

Twotrees TTS-10 Pro

Twotrees TTS-10 Pro Laser Engraver User Manual

Model: TTS-10 Pro

Brand: Twotrees

1. SAFETY INFORMATION

Your Twotrees TTS-10 Pro Laser Engraver is a powerful tool. Please read and understand all safety instructions before operation to prevent injury or damage.

1.1 General Safety Precautions

- **Eye Protection:** Always wear certified laser safety goggles (OD6+) when operating the laser engraver. Direct or scattered laser radiation can cause severe eye damage.
- **Ventilation:** Operate the machine in a well-ventilated area to dissipate fumes and smoke produced during engraving and cutting. Consider using an air purifier or exhaust system.
- **Fire Hazard:** Laser engraving and cutting can ignite flammable materials. Never leave the machine unattended during operation. Keep a fire extinguisher nearby.
- **Material Safety:** Only engrave or cut materials that are safe for laser processing. Avoid PVC, vinyl, and other materials that produce toxic fumes when burned.
- **Children and Pets:** Keep children and pets away from the operating area.
- **Emergency Stop:** Familiarize yourself with the location and operation of the emergency stop button.



Image: Laser safety warning label and a diagram illustrating the ultra-fine laser spot size of the TTS-10 Pro. Always adhere to safety warnings.

2. PRODUCT OVERVIEW

The Twotrees TTS-10 Pro is a high-precision laser engraver and cutter designed for various DIY and professional applications.

2.1 Key Features

- **Powerful 10W Laser Module:** Equipped with a 10000mW (CLASS 4) laser and FAC lens technology for an ultra-fine 0.069*0.157mm laser spot, enabling concentrated power and delicate engraving details. Capable of cutting through 8mm acrylic and 20mm pine wood in multiple passes.
- **Upgraded ESP32 Mainboard:** Features an advanced ESP32 smart chip for speeds up to 500mm/s. Dual Y-axis stepper motors ensure precise positioning and smoother lines. Includes integrated WiFi and Bluetooth connectivity for mobile control.

- **Wide Software Compatibility:** Supports popular engraving software such as LaserGRBL, LightBurn, Benbox, GbrlController, and LiteFire. Compatible with JPG, PNG, DXF, SVG, G-code, BMP, NC, and other file formats. Works with both Windows and macOS operating systems.
- **Durable All-Metal Frame & Modular Design:** Constructed from premium aluminum alloy for durability. Modular structure allows for easy component replacement or upgrading. Offers a large 300x300mm (11.8"x11.8") work area.



Image: The Twotrees TTS-10 Pro Laser Engraver showcasing its capabilities with various engraved and cut samples on different materials.



Image: Two individuals collaboratively operating the Twotrees TTS-10 Pro Laser Engraver in a well-lit workspace.

3. SETUP

3.1 Unpacking and Assembly

Carefully unpack all components from the box. Refer to the included assembly guide for step-by-step instructions on putting together the frame, laser module, and connecting cables. Ensure all screws are tightened securely.

3.2 Connecting the Device

Connect the power adapter to the engraver and a suitable power outlet. Connect the engraver to your computer via the provided USB cable, or establish a wireless connection using WiFi or Bluetooth as per the software's instructions.

3.3 Software Installation and Configuration

Install your preferred engraving software (e.g., LaserGRBL, LightBurn) on your computer. Follow the software's instructions to install necessary drivers and configure the connection to your TTS-10 Pro. Ensure the correct COM port is selected for USB connections.

Video: An official Twotrees video demonstrating the setup, operation, and various applications of the TTS-10 Pro Laser Engraver, including cutting and engraving different materials.

4. OPERATING INSTRUCTIONS

4.1 Material Preparation

Place your material flat on the working surface. Use clamps or magnets to secure it to prevent movement during operation. For transparent materials like acrylic or glass, apply black paint to the surface to absorb the laser effectively, as transparent colors will not react.

4.2 Focusing the Laser

Adjust the laser module's height until the laser spot is at its smallest and most focused point on the material surface. This ensures optimal engraving and cutting performance.

4.3 Starting an Engraving/Cutting Job

Load your design file into the software. Adjust parameters such as laser power, speed, and number of passes according to your material and desired outcome. Perform a small test engrave on scrap material if unsure. Once settings are confirmed, initiate the job from the software.

4.4 Recommended Settings

Optimal settings vary greatly depending on the material type, thickness, and desired effect (engraving vs. cutting). Consult online resources, community forums, or the software's material library for recommended starting points. Always perform test cuts/engraves on scrap material before working on your final piece.

