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## AlgoLaser DIY KIT MK2 20000mW

# AlgoLaser Laser Engraver DIY KIT MK2 20000mW Instruction Manual

**Brand:** AlgoLaser | **Model:** DIY KIT MK2 20000mW

## 1. INTRODUCTION

The AlgoLaser DIY KIT MK2 20W is a high-precision laser engraver and cutter designed for versatile material processing. Featuring a powerful 20000mW laser and an intuitive 3.5" IPS touchscreen with AlgoOS, it offers touch-to-engrave functionality without requiring a computer. This manual provides comprehensive instructions for setup, operation, maintenance, and troubleshooting to ensure safe and efficient use of your device.



Figure 1: AlgoLaser DIY KIT MK2 20000mW Laser Engraver and included accessories.

## 2. SETUP

### 2.1 Unboxing and Assembly

The AlgoLaser DIY KIT MK2 requires assembly. Carefully unpack all components and refer to the included assembly guide for step-by-step instructions. Ensure all screws are tightened securely and cables are properly connected.

### 2.2 Initial Power-On and AlgoOS Boot

After assembly, connect the power supply. Turn on the machine using the power button. The 3.5" IPS touchscreen will display the AlgoOS boot sequence. Once booted, the main interface will appear, allowing access to projects, controls, and settings.

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Video 1: Demonstration of the AlgoLaser DIY KIT MK2 power-on sequence and initial AlgoOS interface. This video shows the machine booting up and navigating through the main menu options.

### 2.3 Wi-Fi Connection and Firmware Update

To ensure optimal performance and access to the latest features, connect your device to Wi-Fi and check for firmware updates. Navigate to 'Settings' on the AlgoOS touchscreen, then 'WLAN' to connect to your 2.4G Wi-Fi network. After connecting, go to 'Firmware' under 'System' to check for and install updates.

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Video 2: Guide on how to connect the AlgoLaser DIY KIT MK2 to Wi-Fi and perform a firmware update to AlgoOS 2.3.

## 2.4 Software Compatibility

The AlgoLaser DIY KIT MK2 is highly compatible with popular engraving software such as LightBurn, LaserGRBL, and the dedicated AlgoLaser App. These software options provide advanced control and design capabilities for both beginners and seasoned professionals.

# Highly compatible, Perfect for Beginners and Pros

The DIY KIT MK2 offers unmatched versatility across popular engraving software. Whether you use LightBurn, LaserGRBL, or our AlgoLaser App, it integrates effortlessly into any workflow, Catering to both beginners and seasoned professionals.



Algolaser APP



Lightburn



LaserGRBL

Figure 2: Software compatibility of the AlgoLaser DIY KIT MK2, highlighting the AlgoLaser App, LightBurn, and LaserGRBL.

## 3. OPERATING THE LASER ENGRAVER

### 3.1 AlgoOS Touchscreen Operation

The AlgoOS system provides intuitive touch-to-engrave functionality directly from the 3.5" IPS touchscreen, eliminating the need for a computer during operation. You can select projects, adjust settings, and monitor progress directly from the device.

## Easiest Operation with Algoos

The DIY KIT MK2 features a built-in 3.5 inch IPS touchscreen with AlgoOS, which offers intuitive touch-to-engrave functionality-no need for a computer



Figure 3: Detailed view of the AlgoOS touchscreen interface for easy operation.

### 3.2 Engraving and Cutting Process

To begin, place your material on the honeycomb platform. Select your desired project from the SD card or USB disk via the AlgoOS interface. Adjust engraving parameters such as power, speed, and passes based on the material type and desired effect. The machine supports engraving speeds up to 20,000 mm/s for efficient processing.

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Video 3: Live demonstration of the AlgoLaser DIY KIT MK2 cutting a wood board, showcasing the precision and speed of the laser.

### 3.3 Material Versatility and Precision

The 20W laser module, utilizing advanced compression technology, achieves an ultra-fine laser spot size of 0.15x0.12mm, enabling superior precision and the ability to create hundreds of colors on stainless steel surfaces. It can cut various materials including 30mm pinewood, 25mm dark acrylic, and 0.03mm thin

stainless steel.

# 20W Powerful Cutting, Accurate Engraving

With the 20W laser module using advanced compression technology, you can cut thicker materials with ease and engrave even the most intricate details for professional-level precision of 0.15\*0.12mm

