

## phrozen Sonic Mega 8K S

# phrozen Sonic Mega 8K S LCD/MSLA Resin 3D Printer User Manual

Model: Sonic Mega 8K S

## 1. INTRODUCTION

Welcome to the user manual for your new **phrozen Sonic Mega 8K S LCD/MSLA Resin 3D Printer**. This manual provides essential information for setting up, operating, maintaining, and troubleshooting your printer to ensure optimal performance and longevity. Please read this manual thoroughly before operating the device.

## 2. SAFETY INFORMATION

Your safety is paramount. Please adhere to the following safety guidelines:

- Always operate the printer in a well-ventilated area to avoid inhaling resin fumes.
- Wear appropriate personal protective equipment (PPE), including **nitrile gloves** and **safety glasses**, when handling liquid resin or uncured prints.
- Avoid direct skin and eye contact with liquid resin. In case of contact, wash immediately with soap and water. Seek medical attention if irritation persists or if resin gets into eyes.
- Keep resin away from direct sunlight and heat sources. Store it in a cool, dark place in its original sealed container.
- Do not dispose of liquid resin down drains. Cure any waste resin under UV light before disposing of it as solid waste according to local regulations.
- Ensure the printer is placed on a stable, level surface.
- Do not touch moving parts during operation.
- Unplug the printer from the power outlet before performing any maintenance or cleaning.

### 3. PACKAGE CONTENTS

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Upon unboxing, please verify that all the following items are included:

- phrozen Sonic Mega 8K S 3D Printer
- Build Plate
- Resin Vat
- Power Adapter and Cable
- USB Drive (with user manual and test files)
- Gloves (as listed in "whats\_in\_the\_box")
- Plastic Scraper
- Metal Scraper
- Funnel
- Spare FEP Film
- Tool Kit (Allen wrenches, screws)

### 4. PRODUCT OVERVIEW

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The phrozen Sonic Mega 8K S is a high-resolution LCD/MSLA resin 3D printer designed for rapid production and intricate detail. It features a large 15-inch monochrome LCD screen and a spacious build volume, making it ideal for printing multiple models or large-scale projects.

#### Key Features:

- **Unparalleled Productivity:** High-speed system and large build plate allow for efficient batch printing, such as 80 detailed 1/32 scale models in under 1.5 hours.
- **Revolutionary Production Efficiency:** Combined with advanced ACF film and potent TR300 Resin, achieve speeds up to ten times faster than mid-size printers.
- **Streamlined Convenience with Lift-Up Lid:** The ingenious lift-up lid design optimizes space utilization and provides easy access to prints.
- **Efficient Resin Management:** A built-in metal drip hanger helps preserve resin post-printing and ensures safety during build plate cleaning.
- **Exquisite 8K Printing Precision:** Achieve extraordinary levels of intricacy with 8K resolution, capturing every nuance without compromising efficiency.



Figure 4.1: Phrozen Sonic Mega 8K S 3D Printer with a large printed model.



## Sonic Mega 8K S

### LCD RESIN 3D PRINTER

Print big and more  
in 8K resolution.

8K

Average printing speed  
of 400 layers/hour.



Equipped with a built-in  
resin drip hanger to  
reduce resin wastage.



Smaller footprint  
with a lift-up lid.



Figure 4.2: Key features of the Phrozen Sonic Mega 8K S.



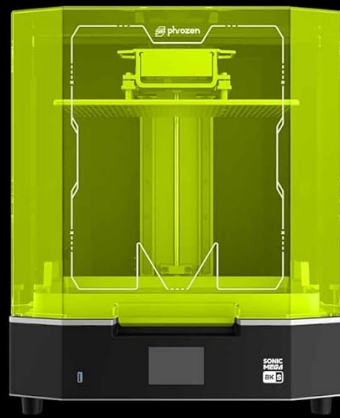
# YOUR RELIABLE PRODUCTIVITY BEAST

Equipped with an ACF film and 15" building plate.



Never lose a detail, even for mass production.

