

## ACMER S2

# ACMER S2 7000mW Laser Engraver Instruction Manual

Model: S2 | Brand: ACMER

[Introduction](#) [Safety](#) [Setup](#) [Operation](#) [Maintenance](#) [Troubleshooting](#) [Specifications](#) [Support](#)

## 1. INTRODUCTION

The ACMER S2 7000mW Laser Engraver is a high-precision mini laser engraving and cutting machine designed for a wide range of materials. It features an ultra-fine laser spot of 0.08 x 0.08mm and a generous 30x30cm working area, enabling realistic 1:1 photo-like engraving and precise cutting on over 100 types of materials. Compatible with popular software like LaserGRBL and LightBurn, this machine is suitable for both beginners and experienced users seeking versatile and accurate results for their creative projects.

# 多様な材料に対応 無限のクリエイション

木材、竹材、紙材、プラスチック、レザー、PCB基板、酸化アルミニウム、反射防止コーティング材及び塗装金属、セラミック

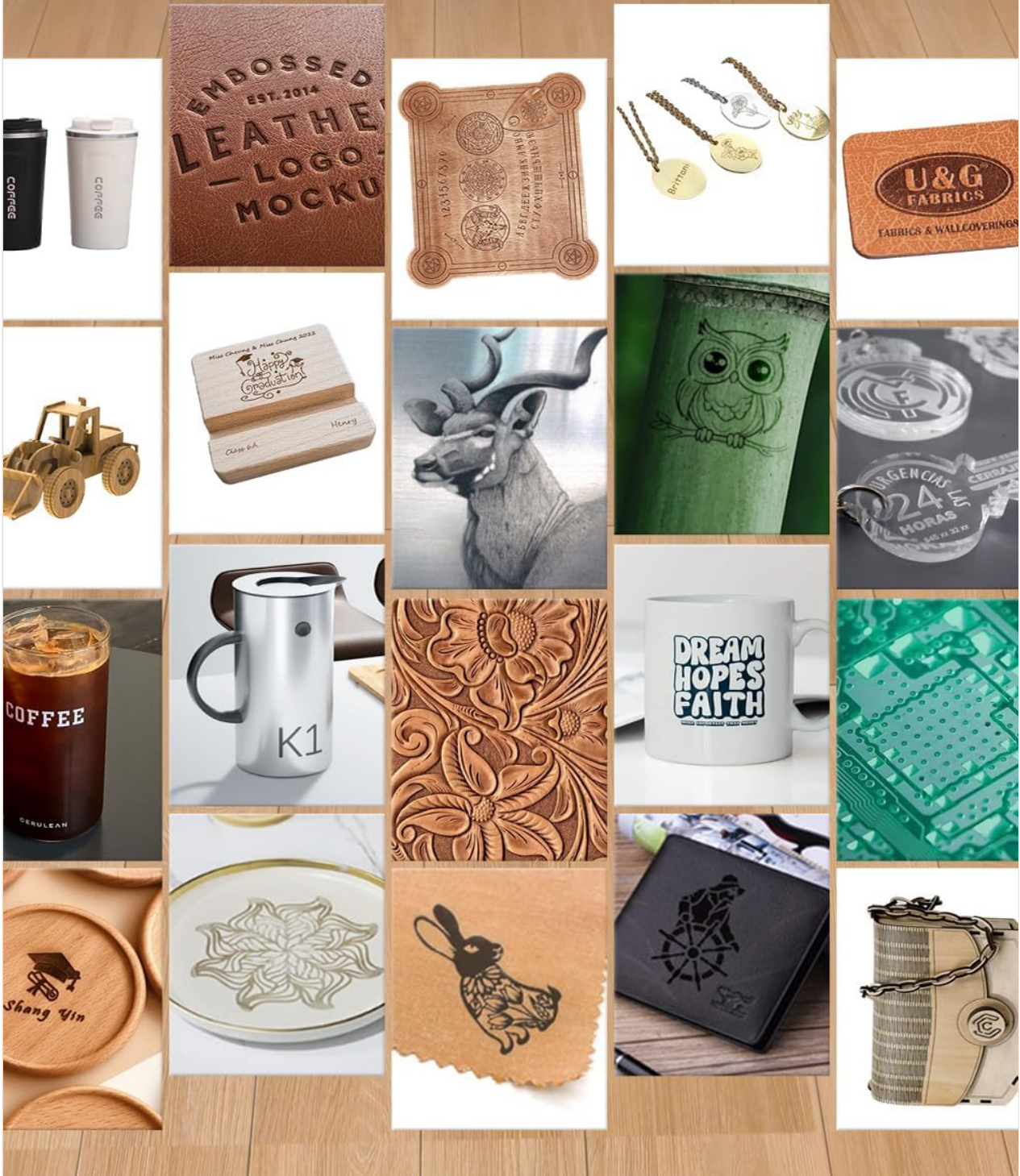


Figure 1: Material Versatility. This image showcases diverse creations made with the ACMER S2 laser engraver, demonstrating its capability across materials such as wood, leather, acrylic, and coated metals.

## 2. SAFETY INFORMATION

---

Operating a laser engraver requires adherence to strict safety guidelines to prevent injury. Please read and understand all safety instructions before operating the device.

- **Eye Protection:** Always wear the provided safety goggles when the laser engraver is in operation. Never look directly into the laser beam, as it can cause permanent eye damage.
- **Ventilation:** Ensure the work area is well-ventilated to dissipate fumes and smoke produced during engraving or cutting.
