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ELEGOO Saturn 4 Ultra 16K

ELEGOO Saturn 4 Ultra 16K 3D Printer User Manual

Model: Saturn 4 Ultra 16K

1. Introduction

Thank you for choosing the ELEGOO Saturn 4 Ultra 16K 3D Printer. This manual provides essential information for setting up, operating, and maintaining your new 3D printer. Please read it thoroughly before use to ensure optimal performance and safety.



Figure 1: ELEGOO Saturn 4 Ultra 16K 3D Printer and a sample print.

2. Safety Information

Always observe the following safety precautions:

- Ensure proper ventilation when operating the printer, especially when handling resin.
- Wear appropriate personal protective equipment (PPE), such as gloves and safety glasses, when handling liquid resin or cleaning the printer.
- Keep the printer away from direct sunlight, heat sources, and flammable materials.
- Do not touch the build plate or resin tank during operation.
- Dispose of waste resin and cleaning materials according to local regulations.
- Keep out of reach of children and pets.

3. Setup and Initial Preparation

3.1 Unpacking and Inspection

Carefully remove all components from the packaging. Inspect for any damage during transit. Refer to the packing list to ensure all parts are present.

3.2 Printer Placement

Place the printer on a stable, level surface in a well-ventilated area, away from direct sunlight.

3.3 Build Plate Installation and Leveling

The ELEGOO Saturn 4 Ultra 16K features intelligent mechanical sensors for automatic leveling. Simply unpack and power on the printer for calibration. If auto-leveling fails, manual leveling can be performed via the settings menu.

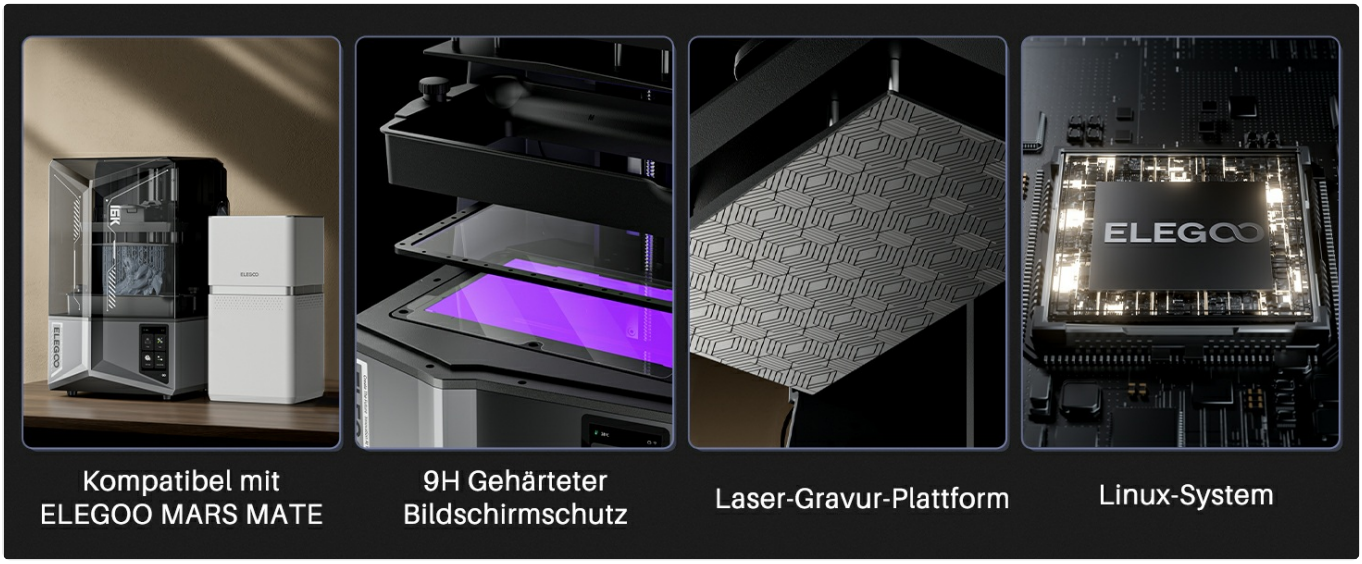


Figure 2: Automatic leveling with intelligent sensors.

