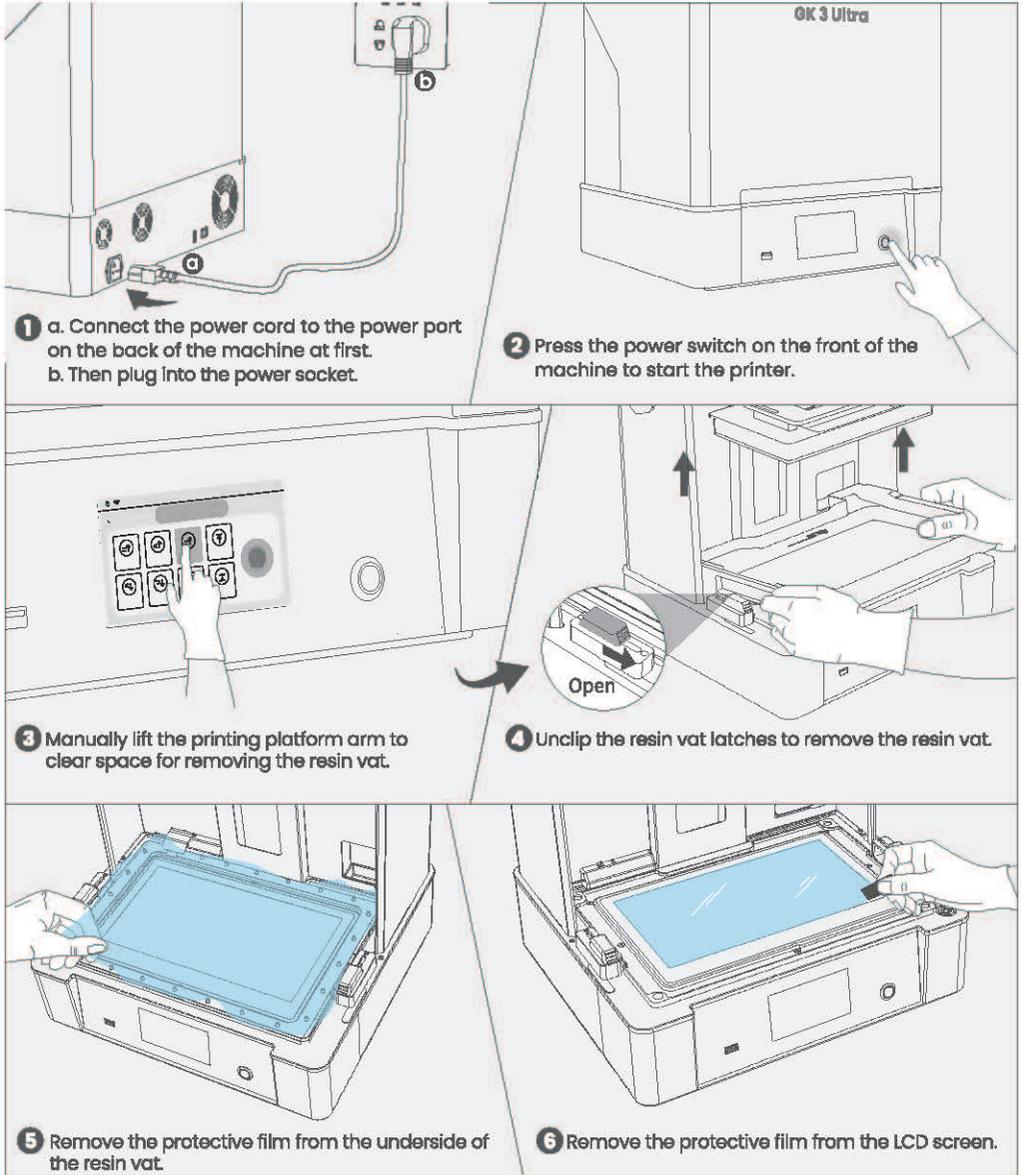|	
Technology	Masked SLA (M-SLA) LCD Screen Curing
Light source	UV-LED (wavelength 405nm)
Screen size	302.4*161.98mm (16K 13.5")
XY resolution	15120*6230
Layer thickness	0.03mm-0.05mm
Exposure speed	2-3S/layer (0.05mm)
Pixel size	20*26μm (AVC 26μm)

4.3 Physical dimensions

Product dimensions	455*400*575 (mm)
Maximum print volume	300*160*300 (mm)
Official resin compatability	Standard Resin (Black, White, HD Light gray, HD Dark Grey, Red Wax, HD Vanilla, Clear, Clear Blue, Clear Green, Clear Red, HD Red Clay) Water Washable Resin (Black, White, HD Light gray, HD Dark Grey, Red Wax, HD Vanilla, Clear, Clear Blue, Clear Green, Clear Red, HD Red Clay) ABS-Like Resin (Black, White, HD Light gray, HD Dark Grey, Red Wax, HD Vanilla, Clear, Clear Blue, Clear Green, Clear Red, HD Red Clay) Water Washable ABS-Like (Black, White, HD Light gray, HD Dark Grey, Red Wax, HD Vanilla, Clear, Clear Blue, Clear Green, Clear Red, HD Red Clay) Flexible Resin (Black, White, HD Light gray, HD Dark Grey, Red Wax, HD Vanilla, Clear, Clear Blue, Clear Green, Clear Red, HD Red Clay)
Resin box capacity	1.2kg
Resin vat capacity	1000ml (about 1kg)
Maximum heating temperature	25°C, 30°C
Printing power consumption	200W
Heating power cosumption	300W
Product weight	35kg

Tips: The above parameters are UniFormation brand resin test results, for reference only.

