ELEGOO Saturn 3 Ultra

ELEGOO Saturn 3 Ultra 12K MSLA 3D Printer User Manual

Model: Saturn 3 Ultra
Brand: ELEGOO

1. Introduction

This manual provides detailed instructions for the setup, operation, maintenance, and troubleshooting of your ELEGOO Saturn 3 Ultra 12K MSLA 3D Printer. Please read this manual thoroughly before operating the device to ensure safe and efficient use.



Figure 1.1: ELEGOO Saturn 3 Ultra 12K MSLA 3D Printer and included accessories.

2. Setup and Assembly

2.1 Unboxing and Initial Inspection

Carefully remove all components from the packaging. Verify that all parts listed in the packing list are present and undamaged. Report any missing or damaged parts to customer support immediately.

2.2 Printer Placement

Place the printer on a stable, level surface in a well-ventilated area. Ensure there is sufficient space around the printer for operation and maintenance.

2.3 Leveling the Build Plate

The ELEGOO Saturn 3 Ultra features an integrated ball screw and dual linear guides for stable printing. While the printer is designed for ease of use, proper build plate leveling is crucial for successful prints. Refer to the on-screen

instructions for the automatic leveling process. For manual adjustments, use the leveling screws located at the base of the build plate.

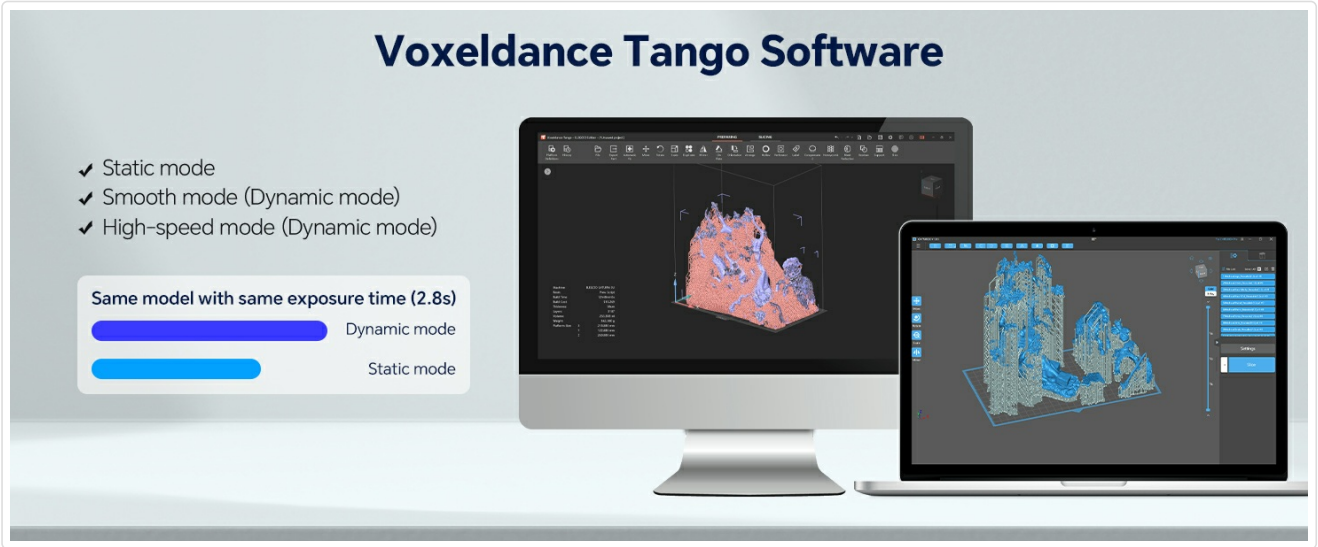


Figure 2.1: Illustration of the printer's stable Z-axis structure and laser-carved build plate.

3. Operation

3.1 User Interface and Connectivity

The printer is equipped with a 4-inch HD IPS touch screen, providing a user-friendly interface that supports multiple languages. Navigate through menus and settings directly on the screen.



