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Twotrees TS1

Twotrees TS1 Mini Laser Engraver User Manual

Model: TS1 | Brand: Twotrees

1. INTRODUCTION AND OVERVIEW

The Twotrees TS1 Mini Laser Engraver is a compact and powerful tool designed for precise engraving and cutting on a variety of materials. Its small footprint makes it suitable for any workspace, while its advanced features ensure high-quality results for DIY crafts, personalized gifts, and small-scale industrial applications.

This manual provides essential information for setting up, operating, and maintaining your TS1 Mini Laser Engraver. Please read it thoroughly before first use.



Image: The Twotrees TS1 Mini Laser Engraver showcasing its compact design and examples of engraved items.

2. SAFETY INFORMATION

WARNING: This product contains a Class 4 laser. Direct exposure to the laser beam can cause severe eye damage and skin burns. Always wear the provided laser safety goggles during operation. Never look directly into the laser beam or at its reflection.

- Ensure proper ventilation in your workspace to dissipate fumes and smoke produced during engraving.
- Keep the device away from flammable materials.
- Do not leave the engraver unattended during operation.
- Keep out of reach of children and pets.
- Only use the power adapter supplied with the device.

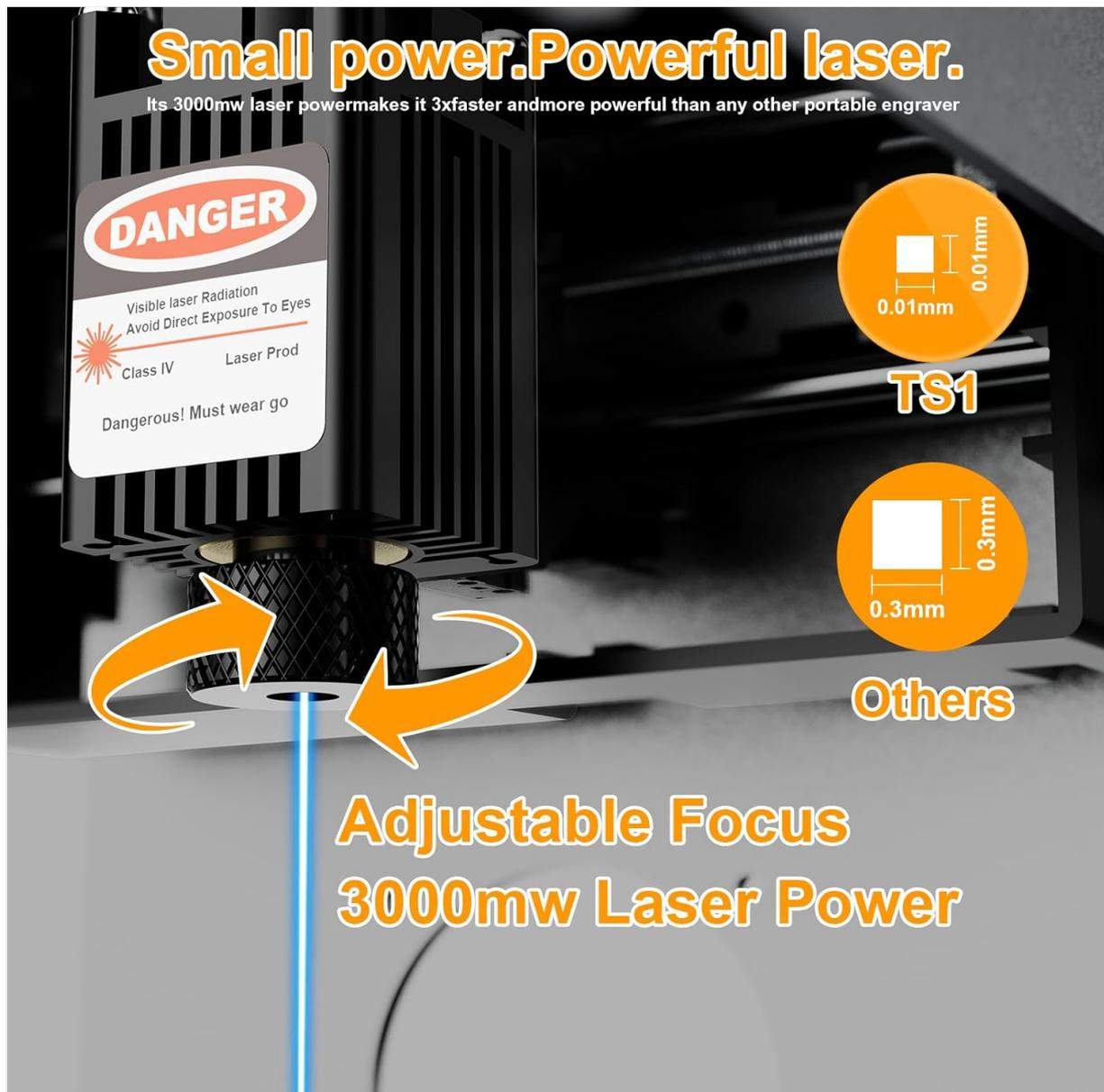


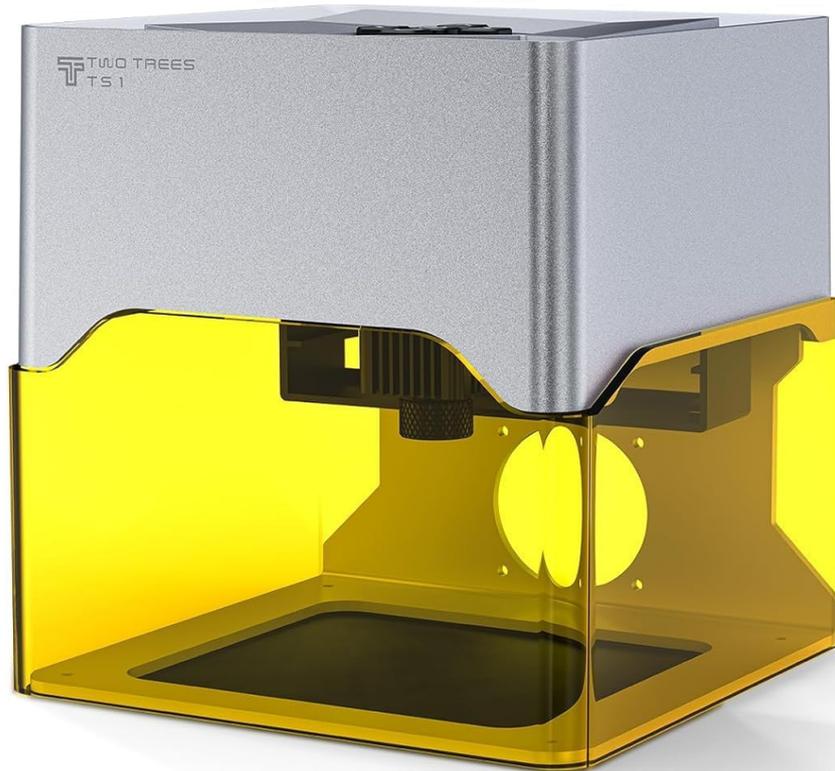
Image: A close-up of the laser module, highlighting the danger warning and adjustable focus mechanism.

3. PACKAGE CONTENTS

Verify that all items listed below are included in your package:

- Twotrees TS1 Mini Laser Engraver Unit
- Power Adapter (12V/2A)
- USB Extension Cable
- Laser Safety Protective Goggles
- Kraft Paper (for testing)
- Thin Aluminum Sheet (for testing)
- Small Screwdriver
- User Manual (this document)

TS1 Mini Engraving Machine



Packing List



Laser Safety Protective Goggles



USB Extension Cable



Kraft Paper



Thin Aluminum Sheet

Image: Visual representation of the items included in the TS1 Mini Engraving Machine package.