3.4 Resin Tank Preparation

Install the resin tank onto the printer. Ensure it is securely seated. The printer features dual drain ports for easy resin management.

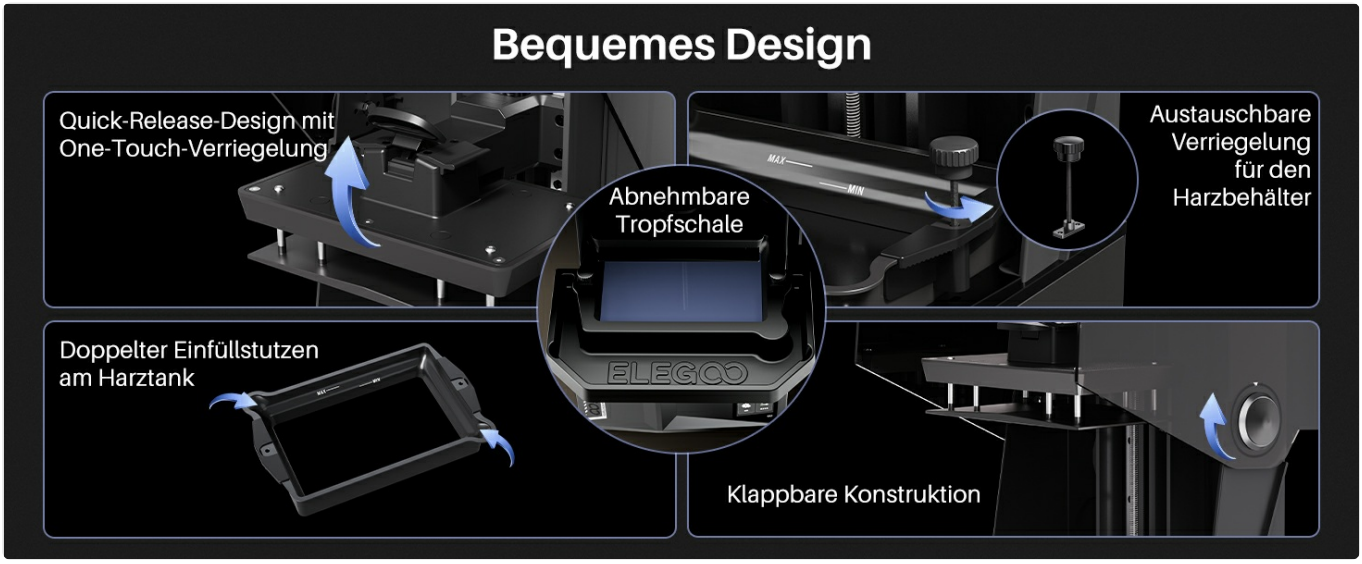


Figure 3: Convenient design features including quick-release and dual fill ports.

4. Operating Instructions

4.1 Power On and User Interface

Connect the power adapter and turn on the printer. The 4.0-inch capacitive touchscreen provides an intuitive interface. The system supports 12 languages.

4.2 Resin Filling and Heating

Pour resin into the tank, ensuring it does not exceed the MAX fill line. The printer features intelligent resin tank heating with automatic temperature measurement and heating functions. It can preheat resin for 24 hours, maintaining an optimal printing temperature of 30°C.



Figure 4: Intelligent resin tank heating maintains optimal temperature.

4.3 Preparing Print Files

Use compatible slicing software (e.g., Chitubox) to prepare your 3D models. The printer supports ultra-fast printing up to 150 mm/h using tilt-release technology, which separates the cured model from the release film efficiently. You can

switch between fast and slow print modes for quality or speed.



Figure 5: Tilt-Release Technology for ultra-fast printing.