5. Setup and Operational Inspection

5.1 Printer settings

Unpack and take out the accessories. Place the machine in a flat, stable area. Remove the foam from the resin vat. Take out the activated carbon filter and printing platform from the middle of the foam, and install the filter into the slot on the back of the machine.

1 a. Connect the power cord to the power port on the back of the machine at first.
b. Then plug into the power socket.

2 Press the power switch on the front of the machine to start the printer.

3 Manually lift the printing platform arm to clear space for removing the resin vat.

4 Unclip the resin vat latches to remove the resin vat.

Open

5 Remove the protective film from the underside of the resin vat.
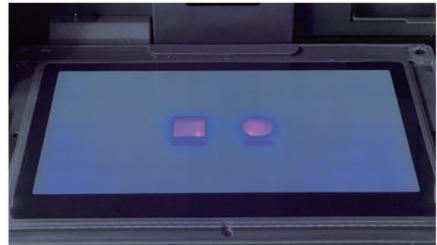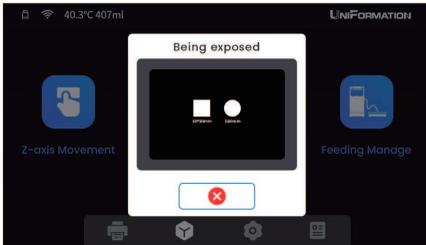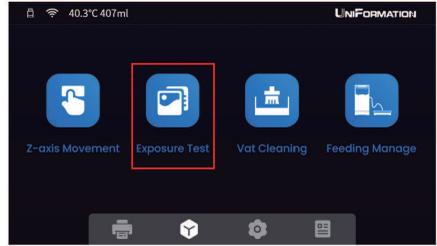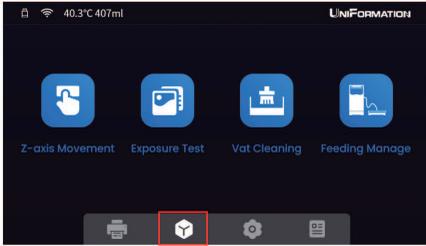
6 Remove the protective film from the LCD screen.

GK 3 Ultra

5.2 LCD screen exposure detection

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.

1. Fold the test strip once which is equal to the thickness of 2 sheets of paper, as shown below.
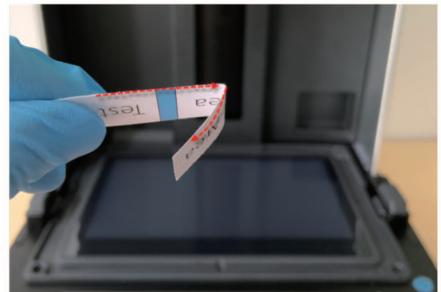
2. Using the menu on the printer touch screen, select the ⊽ "Function" icon. and select " Z-axis Movement".

3 . "Z-axis Movement", then select the "Z 0" icon. The build plate will descend to "Z 0" and press down on the paper strips and leveling paper.
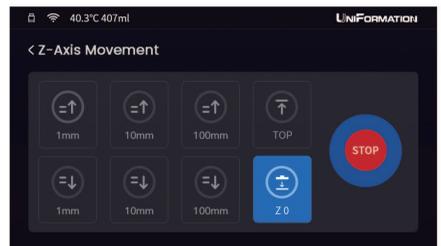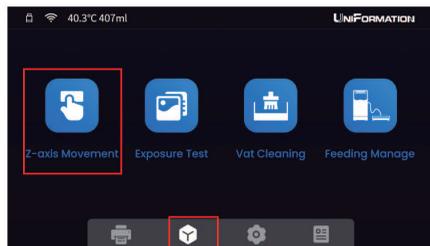
4. Try to pull out the 5 strips, it should be tight to pull each corner. If you can move them easily, it is too loose. Please watch the video on the USB drive if you are unsure.

Complete the platform calibration, a process that ensures that the platform remains at the correct distance from the LCD screen during printing, avoiding failures caused by models that do not stick to the print platform.

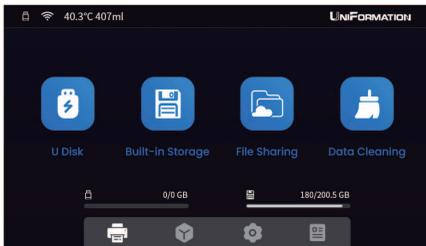⚠ Note: The build plate can only be manually moved to the top after the "Z 0" operation .
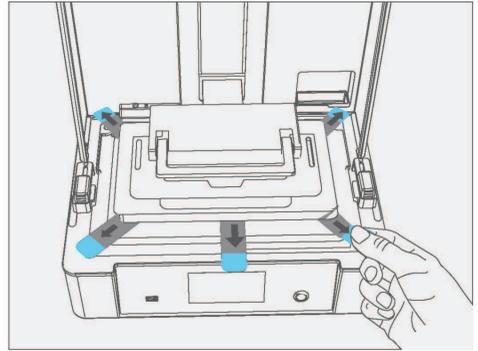
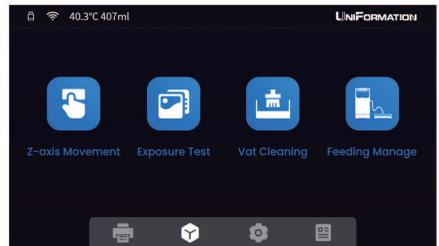# 6. Operational Interface Introduction
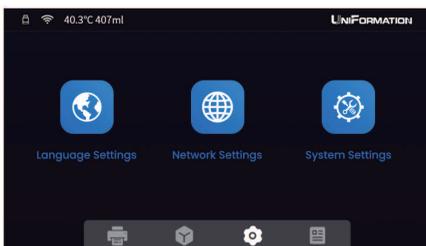
UI introduction
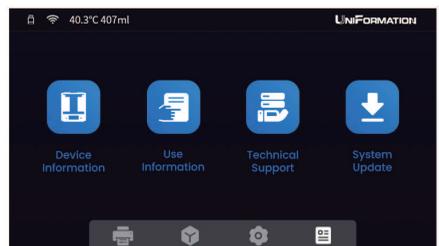

