

Longer RAY5 Mini

LONGER Ray5 mini Laser Engraver 2.5W Instruction Manual

Model: RAY5 Mini 2.5W

1. INTRODUCTION

This manual provides essential information for the safe and effective operation of your LONGER Ray5 mini Laser Engraver 2.5W. Please read it thoroughly before initial use and retain it for future reference. The Ray5 mini is a compact and portable laser engraving and cutting tool designed for precision work on various materials.

Key features include:

- **Ultra-Fine Laser Precision:** Achieves detailed results with a 0.04mm x 0.04mm laser spot and 0.01mm accuracy.
- **High-Speed Operation:** Engraves at speeds up to 12,000mm/min.
- **Versatile Material Compatibility:** Capable of engraving over 300 types of materials, including wood, leather, metal, and acrylic.
- **Multiple Connectivity Options:** Supports USB, Wi-Fi, APP control, and offline operation.
- **Software Compatibility:** Works with LaserGRBL (free) and LightBurn (paid).

2. SAFETY GUIDELINES

Operating a laser engraver requires adherence to safety protocols to prevent injury. Always prioritize safety during setup and operation.

- **Eye Protection:** Always wear the provided protective glasses when the laser is active to reduce eye exposure.
- **Emergency Stop:** Familiarize yourself with the emergency stop button location and function. Press it immediately in any unsafe situation.
- **Ventilation:** Ensure adequate ventilation in your workspace to dissipate fumes and smoke produced during engraving.

- **Material Safety:** Only engrave materials known to be safe for laser processing. Avoid materials that produce toxic fumes or are highly flammable.
- **Supervision:** Never leave the machine unattended during operation.
- **Limit Switches:** The Ray5 mini is equipped with X and Y axis limit switches for homing and positioning, enhancing operational safety.




Image: Safety features including the emergency stop button, limit switch, acrylic cover, and protective glasses.

3. SETUP

The LONGER Ray5 mini is designed for quick and easy setup, arriving largely pre-assembled.

3.1 Unpacking and Inspection

1. Carefully remove all components from the packaging.
2. Verify that all items listed in the packing list are present. Refer to the image below for typical package contents.
3. Inspect the machine for any visible damage that may have occurred during transit. Contact customer support if any damage is found.



Image: Package contents of the LONGER Ray5 mini, showing the main unit, laser module, power supply, USB cable, quick guide, safety glasses, and small tools.

3.2 Initial Assembly (if required)

The main frame of the Ray5 mini is pre-assembled. You may need to attach the laser module if it is packaged separately.

1. Gently place the laser module into its designated slot on the gantry.
2. Secure the laser module using the provided screws or fasteners.
3. Connect the laser module cable to the main unit.

3.3 Power Connection

1. Connect the power adapter to the engraver's power input port.
2. Plug the power adapter into a suitable electrical outlet.
3. Connect the USB cable from the engraver to your computer if using a wired connection.



Image: The LONGER Ray5 mini ready for operation, demonstrating its compact size and connectivity options.

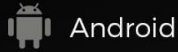
4. OPERATING INSTRUCTIONS

The Ray5 mini offers flexible control options for your engraving and cutting projects.

4.1 Software Installation and Connection

1. Download and install your preferred software: LaserGRBL (free) or LightBurn (paid). Refer to the software's documentation for installation details.
2. **USB Connection:** Connect the engraver to your computer via USB. The software should detect the device.
3. **Wi-Fi/APP Connection:** Follow the instructions in the quick start guide or the official Longer website to connect the engraver to your Wi-Fi network and use the mobile application for control.

Multiple modes For easy engraving



Select photo engraving from phone gallery



Engrave directly after taking the photo



Drawing graphic engraving



Enter custom text for engraving

Image: Various engraving modes, including app control, graphic engraving from drawings, and custom text input.

4.2 Preparing for Engraving/Cutting

1. **Material Placement:** Place the material to be engraved or cut securely on the working surface within the 140x130mm engraving area.
2. **Focus Adjustment:** Adjust the laser focus according to the material thickness and type. Consult the quick start guide or software documentation for specific instructions.
3. **Design Import:** Import or create your design within the chosen software.
4. **Parameter Settings:** Set appropriate laser power, speed, and passes based on the material and desired outcome. Incorrect settings can lead to poor results or material damage.