*Figure 4.3: Mass production capability with the 15-inch building plate.*



VS.



Sonic Mega 8K S		SONIC MIGHTY 8K	
43 $\mu$ m	XY Resolution	28 $\mu$ m	
47.2 x 38 x 56.6 cm	Printer Size	33.7 x 33.7 x 51.6 cm	
33 x 18.5 x 30 cm	Print Volume	21.8 x 12.3 x 23.5 cm	
900* layers/hr	Max. Printing Speed	70 mm/hr	
ACF Film	Release Film	PFA(nFep) Film	

\*To optimize printing speed, ensure the Mega 8K S is equipped with the latest firmware, ACF film, and TR300 resin.

\*Please note that printing with extreme speed for an extended period will quickly wear out your LCD and ACF film.

\*All specifications have been tested in a laboratory. Please note that certain specifications may be subject to change without prior notice.

Figure 4.4: Comparison of specifications between Sonic Mega 8K S and Sonic Mighty 8K.

## Official Product Video:

Your browser does not support the video tag.

Video 4.1: Official product overview of the phrozen Sonic Mega 8K S, showcasing its features and capabilities.

## 5. SETUP

Follow these steps for the initial setup of your printer:

- Unboxing:** Carefully remove the printer and all accessories from the packaging. Inspect for any damage during transit.
- Placement:** Place the printer on a stable, level surface in a well-ventilated area, away from direct sunlight and heat.
- Power Connection:** Connect the power adapter to the printer and then to a suitable power outlet. Do not power on yet.

4. **Install Build Plate:** Secure the build plate onto the Z-axis arm. Ensure it is firmly attached.
5. **Install Resin Vat:** Place the resin vat onto the LCD screen platform. Ensure it is seated correctly and securely.
6. **Z-Axis Calibration (Leveling):**
  - Loosen the screws on the build plate.
  - Place a sheet of A4 paper (or the calibration card provided) on the LCD screen.
  - Lower the build plate until it firmly presses against the paper.
  - Tighten the build plate screws while maintaining pressure.
  - Raise the build plate slightly and remove the paper.
  - Confirm the Z-axis home position through the printer's touchscreen menu.
7. **Resin Loading:** Once leveled, carefully pour the desired resin into the resin vat, ensuring it does not exceed the maximum fill line.

## 6. OPERATING INSTRUCTIONS

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To begin printing, follow these general steps:

1. **Prepare 3D Model:** Use a compatible slicing software (e.g., Chitubox, Lychee Slicer) to prepare your 3D model. This involves adding supports, orienting the model, and setting print parameters (layer height, exposure time, lift speed, etc.) according to your resin and desired print quality.
2. **Slice Model:** Slice the prepared model into layers and save it as a `.ctb` or compatible file format onto the provided USB drive.
3. **Insert USB Drive:** Insert the USB drive into the printer's USB port.
4. **Select and Start Print:** On the printer's touchscreen, navigate to the "Print" menu, select your file, and confirm to start the printing process.
5. **Monitor Print:** Observe the first few layers to ensure proper adhesion to the build plate. The printer will automatically proceed with the print.
6. **Post-Processing:** Once printing is complete, carefully remove the build plate. Use the metal scraper to detach the print from the build plate. Place the build plate on the drip hanger to allow excess resin to drip back into the vat.
7. **Wash and Cure:** Wash the uncured print in isopropyl alcohol (IPA) or a dedicated resin cleaner to remove excess liquid resin. After washing, cure the print under UV light (e.g., in a UV curing station) to fully harden it.

## 7. MAINTENANCE

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Regular maintenance ensures consistent print quality and extends the life of your printer:

- **Clean Build Plate:** After each print, clean the build plate with IPA and a soft cloth.