Welcome screen

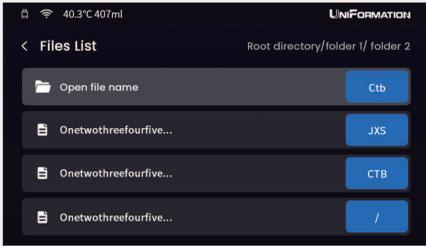Standby mode

Printing menu

Function menu

Settings menu

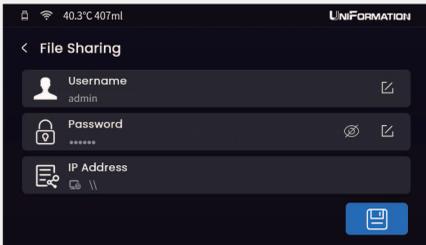Info menu

6.1 Printing menu

USB Drive

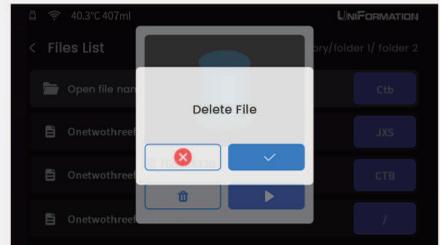This screen displays the files loaded onto the connected USB drive.

Internal Storage

The printer will copy the sliced files from the USB drive to its internal storage and verify the files integrity before starting the printing process.
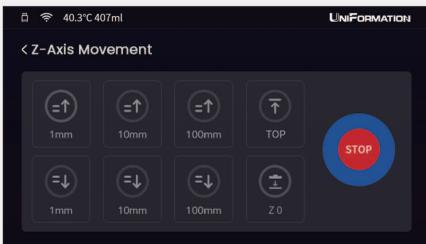

File Sharing

On this interface, you can set the account username, password and IP address for LAN file sharing.

Data Cleaning

This screen is used to remove files no longer needed on the internal storage. Please clean up the built-in storage regularly to avoid reaching it's maximum capacity(7GB).

6.2 Function menu

Z-axis Movement

This screen is used to control the build plate movement.
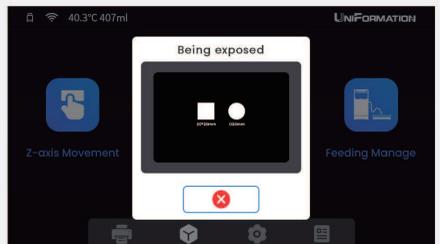
Exposure Testing

This screen is used to verify the UV and screen function properly-an image will display on the LCD screen (see 5.2). Please do not look directly at it.

Vat Cleaning

On this screen, you can set to expose the entire screen for a desired time of 10s-30s- this creates a thin layer of resin that can be peeled off to clean the vat.
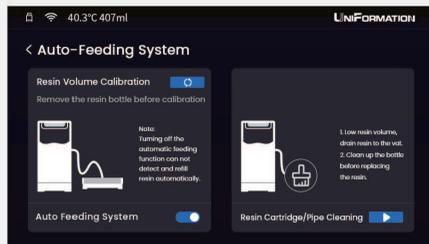
Feeding System Settings

Automatic feeding system control and setup.

6.3 Settings menu
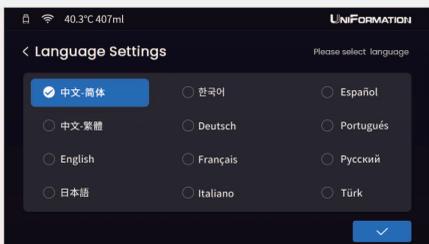
Language Setting

This screen is to set the desired language.
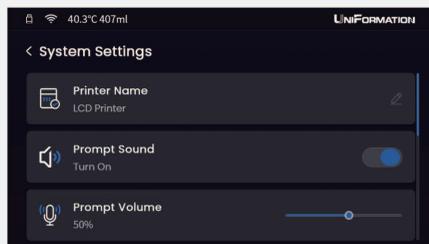
System Settings

This interface allows you to set the system heating switch, adjust the heating temperature, enable or disable the reminder sound, and control the lighting switch.

Wi-Fi Settings

This screen is used to set up the Wi-Fi network connection.

Network Settings

This screen is used to set up the wired network connection.

6.4 Information

Device Information

This screen displays the system information that can be used for diagnostics.

