Mono3VZ2 - High Power 365 nm and 465 nm

Mono3MZ2

Tool Type: High power printer
Location: Oasys 400
Manufacturer: MonoPrinter
Principal Scientist
Juan Manuel Urueña
jmuruena@ucsb.edu

About

The **MONO3VZ2** by MonoPrinter is a research-grade, high-intensity DLP (Digital Light Processing) 3D printer designed for extreme customization and advanced material science applications.

Unlike consumer resin printers that use a single UV wavelength, the VZ series has two high power LEDs 365 nm and 460 nm that can be used sequentially.

Core Capabilities

Multi-Wavelength System: This is the standout feature. It can be configured with up to 3 LED channels, allowing you to use different wavelengths (typically between 365nm and 616nm, covering UV to visible light). This is critical for research involving dual-wavelength curing or complex chemical reactions.

High Intensity: It is marketed as an “Extreme High Intensity” printer, providing significantly more power than standard machines to handle specialized or “slow” resins that require more energy to polymerize.

Vat Photopolymerization: It uses DLP technology, meaning it projects a 2D image of each layer all at once, leading to faster build speeds compared to laser-based SLA printers.

Technical Specifications XY Resolution: Variable, typically ranging from 25 µm to 70 µm depending on the configuration.

Z-Precision: Highly accurate motor-driven movement, with a resolution of 5 µm to 25 µm.

Build Volume: Approximately 134 x 76 x 125 mm (1.27 liters).

Connectivity: Equipped with USB and Wireless connectivity (powered by a Raspberry Pi).

Software: Controlled via MonoWare, a proprietary slicer that allows for granular control over print recipes, shutter timing, and sensor monitoring.

Detailed Specifications

LED intensity

Manuals

MonoWare Job File Structure

MONO3Z2 (2CH) Initial Assembly & Alignment

MONO3Z4 (4CH) Initial Assembly & Alignment

MONO3Z Series Printer Firmware

Mono3Z First Printing

MONO3Z2 LED Swapping

MONO3Z4 (4CH) Printing File

MONO3Z2 (2CH) Wiper & Heater

Safety Concerns

Read the manufactures manual before first use. If the Mono3Z2 acts in a way that is not described by the manual, turn off the printer and contact the principal scientist as well as Mono at info@monoprinter.com .

- Never place your finger near the machine until all parts have stopped moving. Moving parts can cause serious injury.
- Never clean or service the printer while it is on.
- The printer uses different LEDS. Never look directly at LED light nor expose skin. Serious injury may result from exposure.
- Disassembling the printer may cause an electric shock or damage to the instrument. Do not disassemble any parts of the printer not mentioned in the instruction manual.