- **Supervision:** Do not leave the machine unattended during operation.
- **Flammable Materials:** Keep flammable materials away from the laser engraver.
- **Children and Pets:** Keep children and pets away from the machine during operation.
- **Emergency Stop:** Familiarize yourself with the location of the emergency stop button (if available) or how to quickly power off the machine in an emergency.

### 3. PACKAGE CONTENTS

---

Upon unpacking, verify that all components are present. The standard package typically includes:

- ACMER S2 Laser Engraver Unit
- 7000mW Laser Module
- Power Adapter
- USB Cable
- Safety Goggles
- User Manual (this document)
- Assembly Tools and Screws

*Note: Specific components may vary slightly. Refer to your packing list for exact contents.*

### 4. SETUP

---

The ACMER S2 laser engraver is designed for straightforward assembly. Follow these steps for initial setup:

1. **Unpacking:** Carefully remove all components from the packaging.
2. **Frame Assembly:** Assemble the frame components according to the detailed instructions provided in the separate assembly guide. Ensure all screws are tightened securely.
3. **Laser Module Installation:** Mount the 7000mW laser module onto the gantry. Ensure it is firmly attached and correctly oriented.
4. **Cable Connections:** Connect the power adapter to the engraver and a power outlet. Connect the USB cable from the engraver to your computer.
5. **Calibration:** The machine is equipped with precise calibration scales on its frame for accurate positioning. Use these scales to ensure your material is aligned correctly within the working area.

