

ATOMSTACK A6 Pro

ATOMSTACK A6 Pro Laser Engraver User Manual

Model: A6 Pro | Brand: ATOMSTACK

1. PRODUCT OVERVIEW

The ATOMSTACK A6 Pro is a versatile 2-in-1 laser engraving and cutting machine designed for both beginners and enthusiasts. Featuring a unibody frame, it requires no assembly, allowing for immediate use right out of the box. It boasts a 6000mW output laser power with advanced beam compression technology for stable cuts and precise engraving on a variety of materials.



Figure 1: ATOMSTACK A6 Pro Laser Engraver with various engraved samples.

2. SAFETY INFORMATION

Operating a laser engraver requires strict adherence to safety guidelines to prevent injury. The ATOMSTACK A6 Pro is a Laser Class 4 device. Always wear the provided UV-filtering eye protection during operation. Ensure the machine is placed on a stable, level surface. The integrated tilt detector will trigger an alarm if the machine is moved or tilted excessively during operation. An emergency stop button is provided for immediate shutdown in critical situations.

- Always wear appropriate eye protection.
- Ensure proper ventilation to dissipate fumes and smoke.
- Do not leave the machine unattended during operation.
- Keep flammable materials away from the working area.
- Familiarize yourself with the emergency stop procedure.
- Keep children and pets away from the operating machine.

3. PACKAGE CONTENTS

The ATOMSTACK A6 Pro comes pre-assembled in a unibody frame, minimizing setup time. Upon unboxing, verify that all components are present and undamaged.

Installation Free

The all-in-one design makes it ready to use out of the box. Take action, A6 PRO can't wait to work for you.

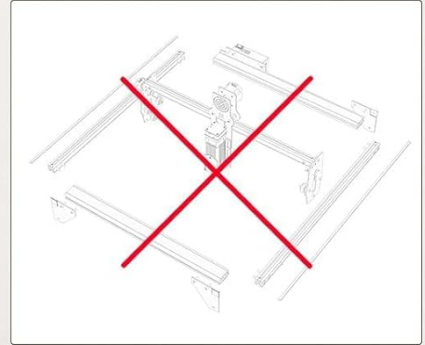


Figure 2: The ATOMSTACK A6 Pro is ready to use directly from its packaging.

Included Items:

- ATOMSTACK A6 Pro Laser Engraver (Unibody Frame)
- Laser Module (6000mW output)
- Power Adapter
- USB Cable
- UV-Filtering Eye Protection Goggles

- User Manual (this document)
- Basic Material Samples for Testing

4. SETUP

The ATOMSTACK A6 Pro is designed for minimal setup. Its unibody frame means no complex assembly is required.

Initial Setup Steps:

1. **Unpack:** Carefully remove the engraver from its packaging.
2. **Placement:** Place the machine on a stable, flat, and heat-resistant surface in a well-ventilated area.
3. **Connect Power:** Plug the power adapter into the machine and then into a suitable power outlet.
4. **Connect to Computer (Optional):** Connect the engraver to your computer using the provided USB cable if you plan to use PC software.
5. **Install Software/App:** Download and install the recommended software (AtomStack Studio, LightBurn, or LaserGRBL for PC) or the ATOMSTACK mobile app (for Android/iOS) on your control device.

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Video 1: Unboxing and quick setup of the ATOMSTACK A6 Pro, demonstrating its no-assembly design.

5. OPERATING INSTRUCTIONS

The ATOMSTACK A6 Pro offers multiple control methods for flexibility in your projects.



Diverse Control Methods

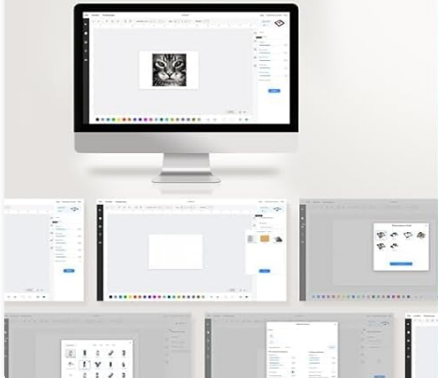

<p>✓ Computer Control Self-developed PC Software</p> 	<p>✓ Smartphone Control WiFi Connection and APP</p>  <p>App store downloadable</p>	<p>✓ Computer Control LaserGRBL / LightBurn Software</p> 
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Figure 3: Diverse control methods for the ATOMSTACK A6 Pro.

