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Ortur Ortur-OLM3

Ortur Laser Master 3 User Manual

Model: Ortur-OLM3 | Brand: Ortur

INTRODUCTION

The Ortur Laser Master 3 is a high-precision laser engraving and cutting machine designed for a wide range of materials and applications. With its powerful 10000mW laser module, it offers exceptional speed and accuracy for both hobbyists and professionals. This manual will guide you through the setup, operation, maintenance, and troubleshooting of your device.

Key Features

- **Higher Speed with Powerful Laser Module:** 10000mW output power, capable of cutting 12mm plywood and 10mm black acrylic in one pass, up to 20,000mm/min.
- **Super Fine Engraving & Cutting:** Advanced spot compression laser technology with a 0.05 x 0.1mm focal spot for delicate details.
- **APP Control & User Friendly:** Supports TF Card/USB/Wi-Fi/APP operation, compatible with iPhone, Android, iPad, and Android Pad.
- **8 Safety Features Protection:** Includes Safety Lock, Emergency Stop Button, Laser Exposure Time Limit, Tilt Motion Detection, USB Connection Monitor, Active Position Protection, Anti-crash Watchdog Mechanism, and Voltage & Current Safety Control System.
- **Wide Compatibility:** Supports Web UI, LaserGRBL, LightBurn, and Ortur's self-developed App-ORTUR.

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Official Product Video: Ortur LM3 - The Most Efficient and Smart Laser Engraver. This video provides an overview of the machine's capabilities and design.

SETUP GUIDE

Unboxing and Initial Inspection

Carefully unpack all components from the box. Verify that all parts listed in the packing list are present and undamaged.



Image: Ortur Laser Master 3 main product view. Ensure all components are present upon unboxing.

Multiple Materials to Meet All Your Needs

Wood Glass Leather Acrylic Others



Image: Detailed packing list of the Ortur Laser Master 3 components. Use this to verify contents.

Assembly Instructions

Follow the steps below to assemble your Ortur Laser Master 3. Refer to the video tutorial for visual guidance.

Your browser does not support the video tag.

Official Product Video: Ortur Laser Master 3 Unboxing and Assembly Tutorial. This video provides a step-by-step guide for assembling the machine.

- 1. Assemble the Frame:** Place the four sides of the frame on a flat surface. Ensure the rear assembly (with the YRR switch) is correctly oriented.
- 2. Attach Side Rails:** Thread the Y-axis motor wire through the left and right slideways. Secure them to the front and rear assemblies using the provided M4*8mm screws and a six-angle wrench.
- 3. Install X-axis Profile:** Insert the X-axis profile into the middle of the left and right guide slideways. Ensure the pulley of the X-axis enters the groove smoothly.
- 4. Install Belts:** Take the belts, ensuring the serrated side is inside and the smooth side is outside. Hang the belt on the drive gear of the Y motor (hidden at both ends of the rear assembly). Clip the two idler pulley assemblies into the slots under the left and right slideways, then hang the other end of the belt on them. Tighten the idler assembly with screws.
- 5. Connect Circuit Group:** Take one end of the circuit group and connect it to the mainboard connector. Secure the wire with a cable tie to the edge of the slideway. Insert the interface marked with 'X' into the X-axis motor connection port.
- 6. Attach Laser Head:** Screw the air assist to the laser head (note: air assist is only for cutting and can be removed for engraving). Install the orange protective cover to avoid laser eye injury. Insert the thumbscrew into the hole on the right side of the laser head and fix the laser head on the up and down adjustment device of the X-axis assembly. Connect the laser wire to the laser head.
- 7. Install Limit Screws:** Fix the two M3*6mm limit screws on the inner side of the left and right slideway to prevent collision and damage to the laser head during operation.
- 8. Connect Wi-Fi Aerial:** Screw the Wi-Fi aerial onto the left side of the front assembly.
- 9. Power Connection:** Insert the USB wire and power adapter into the front assembly.

OPERATING INSTRUCTIONS

Software Installation and Connection

The Ortur Laser Master 3 is compatible with various software, including LaserGRBL, LightBurn, and the ORTUR App. For detailed connection steps, refer to the video below.