4.4 Transferring Print Files (Wi-Fi Cluster Printing)

Transfer files via Wi-Fi (2.4 GHz and 5 GHz networks supported) at speeds of 6-10 Mbps, eliminating the need for a USB stick. The Wi-Fi cluster printing feature allows simultaneous printing on multiple printers within a local network, with remote control and monitoring capabilities.



Figure 6: Wi-Fi Cluster Printing for efficient multi-printer operation.

4.5 Monitoring Prints (AI Camera)

The built-in AI camera allows real-time monitoring and time-lapse photography of your prints. It can intelligently detect issues such as empty build plates or warped models, enabling timely intervention. An integrated high-brightness light illuminates the printing process for 24/7 monitoring.



Figure 7: AI Camera for intelligent print monitoring.

4.6 Post-Printing

After printing, remove the build plate and carefully detach the printed model. Clean the model using appropriate methods (e.g., isopropyl alcohol) and cure it under UV light to achieve final hardness.

5. Maintenance

5.1 Cleaning the Resin Tank and Build Plate

Regularly clean the resin tank and build plate with isopropyl alcohol. Ensure no cured resin particles remain in the tank, as they can damage the LCD screen.

5.2 LCD Screen Protection

The 16K monochrome LCD screen is protected by a 9H hardness tempered film, offering excellent scratch and damage resistance. Keep the screen clean and free of dust and resin spills.