Usage Information

This screen helps you track printer usage for maintenance.
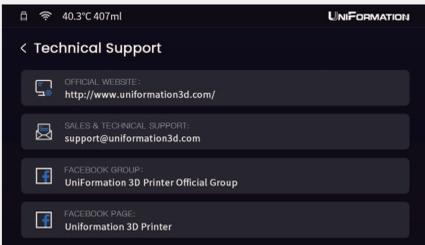
Technical Support

This screen shows how to contact support.
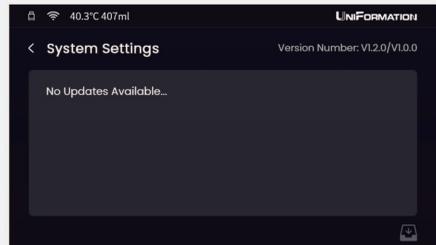
System Update

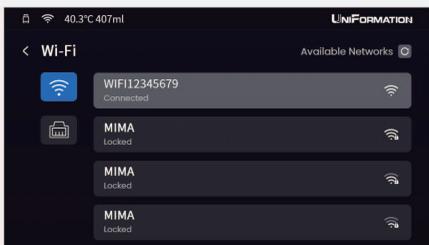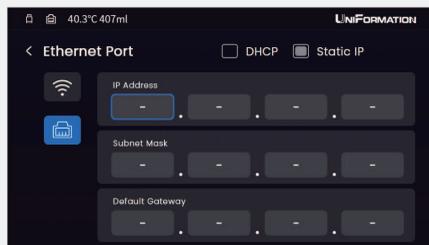The upper right corner of this screen displays the current machine firmware version.

7. Functions

7.1 LED lighting

Auxiliary lighting to facilitate observation of the model.

Enter the ⚙ settings function and select the "System Settings" interface, as shown below:

Scroll down in "System Settings" to find the "Lighting" option. You can turn it on or off, as shown below:
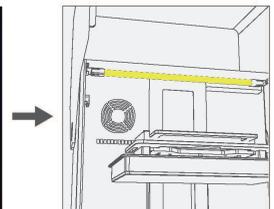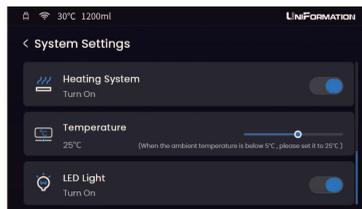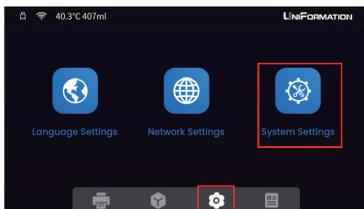
7.2 GK3 Ultra automatic heating system

This machine has an automatic heating function. If the heating function is not turned on, the printer will start printing immediately. If the heating function is turned on, the machine will heat to preset temperature before starting a print.

After the printer is preheated to the set temperature, it begins printing. The real-time temperature will be displayed in the upper left corner of the user interface.

⚠️ Note: The machine only has a heating function. The displayed temperature will always be higher than the ambient temperature due to the heat dissipated by the UV Array and the machine's electronic components. This is normal.
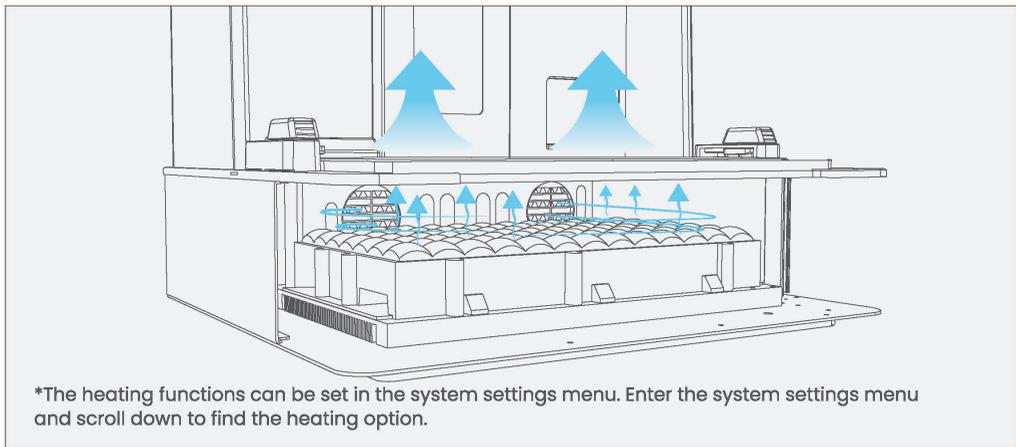

*The heating functions can be set in the system settings menu. Enter the system settings menu and scroll down to find the heating option.

1. Enter the settings screen——system settings
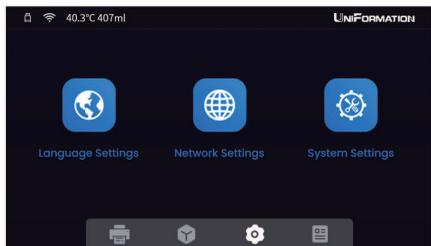
2. Enable preheat setting

3. Preheating will commence when staring a print.

4. Once the desired temperature is reached, printing will begin automatically.
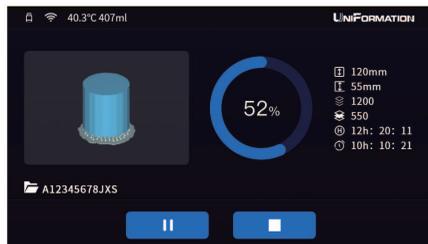
7.3 Automatic feeding system

7.3.1 Function on and off

Turn on the Automatic feeding system, it will check the resin capacity in the resin vat before printing.