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Official Product Video: Connect Ortur Laser Master 3 and YRR2.0 by using LaserGRBL. This video demonstrates the software connection process.

Basic Engraving/Cutting Process

Once connected to your preferred software, you can begin your engraving or cutting projects. The machine supports a wide array of materials.

Engravable Material



Wood



Acrylic



Leather



Metal



Ceramics



Fabric



Cylinder



Food



Tinted Glass



Stainless Steel



Paper



Cardboard

Image: Examples of engravable materials including wood, acrylic, leather, metal, ceramics, fabric, cylinder, food, tinted glass, stainless steel, paper, and cardboard.

Multiple Materials to Meet All Your Needs

Wood **Glass** Leather Acrylic Others



Image: Various examples of wood engraving and cutting projects.

Multiple Materials to Meet All Your Needs

Wood Glass **Leather** Acrylic Others



Image: Various examples of glass engraving projects.

Multiple Materials to Meet All Your Needs

Wood Glass Leather **Acrylic** Others



Image: Various examples of leather engraving projects.

Multiple Materials to Meet All Your Needs

Wood Glass Leather Acrylic **Others**



Image: Various examples of acrylic engraving and cutting projects.

SAFETY FEATURES

The Ortur Laser Master 3 is equipped with multiple safety features to ensure a secure operating environment. Always prioritize safety when using the machine.

- **Safety Lock:** Prevents unauthorized use.
- **Emergency Stop Button:** Immediately stops operation in case of an emergency.
- **Laser Exposure Time Limit:** Automatically stops the laser if it remains active for too long without movement.
- **Tilt Motion Detection:** Stops the laser if the machine is tilted or moved unexpectedly.
- **USB Connection Monitor:** Ensures stable connection and stops operation if disconnected.
- **Active Position Protection:** Detects unintended movement of the laser module and stops operation.
- **Anti-crash Watchdog Mechanism:** Monitors the system for errors and stops operation if issues are detected.
- **Voltage & Current Safety Control System:** Protects against electrical overloads.

