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› Artilume U1 Laser Engraver & Cutter Machine Instruction Manual (3000mW)

Artilume U1

Artilume U1 Laser Engraver & Cutter Machine

Model: U1-3000mW Instruction Manual

1. INTRODUCTION

This manual provides essential instructions for the safe and efficient operation, setup, and maintenance of your Artilume U1 Laser Engraver & Cutter Machine. Please read this manual thoroughly before using the device to ensure proper functionality and to prevent damage or injury. The Artilume U1 is designed for precise engraving and cutting on a variety of materials, offering a 200x150mm working area and compatibility with multiple software platforms.

2. SAFETY INFORMATION

WARNING: Laser radiation can cause eye damage and skin burns. Always wear the provided laser safety goggles during operation. Never look directly at the laser beam.

- **Eye Protection:** Always wear the included professional laser safety goggles when the machine is operating.
- **Ventilation:** Operate the machine in a well-ventilated area to dissipate fumes and smoke produced during engraving and cutting.
- **Flammable Materials:** Do not engrave or cut highly flammable materials. Always supervise the machine during operation.
- **Emergency Stop:** Familiarize yourself with the safety-stop function for immediate shutdown in emergencies.
- **Children and Pets:** Keep children and pets away from the operating area.
- **Power Supply:** Use only the specified power adapter. Ensure the power cord is not damaged.

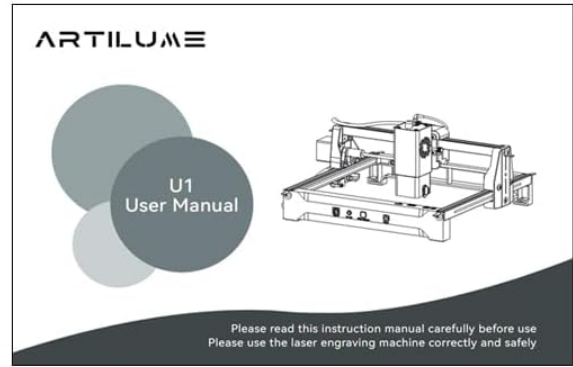
3. PACKAGE CONTENTS

Verify that all items listed below are included in your package. If any items are missing or damaged, please

contact customer support.



Artilume U1 Laser Engraver Machine × 1



User Manual × 1



Marker Pen × 1



Cleaning Brush × 1



Black Card
(Square, 80×81.3×0.3mm) × 1



Kraft Paper
(80×80×0.46mm) × 2



Plywood
(100×100×3mm) × 2



Type-B (2.0) USB Cable × 1



4GB TF Card × 1



Laser Safety Goggles
(151×57×55mm) × 1 pair

Image: Contents of the Artilume U1 Laser Engraver Machine package.

- Artilume U1 Laser Engraver Machine × 1
- User Manual × 1
- Marker Pen × 1
- Cleaning Brush × 1
- Black Card (Square, 80×81.3×0.3mm) × 1
- Kraft Paper (80×80×0.46mm) × 2
- Plywood (100×100×3mm) × 2

- Type-B (2.0) USB Cable × 1
- 4GB TF Card × 1
- Laser Safety Goggles (151x57x55mm) × 1 pair

4. PRODUCT OVERVIEW

The Artilume U1 is a pre-assembled laser engraver and cutter designed for ease of use and high precision. It features a compact design with a generous engraving area, making it suitable for various creative projects.

