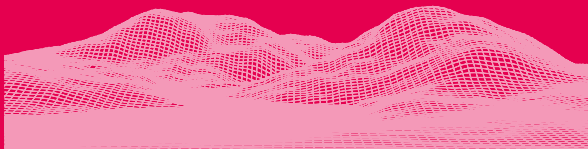




SONIC
MIGHTY

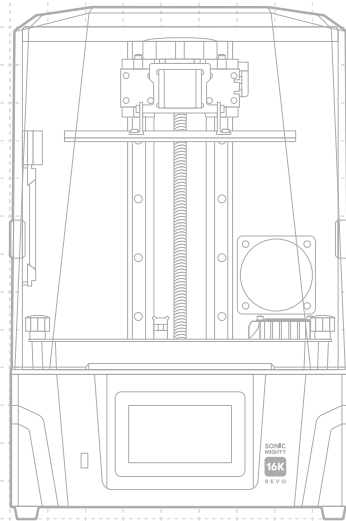
16K

REVO



Dear User,

Thank you for joining us. Please read the Sonic Mighty Revo 16K manual thoroughly and follow the instructions step by step to get the best printing experience.






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Please scan the QR Code for
the Sonic Mighty Revo 16K user manual
in other languages.



01 Safety and Compliance




Safety Messages

Symbol	Name	Description
	"ON" (power)	Indicates connection to the mains supply.
○	"OFF" (power)	Indicates disconnection from the mains supply.
	General warning sign	Signifies a general warning.
	Caution: hot surface	Indicates that the marked item can be hot and should not be touched when it is still hot.
	Warning: dangerous voltage	Indicates hazards arising from dangerous voltages.

Symbol	Name	Description
	Warning: hand crush hazard	Indicates a risk of hand or finger injury due to moving mechanical parts or pinch points.
	Warning: ultraviolet radiation	Exposure to UV light can be harmful to skin and eyes, using UV cover on the unit or protective equipment to avoid direct eye or skin exposure to UV light.
	Earth/Ground	Used to identify an earth (ground) terminal.

Certifications and Compliance

Symbol	Name	Description
	Authorized representative in the European Community	Indicates the Authorized representative in the European Community.
	Authorized representative in the United Kingdom.	Indicates the Authorized Representative in the United Kingdom.

Symbol	Name	Description
	WEEE symbol	Indicates that waste electrical and electronic equipment must not be disposed of as unsorted municipal waste and must be collected separately. Please contact an authorized representative of the manufacturer for information concerning the decommissioning of your equipment.
	Serial number	Indicates the manufacturer's serial number.
	Consult instructions for use	Indicates that the user should consult the instructions for use before operating the device.



Hazards

Electrical Safety

DANGER

- Operate the device only under the conditions specified in this manual. Failure to do so may result in equipment damage, inaccurate printing results, or personal injury.
- Do not remove the device cover or expose internal components, as this may lead to electric shock.

DANGER

- To prevent personal injury, place the device on a stable, level surface that can support its weight and ensure that it is securely positioned to prevent accidental movement.
- Do not place your hands or head inside the device while it is operating. Doing so may cause personal injury.

Power Supply Requirements

WARNING

- Use only the power cord provided by the manufacturer. It is designed specifically for this device and should not be used with other equipment.
- The power outlet must be a standard three-prong socket, and the ground terminal must be connected to the protective grounding of the power system (as required or permitted by local regulations).

- Ensure that the grounding cable is connected according to applicable standard or with guidance from an experienced electrician.
- Make sure the power switch is in the off position before connecting to the power supply.
- Before disconnecting from the power source, ensure the printing task is complete, the control software is closed, and all access doors or covers are shut. Failure to do so may damage the device.

Daily Maintenance

WARNING

Maintaining the power supply

- If the device will not be used for seven days or longer, turn it off and unplug the power cord.
- Before each use, check that the power cord and cables are securely connected and undamaged, or contact the technical support if a replacement is required.