Control Methods:

- **PC Software:** Use AtomStack Studio (exclusive, free), LightBurn, or LaserGRBL for detailed control and design.
- **Smartphone App:** Control the engraver via Wi-Fi using the ATOMSTACK mobile app (available on Android and Apple App Store).

Engraving and Cutting Process:

1. **Design:** Create or import your design using your chosen software/app.
2. **Material Placement:** Place the material to be engraved or cut within the working area. The enlarged working area of 365x305mm (14.37x12 inches) allows for multitasking.
3. **Focus Adjustment:** Utilize the fixed-focus design for rapid and precise focusing in approximately 10 seconds. The newly added cross laser positioning feature provides clear visibility of the laser's location for perfect alignment.
4. **Settings:** Adjust laser power, speed, and passes according to the material type and desired effect. Refer to the material compatibility section for general guidelines.

5. **Start Operation:** Initiate the engraving or cutting process from your control device.
6. **Power Failure Recovery:** The advanced automatic power failure recovery system memorizes the exact engraving position and resumes from the paused point, ensuring uninterrupted production and material saving.

Video 2: Demonstration of the ATOMSTACK A6 Pro's engraving and cutting capabilities on various materials.

Unleash Your Imagination



Acrylic



Glass



Metal



Cylinder



Wood



Paper



Cardboard



Stainless Steel



Food



Leather



Fabric



Rubber



Figure 4: Diverse materials compatible with the ATOMSTACK A6 Pro.

Engraving Capabilities:

- Directly engrave stainless steel, ceramics, and glass.

- Achieves clear effects on wood, leather, paper, acrylic, and more.

Cutting Capabilities:

- Cuts 3mm paulownia wood, 3mm black acrylic, and 3mm plywood in a single pass.
- Cuts 6mm thick plywood and 6mm black acrylic in multiple passes.
- Suitable for basswood, pine wood, bamboo, and leather.



Figure 5: The ATOMSTACK A6 Pro provides stable laser cuts on various materials.

7. ADVANCED FEATURES AND TECHNOLOGY

- **High Precision:** Mechanical precision can reach 0.02mm, benefiting from the unibody frame and modular assembly.
- **Amazing Work Speed:** Maximum engraving speed up to 600mm/s, significantly faster than traditional frame machines.

- **32-Bit Smart Motherboard:** Features the ATOMSTACK self-developed ESP-32 built-in motherboard for intelligent and simple operation.
- **4-Way Limit Switches:** Located on X and Y axes to prevent equipment collision with edges.
- **Danger Alert System:** Includes flame detector and gyroscope (tilt detector) to trigger emergency stops for safety.
- **Tank Chain Design:** New wiring harness design for aesthetics and extended machine lifespan.
- **Safety Lock:** Prevents unauthorized use, especially by children, and deters theft.
- **Dual-Axis Guideway:** High-precision wear-resistant slide rails and 4-way hard limiters reduce wear and tear.
- **Detachable Eye Protection:** Laser shield with magnetic absorption protects eyes and prevents laser lenses from smoke and dust accumulation.

Amazing Work Speed

The maximum engraving speed can reach **600mm/s** which is **3-6** times that of traditional frame machines