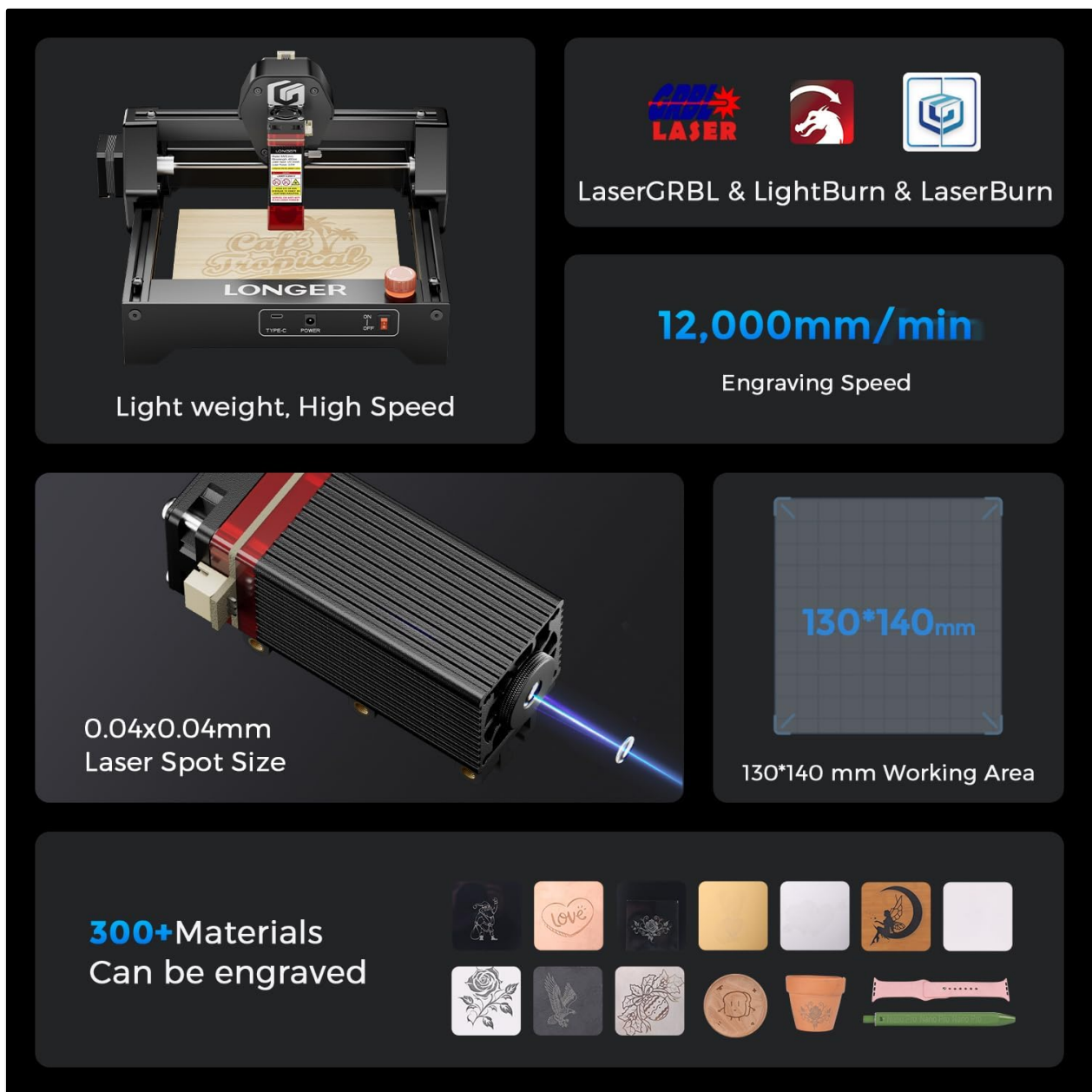


Image: Overview of the Ray5 mini's capabilities, highlighting software support, speed, precision, and material versatility.

4.3 Starting the Operation

1. Ensure all safety precautions are in place, including wearing protective glasses.
2. Initiate the engraving or cutting process from the software or mobile application.
3. Monitor the process closely. If any issues arise, press the emergency stop button.

What can I do ?