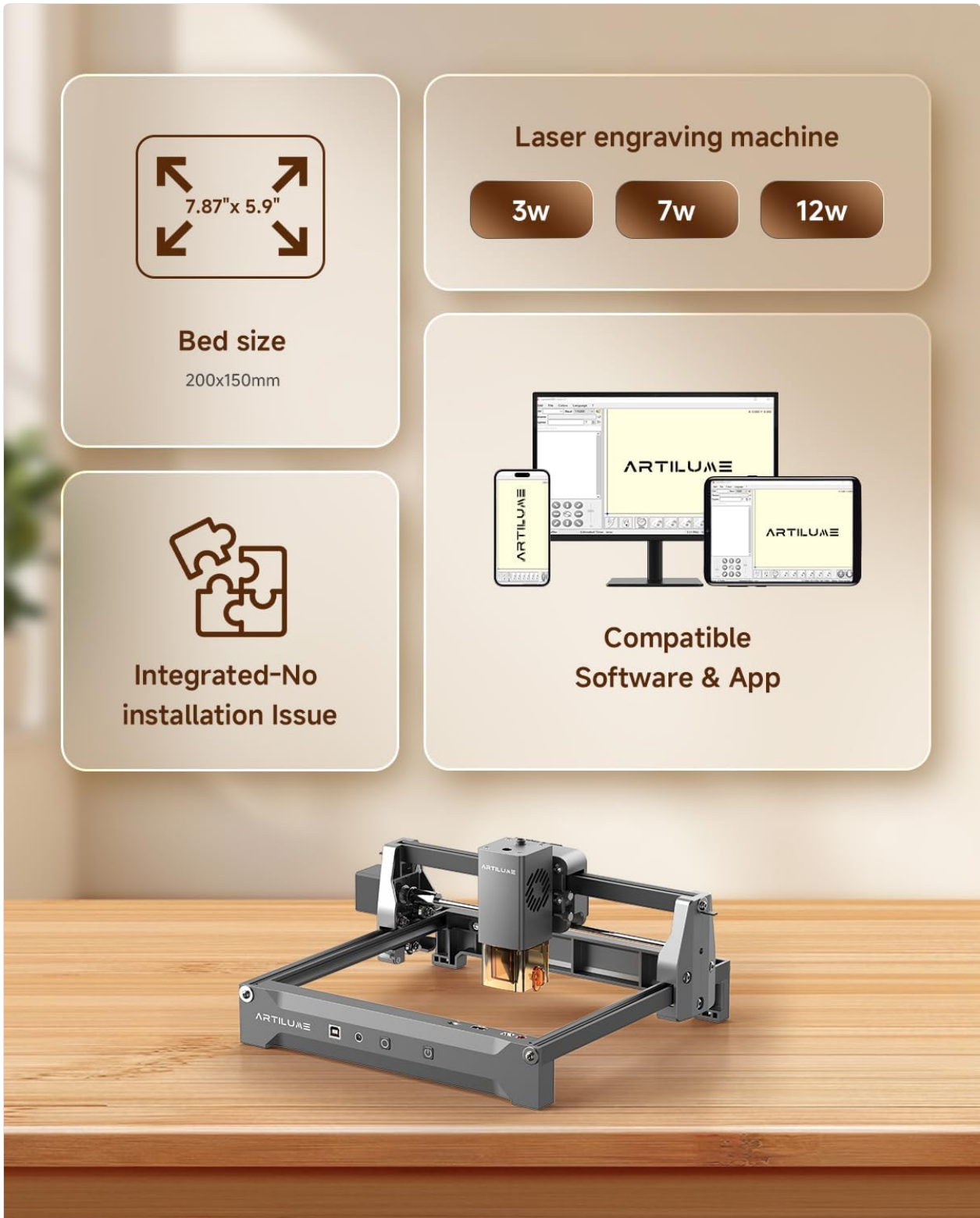


Image: Overview of the Artilume U1, highlighting its 200x150mm bed size, integrated design, and compatibility with various software and apps.

4.1 Key Features

- **Pre-Assembled Design:** The machine arrives largely assembled, requiring minimal setup to begin operation.
- **High Precision:** Achieves 0.01mm ultra-fine precision for detailed engravings.
- **Engraving & Cutting Speed:** Capable of cutting speeds up to 7000mm/min.
- **Wide Material Compatibility:** Engraves and cuts various materials including wood, metal, acrylic, leather, paper, fabric, stone, ceramic, and coated metals.
- **Software Compatibility:** Supports CutLabX (Windows/macOS/Android/iOS) and is compatible with professional GRBL platforms like LightBurn and LaserGRBL.
- **Advanced Laser Module:** Features a 450nm 3W laser module with a 10,000-hour lifespan. Includes a dust-proof design for easy maintenance.
- **Durable Construction:** Built with a high-strength anodized aluminum frame, ABS components, and alloy guide rail structure for stable performance.
- **Compact Footprint:** Space-saving design suitable for home studios or workshops.