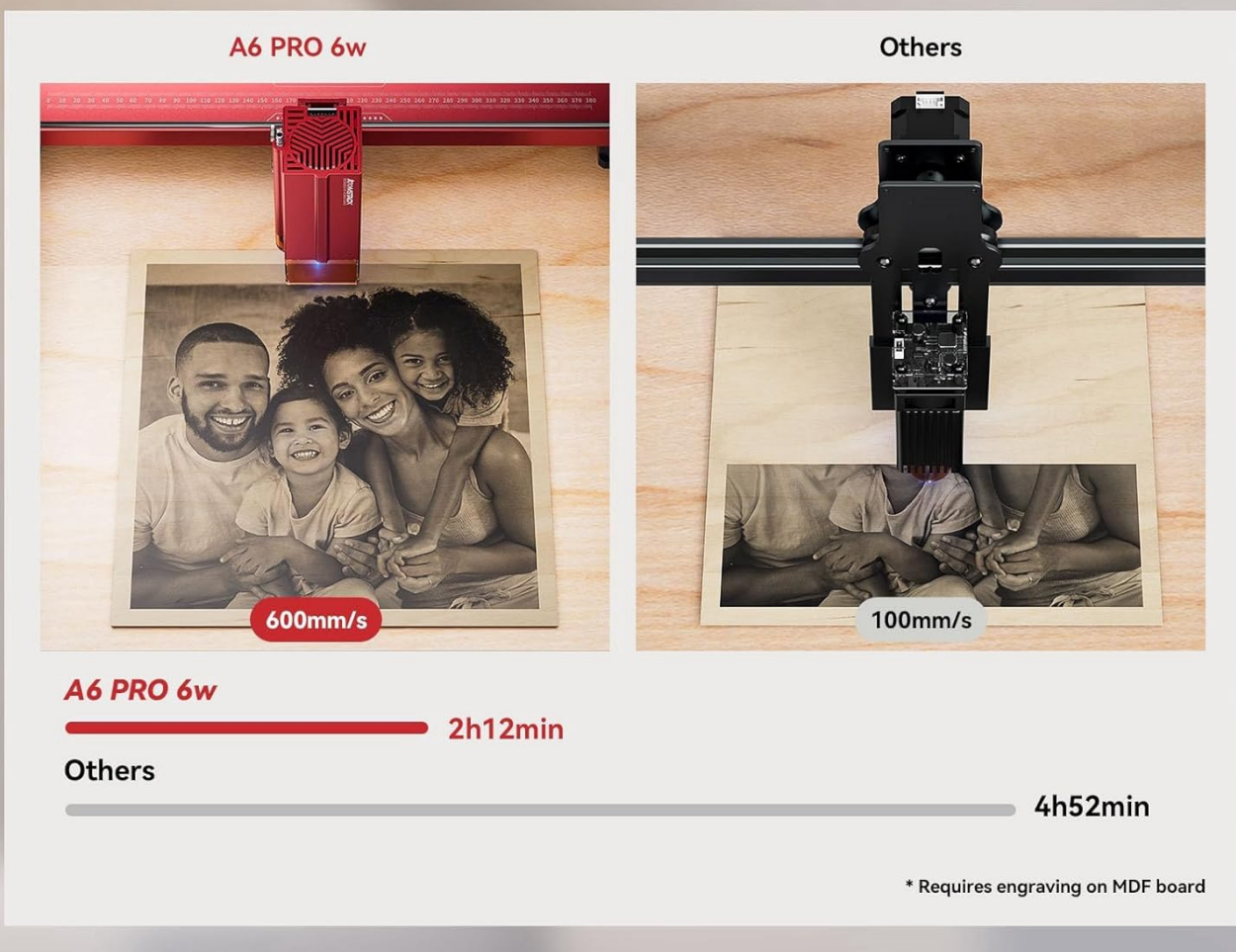


Figure 6: The ATOMSTACK A6 Pro offers significantly faster engraving speeds.

Higher-Precision Engraving

benefited from the unibody frame and modular assembly, the mechanical precision can reach **0.02mm**



Figure 7: The ATOMSTACK A6 Pro provides higher precision engraving.

8. MAINTENANCE

Regular maintenance ensures the longevity and optimal performance of your ATOMSTACK A6 Pro.

- **Cleaning:** Regularly clean the laser lens and the working area to prevent dust and debris buildup, which can affect engraving quality. Use a soft, lint-free cloth.
- **Lubrication:** Periodically check and lubricate the guide rails to ensure smooth movement of the laser module.
- **Firmware Updates:** Check the ATOMSTACK official website or app for any available firmware updates to ensure your machine has the latest features and improvements.
- **Storage:** When not in use, store the engraver in a clean, dry environment away from direct sunlight and extreme temperatures.

9. TROUBLESHOOTING

This section provides general guidance for common issues. For detailed troubleshooting, refer to the official ATOMSTACK support resources.