4. SETUP AND ASSEMBLY

Follow these steps to assemble and prepare your Twotrees TS1 Mini Laser Engraver for first use:

1. **Unpack Components:** Carefully remove all items from the packaging.
2. **Remove Lens Protective Film:** Locate the laser lens and gently peel off the protective film. This is crucial for clear engraving.
3. **Assemble the Stand:** Insert the main engraver unit into the metal stand. Ensure it is securely seated.
4. **Attach Protective Shield:** Carefully attach the yellow protective acrylic shield around the engraving area. This shield helps filter harmful laser light.
5. **Connect Power:** Plug the 12V/2A power adapter into the engraver and then into a wall outlet.
6. **Connect to Computer/Device:** Use the provided USB cable to connect the engraver to your computer, or prepare for Bluetooth/TF card connection as per operating instructions.

Setup Video Guide:

Your browser does not support the video tag.

Video: An official guide demonstrating the unboxing and assembly process of the Twotrees TS1 Mini Laser Engraver.



Image: The compact TS1 Mini Engraver highlighting its small size and key features like app operation and safety.

5. OPERATING INSTRUCTIONS

5.1 Software and Connectivity

The TS1 Mini Laser Engraver is compatible with popular laser engraving software such as Lightburn, LaserGRBL, and MKSLaser. It supports various operating systems including Windows, macOS/iOS, Android, and Linux.

Connectivity options include Bluetooth, USB, and TF card for offline operation. The device supports .NC and .Gcode file formats.

Supports Multiple Connections

Software Operation: LaserGRBL, Lightburn, Etc.



Windows



MAC/IOS



Android



Linux

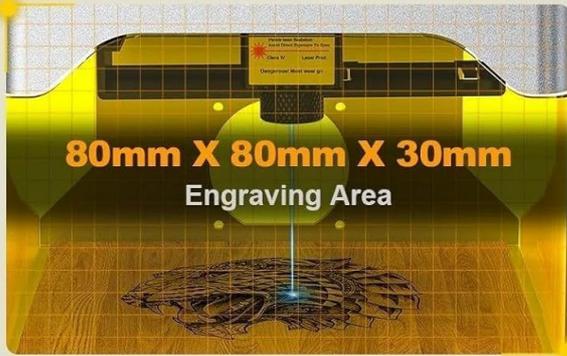
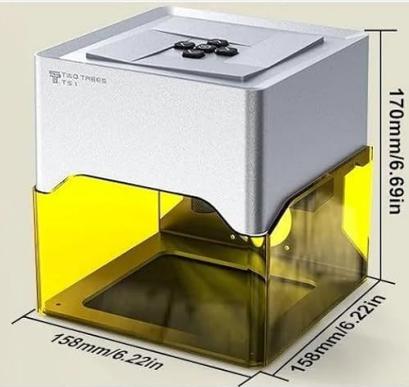


Image: The engraver's multi-platform software compatibility and connection options (Bluetooth, USB, TF card).

5.2 Engraving Process

1. **Material Placement:** Place the material to be engraved within the 80x80mm working area. Ensure it is flat and stable.
2. **Adjust Focus:** The TS1 features an auto-focus laser head, but manual adjustment may be required for optimal results depending on material thickness. The ideal working distance is 2.5-6.5cm. Rotate the lens to fine-tune focus.
3. **Software Setup:** Open your chosen engraving software. Import your design (.NC, .Gcode, JPG, PNG, BMP, GIF, SVG, etc.).
4. **Parameter Settings:** Adjust engraving parameters such as power, speed (up to 3000mm/min), and passes based on the material type. Start with lower settings and gradually increase if needed.
5. **Start Engraving:** Initiate the engraving process from the software. Monitor the process closely.

Mini size
157X157x167mm



Engraving Area: 80x80mm,
Height: 0-35mm

Engraving Speed
800mm/Min

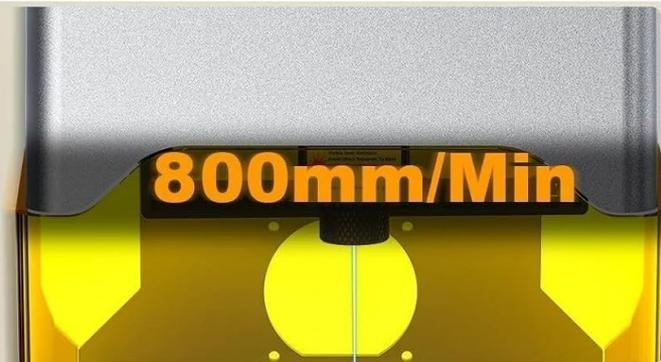


Image: Dimensions, engraving area, and speed capabilities of the TS1 Mini Laser Engraver.