10W LASER POWER



Image: The 10W laser module showcasing its ability to cut through pine wood and acrylic, highlighting its power for various projects.

500MM/S

With TTS-10 Pro
No limitations of originality



TTS-10 Pro

VS



Others



Image: A visual comparison demonstrating the superior engraving speed and quality achieved by the TTS-10 Pro compared to other laser engravers.

TTS-10 Pro UPGRADE RECOMMENDATIONS: AIR ASSIST, ROTATING MODULE, HEIGHT RAISER

⚠ This TTS-10 Pro kit does not include air assist, rotating module, or height raiser.

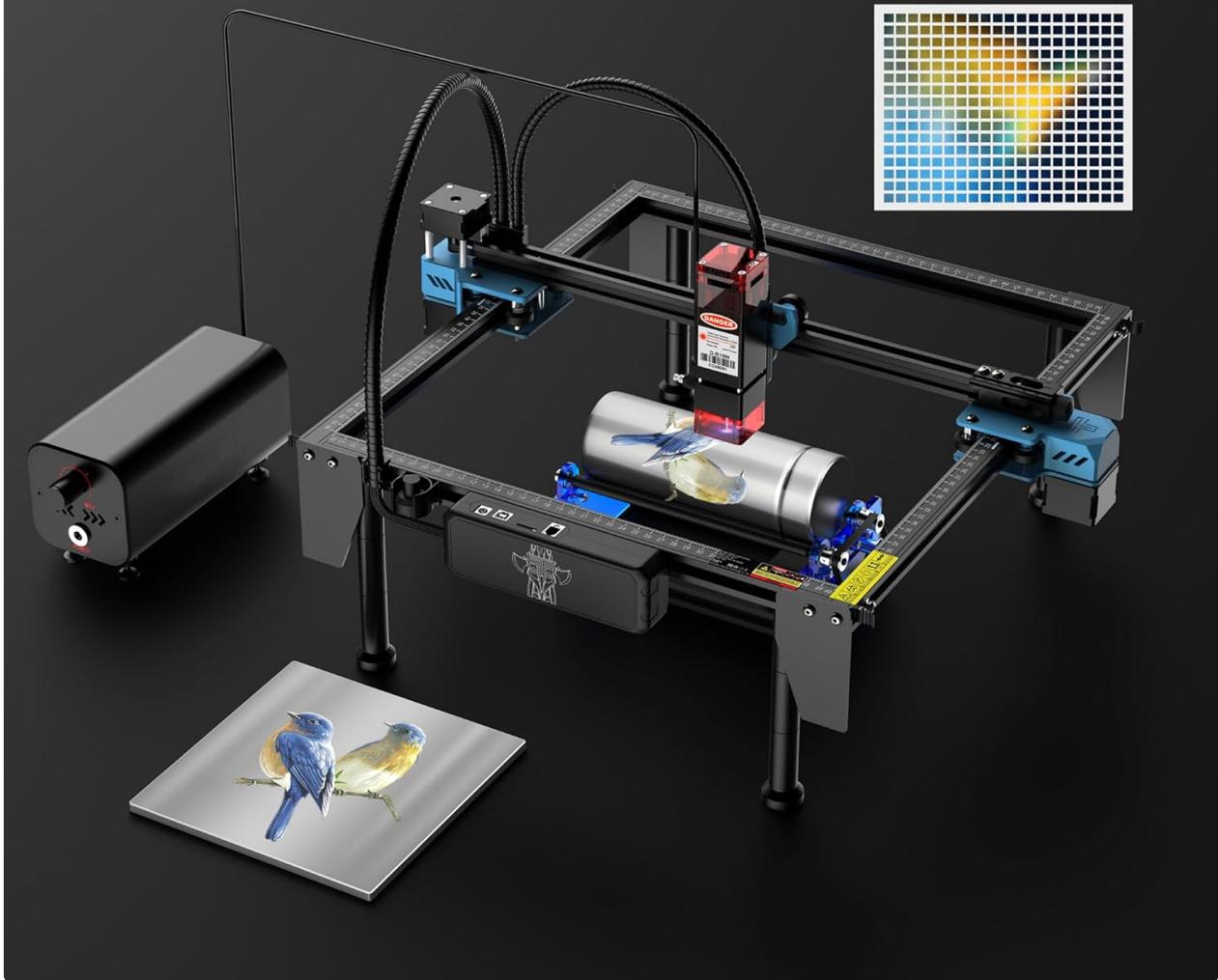


Image: The TTS-10 Pro's broad software compatibility, showing it can be controlled via LightBurn, LaserGRBL, and other applications on various devices.