Finest Laser Spot Size

Maintaining an ultra-fine laser output enables the achievement of exceptionally detailed and lifelike engravings on each piece.



ARTILUME U1 0.01*0.01mm Laser Spot



Others 0.06*0.06mm Laser Spot



Image: Illustrates the finest laser spot size of the Artilume U1 (0.01x0.01mm) compared to other machines (0.06x0.06mm), showing enhanced detail.

Up to 7,000mm/min
work faster, create more

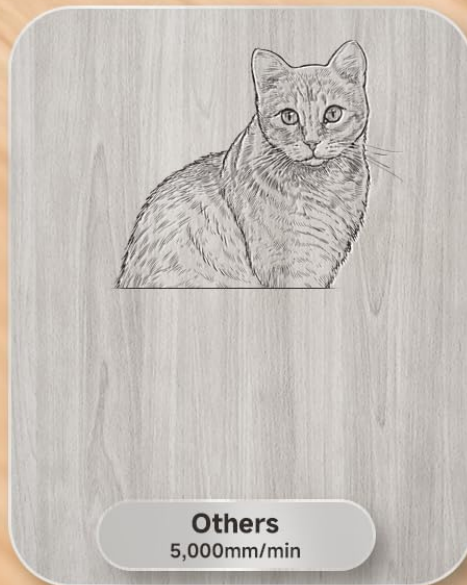
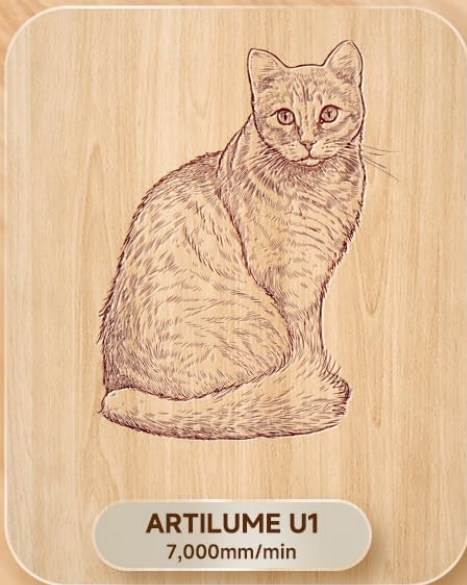


Image: Demonstrates the Artilume U1's engraving speed of up to 7000mm/min, allowing for faster project completion.

