ANYCUBIC Photon Mono X

ANYCUBIC Photon Mono X 4K UV LCD 3D Printer Instruction Manual

Model: Photon Mono X

1. Introduction

This manual provides essential information for the safe and efficient operation of your ANYCUBIC Photon Mono X 4K UV LCD 3D Printer. Please read it thoroughly before use and keep it for future reference.

Safety Information

- Always wear appropriate personal protective equipment (PPE), such as gloves and safety glasses, when handling resin.
- Operate the printer in a well-ventilated area to avoid inhaling resin fumes.
- Keep the printer away from direct sunlight and heat sources.
- Ensure the power supply is stable and correctly connected.
- Do not touch moving parts during operation.
- Keep out of reach of children and pets.

2. Product Overview

The ANYCUBIC Photon Mono X is a high-speed 4K UV LCD resin 3D printer designed for detailed and precise models. It features an 8.9-inch 4K monochrome LCD screen, offering a resolution of 3840x2400 for exceptional detail.

Image: The ANYCUBIC Photon Mono X 4K UV LCD 3D Printer with its yellow UV-blocking cover.

Key Features:

- **8.9-inch 4K Monochrome LCD:** Provides high resolution (3840x2400) for fine details and a longer screen lifespan of up to 2000 hours compared to color screens.
- **New Matrix UV Light Source:** Utilizes quartz lamp beads in a new matrix design for uniform UV light distribution, ensuring consistent and high-quality prints.
- **High-Performance Z-axis Motion System:** Equipped with dual linear guide rails, a screw motor, and an anti-backlash nut. This combination enhances Z-axis stability, resulting in smoother operation and significantly reduced layer shifting for improved print accuracy.
- **Efficient UV Cooling System:** Features a proprietary UV cooling channel for effective heat dissipation, contributing to stable printing performance, extended component lifespan, and reduced maintenance costs.
- **Large Build Volume:** Offers a generous printing area for larger models.

Image: Diagram illustrating the build volume dimensions of the Photon Mono X.

Image: Close-up view of the Z-axis mechanism, highlighting the dual linear guide rails and screw motor for enhanced stability.

Image: Internal view of the efficient UV cooling system with fans, designed for stable operation and extended lifespan.

3. Setup

Follow these steps for initial setup of your Photon Mono X 3D printer:

1. **Unpacking:** Carefully remove all components from the packaging. Inspect for any damage during transit.
2. **Placement:** Place the printer on a stable, level surface in a well-ventilated room, away from direct sunlight.
3. **Power Connection:** Connect the power adapter to the printer and then to a power outlet. Ensure the power switch is in the OFF position before connecting.
4. **Build Plate Installation:** Install the build plate onto the Z-axis arm. Tighten the securing screw.
5. **Resin Vat Installation:** Place the resin vat onto the LCD screen platform. Ensure it is seated correctly and securely.
6. **Leveling the Build Plate:**
    - Loosen the four screws on the build plate.
    - Place a piece of A4 paper on the LCD screen.
    - Lower the build plate to the home position (Z=0) using the printer's control panel.
    - Gently press down on the build plate to ensure it is flat against the paper and LCD screen.
    - Tighten the four screws on the build plate.
    - Raise the build plate slightly and remove the paper.
7. **Resin Filling:** Pour resin into the resin vat, ensuring it does not exceed the maximum fill line.

Image: Close-up of the resin vat, showing the indicated maximum fill line.

4. Operating Instructions

The Photon Mono X offers fast printing speeds and convenient control options.

Printing Process:

1. **Prepare Model:** Use the Anycubic Slicer software (or compatible slicer) to prepare your 3D model. This involves adding supports, orienting the model, and slicing it into layers.
2. **Transfer File:** Save the sliced file (.pwmo or compatible format) to a USB drive. Insert the USB drive into the printer.
3. **Start Print:** Navigate the printer's touchscreen menu to select your file and start the printing process.
4. **Monitoring:** Monitor the printing progress via the touchscreen or using the Anycubic APP remote control.
5. **Post-Processing:** Once printing is complete, carefully remove the build plate, detach the model, and

clean it according to resin manufacturer instructions (typically with IPA and UV curing).