Easy Customize Gifts

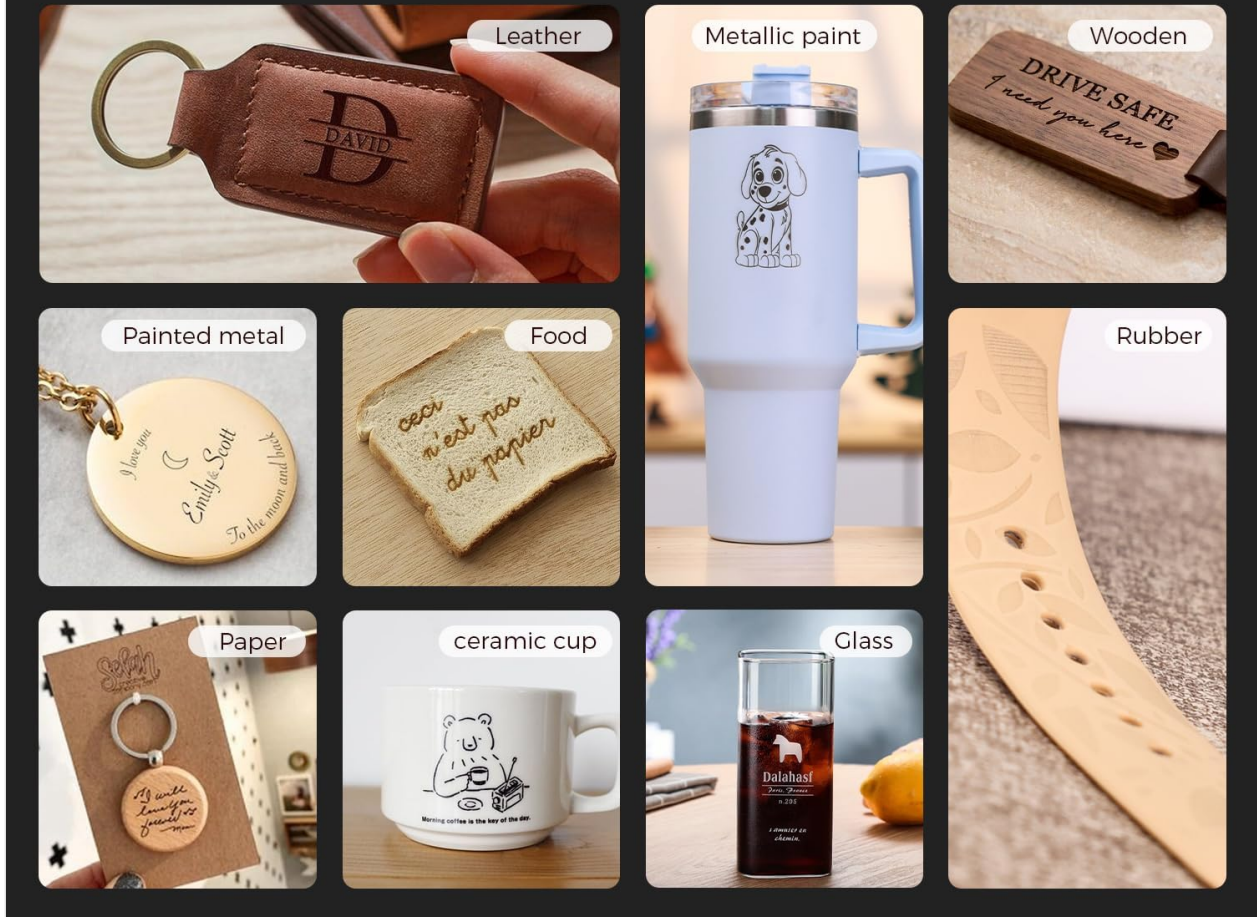


Image: Examples of various materials and items that can be engraved, such as leather, metal, wood, and glass.

5. MAINTENANCE

Regular maintenance ensures optimal performance and extends the lifespan of your laser engraver.

- **Lens Cleaning:** Periodically clean the laser lens with a specialized lens cleaning solution and cloth to maintain laser beam quality.
- **Dust Removal:** Use compressed air or a soft brush to remove dust and debris from the machine, especially from moving parts and ventilation openings.
- **Rail Lubrication:** Lightly lubricate the guide rails as recommended by the manufacturer to ensure smooth movement of the laser module.
- **Firmware Updates:** Check the official Longer website for any available firmware updates to improve performance or add new features.

6. TROUBLESHOOTING

This section addresses common issues you might encounter.

Problem	Possible Cause	Solution
Laser not firing	Power not connected; Emergency stop engaged; Software error; Laser module cable loose.	Check power connection; Disengage emergency stop; Restart software/machine; Reconnect laser module cable.
Poor engraving quality	Incorrect focus; Wrong power/speed settings; Dirty lens; Material not flat.	Adjust laser focus; Optimize power/speed settings for material; Clean laser lens; Ensure material is flat and secure.
Machine not connecting to computer/app	USB cable issue; Wi-Fi connectivity problem; Driver not installed; Software not recognizing device.	Try a different USB port/cable; Check Wi-Fi connection; Install necessary drivers; Restart software and machine.
Unusual noises during operation	Loose components; Obstruction in movement path; Worn out parts.	Inspect for loose screws or parts; Clear any obstructions; Contact support if noise persists after inspection.

7. SPECIFICATIONS

Feature	Detail
Model	RAY5 Mini
Laser Power	2.5W
Engraving Area	140 x 130 mm
Engraving Speed	Up to 12,000 mm/min
Laser Spot Size	0.04 x 0.04 mm
Product Dimensions	11.5 x 11.26 x 6.5 inches
Item Weight	5.04 pounds (2.29 Kilograms)
Connectivity	USB, Wi-Fi, APP, Offline
Compatible Software	LaserGRBL, LightBurn

8. SUPPORT AND WARRANTY

Longer is committed to providing comprehensive support for your Ray5 mini Laser Engraver.