5.3 Material Compatibility

The TS1 Mini Laser Engraver is versatile and can engrave or mark a wide range of materials, including but not limited to:

- Wood (plywood, MDF, bamboo)
- Leather
- Paper and Cardboard
- Plastics (certain types, avoid PVC)
- Painted Metal (engraves off the paint to reveal metal)
- Glass (surface etching)
- Rubber
- Fabric/Woven Material

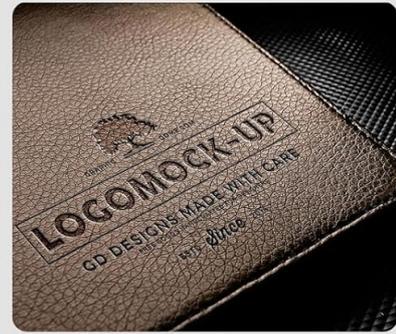
Widely Used in Personalized Gifts



Plastic mobile phone case



Wood



Leather Wallet



Bamboo Bookmark



Card cutting



Food



Rubber



Woven material



Foliage

Image: Examples of diverse materials and products that can be engraved or marked with the TS1 Mini.

6. MAINTENANCE

Regular maintenance ensures optimal performance and longevity of your laser engraver.

- **Clean the Lens:** Periodically clean the laser lens with a soft, lint-free cloth and lens cleaning solution (if available) to remove dust and debris that can affect laser performance.
- **Clean the Engraving Area:** Remove any residue or small pieces of material from the engraving platform after each use.
- **Check Moving Parts:** Ensure the XY-axis motors and rails are free from obstructions and move smoothly.
- **Store Properly:** When not in use, store the engraver in a clean, dry environment, away from direct sunlight and extreme temperatures.

7. TROUBLESHOOTING

If you encounter issues with your TS1 Mini Laser Engraver, refer to the following common problems and solutions:

Problem	Possible Cause	Solution
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Problem	Possible Cause	Solution
Engraving is blurry or weak.	Incorrect focus, dirty lens, incorrect power/speed settings.	Adjust laser focus. Clean the laser lens. Adjust power and speed settings in software.
Engraver not connecting to software.	Incorrect drivers, loose USB connection, Bluetooth not paired, software issues.	Ensure USB cable is securely connected. Reinstall software drivers. Re-pair Bluetooth. Try a different USB port or cable. Check software for updates.
Engraver stops mid-operation.	Computer goes to sleep, loose connection, power interruption.	Disable sleep mode on your computer. Ensure stable power supply. Check all connections.
Device not powering on.	Power adapter issue, power switch off, faulty outlet.	Ensure power switch is on. Check power adapter connection. Try a different power outlet.

If the problem persists, please contact Twotrees customer support for further assistance.

8. SPECIFICATIONS

Feature	Detail
Model	TS1
Laser Power	3W (1600mw adjustable)
Laser Class	Class 4
Working Area	80 x 80 mm
Engraving Height Support	0 - 30 mm
Engraving Speed	Up to 3000 mm/min
Positioning Accuracy	0.1 mm
Auto-Focus Distance	2.5 - 6.5 cm
Connectivity	Bluetooth, USB, TF Card
Supported Software	Lightburn, LaserGRBL, MKSLaser
Supported File Formats	.NC, .Gcode, JPG, PNG, BMP, GIF, SVG
Dimensions (Unit)	157 x 157 x 167 mm
Item Weight	1.03 kg (2.26 lbs)
Power Input	12V/2A
Max Power Consumption	17.5W

9. WARRANTY AND SUPPORT

For warranty information and technical support, please refer to the official Twotrees website or contact the retailer from whom you purchased the product. Keep your proof of purchase for warranty claims.

Twotrees Customer Service: Please visit the official Twotrees support page for the most up-to-date contact information and resources.