

Uniformaltion GK3 Ultra 3D Printer User Manual

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Dear User

Thank you for choosing Uniformaltion 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 procedures, precautions, and usage tips. This will help ensure proper installation, setup, and safe use of the printer.

The USB flash drive included in the product package contains the machine's software, authorized model files, assembly and usage tutorial videos, along with electronic versions of this manual. If you encounter any questions or issues not addressed in this manual, please contact customer service via our official website or email us at support@uniformaltion3d.com. We will do our best to assist you.

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1. Before You Start

1.1 Safety Instructions

- Always follow the safety guidelines during assembly and usage to avoid unnecessary damage or injury.
- After receiving the package, check for missing accessories. Contact customer service for replacements before use if any parts are missing.
- Exercise caution when using the scraper. Always scrape away from your body and hands.
- In case of emergency, immediately turn off the printer's power supply.
- The printer contains moving parts. Do not touch any internal components while the machine is in operation.
- Wear safety glasses and gloves as personal protective equipment (PPE) during operation.
- Keep the printer and its accessories, especially uncured resin, out of the reach of children.
- The optimal operating environment requires a temperature of 8°C - 40°C and relative humidity of 20% - 50%. Using the printer outside this range may result in printing failure.
- When the machine is not in use for an extended period, protect it from rain and moisture.
- Use the printer in a spacious, flat, and well-ventilated area.
- If printing fails, clear the cured resin in the resin vat promptly to avoid damaging the printer.

1.2 Environmental Requirements

- Place the printer on a stable, level surface capable of supporting its gross weight (35 kg).
- Ensure adequate ventilation to facilitate the built-in air purifier's functionality.
- Maintain a distance of at least 30 cm from walls or other objects to ensure proper heat dissipation.

2. Product Overview

2.1 Machine Structure Description

Number	Component Name	Function
①	Flip Cover	Protects internal components and reduces resin odor
②	Resin Storage Box Installation Port	Installs the automatic feeding resin box
③	Lighting	Provides auxiliary lighting for operation
④	Platform Fixing Handle	Secures the building plate
⑤	Building Plate	The platform where the model is printed
⑥	Z-Axis	Controls vertical movement for layer-by-layer printing
⑦	Resin Vat	Stores resin required for printing
⑧	LCD Screen	Displays the pattern for each layer of printing
⑨	Built-in Heating System	Maintains resin temperature (25°C/30°C)
⑩	Control Panel	5-inch rotating capacitive touch screen for operation
⑪	Air Purifier	Built-in carbon filter to reduce resin fumes

⑫	Ethernet Port	For network connection and file transfer
⑬	USB Port	For USB flash drive file transfer
⑭	Power Interface	Connects the power cord

2.2 Product Series Comparison

The GK3 series includes multiple models with distinct features:

- GK3T: Entry-level model with trapezoidal screw z-axis
 - GK3B: Equipped with ball screw z-axis for smoother movement
 - GK3 Pro: Features 385 nm light source and high-transparency screen
 - GK3 Ultra: Large build volume (300×160×300 mm) with ball screw z-axis and 16K LCD screen
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3. Packing List

Please check that the following items are included in your package:

- 1 × GK3 Ultra Main Printer Unit
- 1 × Resin Vat (1000 ml capacity)
- 1 × Building Plate
- 1 × Automatic Resin Feeding Box (1.2 kg capacity)
- 1 × Power Cord
- 1 × USB Flash Drive (contains software, tutorials, and model files)
- 1 × Activated Carbon Filter (for air purifier)
- 1 × NFP Release Film (replacement)
- 1 × Screen Protector (tempered glass)
- 1 × Scraper Tool
- 1 × Pair of Protective Gloves

- 1 × User Manual (hard copy)
- 1 × Screwdriver and Assembly Tools

Note: Contact customer service immediately if any items are missing or damaged.