Sensor

Sensor

1 When the resin capacity in the resin vat does not reach the set height of the senor, the GK3 Ultra will extract resin from the installed Resin Storage Box and add an adequate amount of resin to the resin vat.

2 When the resin inside the resin vat reaches the sensor's position, the automatic feeding system will stop.

3 You can turn off the automatic feeding system, which requires manually add resin into the resin vat for printing. When the system is off, the GK3 Ultra will neither detect nor automatically add resin.

⚠ Note: The poured resin should not exceed the MAX mark, otherwise it will cause the resin to overflow from the resin tray.

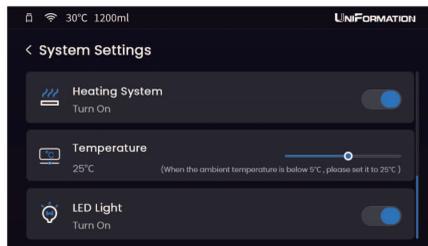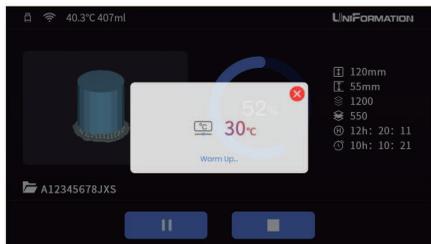### 7.3.2 Material storage box testing function

If the weight display shows a serious deviation. This function can be used to recalibrate the weight sensor to accurately check the weight of the resin inside the resin storage box.

7.3.3 Box and pipe cleaning function

When the box and pipe have a small amount of resin, users can use this function to extract the remaining resin from the resin storage box to the resin vat. Also, when you need to replace the resin with another resin, you can use this function to flush the resin left in the pipeline.

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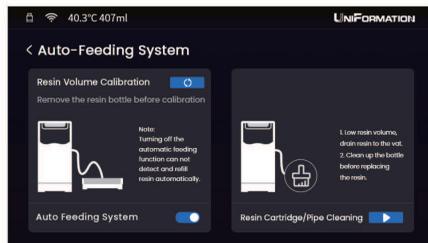
7.4 WiFi file sharing function

7.4.1 WiFi setting (Requires USB wireless adapter)

Use the WiFi file sharing function to transfer slice files to the built-in storage or to a plugged-in USB flash drive (The WiFI function is only for transferring or deleting files. Remote control or status monitoring of the printer is not supported at this time).

Setup:
Plug the compatible wireless adapter into the USB port on the back of the machine.

WiFi receiver

1. Go to the setting menu and select network settings.
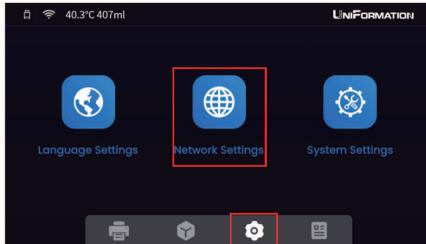
2. Select and connect to WiFi. Go to the Print menu and select file sharing.

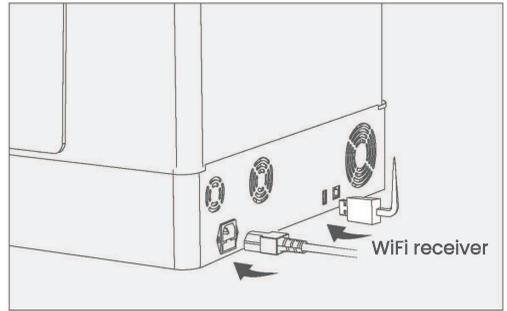3. Set the file sharing username and password or leave them as default and click Save to view the sharing IP address.
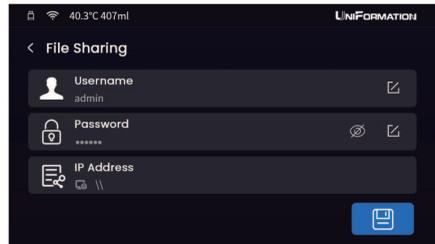
7.4.2 Shared folder access (windows)

Access via File Manager :
Type the printer's IP address into the address bar of the Windows file manager, for example \\192.168.50.66 (note that in Windows the address may sometimes need to be prefixed with two backward slashes \\)
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 now copy files directly from your computer to the printer.

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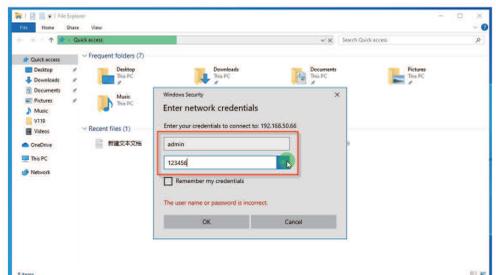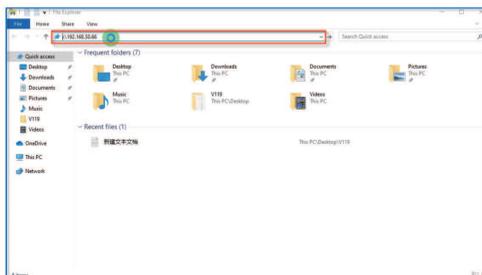
7.4.3 Mapping network drivers