Problem	Possible Cause	Solution
Laser not firing or weak output	Incorrect focus; dirty lens; low power setting; material incompatibility.	Adjust focus; clean lens; increase power setting; verify material compatibility.
Engraving/Cutting not precise	Loose belts/components; unstable surface; incorrect speed setting.	Check and tighten components; ensure stable surface; adjust speed.
Machine not connecting to PC/App	USB cable issue; Wi-Fi connectivity problem; driver issue; software conflict.	Try different USB port/cable; check Wi-Fi connection; reinstall drivers/software.
Emergency stop triggered unexpectedly	Machine tilted; flame/smoke detected; limit switch activated.	Check machine stability; ensure proper ventilation; verify limit switch clearance.

10. SPECIFICATIONS

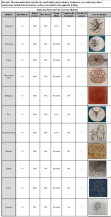


Feature	Detail
Model	A6 Pro
Laser Output Power	6000mW (6W)
Laser Spot Size	0.05 x 0.05mm (Ultra-fine compressed spot)
Engraving Precision	0.02mm
Engraving Speed (Max)	600mm/s
Working Area	365 x 305mm (14.37 x 12 inches)
Frame Material	Aluminum Alloy (Unibody)
Control Methods	PC Software (AtomStack Studio, LightBurn, LaserGRBL), Smartphone App (Wi-Fi)
Safety Features	4-Way Limit Switches, UV-Filtering Eye Protection, Tilt Detector, Emergency Stop Button, Safety Lock
Power Source	AC/DC
Voltage	24 Volts
Item Weight	17.91 pounds
Product Dimensions	23.22 x 23.22 x 7.08 inches

11. WARRANTY AND SUPPORT

The ATOMSTACK A6 Pro comes with a **1-year manufacturer's warranty**. For technical support, troubleshooting assistance, or warranty claims, please contact ATOMSTACK customer service through their official website or the contact information provided in your product packaging.

Visit the official ATOMSTACK Store for additional accessories and product information:[ATOMSTACK Official Store](#)

Related Documents - A6 Pro

	<p>Laser Engraving and Cutting Parameters for Common Materials</p> <p>A comprehensive guide detailing optimal laser engraving and cutting parameters for a wide range of materials, including wood, leather, acrylic, glass, metal, and more. Parameters cover line interval, speed, power, image mode, and passes, with visual examples.</p>
	<p>ATOMSTACK A5 Pro Laser Engraving Machine Manual</p> <p>Comprehensive user manual for the ATOMSTACK A5 Pro laser engraving machine, covering safety, software installation (LaserGRBL and LightBurn), operation, and troubleshooting.</p>
	<p>ATOMSTACK K40 MAX-20W Laser Engraving and Cutting Parameter Guide</p> <p>A comprehensive guide detailing engraving and cutting parameters for the ATOMSTACK K40 MAX-20W laser module across a variety of common materials. Includes settings for speed, power, line interval, and image modes.</p>





P7 M30 engraving parameter table

Material	Speed	Power	Feed	Passes	Notes	Image
Basswood	1.5	100%	100%	1		
Hardwood	1.5	100%	100%	1		
Bamboo	1.5	100%	100%	1		
Acrylic	1.5	100%	100%	1		
Kraft Paper	1.5	100%	100%	1		

[P7 M30 Laser Engraving and Cutting Parameters](#)

Comprehensive parameter tables for AtomStack P7 M30 laser engraver and cutter, detailing settings for various materials like Basswood, Hardwood, Bamboo, Acrylic, Kraft Paper, Mirrors, and Leather for both engraving and cutting operations.

A5 Pro engraving parameter table

Material	Speed	Power	Feed	Passes	Notes	Image
Basswood	1	100%	100%	1		
Hardwood	1	100%	100%	1		
Bamboo	1	100%	100%	1		
Acrylic	1	100%	100%	1		

[Atomstack A5 Pro Laser Engraving and Cutting Parameters](#)

Detailed parameter tables for the Atomstack A5 Pro laser engraver and cutter, covering engraving and cutting settings for various materials including Basswood, Hardwood, Bamboo, Acrylic, Kraft Paper, Mirrors, Leather, and Stainless Steel. Includes recommended Speed, S-Max, and pass settings.



[ATOMSTACK MAKER R1 Rotary Chuck User Manual and Installation Guide](#)

This comprehensive guide details the installation, connection, and operation of the ATOMSTACK MAKER R1 Rotary Chuck for laser engraving machines. It covers packing contents, setup procedures, software configuration with LightBurn, and essential notes for engraving cylindrical, spherical, and other shaped objects.