Wide Compatibility

Lightburn & LaserGrbl & cutlabx supported

Connection
methods



System



Windows 7+



Mac OS



LinuX

Software



LightBurn



CutLabX



LaserGRBL

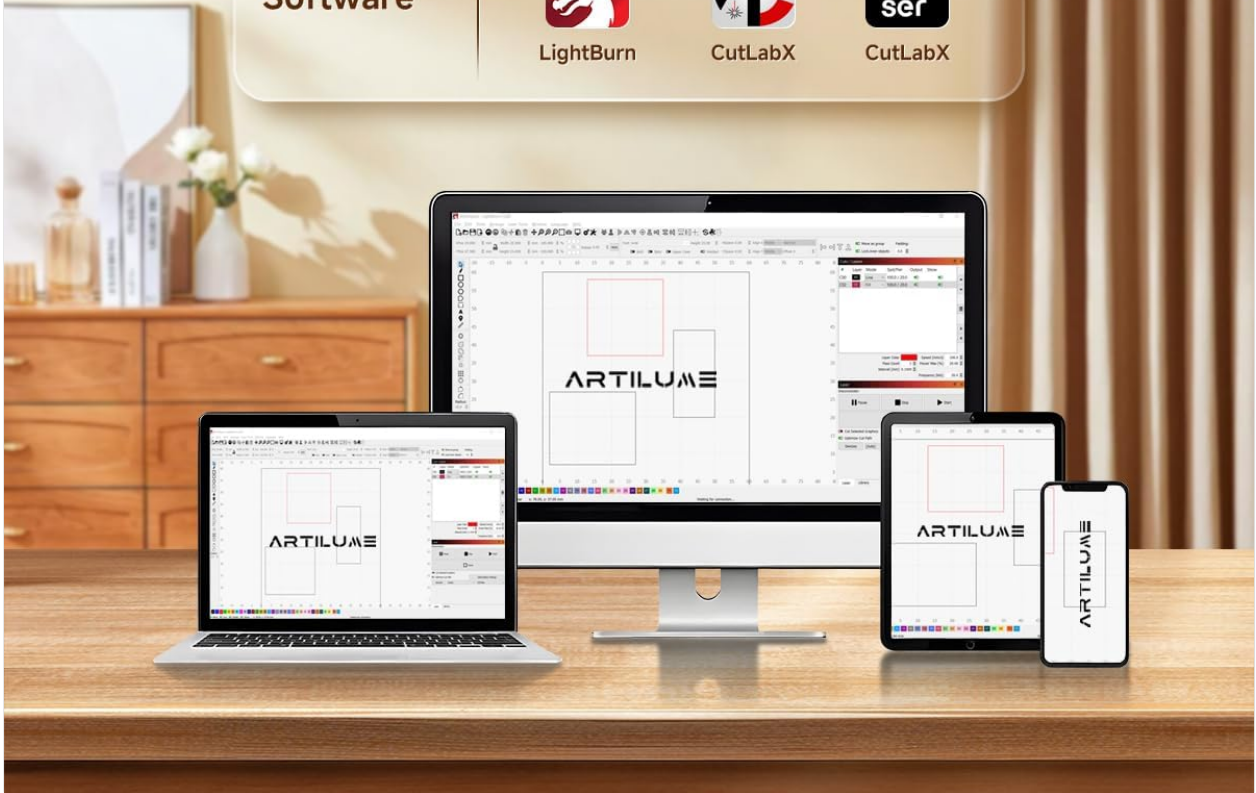


Image: Details the wide software compatibility of the Artilume U1, supporting LightBurn, LaserGRBL, and CutLabX on Windows, macOS, Linux, and mobile devices.

Unlock Your Creativity with Artilume U1

Ultra-fine laser spot, 100+ Materials supported



Paper



Cloth



Ceramics



Acrylic



Leather



wood



Mtetal



Bamboo

Image: Showcases the Artilume U1's ability to engrave and cut over 100 materials, including paper, cloth, ceramics, acrylic, leather, wood, metal, and bamboo.