Regulatory Information

1 FCC Information for USA

- This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:
 - This device may not cause harmful interference, and
 - this device must accept any interference received, including interference that may cause undesired operation.
- This device has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This device generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this device does cause harmful interference to radio or television reception, which can be determined by turning the device off and on, the user is encouraged to try to correct the interference by one of the following measures:
 - Reorient or relocate the receiving antenna.
 - Increase the separation between the device and receiver.
 - Connect the device into an outlet on a circuit different from that to which the receiver is connected.
 - Consult the dealer or an experienced radio/TV technician for help.
- Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the device.
- The device has been evaluated to meet general RF exposure requirement.

- This device complies with FCC radiation exposure limits set forth for an uncontrolled environment.
- To comply with FCC RF exposure requirements, the device must be installed and operated 20 cm (8 inches) or more between the product and all person's body.
- This device complies with FCC radiation exposure limits set forth for an uncontrolled environment.

2 ISED Information for Canada

• ISED Canada RSS-Gen Notice:

(EN)

This device contains licence-exempt transmitter(s)/receiver(s) that comply with Innovation, Science and Economic Development Canada's licence-exempt RSS(s). Operation is subject to the following two conditions:

- This device may not cause interference.
- This device must accept any interference, including interference that may cause undesired operation of the device.

(FR)

L'émetteur/récepteur exempt de licence contenu dans le présent appareil est conforme aux CNR d'Innovation, Sciences et Développement économique Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes :

- L'appareil ne doit pas produire de brouillage;
- L'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

- CAN ICES-003(B) / NMB-003(B)

- **RF Exposure Guidance Statement**

(EN)

- This device should be installed and operated with a minimum distance 20 cm between the radiator & your body.
- Please note that the 5150–5250 MHz band is restricted to indoor use only.

(FR)

- Lors de l'installation et du fonctionnement de cet équipement, la distance minimale entre le radiateur et le corps doit être de 20 cm
- Remarque : la bande de fréquences 5150–5250 MHz est réservée à une utilisation à l'intérieur uniquement.

- **Detachable antennas (If use)**

(EN)

For licence-exempt device with detachable antennas

This radio transmitter has been approved by Innovation, Science and Economic Development Canada to operate with the antenna types listed below, with the maximum permissible gain indicated. Antenna types not included in this list that have a gain greater than the maximum gain indicated for any type listed are strictly prohibited for use with this device.

Antenna Type: External rubber stick antenna
WIFI 2.4GHz Peak ∙ Gain: 4.47dBi
WIFI 5GHz Peak ∙ Gain: B1: 4.71dBi; B4: 3.86dBi

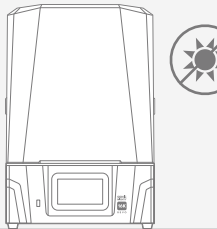
(FR)

L'antenne Type: External rubber stick antenna
WIFI 2.4GHz Peak ∙ Gain: 4.47dBi
WIFI 5GHz Peak ∙ Gain: B1: 4.71dBi; B4: 3.86dBi

3 NCC Warning:

- The product has obtained certification for low-frequency radiation materials that comply with the core standards. Users are advised that the product should not interfere with self-adjusting frequency, and it enhances power conversion efficiency and functionality.
- Low-frequency radiation materials must be used without interfering with flight safety and communications. In case of interference, the product should be immediately powered off, and improvements must be made to prevent abnormal usage. Communication with authorities should be made before using the product to ensure compliance with telecommunications regulations.
- Low-frequency radiation materials must comply with laws governing telecommunications, industry standards, and medical equipment related to electromagnetic radiation.
- The product should avoid interference with nearby communication systems.
- The system should be adjusted through a fixed-point user application method to ensure it aligns with established standards.

02 Key Notes Before Start



Operating Environment

- Store the product in a dry and well-ventilated environment. Place it on a flat surface and avoid direct sunlight exposure.
- Keep the product and its accessories away from children.