It is possible to map a GK3 Ultra 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".
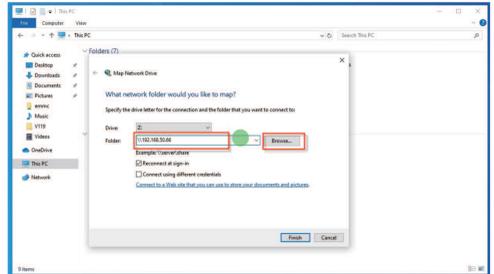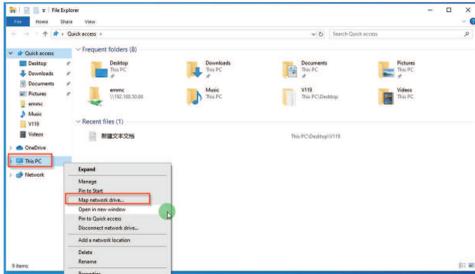
Select a network drive ID to be displayed such as "Z" and enter your GK3 Ultra shared folder address in the address box below, e.g. \\192.168.50.66 and click browse.
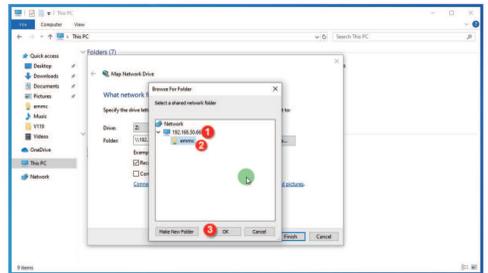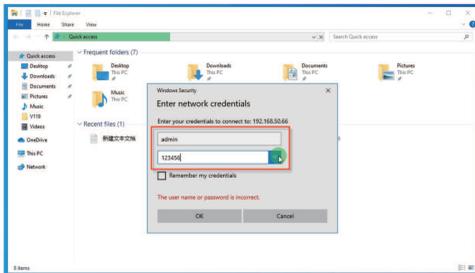
Enter account and password, after connecting, unfold the shared folder, then select the "emmc" folder and click OK!
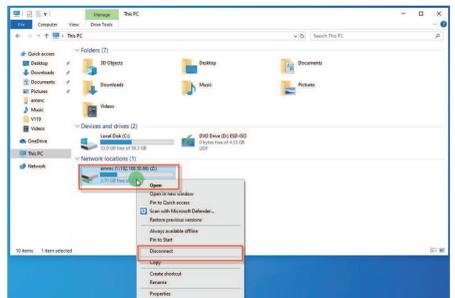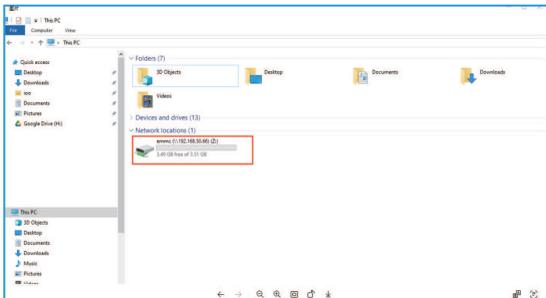
When the process is finished, you will see the network drive you have just added under 'This PC'. If you don't need it or are having problems connecting to it, right-click on the drive icon and select 'Disconnect' to remove the drive mapping.

7.5 Ethernet connection

1. Plug the cable into the Ethernet port on the back of the machine.
Enter the "Network Settings" menu, select the wired port connection on the left, and choose the "DHCP" or "Static IP" option according to your needs.

2. If you choose the "DHCP" option, the machine will let the router of your network automatically assign an IP address, you should not need to fill in the IP address, subnet mask and default gateway.
If you choose "Static IP" then you probably already know what you're doing. please fill in the corresponding IP address, subnet mask and default gateway according to your LAN.
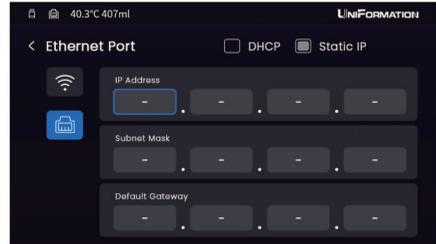
8. Your First Print

8.1 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 down (slicing) a model into these layers that the printer can use them to create the actual model. The GK3 Ultra can only recognize JXS and CTB format files. You can't print STL or OBJ files directly, you need to use UniFormation Slicer, Chitubox Slicer or Lychee slicer to slice STL or OBJ files into JXS or CTB formats, and then transfer them to a printer using a USB flash drive or via the network connection for printing.

Users can use the slicing software to adjust the angle and size of the model, hollow the model, punch holes, add supports, set the exposure parameters and export the sliced file with the suffix (JXS/CTB).

> ⚠ Note: The specific operation guide for the Uniformation Slicer software can be found in the files on the USB flash disk, and for Chitubox or Lychee slicing software, please refer to the operation documents or videos on their official website. UniFormation Slicer slices out the files with JXS suffix, while Chitubox and Lychee slicing software slices out the files with CTB suffix.

8.2 Preparation before printing

Before and after each print, please ensure there is no debris of partial cured resin inside the vat. It is also wise to examine the nFEP and ensure there are no holes, tears, rips, obvious dents, or other imperfections. If you see anything, please empty the vat and replace the nFEP film with a new one to ensure no leaking occurs.

1. Wear a mask and gloves (the resin should not come into direct contact with the skin), shake the resin bottle for 1 minute, and then insert the resin into the automatic feed bin.