4.2 Machine Components

Stable Structure

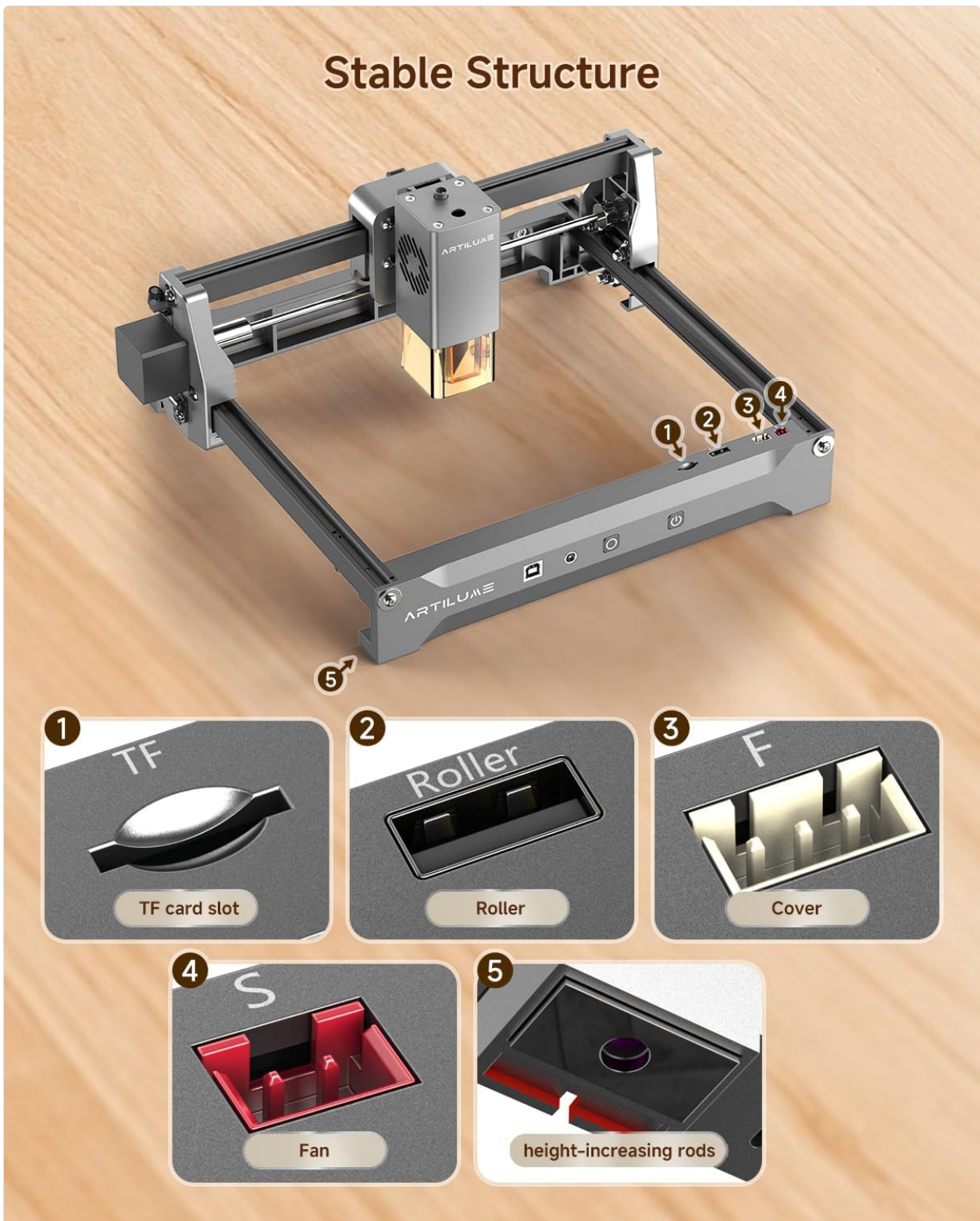


Image: Diagram illustrating the stable structure of the Artilume U1 and key components such as the TF card slot, roller, cover, fan, and height-increasing rods.

- **TF Card Slot:** For offline engraving using designs stored on a TF card.
- **Roller:** Part of the motion system for precise laser head movement.
- **Cover:** Protective element for internal components.
- **Fan:** Ensures proper cooling of the laser module during operation.
- **Height-Increasing Rods:** Used to adjust the machine's height for specific projects or accessories.

5. SETUP

The Artilume U1 is designed for quick setup due to its pre-assembled nature.

5.1 Initial Assembly

1. Carefully remove the machine and all accessories from the packaging.
2. Place the machine on a stable, level surface in a well-ventilated area.
3. Connect the power adapter to the machine and a suitable power outlet.
4. Connect the machine to your computer via the provided USB cable or establish a Wi-Fi connection as per software instructions.

5.2 Software Installation

The Artilume U1 is compatible with CutLabX, LightBurn, and LaserGRBL. Choose the software that best suits your needs.

1. **CutLabX:** Download the CutLabX software from the official Artilume website or scan the QR code in the included user manual. Follow the on-screen instructions for installation on your Windows, macOS, Android, or iOS device.
2. **LightBurn/LaserGRBL:** For advanced users, download LightBurn or LaserGRBL from their respective official websites. Ensure your software version is compatible with GRBL-based laser engravers. Follow their installation guides.
3. After installation, connect the machine to the software. Refer to the software's specific documentation for connection procedures.

6. OPERATION

Operating the Artilume U1 involves preparing your design, setting up the material, and initiating the engraving or cutting process.