Figure 3.1: The 4-inch HD IPS touch screen for intuitive operation.

For file transfer, the Saturn 3 Ultra supports high-speed Wi-Fi connectivity (2.4G and 5G networks compatible) via its detachable antenna. This allows for convenient wireless transfer of print files from your computer to the printer.



Figure 3.2: High-speed Wi-Fi transfer for print files.

3.2 Printing Process

The ELEGOO Saturn 3 Ultra features a 10-inch monochrome LCD screen with 11520*5120 resolution, enabling high-precision printing. The COB and Refractive light source ensures uniform light distribution, resulting in smoother surfaces and higher printing accuracy.



Figure 3.3: Details of the 10-inch 12K Mono LCD screen.



Figure 3.4: COB+Refractive Light Source for enhanced print quality.

The printer supports a build volume of 218.88mm x 122.88mm x 260mm, allowing for larger prints.

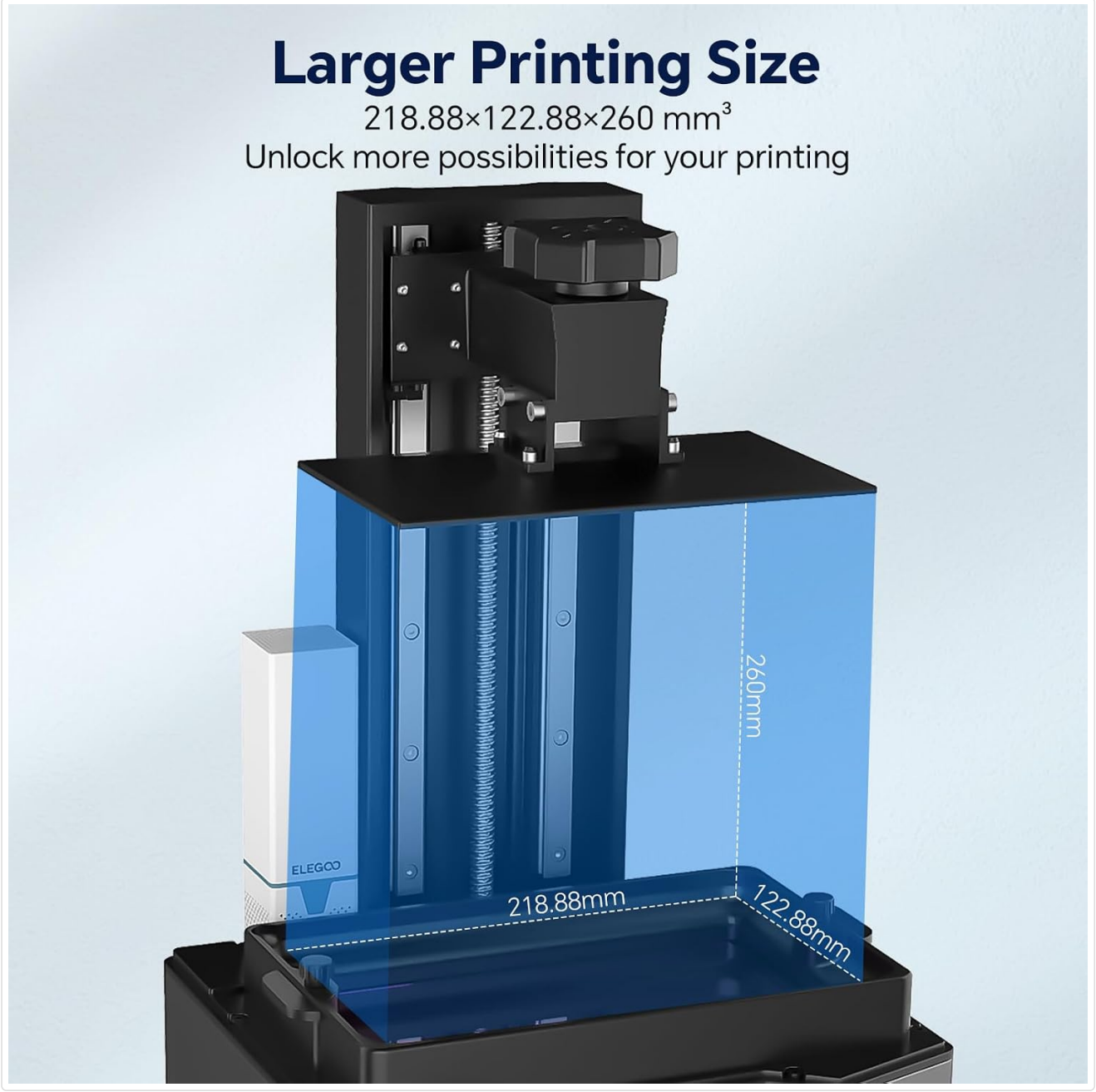


Figure 3.5: Printing size dimensions of the Saturn 3 Ultra.

3.3 Slicing Software

The printer is compatible with various slicing software, including Voxeldance Tango Slicer, which offers three printing modes. It also supports the open-source GOO slicing format.