# 操作の効率性が高い

加工エリア最大 300×300mm

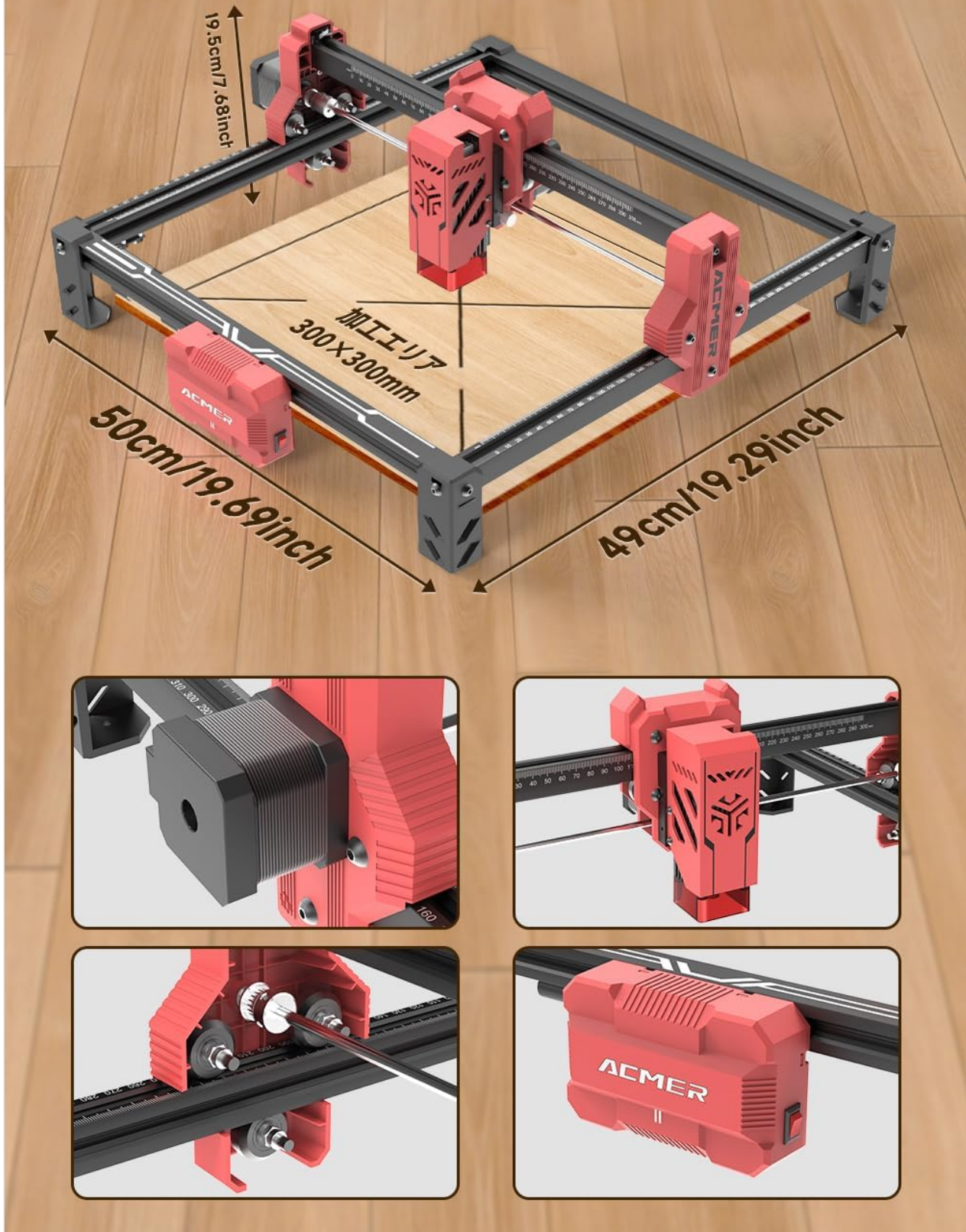


Figure 2: Machine Structure and Dimensions. An overhead view of the ACMER S2 laser engraver, illustrating its 30x30cm working area and overall dimensions for efficient operation.

## 5. OPERATING INSTRUCTIONS

The ACMER S2 is compatible with popular laser engraving software. This section outlines general operating procedures.

## 5.1 Software Compatibility

- **LaserGRBL:** An open-source, easy-to-use program ideal for beginners. Compatible with Windows systems (Windows XP/7/8/10/11) only.
- **LightBurn:** An advanced engraving software compatible with both Windows and Mac systems. A 1-month free trial is available upon first installation.

## 5.2 Engraving and Cutting Process

1. **Software Installation:** Download and install your preferred software (LaserGRBL or LightBurn) on your computer. Follow the software-specific installation instructions.
2. **Connecting the Device:** Ensure the engraver is powered on and connected to your computer via the USB cable. Launch the engraving software.
3. **Material Preparation:** Place your chosen material securely within the 30x30cm working area of the engraver.
4. **Focus Adjustment:** Adjust the laser focus according to the material thickness and desired engraving/cutting effect. Refer to the software's guide for focus adjustment procedures.
5. **Design Loading:** Import or create your design file within the software.
6. **Parameter Setting:** Set the appropriate engraving or cutting parameters (laser power, speed, number of passes) based on the material type and desired outcome. Experimentation with test pieces is recommended.
7. **Framing:** Use the 'Frame' function in your software to preview the laser's path and ensure the design fits within your material and the working area. Adjust material position or design as needed.
8. **Start Operation:** Once all settings are confirmed and safety goggles are worn, initiate the engraving or cutting process. Monitor the machine throughout the operation.

