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> AlgoLaser DIY KIT MK2 Laser Engraver Instruction Manual

AlgoLaser ALDKMK2-10BD

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Model: ALDKMK2-10BD

INTRODUCTION

This manual provides essential information for the safe and effective use of your AlgoLaser DIY KIT MK2 Laser Engraver. This device is a 10W output power laser engraver and cutter, featuring a 3.5-inch touch screen for intuitive operation. It is designed for precise engraving and cutting on various materials such as wood and metal, utilizing a 0.05 x 0.1mm compressed spot laser.

Please read this manual thoroughly before operating the device and retain it for future reference. Adherence to the instructions will ensure optimal performance and user safety.

Faster, Larger, More Efficient

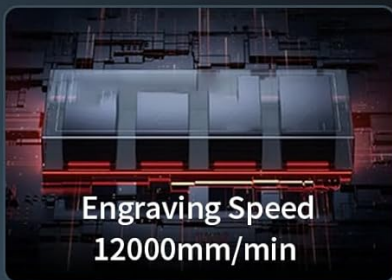


Figure 1: AlgoLaser DIY KIT MK2 Laser Engraver. This image displays the overall structure of the laser engraver, including the frame, laser module, and control panel.

SAFETY PRECAUTIONS

The AlgoLaser DIY KIT MK2 Laser Engraver is equipped with 7 major safety features to ensure user protection during operation. Always prioritize safety when using laser equipment.

- **Laser Emission Protection:** Designed to prevent accidental laser exposure.
- **Safety Lock:** The device includes a safety key. Ensure it is used by authorized personnel only.
- **Machine Offset Detection and Protection:** Automatically stops operation if the machine detects unexpected movement.
- **Machine Tilt Detection and Protection:** Halts operation if the machine is tilted beyond a safe angle.
- **USB Connection Detection and Protection:** Monitors USB connection stability to prevent interruptions during engraving.
- **Voltage and Current Safety Control System:** Regulates power supply for stable and safe operation.
- **Emergency Stop Button:** A prominent button for immediate shutdown in case of an emergency.

Always wear appropriate laser safety glasses when the laser is active. Never look directly into the laser beam. Ensure adequate ventilation in the work area to dissipate fumes generated during engraving or cutting.

SETUP

The AlgoLaser DIY KIT MK2 features a modular design for straightforward assembly. Follow the instructions provided in the assembly video and the included quick start guide to set up your engraver.

Assembly Steps

1. Unpack all components and verify against the packing list.
2. Assemble the frame according to the visual instructions.
3. Install the laser module onto the gantry.
4. Connect all necessary cables, ensuring secure connections. The wire management system helps prevent tangled wires.
5. Place the machine on a stable, level surface.

Assembly Video Guide

Video 1: AlgoLaser DIY KIT MK2 Engraver Assembly. This video provides a detailed, step-by-step guide on how to assemble the laser engraver from its components.

OPERATING INSTRUCTIONS

The AlgoLaser DIY KIT MK2 is designed for ease of use, offering multiple control options and a user-friendly interface.

3.5-inch Touch Screen Operation

The built-in interactive 3.5-inch color LCD touch screen provides a clear and responsive interface for direct control. You can select files, set parameters, and initiate engraving directly from the screen without needing a computer.

DIY KIT MK2

No-learning Laser Engraver

The era of smart engraving is just beginning
Super easy to use



Figure 2: AlgoLaser DIY KIT MK2 Touch Screen Interface. This image illustrates the intuitive graphical user interface on the 3.5-inch touch screen, showing options for file selection and parameter adjustment.

Connectivity and Software Compatibility

The engraver supports 2.4G WiFi and USB-C connections, offering flexibility for various workflows. It is compatible with popular engraving software:

- **AlgoLaser App:** For effortless creativity and offline control via smartphone.
- **LaserGRBL:** A widely used software for laser engraving.
- **LightBurn:** Advanced software compatible with Windows (7/8/XP/10/11) and MAC systems.

Supported file formats include JPG, SVG, PNG, BMP, G-code, and DWG.