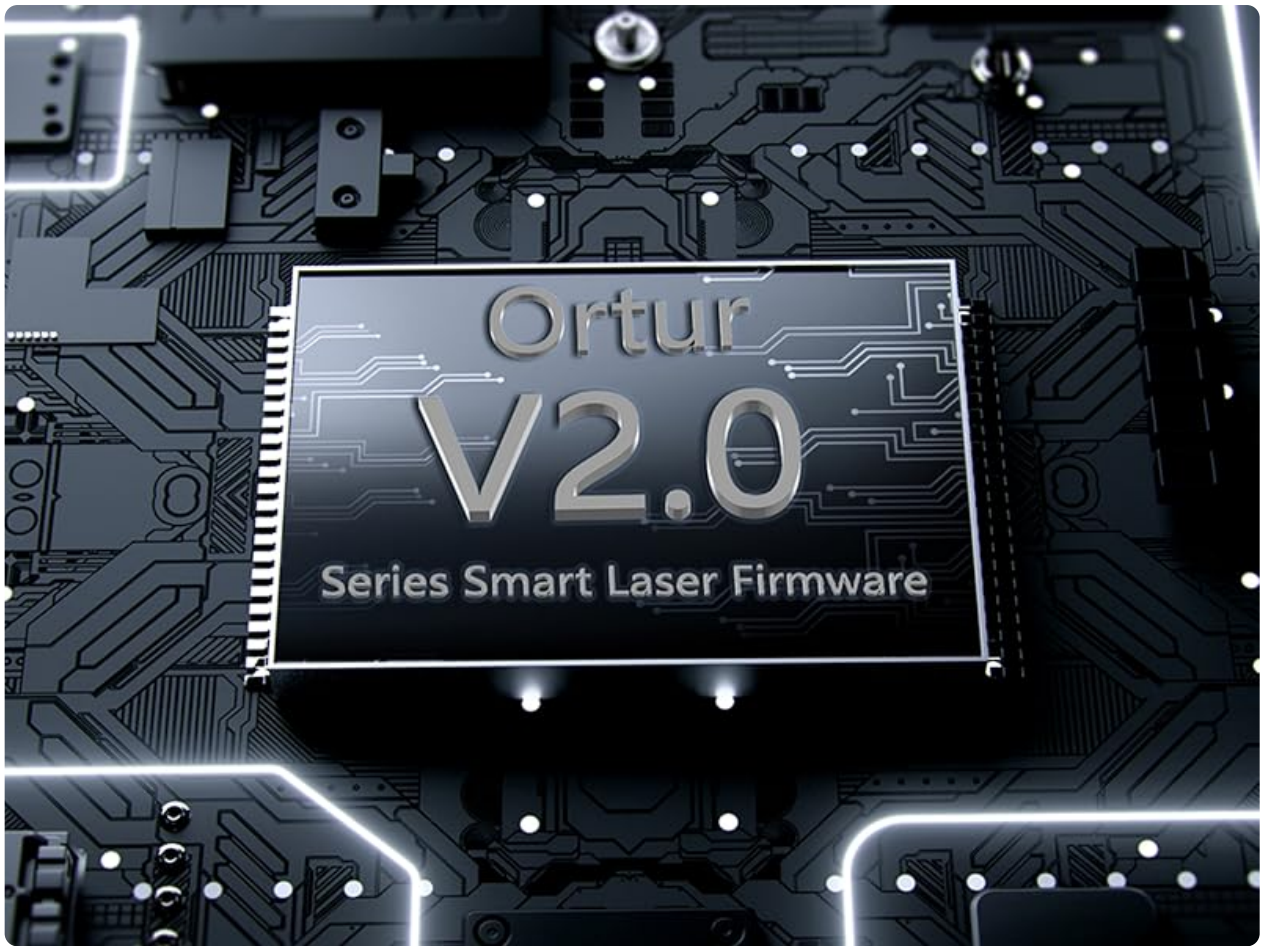


Image: Visual representation of key safety features including Active Position Protection, Tilt Motion Detection, Emergency Stop Switch, and Exposure Duration Detection and Limitation.

MAINTENANCE AND CARE

Regular maintenance ensures the longevity and optimal performance of your Ortur Laser Master 3. Always power off and unplug the machine before performing any maintenance.

- **Clean the Laser Lens:** Regularly inspect and clean the laser lens with a soft, lint-free cloth and lens cleaning solution.
- **Check and Tighten Belts:** Periodically check the tension of the X and Y-axis belts. Adjust if they are too loose or too tight to ensure smooth movement.
- **Lubricate Moving Parts:** Apply a small amount of lubricant to the guide rails and lead screws to reduce friction and wear.
- **Clean Debris:** Remove any dust, debris, or material residue from the machine's frame, rails, and working area.
- **Firmware Updates:** Check the official Ortur website for any available firmware updates to ensure your machine has the latest features and bug fixes.

TROUBLESHOOTING COMMON ISSUES

This section provides solutions to common problems you might encounter with your Ortur Laser Master 3.

Problem	Possible Cause	Solution
Laser not firing	Loose connection, software settings, laser module issue.	Check all cable connections. Verify laser power settings in software. Ensure laser module is properly installed.
Machine not moving	Power issue, motor connection, software connection.	Ensure power adapter is connected. Check Y-axis and X-axis motor connections. Reconnect software.
Poor engraving quality	Incorrect focus, dirty lens, wrong parameters.	Adjust laser focus. Clean the laser lens. Optimize engraving speed and power settings for the material.
Machine stops unexpectedly	Safety feature triggered, loose USB connection.	Check for tilt or movement. Ensure stable USB connection. Review safety feature indicators.
Software connection issues	Incorrect COM port, driver issues, Wi-Fi interference.	Select correct COM port. Reinstall drivers. Check Wi-Fi signal strength or use USB connection.

PRODUCT SPECIFICATIONS

Specification	Detail
Product Dimensions	25.91 x 24.61 x 5.91 inches
Item Model Number	Ortur-OLM3
Item Weight	14.62 pounds
Manufacturer	Ortur
Country of Origin	China
Date First Available	January 15, 2025