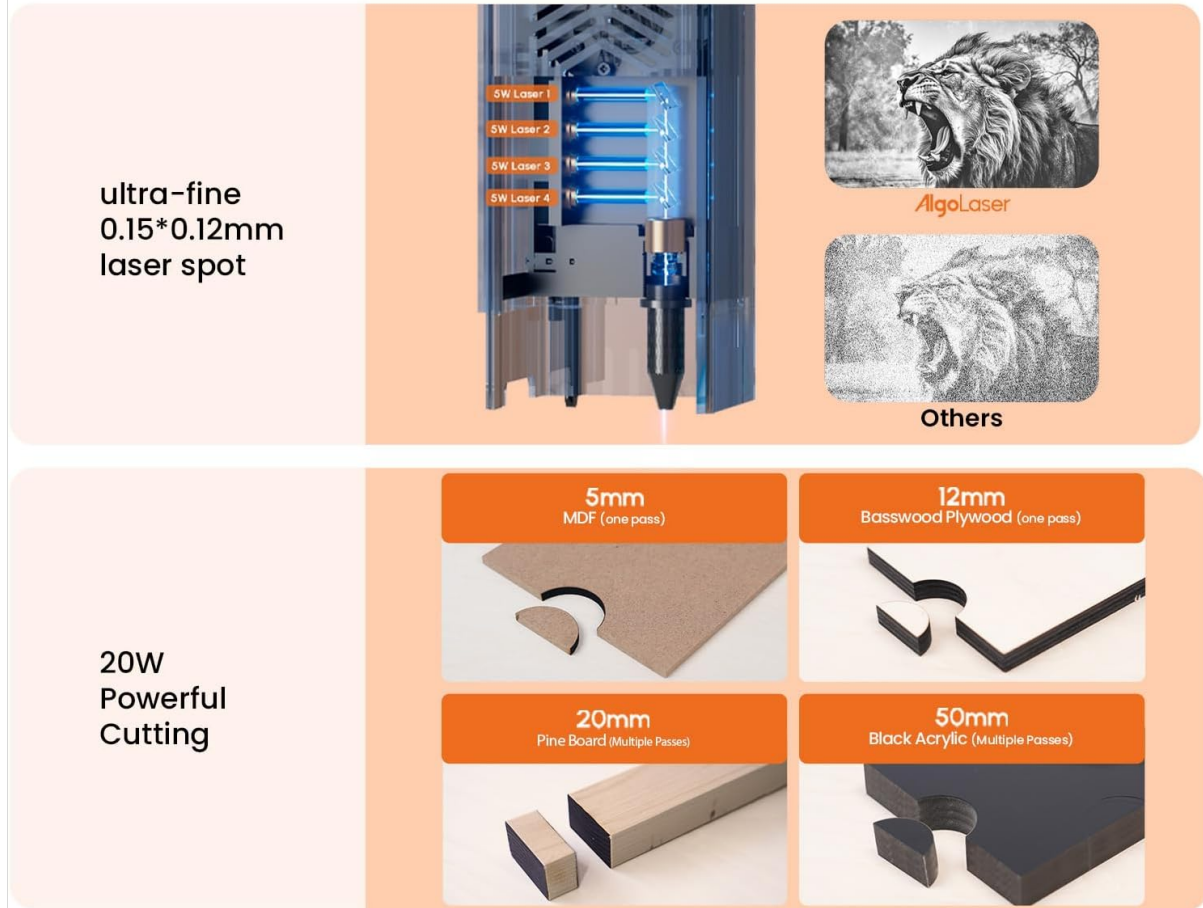


Figure 4: Illustration of the 20W laser's cutting capabilities and precision on various materials.

The machine supports engraving on a wide range of materials such as paper, bamboo, wood, leather, PCB boards, aluminum oxide, metal, and glass. The AlgoOS built-in image library offers ample design inspiration.