4. Product Specifications

Category	Details
Printing Technology	Masked SLA (M-SLA)
Light Source	405 nm COB + Fresnel Collimating Lens
LCD Screen	13.5-inch 16K Mono LCD (302.4×161.98 mm)
Pixel Size	20×26 μm (AVC 26 μm)
XY Resolution	15120×6230
Print Volume	300 × 160 × 300 mm
Layer Thickness	0.03 mm – 0.15 mm
Exposure Speed	2 – 3 s/layer (0.05 mm layer thickness)
Exposure Time Range	1.5 – 25 s/layer
Printing Tolerance	±0.1 mm (L ≤ 100 mm); ±0.1% × L (L > 100 mm)
Resin Compatibility	Standard Resin, ABS-Like Resin, Flexible Resin, Water Washable Resin
Resin Vat Capacity	1000 ml
Resin Cartridge Capacity	1.2 kg
Built-in Heating System	25°C / 30°C adjustable
Touch Screen	5-inch Capacitive Touch Screen (90° rotation)

File Transfer Methods	USB Flash Drive, Wi-Fi File Sharing, Ethernet
Supported File Formats	JXS, CTB
Slicing Software	Uniformation Slicer, Chitubox, Lychee Slicer
Product Dimensions	455 × 400 × 575 mm
Gross Weight	35 kg
Printing Power Consumption	200 W
Input Voltage	100 – 240 V AC, 50/60 Hz
Built-in Features	Air Purifier, LED Light, Camera for Print Tracking, Mobile App Control
Language Support	Chinese, Traditional Chinese, English, Japanese, German, French, Korean, Italian, Spanish, Portuguese, Russian, Turkish

5. Setup and Operational Inspection

5.1 Unboxing and Assembly

1. Remove the printer from the packaging and place it on a stable, level surface.
2. Take out the activated carbon filter and building plate from the foam packaging. Install the filter into the slot on the back of the machine.
3. Remove the protective film from the underside of the resin vat and the LCD screen.
4. Slide the resin vat into the printer until it locks into place. Ensure it is securely installed to prevent resin leakage.
5. Use the platform fixing handle to attach the building plate to the z-axis assembly.
6. Connect the power cord to the power port on the back of the machine, then plug the other end into a power socket.

5.2 Power On and Initial Setup

1. Press the power switch on the front of the machine to turn it on.
2. The touch screen will display the language selection menu. Select your preferred language (supports 12 languages).
3. Complete the initial setup wizard, including:
 - Wi-Fi/Ethernet network configuration (for remote file transfer)
 - Date and time setting
 - Heating temperature preference (25°C or 30°C)
4. Verify that all components are functioning properly:
 - Check if the touch screen responds correctly to inputs.
 - Confirm the built-in camera is working (for print tracking).
 - Test the z-axis movement by lifting and lowering the building plate.

5.3 Resin Loading

1. Open the flip cover and the resin storage box installation port.
 2. Fill the automatic resin feeding box with compatible resin (do not exceed the maximum capacity of 1.2 kg).
 3. Install the resin box into the designated port until it clicks into place.
 4. The printer will automatically prime the resin feeding system. Wait for the resin to flow into the vat (ensure the vat is at least 1/3 full before printing).
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6. Operational Interface Introduction

6.1 Main Menu

The 5-inch rotating touch screen features the following main menu options:

- **Print:** Select files for printing (supports local USB or network files)

- **Settings:** Adjust language, network, heating, exposure, and other parameters
- **Tools:** Access exposure test, leveling, resin cleaning, and maintenance functions
- **Monitor:** View real-time print status and camera feed
- **Files:** Manage print files (view, delete, rename)
- **About:** Check firmware version and product information

6.2 Key Function Operations

6.2.1 Network Connection

- **Wi-Fi:** Select your Wi-Fi network, enter the password, and connect.
- **Ethernet:** Connect via Ethernet cable for stable network access (supports 100BASE-TX/10BASE-T).
- **File Sharing:** Enable Wi-Fi file sharing to transfer files from your computer or mobile app.

6.2.2 Exposure Test

1. Navigate to "Tools" > "Exposure Test".
2. Follow the on-screen prompts to print a calibration model.
3. Adjust the exposure time based on the test results (refer to the resin manufacturer's recommendations for initial settings).

6.2.3 Leveling

1. Go to "Tools" > "Leveling".
 2. The printer will automatically move the building plate to multiple positions.
 3. Follow the instructions to adjust the platform height using the fixing handle until it is properly leveled.
 4. For manual leveling, use the provided feeler gauge to ensure consistent gap between the plate and the LCD screen.
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7. Basic Functions

7.1 Automatic Heating

- The built-in heating system maintains the resin at 25°C or 30°C (adjustable in "Settings").
- Heating improves resin fluidity and print quality, especially for ABS-like or flexible resins.
- The system automatically turns off heating 30 minutes after printing is completed.

7.2 Print Tracking

- Enable "Monitor" mode to view the print progress in real-time via the built-in camera.
- Connect to the mobile app for remote monitoring (supports push notifications for print completion or errors).