 20 ~ 30 °C
68 ~ 86 °F |  40-60 % RH

 For use below 2000 m altitude

 For indoor use only.

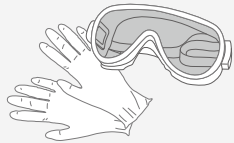
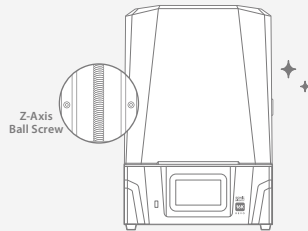
Maintenance

Clean the Z-Axis

First, wipe the ball screw with Lint Free Wipes. Then, apply a thin layer of lithium-based lubricant so that it whirls smoothly.

Clean the 3D Printer

Use 95% alcohol and Lint Free Wipes to carefully clean the printer, resin vat, and the build plate.



Protective Measures

When handling resins or prints, please wear Personal Protective Equipment such as gloves, masks, protective goggles, and long-sleeved clothes.

03 Introduction

Product Description

Intended Use

Desktop-level LCD model, suitable for printing with resin materials, industrial design, education, animation, applications, etc.

Working Principle

Utilizes light source to cure resin layer-by-layer based on model data, ultimately forming a three-dimensional solid.

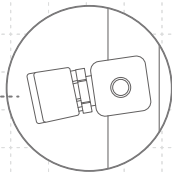
Structural Composition

Optical system (405 nm COB light source), control system, resin vat system, automated resin feeding system (with liquid level detection), heating system, motion platform (including ball screw and build plate).

Printer Parts

PART.1

Camera



PART.2

Adjustable Interior Light

* The interior light is programmed to turn off after 10 minutes of operation. Prolonged lighting can partially cure the resin, potentially impacting printing quality.

PART.3

Air Purifier USB Port

PART.4

Resin Vat

PART.5

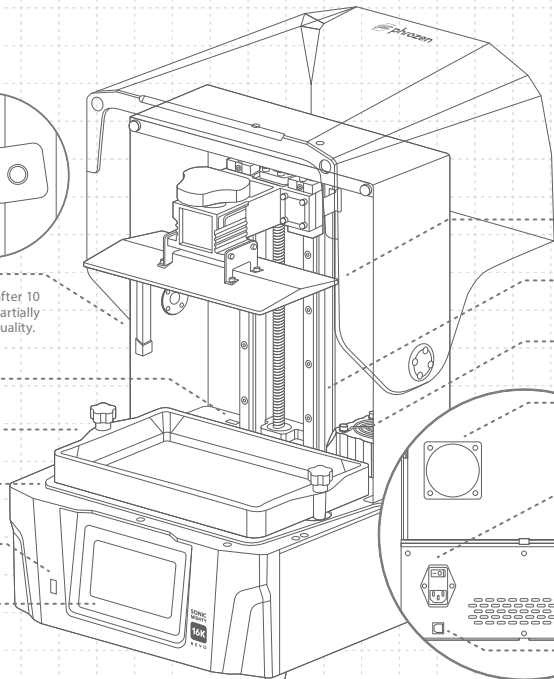
LCD Screen

PART.6

USB Port

PART.7

Touch Panel



PART.8

Lift-Up Lid

PART.9

Build Plate

PART.10

Z-Axis

PART.11

Heater

PART.12

Exhaust Vent

PART.13

Power Switch

Power Socket

PART.14

Pump & Fill Port

Factory Repair Port

PART.15

Ethernet Port

Specifications

Model	Sonic Mighty Revo 16K LCD 3D Printer
Input	100-240V~ : 50/60 Hz
Power	240W

Operation

System	Phrozen OS
Touch Panel	5-inch
Slicer	CHITUBOX V1.9.6 and above (Or others)
Connectivity	USB Wi-Fi Ethernet
Built-in Memory ¹	8.0 GB