# スポットサイズ小、高精度 0.01mmの精密移動

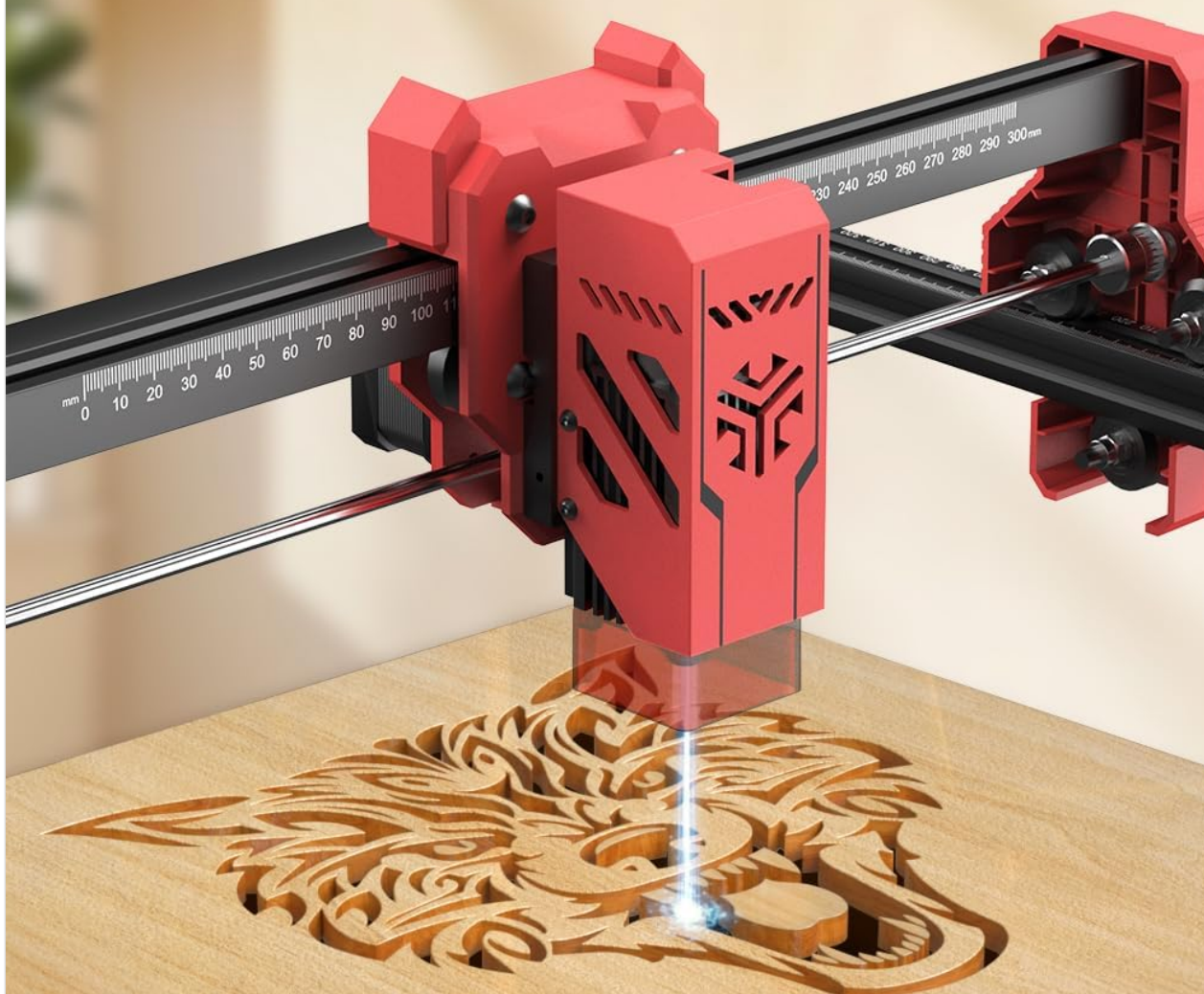
S2 7W

画像



**Figure 3: High Precision Engraving.** This image highlights the S2 laser engraver's small spot size and high precision, capable of reproducing detailed images like a lion's head on various materials.

