

Bambu Lab X1 Series 3D Printer

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This document is part of the Mastercard Makerspace Equipment Library.

All devices and tools listed herein are maintained according to internal safety and operational standards.

For support, contact the Makerspace coordinator.

Mastercard Makerspace Technical Manual

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Bambu Lab X1 Series 3D Printer User Manual

Overview

Model: X1 Carbon Combo

Manufacturer: Bambu Lab

Category: Fabrication

The Bambu Lab X1 Carbon is a high-performance FDM 3D printer with multi-color AMS system, AI failure detection, and carbon-fiber reinforced parts. It's ideal for professional makers and educational prototyping.

1\ Setup

1. Install AMS unit and load filament.
2. Level bed and perform calibration.
3. Connect to Bambu Studio or mobile app.
4. Preheat the nozzle before printing.

2\ Operation

Upload your G-code file to the printer via Wi-Fi or SD card. Monitor the first layer and ensure the AMS correctly switches filaments.

3\ Safety

Do not touch the hotend or bed during printing. Ensure proper ventilation when printing with ABS or PETG.

4\ Maintenance

Clean the print bed after each use. Replace the nozzle every 200 hours. Update firmware monthly.

5\ Troubleshooting

If print stops: Check filament feed and AMS connection. If print warps: Adjust bed temperature.

Bambu Lab X1 Carbon Combo 3D Printer Manual

Overview and Specifications

Product Overview

The Bambu Lab X1 Carbon Combo is a cutting-edge FDM 3D printer designed for professional makers and educational prototyping. It features a multi-color Automatic Material System (AMS), AI failure detection, and carbon-fiber reinforced components, providing high performance and reliability.

Specifications

Dimensions: 389 mm x 389 mm x 457 mm (L x W x H)

Weight: 14 kg

Power Supply: AC 100-240V, 50/60Hz, 350W

Build Volume: 256 mm x 256 mm x 256 mm

Layer Resolution: 0.05 mm - 0.3 mm

Nozzle Diameter: 0.4 mm (standard)

Connectivity: Wi-Fi, USB, SD Card

Supported Filaments: PLA, ABS, PETG, TPU, Carbon Fiber Reinforced

Operating Temperature: 15 C - 30 C

Storage Temperature: 0 C - 40 C

Safety and Compliance Information

General Safety:

Do not touch the hotend or heated bed during operation.

Ensure proper ventilation when printing with materials like ABS or PETG.

Keep the device away from flammable materials.

Use protective equipment such as gloves and goggles when handling hot or sharp components.

Compliance:

CE, FCC, and RoHS certified.

Complies with international safety standards for electrical and mechanical devices.

Installation / Setup

1. Install AMS Unit and Load Filament:

Attach the AMS unit to the designated slot on the printer.
Insert the filament spool into the AMS unit and feed the filament into the guide tube.

2. Level Bed and Perform Calibration:

Use the printer's touchscreen interface to initiate the auto-bed leveling process.
Follow on-screen instructions to complete the calibration.

3. Connect to Bambu Studio or Mobile App:

Download and install Bambu Studio on your computer or the Bambu mobile app.
Connect the printer to your Wi-Fi network using the app or software.

4. Preheat the Nozzle Before Printing:

Access the preheat settings via the touchscreen or app.
Select the appropriate material profile to preheat the nozzle.

Operating Modes and Usage Examples

Standard Mode:
Upload your G-code file to the printer via Wi-Fi or SD card.
Monitor the first layer to ensure proper adhesion.

Multi-Color Printing:
Utilize the AMS system to switch between different filament colors.
Ensure the AMS is correctly loaded and calibrated for seamless color transitions.

AI Failure Detection:
Enable AI detection to automatically pause the print in case of potential failures.
Adjust settings to receive notifications through the app.

Maintenance Schedule

Task	Frequency
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Clean the print bed	After each use
Replace the nozzle	Every 200 hours
Update firmware	Monthly
Check belt tension	Every 100 hours
Lubricate moving parts	Every 300 hours

Troubleshooting

Problem	Cause	Solution
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Print stops | Filament feed issue | Check filament feed and AMS connection

Print warps | Incorrect bed temperature | Adjust bed temperature

Layer shifting | Loose belts | Tighten the belts

Poor adhesion | Unleveled bed | Re-level the bed

Nozzle clogging | Debris in nozzle | Clean or replace the nozzle

Accessories or Compatible Components

Additional Nozzles: Available in various diameters for different printing needs.

Filament Spools: Compatible with standard 1.75 mm diameter filaments.

AMS Unit: Supports up to four different filament colors or types.

Build Plate: Removable and flexible for easy print removal.

Warranty and Support Notes

Warranty: The Bambu Lab X1 Carbon Combo comes with a one-year limited warranty covering manufacturing defects.

Support: For technical support, visit the Bambu Lab website or contact customer service via email or phone.

Extended Warranty: Optional extended warranty plans are available for purchase.

For further assistance, please refer to the Bambu Lab support portal or contact our customer service team.

Resources:

End of Manual - For updates, please check the latest version at:

https://mpandey-mastercard.github.io/makerspace-manuals/manuals/tool_002_manual.pdf

- Manual Pdf Local: /manuals/tool_002_manual.pdf

- Manual Pdf Public: https://mpandey-mastercard.github.io/makerspace-manuals/manuals/tool_002_manual.pdf

- Tutorial Video: <https://www.youtube.com/watch?v=HiJq8XgW1Js>

- Qr Code: https://mpandey-mastercard.github.io/makerspace-manuals/qrcodes/tool_002_qr.png