Printing Specifications

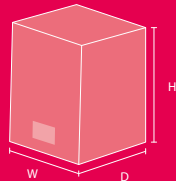
Technology	Resin 3D Printer - LCD Type
Light Source	Linear Projection LED Module
XY Resolution	14 x 19 μ m
Layer Thickness	0.01 - 0.20 mm
Avg. Printing Speed	450 layers / hr
Compatible File Format	.ctb / .prz

Hardware Specifications

Product Dimensions (W x D x H)	353 x 345 x 517 mm
Build Volume ² (W x D x H)	211.68 x 118.37 x 235 mm
Weight	18.2 kg
Radio Frequency and corresponding Maximum Conducted Output Power	2400MHz - 2483.5MHz 18dBm
	5150MHz - 5250MHz 10dBm
	5725MHz - 5850MHz 11 dBm

¹ Actual usable capacity may be less due to system files and system maintenance.

² The final print dimensions may deviate from those displayed in the slicing software due to hardware tolerances, slicing settings, or post-processing. Refer to the actual printed product dimensions.



All specifications were tested in a laboratory and are subject to change without prior notice. For the latest update, please refer to [Phrozen's official website](#).

Toolbox



Warranty Card



PIXUP Card



Chitubox Pro Gift Card



Gloves



Power Cord 1.5 m



Plastic Funnel



Metal Scraper



Plastic Scraper



Allen Wrenches Set



USB



Air Purifier



PFA(nFEP) Film
310 x 220 mm



Resin Filter Paper x3
(100 Mesh)

04 Prepare Your 3D Printer

Initial Setup

Please follow the instructions on the screen to set up your printer and ensure its functionality:

- 1 Language selection
- 2 Printer Naming
- 3 Wi-Fi Connection
- 4 LCD Tests
- 5 Smart Leveling
- 6 Test Print



* If you have missed the Initial Setup, you can restart the tutorial using one of the following methods:

- 1 Reflash the firmware.
- 2 Go to "Settings" > "System" > "Restore to factory settings".

Smart Leveling

On the left side of the menu, find "Tools" > "Z-Axis Control" > and tap "Smart Leveling" in the upper left corner.

Follow the instructions on the screen to perform "Smart Leveling":

- 1 Remove the resin vat, install the build plate and tighten the thumb screw, and place a sheet of A4 paper on the LCD.
- 2 Wait for the build plate to ascend to the top and descend to the bottom after triggering the actuators.
- 3 Follow the prompt to pull on the paper. Friction should be equal in all four corners. You can adjust accordingly using the Z-Offset if the paper is too loose or too tight.
- 4 Tap "Next" to finish the Smart Leveling.

* Please perform "Manual Z-Axis Calibration" if you have changed the build plate, the Z-axis, the LCD panel, or added an LCD screen protector.

Manual Z-Axis Calibration

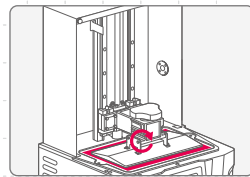
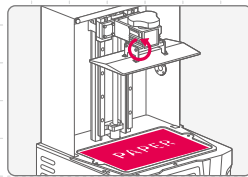
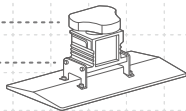
On the left side of the menu, find "Tools" > "Z-Axis Control" > tap "Smart Leveling" in the upper left corner > choose "Manual Z-Axis Calibration".

Follow the instructions on the screen to perform "Manual Z-Axis Calibration".

- 1 Remove the resin vat and place a sheet of A4 paper on the LCD.
- 2 Wait for the Z-axis to ascend to the top.
- 3 Install the build plate and tighten the thumb screw. At the same time, loosen the four calibration screws at the side of the build plate.
- 4 Wait for the build plate to descend to the bottom, and tighten the four screws diagonally while pressing gently on the build plate.
- 5 The friction should be equal in all four corners when pulling. Use the Z-Offset to adjust if the paper is too tight or too loose.
- 6 Tap "Next" and wait for the build plate to ascend to the top again to finish the calibration process.