2. At this point the weight of the resin inside the inserted cartridge is displayed in the upper left corner of the touch screen.
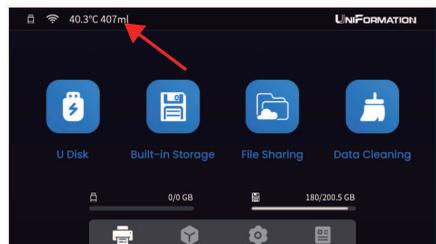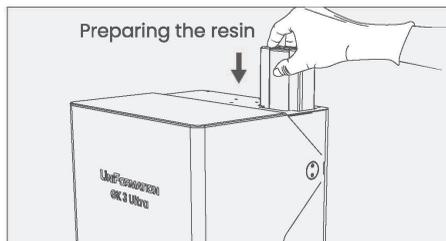
8.3 Print model

a. Check the building plate and the resin vat to ensure they are clean, dry, and in good condition.

b. Close the cover and insert the USB drive containing the slice file into the machine, or select the slice file from the built-in storage that was transmitted over the network.

c. Click on the file name, and then click the start button (triangle) in the model preview interface. The resin consumption window for the model to be printed will appear.

d. After clicking confirm, the system will automatically copy the file to be printed to the built-in storage.

e. The printer checks the resin capacity. If the resin level does not reach the sensor position and the automatic feeding function is enabled, it will automatically add resin until the resin vat liquid level reaches the sensor position.

f. The printer heats to the set temperature. After reaching the set temperature, the GK3 Ultra will start printing immediately.

> ⚠ Note: Because printing involves many factors, the printing time displayed on the touch screen is an approximate time calculated by the printer from the slice file information. The actual model printing time may vary.
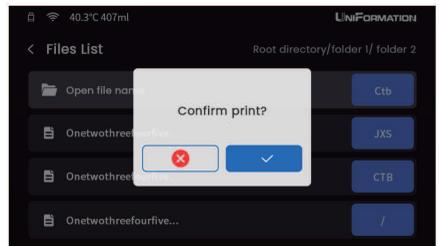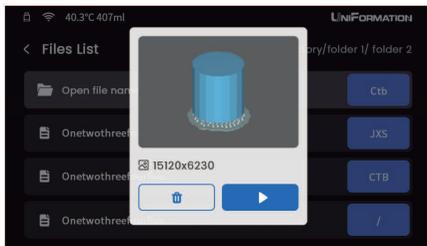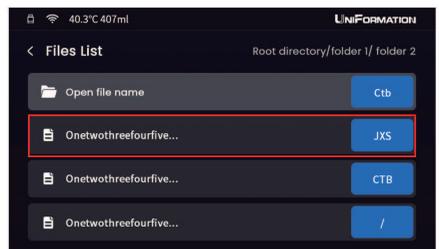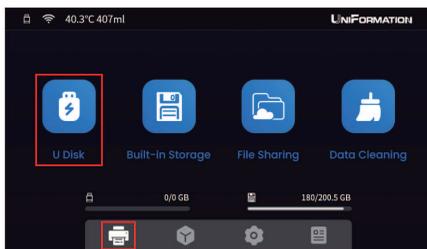
The printer will automatically copy the file to be printed to the built-in storage and then start printing. After printing begins, you can unplug the USB drive.
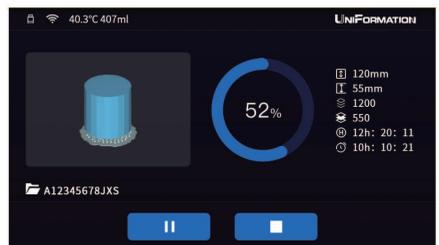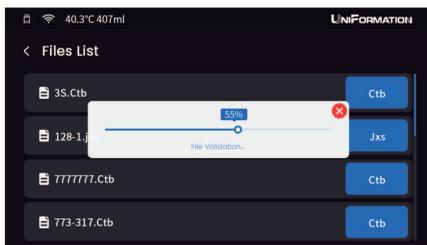
8.4 Post-print processing

8.4.1 Drainage of resin

a. After printing, rotate the print platform retaining handle upward and pull the platform outward to the print platform.
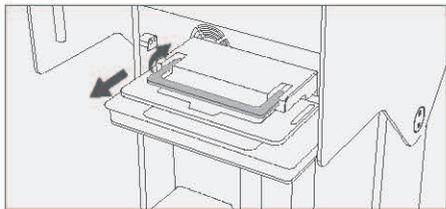
b. Before removal you can allow excess resin to drain from the platform, when printing shorter models can be hung directly on the printer arm.

c. If you are printing a taller model, you will need to place it on its side on the left side of the resin vat to allow the resin to flow back into the resin vat.

8.4.2 Clean and post cure the model

After the resin is drained, there are two ways to clean and remove the model:

1. You can place the entire building platform into the Wash 3 Ultra cleaning machine, and then use the matching Removal 3 Ultra scraper to remove the model after cleaning.
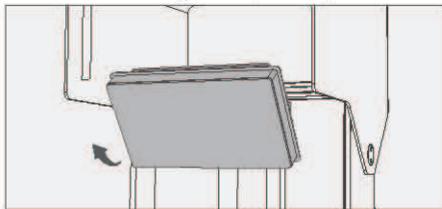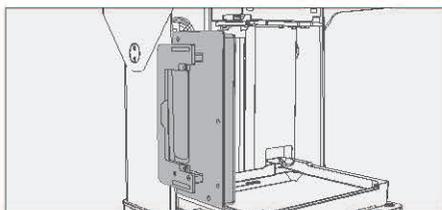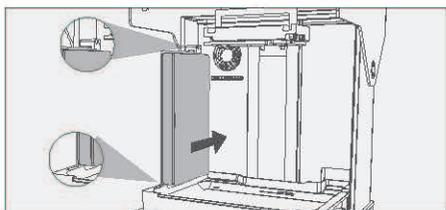
2. Before cleaning you can srape off the model with a scraper, then use 95% or higher concentration alcohol, or other cleaning agents, to clean it.