7.3 Firmware Updates

1. Download the latest firmware from the official Uniformal website (<https://uniformal3d.com/pages/gk3-guide>).
2. Save the firmware file to a USB flash drive.
3. Insert the USB drive into the printer's USB port.
4. Navigate to "About" > "Firmware Update" and follow the on-screen instructions.
5. Do not turn off the printer during the update process (this may cause system damage).

Supported firmware versions include:

- GK3 Ultra Firmware v1.1.9
 - GK3 Ultra Firmware v1.2.1
 - GK3 Ultra Firmware v1.2.4 (supports Chitu Manager)
 - GK3 Ultra Firmware v1.2.7 (latest version)
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8. Your First Print

8.1 Preparation

1. Ensure the printer is properly set up, leveled, and filled with resin.
2. Download or create a 3D model file (supports STL, OBJ formats) and slice it using compatible software (Uniformation Slicer, Chitubox, or Lychee Slicer).
3. Save the sliced file (JXS or CTB format) to a USB flash drive or transfer it via network.

8.2 Printing Steps

1. Insert the USB flash drive into the printer or select the network file via the "Files" menu.
2. Select the desired file and click "Print".
3. The printer will display the print preview, estimated time, and resin consumption. Confirm to start printing.
4. During printing:
 - Do not open the flip cover unnecessarily (reduces odor and prevents dust contamination).
 - Monitor the print progress via the touch screen or mobile app.
 - If an error occurs, the printer will pause automatically and display a notification.

8.3 Post-Printing Process

1. After printing is completed, wait for the building plate to rise automatically.
 2. Put on protective gloves and carefully remove the building plate from the printer.
 3. Use the scraper tool to gently remove the printed model from the plate (scrape away from your body).
 4. Clean the model with isopropyl alcohol (IPA) to remove excess uncured resin.
 5. Cure the model using a UV curing station for optimal strength and surface finish.
 6. Clean the resin vat and return any unused resin to the feeding box (use a filter to remove impurities).
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9. FAQ and Maintenance

9.1 Common Issues and Solutions

Issue	Solution
Layer lines on printed models	1. Check if the z-axis is properly lubricated. 2 . Adjust exposure time or layer thickness. 3. Update firmware to the latest version (v1.2.7 addresses heater-related layer line issues).
Resin leakage	1. Ensure the resin vat is securely installed. 2 . Check for damage to the vat or O-ring. 3. Do not exceed the maximum vat capacity (1000 ml).
Print failure (model not adhering to the plate)	1. Re-level the building plate. 2. Increase the initial layer exposure time. 3. Clean the plate surface with sandpaper (lightly) to improve adhesion.
LCD screen not displaying	1. Check the power connection. 2. Ensure the screen protector is removed. 3. Contact customer service if the issue persists.
Air purifier not working	1. Check if the activated carbon filter is properly installed. 2. Replace the filter if it is saturated (recommended replacement every 3-6 months).

9.2 Routine Maintenance

9.2.1 Daily Maintenance

- Clean the building plate after each print to remove resin residue.
- Wipe the touch screen and exterior of the printer with a dry cloth.

- Check the resin level and refill if necessary.

9.2.1 Weekly Maintenance

- Inspect the resin vat for scratches or damage (replace if cracked).
- Clean the LCD screen with a microfiber cloth (avoid using harsh chemicals).
- Lubricate the z-axis rail with silicone lubricant to ensure smooth movement.

9.2.1 Monthly Maintenance

- Replace the NFP release film if print quality deteriorates.
- Clean the resin feeding system to prevent clogs.
- Check all cables and connections for tightness.

9.3 Replacement Parts

- NFP Release Film
- Activated Carbon Filter
- Resin Vat
- Screen Protector
- Building Plate
- Resin Feeding Tube

Replacement parts can be purchased from the official website or authorized distributors.

10. Warranty Information

- The Uniformation GK3 Ultra printer comes with a 1-year limited warranty from the date of purchase .
- The warranty covers manufacturing defects in materials and workmanship, excluding:
 - Damage caused by improper use, negligence, or accidents.
 - Wear and tear of consumable parts (resin vat, filters, release film).

- Damage from unauthorized modifications or firmware updates.
- To claim warranty service, please provide the original purchase receipt and product serial number (located on the bottom of the printer).
- For warranty inquiries or technical support, contact:
 - Email: support@uniformalion3d.com
 - Official Website: <https://uniformalion3d.com>

（注：文档部分内容可能由 AI 生成）