# Versatile Material Selection to Meet Your Diverse Needs

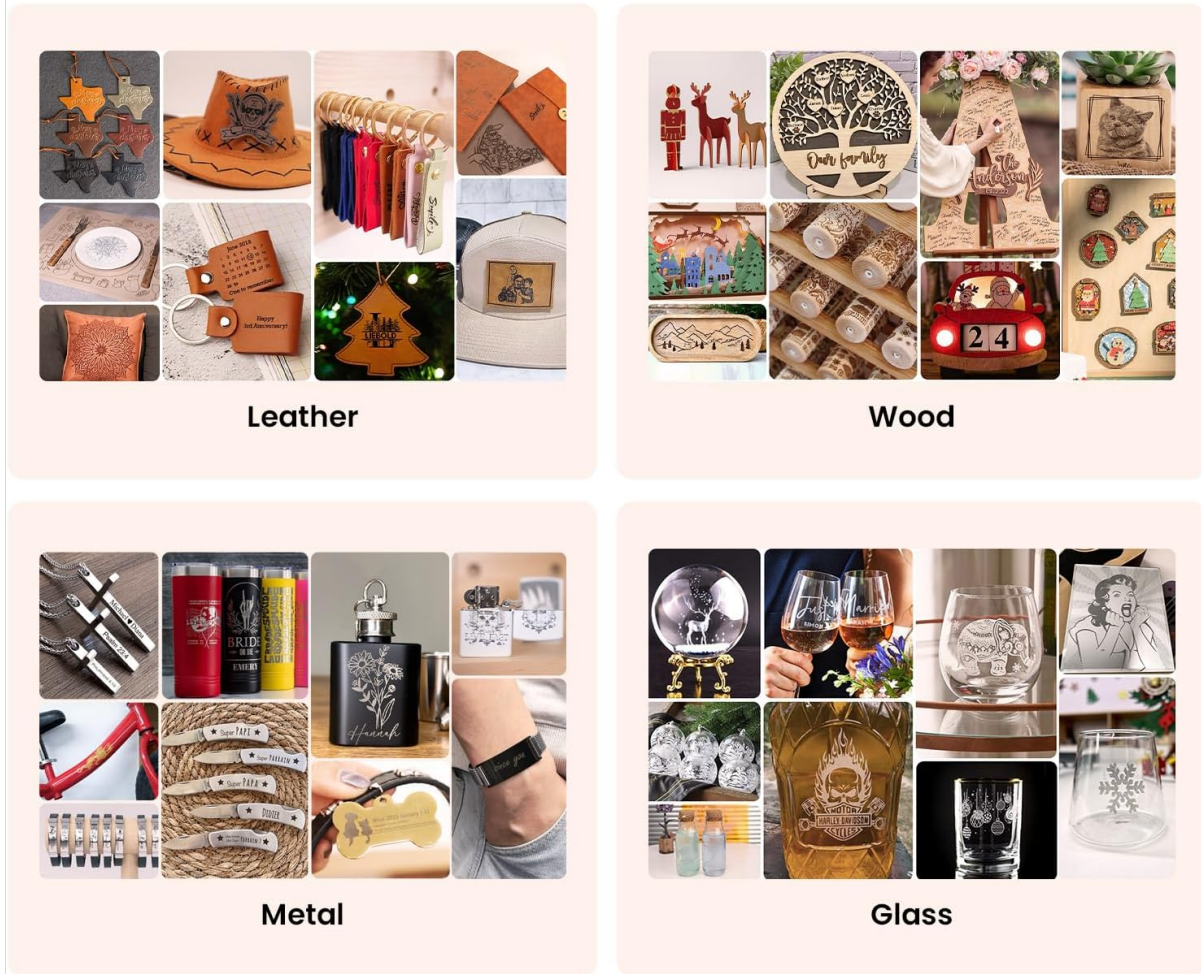


Figure 5: Examples of versatile material engraving, including leather, wood, metal, and glass.

## 3.4 Advanced Engraving Features

The DIY KIT MK2 supports advanced features like interruption recovery, allowing you to resume engraving from the last stopping point after an unplanned interruption. It also supports repeat engraving of the same file without resetting parameters, saving time and improving efficiency.

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Video 4: Demonstration of the AlgoLaser DIY KIT MK2 performing detailed carving on a material, highlighting the precision of the laser.

## 4. MAINTENANCE

Regular maintenance is crucial for the longevity and optimal performance of your AlgoLaser engraver. Keep the laser lens clean using a soft, lint-free cloth and appropriate lens cleaning solution. Regularly clear debris from the honeycomb platform and the machine's rails to ensure smooth operation of the laser module. Inspect belts and moving parts for wear and tear, and tighten any loose connections.

## 5. TROUBLESHOOTING

The AlgoOS system includes a fault reporting feature to help identify and resolve issues. If you encounter a problem, check the touchscreen for error messages and consult the AlgoOS system's diagnostic tools.

### Common Issues:

- **Material not cutting/engraving properly:** Verify laser power and speed settings for the specific material. Ensure the material is flat and properly focused.
- **Connection issues:** Check Wi-Fi connection, USB cable, and power supply.
- **Machine not responding:** Ensure the emergency stop button is not engaged and the safety key is in the 'unlocked' position. Restart the machine.

For persistent issues, refer to the detailed troubleshooting section in the full user manual or contact AlgoLaser support.

## 6. SPECIFICATIONS

Feature	Detail
Product Dimensions	26.23 x 23.67 x 7.01 inches
Item Model Number	AlgoLaser Laser Engraver
Item Weight	15.52 pounds
Manufacturer	Algolaser
Country of Origin	China
Laser Power	20000mW (20W)
Engraving Speed	Up to 20,000 mm/s
Laser Spot Size	0.15 x 0.12 mm
Touch Screen	3.5" IPS Touchscreen with AlgoOS

## 7. SAFETY GUIDELINES

The AlgoLaser DIY KIT MK2 is equipped with 7 major safety features to ensure a safe engraving experience. Always adhere to the following guidelines:

- Always wear appropriate laser safety glasses when the machine is operating.
- Never leave the machine unattended during operation.

- Ensure the work area is well-ventilated to dissipate smoke and fumes.
- Keep flammable materials away from the laser's path.
- Utilize the emergency stop button in case of any malfunction or emergency.
- Keep children and pets away from the operating machine.
- Do not attempt to modify or disassemble the laser module or other components beyond what is described in this manual.

## 8. WARRANTY AND SUPPORT

AlgoLaser products come with a manufacturer's warranty covering defects in materials and workmanship. For detailed warranty terms, registration, and technical support, please visit the official AlgoLaser website or contact their customer service. Keep your purchase receipt as proof of purchase.

### **Online Resources:**

- AlgoLaser Official Store on Amazon
- Refer to the AlgoLaser website for the latest software downloads, FAQs, and community forums.