5. MAINTENANCE

Regular maintenance ensures the longevity and optimal performance of your laser engraver.

5.1 Cleaning the Laser Module

Periodically clean the laser lens with a soft, lint-free cloth and lens cleaning solution. Dust and debris can accumulate on the lens, reducing laser power and engraving quality.

5.2 Rail Lubrication

Apply a small amount of lubricant to the guide rails every few months to ensure smooth movement of the laser module. Refer to the assembly guide for specific lubrication points.

5.3 Firmware Updates

Check the Twotrees official website for any available firmware updates. Keeping your firmware up-to-date can improve performance, add new features, and resolve potential issues.

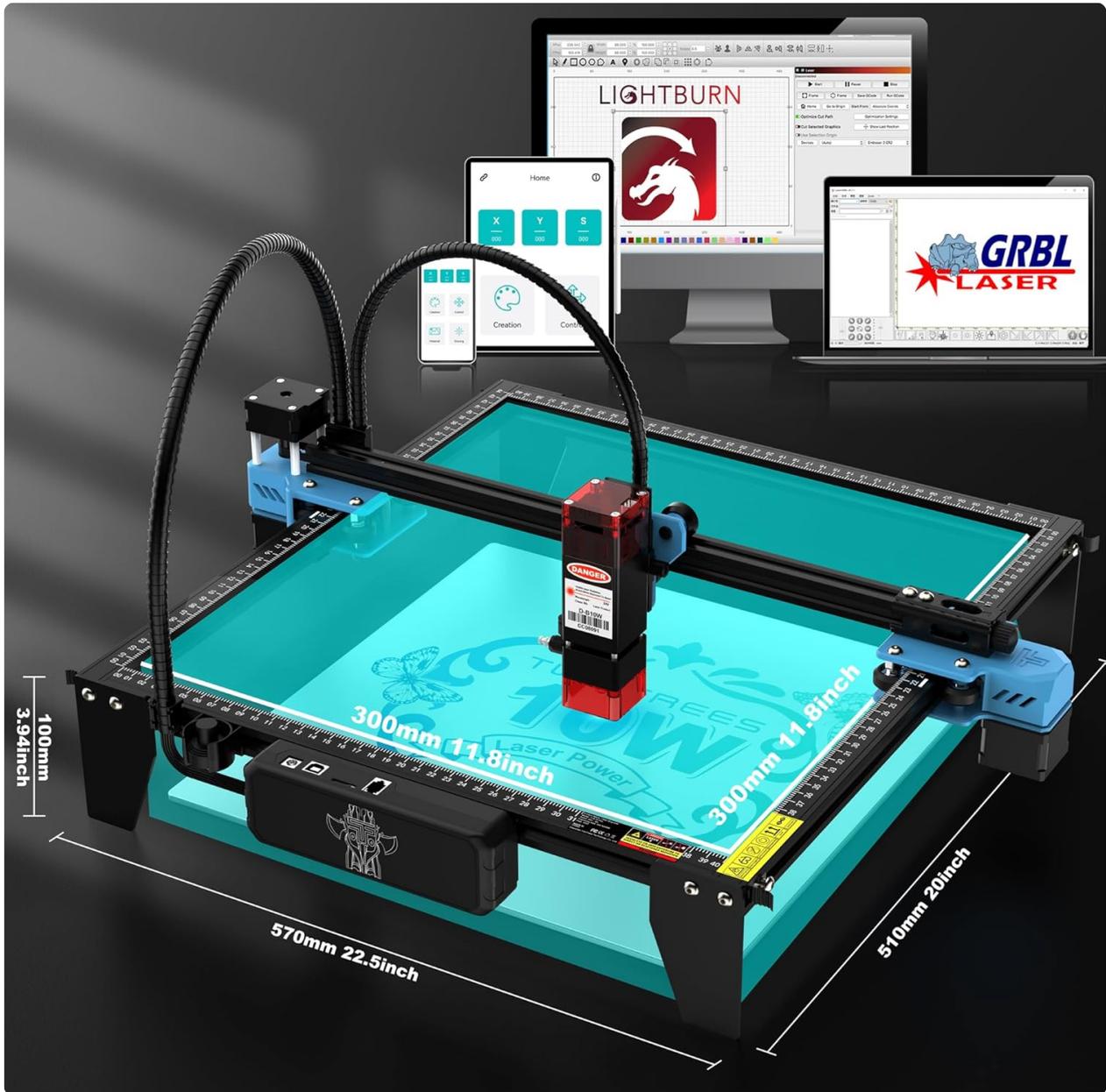


Image: The TTS-10 Pro demonstrating potential upgrades and accessories like an air assist system, rotating module, and height raiser, which can enhance performance and versatility.