6.1 Material Preparation

1. Place your chosen material securely within the engraving area (200x150mm). Ensure it is flat and stable.
2. **Focusing the Laser:** The laser focus is critical for precise results. Use the included focusing tool or follow the software's instructions to adjust the laser head height until the laser spot is at its finest point on the material surface.

6.2 Software Workflow

1. **Import Design:** Open your chosen software (CutLabX, LightBurn, or LaserGRBL) and import your design file (JPG, PNG, NC, DXF formats are supported).
2. **Adjust Settings:** Configure engraving or cutting parameters such as power, speed, and passes. Refer to the material settings tables in the included user manual for recommended values for different materials. Start with lower power and higher speed for testing.
3. **Preview:** Use the software's preview function to ensure the design is positioned correctly on your material.
4. **Start Operation:** Once settings are confirmed and safety goggles are worn, initiate the engraving or cutting process from the software.

6.3 Offline Engraving (TF Card)

For offline operation, save your G-code file to the provided TF card. Insert the TF card into the slot on the machine and use the machine's controls to select and start the engraving process.

7. MAINTENANCE

Regular maintenance ensures the longevity and optimal performance of your Artilume U1.

- **Laser Lens Cleaning:** The laser lens features a wind compression dust-proof design. Periodically clean the lens using the provided cleaning brush or a soft, lint-free cloth to remove dust and debris. The lens can be quickly replaced if necessary.
- **General Cleaning:** Keep the machine's frame and working area clean from dust and material residue. Use a soft cloth to wipe surfaces.
- **Lubrication:** Occasionally, apply a small amount of lubricant to the guide rails to ensure smooth movement of the laser head.
- **Laser Module Lifespan:** The laser module has an estimated lifespan of 10,000 hours. If performance degrades significantly, consider replacing the module.

8. TROUBLESHOOTING

If you encounter issues with your Artilume U1, refer to the following common troubleshooting steps:

- **Machine Not Powering On:** Check the power cable connection to both the machine and the power outlet. Ensure the power adapter is functioning correctly.
- **Laser Not Firing/Weak Output:** Verify that the laser module is properly connected. Check laser power settings in your software. Ensure the laser lens is clean and free of obstructions.
- **Connection Issues (USB/Wi-Fi):** Ensure the USB cable is securely connected. For Wi-Fi, check your network connection and software settings. Restart both the machine and your computer/device.
- **Engraving/Cutting Quality Issues:**
 - **Blurry/Inaccurate Engraving:** Re-check the laser focus. Ensure the material is stable and not moving during operation.
 - **Incomplete Cuts:** Adjust power and speed settings in your software. Increase laser power or decrease speed, or add more passes.
 - **Material Burning/Scorching:** Decrease laser power or increase speed. Ensure proper ventilation.
- **Machine Not Responding:** Try restarting the machine and the software. Check for any error messages in the software.

For persistent issues, consult the detailed troubleshooting section in the full user manual or contact Artilume customer support.

9. SPECIFICATIONS

Feature	Specification
Brand	Artilume
Model Number	U1
Laser Output Power Level	3000mW (3W)
Laser Class	1
Precision	0.01mm
Active Surface Area	200x150mm (7.87" x 5.9")
Max Cutting Speed	7000mm/min
Material	Acrylonitrile Butadiene Styrene (ABS), Aluminum
Product Dimensions	13.39 x 11.42 x 5.83 inches
Item Weight	5.54 pounds
Operation Mode	Automatic
Software Compatibility	CutLabX, LightBurn, LaserGRBL
Supported OS	Windows, macOS, Android, iOS, Linux
Included Components	Artilume U1 Laser Engraver Machine

10. WARRANTY AND SUPPORT

10.1 Warranty Information

The Artilume U1 Laser Engraver & Cutter Machine comes with a **1-Year Manufacturer Warranty**. This warranty covers defects in materials and workmanship under normal use. Please retain your proof of purchase for warranty claims.

10.2 Customer Support

For technical assistance, troubleshooting, or warranty inquiries, please contact Artilume customer support. Refer to the contact information provided in your product packaging or on the official Artilume website.