Figure 3: AlgoLaser DIY KIT MK2 Multiple Connection Options. This image demonstrates the various ways to connect and control the engraver, including via smartphone app and desktop software.

Laser Module and Performance

The 10W laser module features advanced spatial coherence technology, resulting in a minuscule spot size of 0.05 x 0.1mm. This precision allows for intricate details and clean cuts. The engraving speed can reach up to 12,000mm/min.

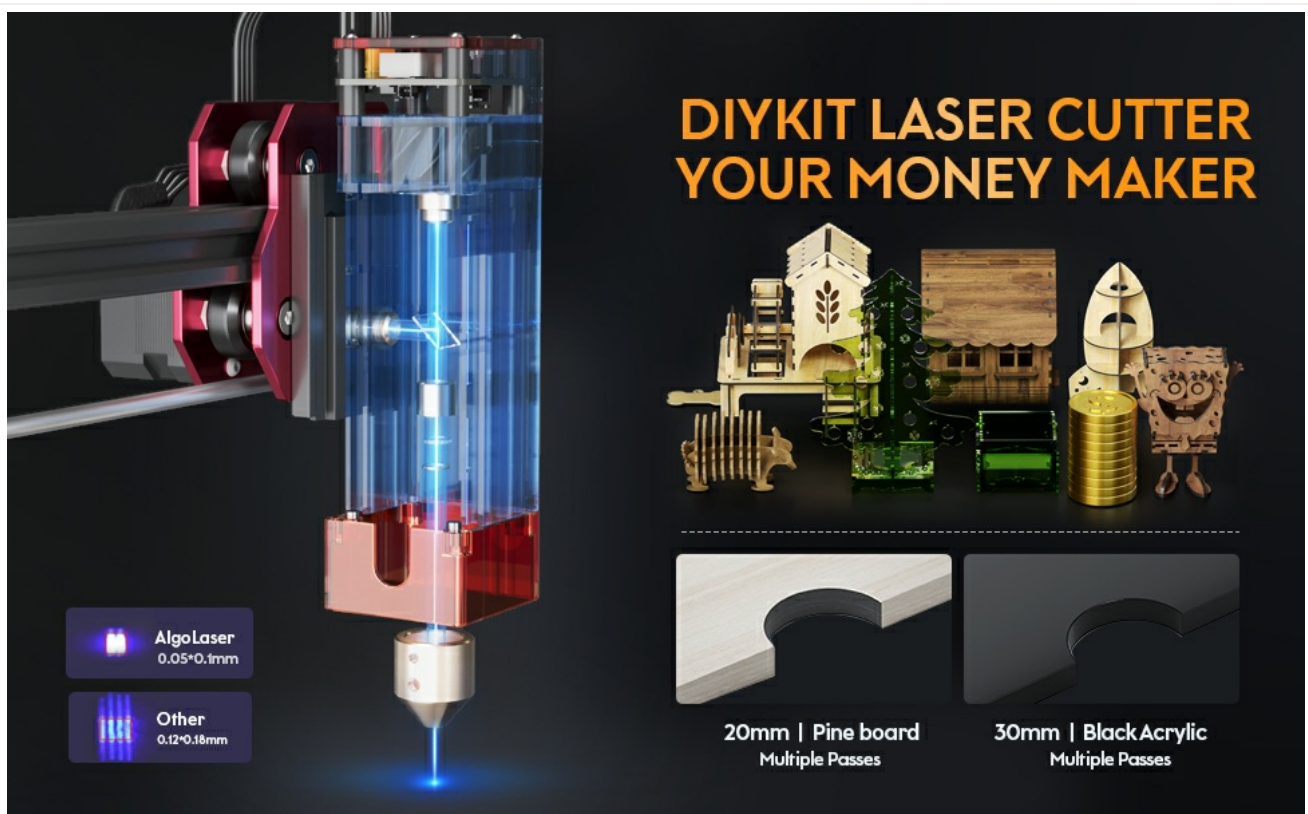


Figure 4: AlgoLaser DIY KIT MK2 10W Laser Module. A close-up view of the laser module, highlighting its compact design and integrated air-assist interface.