A Thumb Screw

B Calibration Screws



Z-Slider

To use this function, make sure to "Move Z-Axis to Top" whenever the printer is restarted to register the top point.

Smart Leveling

Move to Z-Axis top Position

Units of Movement

Z-Axis Adjustment

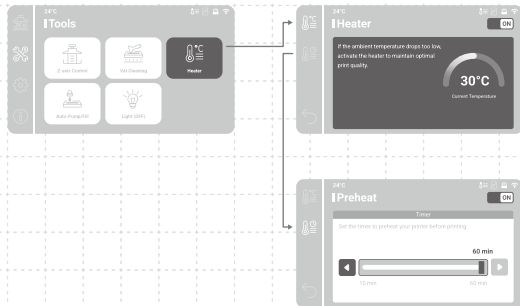
Slider



Preheat

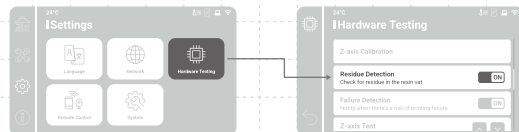
Enabling this feature will activate the heater for a set amount of time after selecting the print file.

* Printing will start after the chosen preheat time is completed.



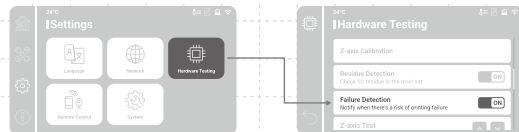
Residue Detection

Enabling this feature the printer will monitor for any solid residue between the resin vat and the build plate when first descending. Printing will be terminated when such residue is detected.



Failure Detection

Enabling this feature the printer will monitor the release status of cured resin during printing. A warning message will appear on the screen when consecutive releasing errors are detected.



05 Prepare Your Print File

The Sonic Mighty Revo 16K supports both .CTB and .PRZ file formats. Use slicer software to turn .STL and .OBJ files into .CTB or .PRZ files.

Convert .STL / .OBJ File to .CTB / .PRZ File

- 1 Import .STL or .OBJ files into the slicer software, and add supports to your models to secure them to the build plate.
- 2 Choose the "Sonic Mighty Revo 16K" printer in the slicer. Set the resin parameters according to your resin and slice.
- 3 After the slicing is completed, save it as a .CTB or .PRZ file and the file are ready to be printed.

Test Files for Your First Print

- 1 The USB included in the tool box contains both .STL and .CTB files of two test models: "Phrozen_test" and "Phrozen_XP_Finder".
- 2 You can directly print the .CTB files in the USB with Aqua-Gray 8K Resin. If you are printing with other resins, slice the .STL files with the compatible parameter settings required for your resin.



Slicer Software



Supports Tutorial



Resin Parameters

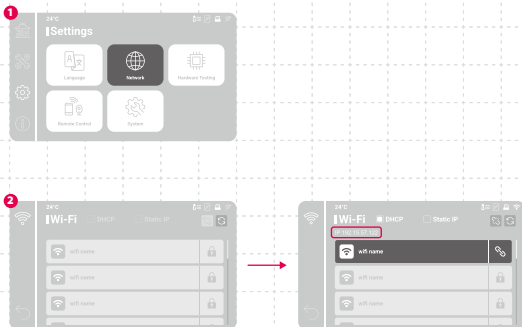


Learn and Download
Phrozen_XP_Finder

06 Internet Connection

Wi-Fi Network Connection

- 1 In "Settings", find "Network" to connect your printer to a Wi-Fi network.
- 2 Once the connection is established, the printer's IP address will display on top of the interface.

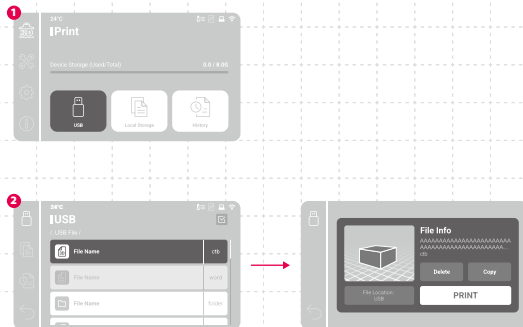


07 File Transfer

You can use a USB drive to import files to your Sonic Mighty Revo 16K and utilize the 8 GB internal storage space to store print files.