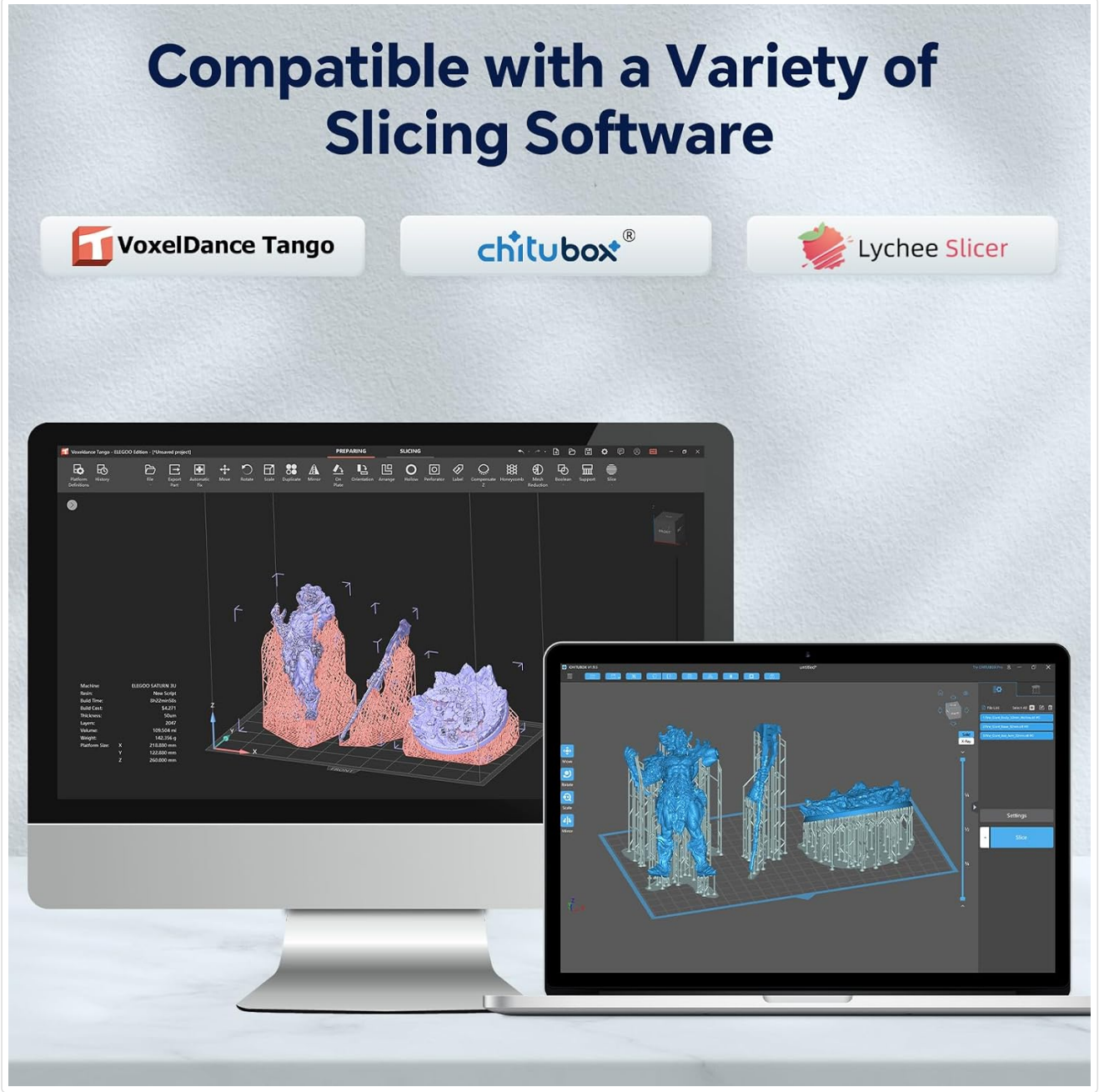


Figure 3.6: Compatible slicing software options.



Figure 3.7: Voxeldance Tango Software interface.

3.4 Printing Tips

To ensure successful printing and protect the LCD screen and release film:

1. Correctly debug machine parameters before printing.
2. Properly add model support in slicing software.
3. Clean the resin tank promptly after printing.

The laser-carved build plate is designed to improve model adhesion and boost printing success rates.

Your browser does not support the video tag.

Video 3.1: An overview of the ELEGOO Saturn 3 Ultra 12K MSLA 3D Printer, highlighting its key features such as the solid Z-axis ball screw, 12K Mono LCD screen, COB+Refraction light source, wireless file transfer, IPS capacitive touch screen, air purifier, and 12K ultra precision printing capabilities, showcasing various detailed printed models.

4. Maintenance

4.1 Cleaning the Printer

Regular cleaning of the resin tank and build plate is essential for consistent print quality and longevity of the printer. Always clean the resin tank promptly after printing to prevent cured resin from adhering to the FEP film or LCD screen.

4.2 Air Purifier

The ELEGOO Saturn 3 Ultra includes an upgraded plug-in air purifier designed to remove up to 95% of VOCs (Volatile Organic Compounds) during printing, contributing to a safer working environment. Ensure the air purifier is properly installed and maintained.



Figure 4.1: The upgraded plug-in air purifier.

4.3 Heat Dissipation System