- **Clean Resin Vat:** If changing resin colors or if there are cured resin bits in the vat, carefully empty the resin into a separate container (filter if necessary) and clean the vat with IPA and a soft cloth. Inspect the FEP film for damage.
- **Inspect FEP Film:** Regularly check the FEP film at the bottom of the resin vat for scratches, dents, or cloudiness. Replace it if damaged to prevent print failures and protect the LCD screen.
- **Clean LCD Screen:** If resin spills onto the LCD screen, immediately clean it with a soft, lint-free cloth and IPA. Avoid using sharp objects or abrasive materials.
- **Lubricate Z-Axis:** Periodically apply a small amount of lithium grease to the Z-axis lead screw to ensure smooth movement.
- **Firmware Updates:** Check the official phrozen website for any available firmware updates to improve performance and add new features.

## 8. TROUBLESHOOTING

Here are some common issues and their potential solutions:

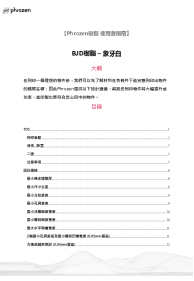
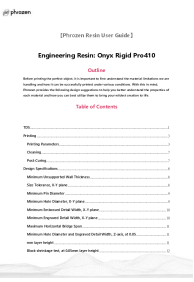
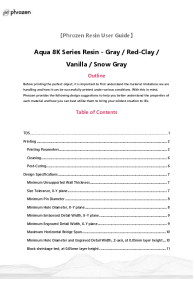
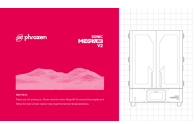
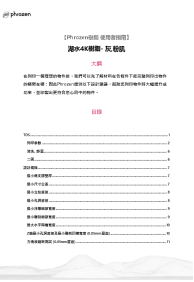
Problem	Possible Cause	Solution
Prints not sticking to build plate	Improper leveling, insufficient bottom exposure time, cold resin, dirty build plate.	Re-level the build plate. Increase bottom exposure time in slicer. Warm resin to room temperature. Clean build plate thoroughly.
Partial prints or missing layers	Insufficient exposure time, FEP film damage, failed supports, resin contamination.	Increase normal exposure time. Inspect and replace FEP film. Add more robust supports. Filter or replace resin.
Warped or deformed prints	Over-exposure, insufficient supports, incorrect orientation, high lift speed.	Decrease exposure time. Add more supports. Re-orient model to minimize large flat surfaces parallel to build plate. Reduce lift speed.
Printer not turning on	Power cable issue, power supply failure.	Check power cable connections. Test power outlet. Contact customer support if issue persists.

## 9. SPECIFICATIONS

Feature	Detail
Brand	phrozen
Model	Sonic Mega 8K S
Technology	LCD/MSLA Resin 3D Printer





	<p><a href="#">Phrozen BJD</a></p> <p>Phrozen BJD (TDS) Phrozen 3D</p>
	<p><a href="#">Phrozen Onyx Rigid Pro410 Engineering Resin User Guide and Specifications</a></p> <p>Comprehensive user guide for Phrozen Onyx Rigid Pro410 Engineering Resin, detailing technical data, printing parameters for various Phrozen 3D printers, and essential design specifications for optimal print results.</p>
	<p><a href="#">Phrozen Aqua 8K Series Resin User Guide: Printing Parameters &amp; Specifications</a></p> <p>Comprehensive guide for Phrozen Aqua 8K Series Resin. Includes technical data (TDS), detailed printing parameters for various Phrozen 3D printers (Sonic, Mighty, Mega series), and essential design specifications for optimal 3D printing.</p>
	<p><a href="#">Phrozen Sonic Mega 8K V2 User Manual: Setup, Operation, and Maintenance</a></p> <p>Comprehensive user manual for the Phrozen Sonic Mega 8K V2 3D printer. Learn about setup, calibration, file preparation, printing, maintenance, and warranty information.</p>
	<p><a href="#">Phrozen Aqua 4K Resin User Guide and Technical Specifications</a></p> <p>A comprehensive user guide for Phrozen Aqua 4K resin, detailing its technical properties, optimal printing parameters for various Phrozen 3D printers, post-processing instructions, and critical design specifications for successful prints.</p>