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

Assembly and First Print

Film Replacement

Job File Structure

Power Measurement

Multi-color-grayscale slicing

Printer Firmware

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.