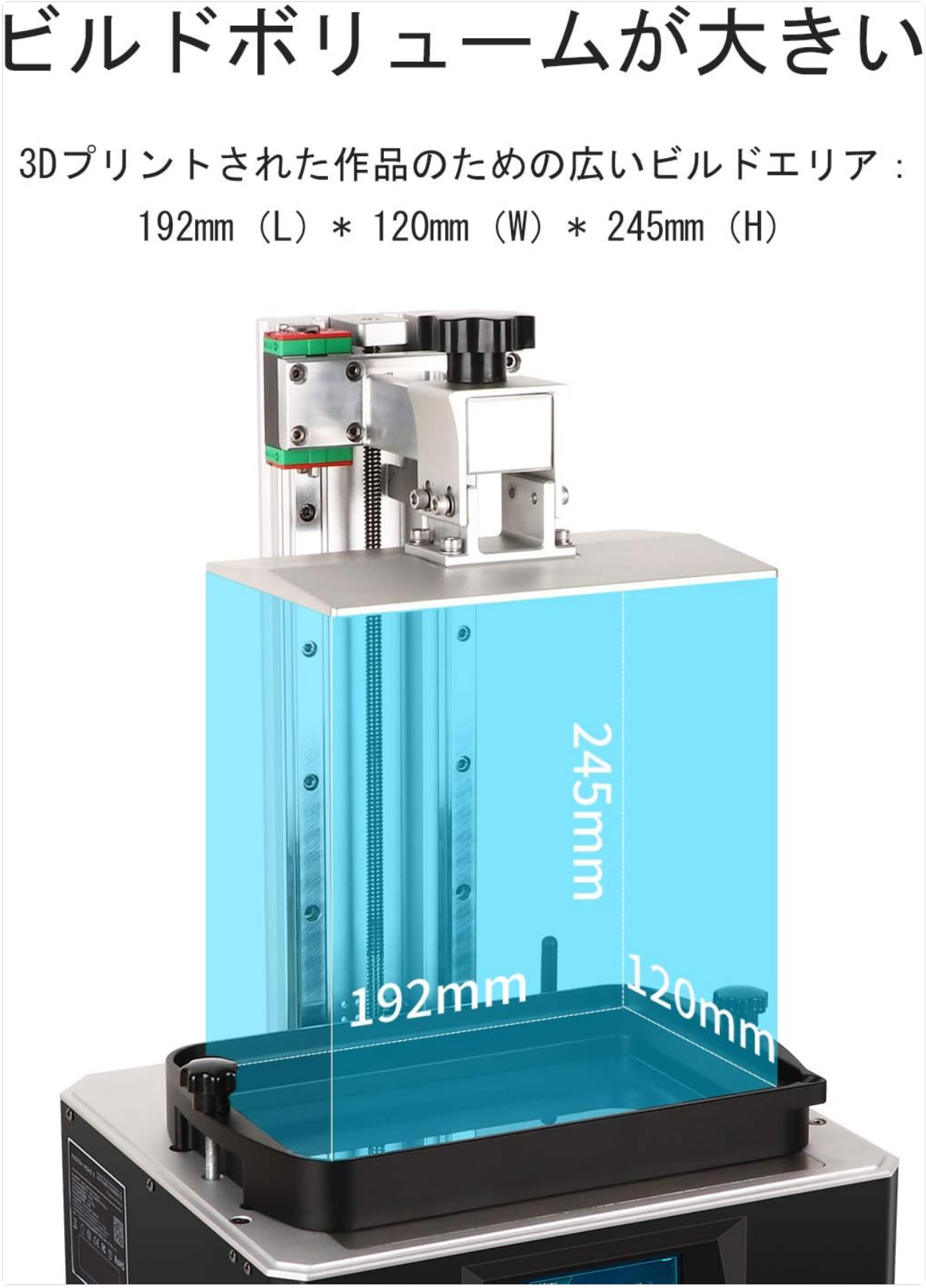

Image: Comparison showing the faster print speed of the Photon Mono X (100% completion in 1 hour) versus the original Photon (33% completion in 1 hour) for a similar model.