Demonstration Videos

Video 2: AlgoLaser DIY KIT Engraver in Action. This video demonstrates the general operation and capabilities of the AlgoLaser DIY KIT engraver.

Video 3: AlgoLaser DIY KIT MK2 Engraver Demonstration. A shorter video showcasing the engraver's performance on various materials.

Video 4: AlgoLaser DIY KIT MK2 Engraver Cutting Plywood. This video specifically highlights the cutting capabilities of the engraver on plywood.

MAINTENANCE

Regular maintenance ensures the longevity and optimal performance of your AlgoLaser DIY KIT MK2 Laser Engraver.

- **Cleaning the Laser Lens:** Periodically inspect and gently clean the laser lens with a specialized lens cleaning solution and cloth to maintain engraving precision.
- **Cleaning the Work Area:** Keep the engraving bed and surrounding area free of debris, dust, and material scraps.
- **Checking Belts and Rails:** Ensure that the drive belts are properly tensioned and the linear rails are clean and lubricated (if applicable, refer to specific product guidelines for lubrication).
- **Firmware Updates:** Check the AlgoLaser official website or app for any available firmware updates to ensure your device has the latest features and improvements.

TROUBLESHOOTING

This section addresses common issues you might encounter with your AlgoLaser DIY KIT MK2 Laser Engraver.

Common Issues and Solutions

- **Engraver Not Powering On:**

- Check power cable connections to the engraver and the power outlet.
- Ensure the power switch is in the 'ON' position.
- Verify the power adapter is functioning correctly.

- **Laser Not Firing or Weak Output:**

- Ensure the safety key is inserted and turned to the 'ON' position.
- Check if the laser lens is clean and free of debris.
- Verify laser power settings in your software or on the touch screen.
- Confirm the material is within the recommended engraving/cutting parameters.

- **Connection Issues (WiFi/USB):**

- For WiFi, ensure the engraver is within range of your router and connected to the correct network.
- For USB-C, try a different cable or USB port on your computer.
- Restart both the engraver and your computer/smartphone.

- **Poor Engraving Quality or Inaccurate Positioning:**

- Ensure the material is flat and securely placed on the engraving bed.
- Check the focus of the laser module.
- Verify that the belts are not loose and the gantry moves smoothly.
- Adjust engraving speed and power settings for the specific material.

- **Emergency Stop Activated:**

- Press the emergency stop button to release it.
- Identify and resolve the cause of the emergency stop (e.g., machine offset, tilt).
- Restart the engraving process.

If you encounter issues not covered here, please refer to the support section for further assistance.

SPECIFICATIONS

Feature	Detail
Product Dimensions	26.31 x 23.68 x 0.04 inches
Item Model Number	ALDKMK2-10BD
ASIN	B0DDBNQT55
Item Weight	11.43 pounds
Manufacturer	AlgoLaser
Date First Available	August 16, 2024
Laser Output Power	10W

Feature	Detail
Laser Spot Size	0.05 x 0.1mm
Engraving Speed	Up to 12,000mm/min
Control Interface	3.5" Color LCD Touch Screen
Connectivity	2.4G WiFi, USB-C
Compatibility	LaserGRBL, LightBurn (Win 7/8/XP/10/11, MAC), AlgoLaser App
Supported File Formats	JPG, SVG, PNG, BMP, G-code, DWG

WARRANTY INFORMATION

AlgoLaser products typically come with a manufacturer's warranty. For specific details regarding the warranty period, coverage, and terms for your AlgoLaser DIY KIT MK2 Laser Engraver, please refer to the warranty card included with your purchase or visit the official AlgoLaser website. Keep your proof of purchase for warranty claims.

SUPPORT

For technical assistance, troubleshooting beyond this manual, or customer service inquiries, please contact AlgoLaser support through the following channels:

- **Official Website:** Visit the AlgoLaser official website for FAQs, support resources, and contact information.
- **Customer Service Email:** Refer to your product packaging or the official website for the customer support email address.
- **Online Community:** Join AlgoLaser's online communities or forums for peer support and tips.

When contacting support, please have your product model number (ALDKMK2-10BD) and purchase information readily available.