Post Curing: After cleaning the resin off the surface of the model, carefully remove the support structures. Ensure that the alcohol on the surface or inside the model is completely dried. Use a UV curing machine or place the model in the sun for post curing making it safe to handle with bare skin.

> ⚠ Note: If the model is not cleaned and dried thoroughly, the surface of the model will be sticky or white marks will appear after curing.

8.4.3 Solutions after failed printing

1. In the case of model printing failures, solid resin residue may remain in the vat. Please use a fine meshed funnel to filter out the cured residue from the resin vat and store it in the corresponding resin bottle. Failure to do so may result in further printing failure or worse, damage to the nFEP film and screen during the next print.

2. Clean the resin remaining on the nFEP film: Utilize the vat cleaning function to cure the bottom layer of the resin vat, then peel off the entire layer of cured resin to effectively protect the release film. Please avoid using sharp objects to scrape the nFEP film to prevent damage to the film.

3. The resin remaining on the build plate and in resin vat can be wiped clean directly with a paper towel.

Funnel
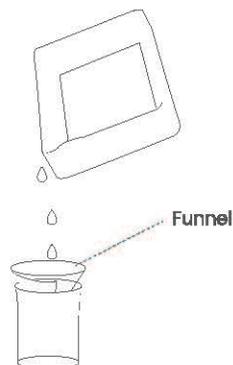
Printing Problem Troubleshooting: If there is a printing failure, please take a photo or video of the model failure on the printing platform first in order to determine the cause of the problem. Then clean up the printing platform and resin vat.

After cleaning, please use the "Exposure Test" and "Tray Cleaning" function to check if the screen exposure is normal. If the screen exposure is normal, then check whether the printing platform leveling is normal.

If you find any abnormality, please contact customer service or send an e-mail to the technical support mailbox for help.

9. FAQ and Maintenance

9.1 nFEP film rupture

Sometimes there can be solid resin residue inside the resin vat, typically when printing fails, and this residue an be pushed to puncture the release film when the printing platform is lowered.

Before printing, be sure to check whether there is any solid foreign matter inside the resin vat, you can use a plastic (not metal) scraper to stir and observe.

If the release film ruptures and causes resin leakage, please unplug the machine and use alcohol to clean up the leaked resin. Then refer to the tutorial on replacing the release film from the USB flash drive.
(Do not operate any exposure function such as printing or screen test until the spilled resin is fully cleaned).

9.2 Cured resins on screen protectors

If any resin has accidentally dripped onto the LCD screen surface, or if the release film punctures and causes the resin to leak and cure on the screen surface, this cannot be cleaned up using alcohol. Please refer to the video on replacing the screen protector from the USB flash drive to replace the screen protector with a new one.

9.3 Models do not stick to the platform

If the model does not stick to the printing platform when printing, and all the models are cured on the release film, or if on only one side the models stick to the printing platform when printing, but all the models on the other side are cured on the release film. This is usually a leveling or base layer exposure time problem, if you are seeing models stick to only one side of the platform, this is more likely leveling than exposure time. Please refer to the leveling video on the USB flash drive, re-level and print a leveling test model to make sure. Or check to see if the model is coming off the printing platform due to one of the following two reasons.

1. The bottom exposure time is insufficient, increase the exposure time.
2. The contact area between the model and platform is large, go back through the leveling process and ensure the papers are tight. And before you leave the Z-axis movement menu make sure you have pressed the Z=0 when they are.

9.4 Layer separation or splitting

1. The print platform or print assembly is loose, resulting in breakage.
2. There is resin residue in the vat, filter the resin and print again.
3. The printing object is hollowed without holes created. This causes suction issues.
4. The lift speed is too fast and/or the required lift height is too low.
5. nFEP film is not tight enough or it needs to be changed to a new one.
6. The machine is not stable during printing.

9.5 Layer shift

1. Add or increase supports.
2. Reduce the lift speed and/or increase lift heights
3. The printing object is hollowed without creating holes.

9.6 Particles Left in resin vat

1. The exposure time is too long. Reduce the normal exposure time and/or bottom exposure time.
2. Check if the screen has UV light leakage by removing the vat, cleaning resin from the build plate and running the vat cleaning function (it is recommended to wear sunglasses when performing this test).

9.7 Machine maintenance

1. 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 should also remove the residue. Do not use sharp objects to scrape off the residues on the nFEP film. An old support makes a great handle to pull the sheet of resin.
2. Do not leave resin in the vat for more than 2 days. Please filter and store the resin properly. If the resin is left in the vat for over 2 days, please stir up the resin before the next print.
3. After printing, please clean the build plate. Wipe thoroughly with paper towels and/or wash with alcohol.
4. Use alcohol to wipe away any resin which may be on the chassis.
5. Please clean the resin vat when changing to new resin to avoid cross-contamination.

Thank you for choosing UniFormation products! We offer a one-year warranty (excluding vulnerable parts). If you encounter any issue, please contact our online customer service for assistance. Our professional technical support team is ready to help you.

In addition, to provide a platform for communication and exchange among 3D printing enthusiasts and to share the latest 3D printing technology, we have established relevant communities and sharing platforms. We look forward to your participation and sharing!

Facebook	Instagram	Tiktok	Youtube

For warranty service or support, please contact the technical support team:
Website: www.uniformation3d.com