File Transfer via USB

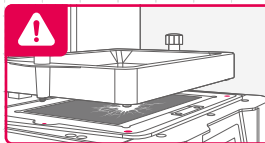
- 1 After storing the .CTB or .PRZ files into the USB, and plug it into the printer.
- 2 In "Print" > choose "USB" > find your desired file > tap "Print".



08 First Test Print

After conducting the Manual Z-Axis Calibration or Smart Leveling, and LCD test, you can now perform your first test print.

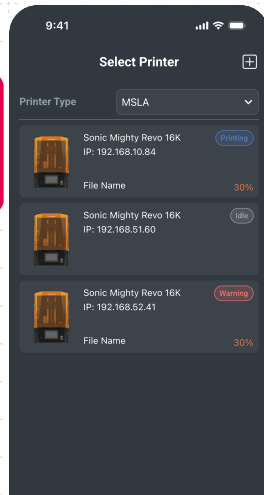
- 1 Tighten the screws on your resin vat and build plate. Make sure the build plate and resin vat are clean from any debris.
- 2 Shake the resin bottle for 1 minute. Pour the resin into the vat without exceeding the maximum mark.
- 3 Insert the USB, find the test file named "Phrozen_XP_Finder_Mighty16KRevo_AQ8K.ctb" and start printing it with Aqua-Gray 8K resin.
- 4 While printing, please keep the lid closed to prevent light exposure that may affect your prints.
- 5 Once printing is complete, carefully remove the build plate and use a metal scraper to carefully remove your print.
- 6 Use a 95% sanitizing alcohol or Washing Station to clean your printed models. After it's fully dry, post-cure your models with a Curing Station.



NOTICE: When installing the resin vat, please align the screws at the bottom of the resin vat with the platform grooves to avoid damage caused by the screws scratching the LCD panel.

09 Remote Control App - Phrozen GO

Phrozen GO is a mobile application designed for Phrozen printer users, so you can always check on your Phrozen 3D printers wherever you are. Please scan the QR Code to access the Phrozen GO tutorial.

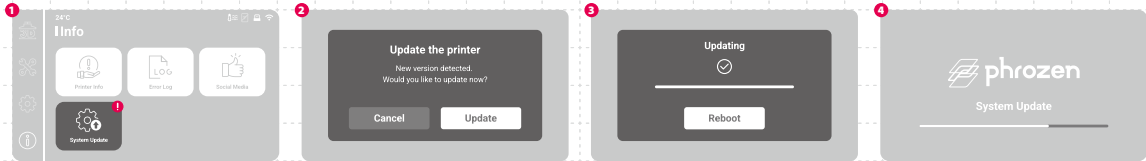


10 Firmware Update



Important Notes : Before performing an online update, please ensure the printer is connected to the internet.

- 1 If a new version is available, an update notification will appear in the top-right corner of the system update screen.
- 2 Click "Update" to begin downloading the update file.
- 3 Once the download is complete, click "Reboot."
- 4 After restarting, you will return to the system update screen.



After-Sales Service & Warranty

- Phrozen offers a one-year warranty for all parts, excluding consumable components such as the LCD screen and PFA (nFEP) vat film.
- Sonic Mighty Revo 16K LCD screen is covered under a 3-month warranty. Please note that this warranty does not cover any damages caused by human factors.
- If you encounter any difficulties, please scan the QR Code to contact us.



Phrozen Help Center

Congratulations!

You have just completed your first run.
We hope you've had a great experience!

Please follow Phrozen's social media accounts to
learn more about printing tips and share your
printing experience with the community.



Facebook



Facebook Group



Instagram



Phrozen
Official Website



YouTube