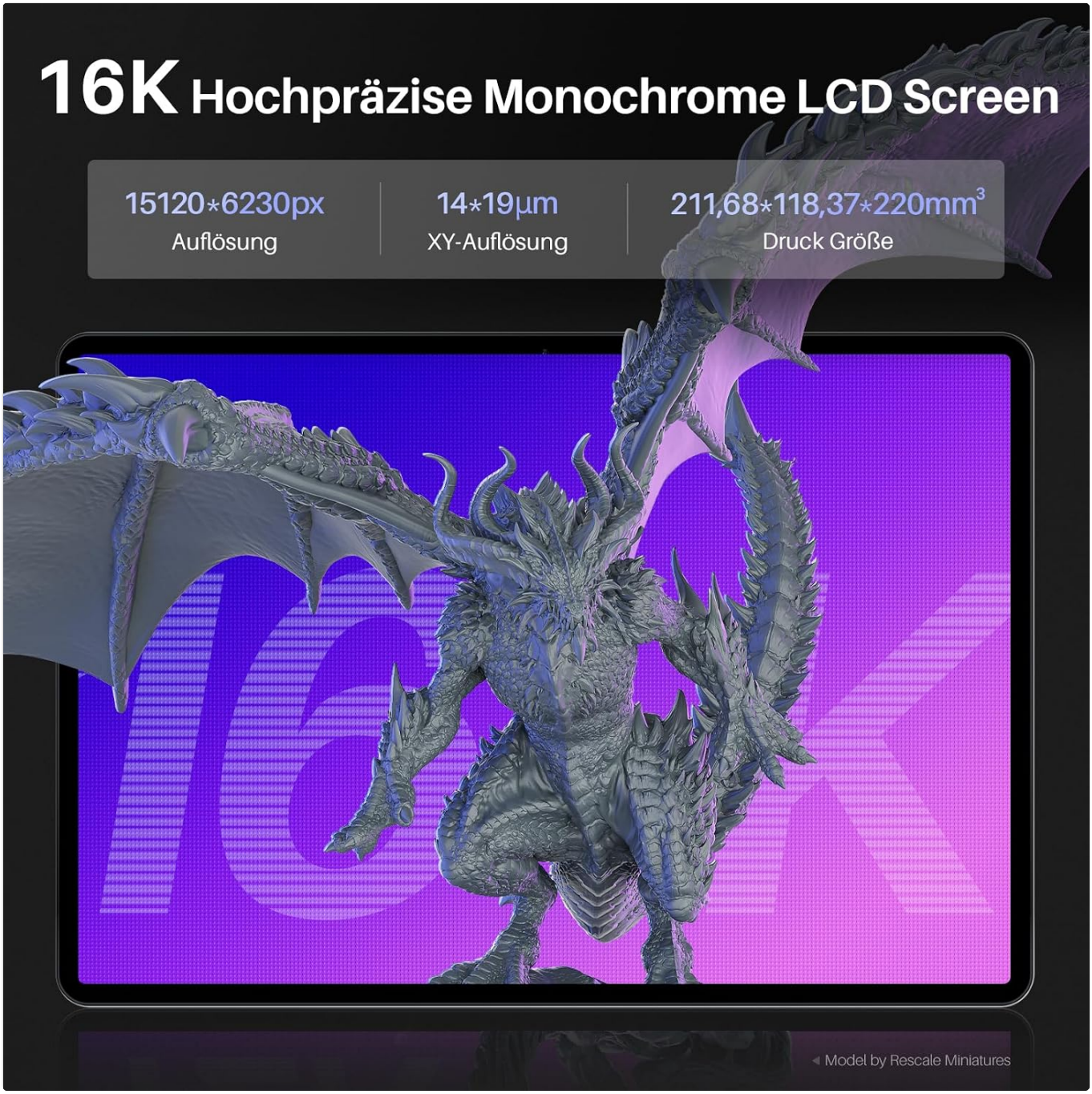


Figure 8: High-resolution 16K LCD screen with protective film.

5.3 Firmware Updates

The advanced system supports OTA (Over-The-Air) firmware updates, making system updates easier. Check for available updates periodically to ensure optimal performance and access to new features.

6. Troubleshooting

This section addresses common issues you might encounter with your ELEGOO Saturn 4 Ultra 16K 3D Printer.

Problem	Possible Cause	Solution

Problem	Possible Cause	Solution
Print failure / Model not adhering to build plate	Improper leveling, insufficient exposure time, cold resin, dirty build plate.	Re-level the build plate. Increase bottom exposure time. Ensure resin is at optimal temperature (30°C). Clean the build plate thoroughly.
Printer stops mid-print	Resin shortage, foreign objects in tank, power outage, LED temperature too high.	The printer can intelligently detect resin shortage, foreign objects, or high LED temperature and warn you. If a power outage occurs, printing can resume after power is restored. Address the specific warning.
Poor print quality / Details missing	Incorrect exposure settings, old resin, dirty LCD screen, worn FEP film.	Adjust exposure settings in slicing software. Use fresh resin. Clean the LCD screen. Inspect and replace FEP film if necessary.
Wi-Fi connection issues	Incorrect network settings, signal interference.	Ensure correct Wi-Fi password. Check network compatibility (2.4GHz/5GHz). Move printer closer to router or reduce interference.



Figure 9: Intelligent sensors detect issues like resin shortage or foreign objects.

7. Specifications

Feature	Detail
Model	ELEGOO Saturn 4 Ultra 16K
Printing Technology	MSLA (Masked Stereolithography) with Tilt-Release
Build Volume (LWH)	211.68 x 118.37 x 220 mm³
LCD Screen	16K Monochrome LCD

Feature	Detail
Resolution	15120 x 6230 px
XY Resolution	14 x 19 µm
Max Printing Speed	Up to 150 mm/h
Leveling	Automatic Leveling with Intelligent Mechanical Sensors
Connectivity	Wi-Fi (2.4GHz & 5GHz), USB
Additional Features	AI Camera, Intelligent Resin Tank Heating, Power Outage Resume, OTA Updates, 4.0-inch Capacitive Touchscreen
Material	Metal
Item Weight	16.1 Kilograms
Product Dimensions	40.3D x 43.6W x 62.3H cm



Figure 10: Large build volume of 211.68 x 118.37 x 220 mm³.

8. Warranty and Support

ELEGOO provides a standard warranty for its products. For specific warranty terms and conditions, please refer to the warranty card included with your product or visit the official ELEGOO website. For technical support, troubleshooting assistance, or spare parts, please contact ELEGOO customer service through their official channels.

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ASIN: B0DT97Y26L
Manufacturer Reference: YES-DE-3D-S4U16
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