# 優れた切断進入性



## シングルカット効果



## マルチカット効果



Figure 4: Engraving and Cutting Capability. This image demonstrates the ACMER S2 laser engraver's ability to precisely cut intricate designs into wood, showcasing its cutting penetration and detail.

## 6. MAINTENANCE

Regular maintenance is essential for ensuring optimal performance and extending the lifespan of your ACMER S2 laser engraver.

- **Laser Lens Cleaning:** Periodically clean the laser lens using a soft, lint-free cloth and a specialized lens cleaning solution. Avoid abrasive materials that could scratch the lens.
- **Machine Cleaning:** Regularly clean the machine's frame, guide rails, and moving parts to prevent dust, debris, and material residue buildup. A soft brush or compressed air can be used.
- **Lubrication:** Apply a small amount of appropriate lubricant to the guide rails and lead screws periodically to ensure smooth and precise movement of the laser module.
- **Firmware Updates:** Check the official ACMER website or your software provider's website for any available firmware updates for your engraver. Keeping the firmware updated can improve performance and add new features.

## 7. TROUBLESHOOTING

This section addresses common issues you might encounter during operation.

- **Laser Head Moves Out of Bounds:** If the laser head attempts to move beyond the working area, manually position the laser head to the desired starting point. Use the 'Frame' function in your software (e.g., LightBurn) to verify the working area and design fit before initiating the engraving process. Ensure your design is scaled correctly for the 30x30cm area.
- **Machine Not Connecting to Computer:** Verify that the USB cable is securely connected to both the engraver and your computer. Ensure the engraver is powered on. Check if the correct drivers are installed for your operating system and software. Try a different USB port or cable.
- **Poor Engraving/Cutting Quality:**
  - **Focus:** Ensure the laser is properly focused on the material surface. An out-of-focus laser will produce blurry or weak results.
  - **Parameters:** Adjust laser power, speed, and number of passes in your software. Different materials require different settings.
  - **Material:** Ensure the material is suitable for laser engraving/cutting and is clean and flat.
  - **Lens Cleanliness:** A dirty laser lens can significantly reduce laser power and quality. Clean the lens as described in the Maintenance section.
- **Machine Not Responding:** Power cycle the engraver (turn it off, wait a few seconds, then turn it back on). Restart your computer and engraving software.

If these steps do not resolve the issue, please refer to the software documentation or contact customer support.

## 8. SPECIFICATIONS

Feature	Specification
Brand	ACMER
Model	S2 (JP-S2-WLBM-A)
Laser Output Power	7000mW (7W)
Engraving Area	30 x 30 cm
Laser Spot Size	0.08 x 0.08 mm

Maximum Engraving Speed	Up to 10000 mm/min
Compatible Materials	Wood, Leather, Acrylic, Ceramic, Coated Metals, Paper, Bamboo, etc.
Software Compatibility	LaserGRBL (Windows), LightBurn (Windows, Mac)
Package Dimensions	55 x 29 x 14 cm
Package Weight	3.61 kg

## 9. WARRANTY AND SUPPORT

---

ACMER is committed to providing quality products and customer satisfaction. While specific warranty details may vary by region or retailer, the manufacturer offers support for any issues encountered during the use of your ACMER S2 laser engraver.

If you experience any problems or have questions regarding the operation, maintenance, or troubleshooting of your device, please do not hesitate to contact ACMER customer support. We are dedicated to providing satisfactory solutions and assistance.

**Contact Information:** Please refer to the contact details provided on the official ACMER website or your purchase documentation for the most up-to-date support channels.