8.1 Technical Support

Lifetime technical support is available for all customers. You can reach the support team through multiple channels:

- Email
- Live Chat

- Phone Call
- Official Facebook Group

A dedicated technical service team is available to provide responsive assistance.

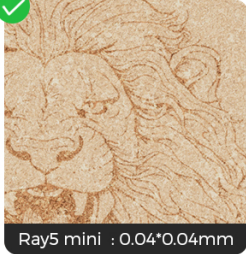
8.2 Warranty Information

Please refer to the official Longer website or the documentation included with your product for detailed warranty terms and conditions. The warranty typically covers manufacturing defects and ensures product reliability.

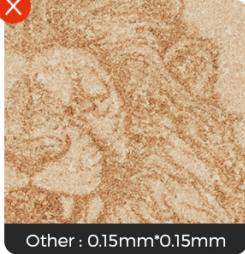
0.04x0.04mm

Outstanding Performance

New technology upgrades for superior fine engraving performance



Ray5 mini : 0.04*0.04mm



Other : 0.15mm*0.15mm

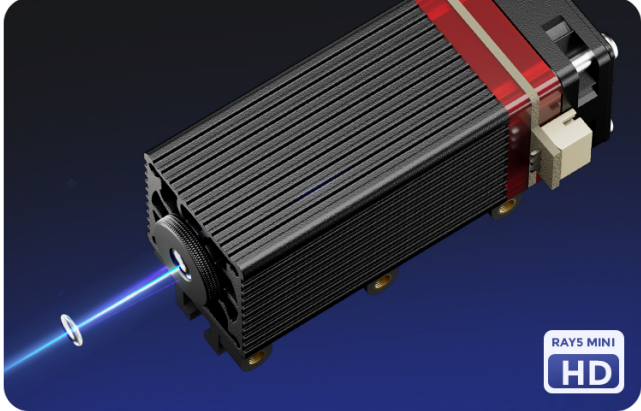



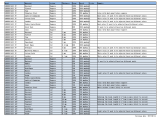
Image: An overview of Longer's product range, emphasizing their commitment to quality and innovation.

9. PRODUCT VIDEOS

Official product videos can provide visual guidance for setup and operation. Due to limitations in the provided data, specific video links with 'Seller' as 'creator_type' are not available for embedding here. Please visit the official Longer product page or YouTube channel for relevant video tutorials and demonstrations.

Related Documents - RAY5 Mini

	<p>LONGER RAY5 Laser Cutter & Engraver: Material Settings Guide</p> <p>Comprehensive material settings for LONGER RAY5 series laser cutters and engravers, including models 5W, 10W, and 20W. This guide provides recommended engraving and cutting parameters such as thickness, power, and cycles for a wide range of materials.</p>
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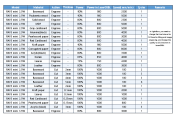
[LONGER RAY5 Laser Engraver Material Settings Guide](#)

A comprehensive guide to material settings for LONGER RAY5 5W and 10W laser engravers, detailing optimal power, speed, and cycle settings for engraving and cutting various materials.



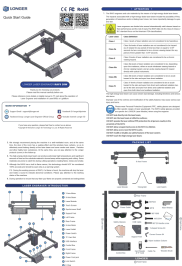
[LONGER Laser B1 Engraver Quick Start Guide \(20W/30W\)](#)

Comprehensive quick start guide for the LONGER Laser B1 engraver (20W/30W). Covers essential safety information, laser class definitions, parts identification, packing list, and detailed step-by-step installation instructions.



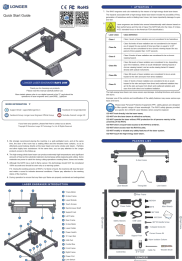
[LONGER RAY5 Mini Laser Engraver Material Settings \(2.5W & 3.5W\)](#)

Comprehensive material parameter guide for LONGER RAY5 Mini 2.5W and 3.5W laser engravers, covering engraving and cutting settings for various materials.



[LONGER RAY5 20W Laser Engraver Quick Start Guide and Installation](#)

Comprehensive quick start guide for the LONGER RAY5 20W laser engraver, covering safety precautions, packing list, introduction to components, and step-by-step installation instructions.



[LONGER RAY5 20W Laser Engraver Quick Start Guide](#)

This quick start guide provides essential information for setting up and safely operating the LONGER RAY5 20W laser engraver. Learn about laser safety, assembly steps, packing contents, and initial adjustments.