Anycubic APP Remote Control:

The Anycubic APP allows for convenient remote management of your printer. You can:

- Remotely manage print operations.
- Monitor print status in real-time.
- Adjust print parameters as needed.

Image: A smartphone displaying the Anycubic APP interface, showing real-time print progress and control options.

Slicer Software:

The Anycubic Slicer software supports various functions including high-speed slicing, hollowing, model cutting, and lettering. It also supports up to 8x anti-aliasing for smoother print surfaces.

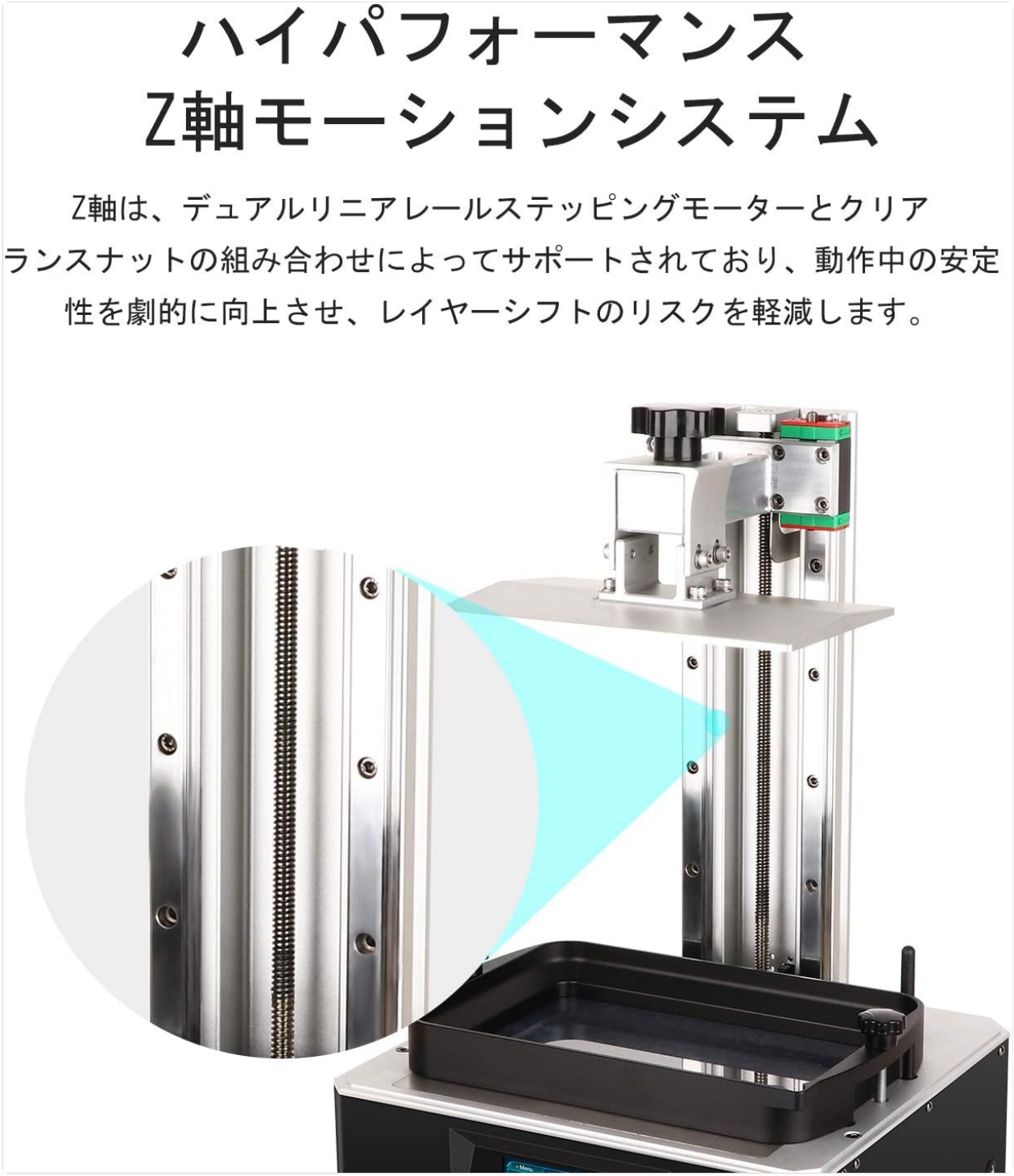

Image: Screenshot of the Anycubic Slicer software interface on a computer, showing a 3D model being prepared for printing.

5. Maintenance

Regular maintenance ensures the longevity and optimal performance of your Photon Mono X.

- **Clean Resin Vat:** After each print, carefully remove any cured resin particles from the bottom of the resin vat using a plastic scraper. If changing resin types, clean the vat thoroughly with IPA.
- **Clean Build Plate:** Clean the build plate with IPA after removing prints. Ensure no resin residue remains.
- **Clean LCD Screen:** If resin spills onto the LCD screen, clean it immediately with a soft cloth and IPA. Avoid scratching the screen.
- **Check FEP Film:** Regularly inspect the FEP film at the bottom of the resin vat for damage or cloudiness. Replace if necessary.

- **Cooling System:** Ensure the cooling vents are clear of dust and debris to maintain efficient heat dissipation.
- **Z-axis Lubrication:** Periodically apply a small amount of lubricant to the Z-axis lead screw to ensure smooth movement.

6. Troubleshooting

This section addresses common issues you might encounter:

- **Prints not sticking to build plate:**