The printer features an upgraded heat dissipation system with dual copper tubes and cooling fans. This system improves heat dissipation, which is crucial for maintaining optimal operating temperatures and extending the printer's lifespan. Ensure the cooling vents are not obstructed.



Figure 4.2: Upgraded heat dissipation system.

5. Troubleshooting

This section addresses common issues you might encounter during the operation of your ELEGOO Saturn 3 Ultra 3D Printer. For more complex problems, please refer to the official ELEGOO support resources.

5.1 Common Printing Issues

- **Print Failures:** Ensure machine parameters are correctly debugged in your slicing software. Verify that model supports are properly added, especially for complex geometries.
- **Poor Adhesion:** Check if the build plate is properly leveled. The laser-carved surface is designed to enhance adhesion, but improper leveling can still lead to issues. Ensure the build plate and resin tank are clean and free of debris.
- **Resin Curing Issues:** Confirm that you are using the correct resin type and that its exposure settings (bottom exposure, normal exposure, layer height) are appropriately configured in your slicing software. Refer to the resin manufacturer's recommendations.

5.2 Software and Connectivity Issues

- **File Transfer Problems:** Ensure your printer and computer are connected to the same Wi-Fi network. Check network signal strength. Restart both the printer and your computer if issues persist.
- **Touch Screen Unresponsive:** Gently clean the screen surface. If the issue persists, try restarting the printer.