  - Ensure the build plate is properly leveled.
  - Increase bottom exposure time in slicer settings.
  - Check ambient temperature; resin prints best in warmer environments.
  - Roughen the build plate surface slightly with fine-grit sandpaper if it's too smooth.
- **Failed prints / Partial prints:**
  - Check for cured resin debris in the vat.
  - Verify exposure settings are correct for your specific resin.
  - Ensure adequate supports are added to the model.
  - Check the FEP film for damage or cloudiness.
- **Layer shifting:**
  - Ensure the Z-axis is stable and lubricated.
  - Check for any obstructions in the Z-axis movement.
  - Verify the build plate is securely tightened.
- **Resin odor:**
  - Ensure adequate ventilation in your printing area.
  - Consider using an air purifier or enclosure with exhaust.

7. Specifications

Feature	Specification
Model	Photon Mono X
Printing Technology	UV LCD Stereolithography
Light Source	New Matrix UV Light Source
LCD Screen	8.9-inch 4K Monochrome
Resolution	3840 x 2400 (4K)
Build Volume (L x W x H)	192mm x 120mm x 245mm
Max Print Speed	Up to 60mm/h
Layer Exposure Time	1-2 seconds
Z-axis	Dual Linear Guide Rails + Screw Motor + Anti-backlash Nut

Feature	Specification
Connectivity	USB, Wi-Fi (Anycubic APP)
Printer Dimensions	27cm (D) x 29cm (W) x 47.5cm (H)
Printer Weight	16 kg
Material	Aluminum (Chassis)
Power Supply	UL, CE, ETL Certified

Image: The certified power supply unit for the Photon Mono X, indicating UL, CE, and ETL compliance.

8. Warranty and Support

For warranty information, technical support, or service inquiries, please refer to the official ANYCUBIC website or contact their customer service directly. Keep your purchase receipt as proof of purchase.
Official ANYCUBIC Website: www.anycubic.com