6. Specifications

Feature	Detail
Product Dimensions	16.14 x 14.17 x 25.98 inches (41.0 cm x 36.0 cm x 66.0 cm)
Item Weight	26.4 pounds (12 Kilograms)
Model Number	Saturn 3 Ultra
Brand	ELEGOO

Material	Resin
LCD Screen	10-inch 12K Monochrome LCD (11520*5120 resolution)
Light Source	COB + Refractive Light Source
Printing Speed	Up to 150mm/h (with ELEGOO rapid resin)
Build Volume	218.88mm x 122.88mm x 260mm
Operating System	Linux OS
Connectivity	Wi-Fi (2.4G and 5G), USB
Touch Screen	4-inch HD IPS

6.1 Recommended Resin Exposure Settings

The following table provides general guidelines for resin exposure settings. Optimal settings may vary based on resin brand, color, and environmental conditions. Always perform calibration prints when using a new resin type.

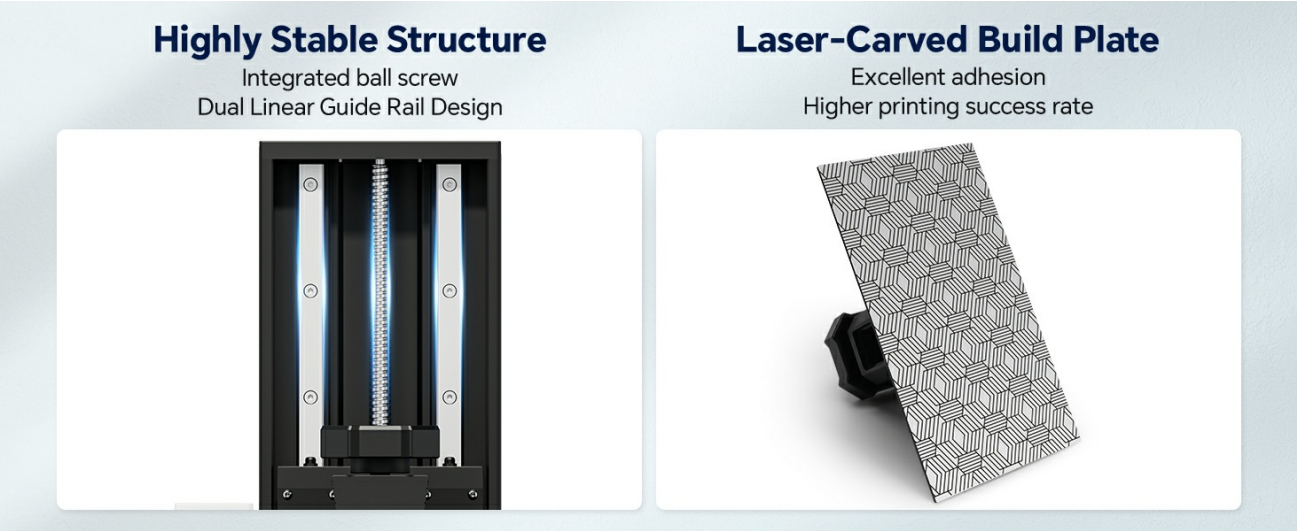


Figure 6.1: Recommended resin exposure settings.

7. Warranty and Support

7.1 Product Warranty

Your ELEGOO Saturn 3 Ultra 12K MSLA 3D Printer comes with a standard manufacturer's warranty. For specific details regarding warranty coverage, duration, and terms, please refer to the warranty card included in your product packaging or visit the official ELEGOO website.
Extended protection plans may also be available for purchase, such as a 4-Year Protection Plan.

7.2 Customer Support

For technical assistance, troubleshooting guidance, or any inquiries regarding your printer, please contact ELEGOO customer support. You can find contact information and additional resources on the official ELEGOO website: ELEGOO Official Store.

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Ask about setup, troubleshooting, compatibility, parts, safety, or missing instructions. Manuals+ will review the question and use this page's manual context to help answer it.

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Question

Example: How do I reset this device or fix this error?

Details

Model number, symptoms, what you tried, or the section of the manual you are using.

Submit question