6. TROUBLESHOOTING

6.1 Common Issues and Solutions

- **Laser Not Firing:**
 - Check power connections and ensure the laser module is securely seated.
 - Verify software settings for laser power (ensure it's not set to 0).
 - Confirm the emergency stop button is not engaged.
- **Poor Engraving Quality / Faint Engraving:**

- Re-focus the laser to ensure the smallest possible spot.
- Increase laser power or decrease engraving speed in the software.
- Clean the laser lens for any dust or debris.
- Ensure the material is suitable for laser engraving and properly prepared (e.g., painted for transparent materials).

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

- For USB, ensure the correct COM port is selected in the software and drivers are installed. Try a different USB port or cable.
- For wireless connections, verify network settings and ensure the device is within range.
- Restart both the engraver and your computer.

- **Machine Not Moving Correctly:**

- Check for any obstructions on the rails or belts.
- Ensure belts are properly tensioned and not loose.
- Verify motor connections are secure.

If issues persist after attempting these solutions, please contact Twotrees customer support for further assistance.

7. SPECIFICATIONS

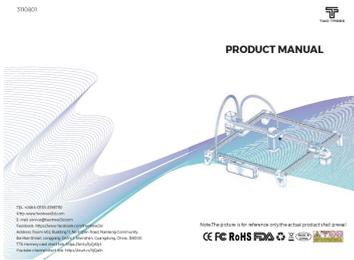
Feature	Detail
Product Dimensions	20.08 x 22.44 x 7.87 inches
Item Model Number	TTS-10
Item Weight	9.18 pounds
Manufacturer	Twotrees
Date First Available	August 30, 2022

8. WARRANTY AND SUPPORT

For warranty information and technical support, please refer to the official Twotrees website or contact their customer service directly. Keep your purchase receipt as proof of purchase for any warranty claims.

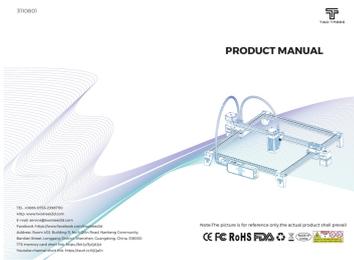
Twotrees Official Store: [Visit the Twotrees Store on Amazon](#)

Documents - Twotrees – TTS-10 Pro



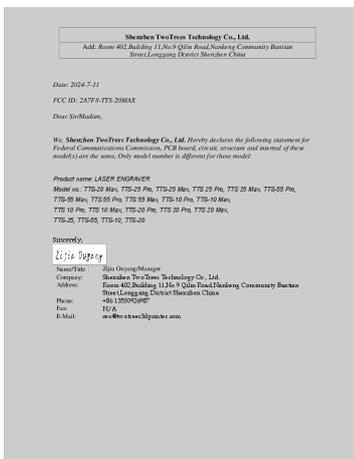
[pdf] User Manual

TTS pro A2 User Manual Shenzhen TwoTrees Technology Co Ltd 20MAX LASER ENGRAVER 2A7F8 2A7F8TTS20MAX tts 20max
 3110801 PRODUCT MANUAL TEL: 0086-0755-23987110 Http: www.twotrees3d.com
 E-mail: service twotrees3 ... 2.00 Sculpt objects Cutting The thickness of the engraved object is 2mm Adopt the second step 12 **TTS-10 PRO** 10W laser module fixed focus introduction Laser module Adjustment block Object Fixed-I...
 lang:en score:27 filesize: 5.98 M page_count: 35 document date: 2024-07-11



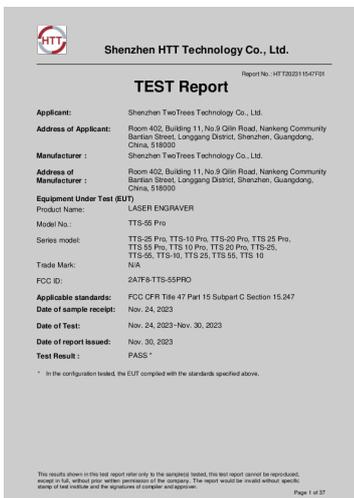
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 E-mail: service twotrees3 ... 2.00 Sculpt objects Cutting The thickness of the engraved object is 2mm Adopt the second step 12 **TTS-10 PRO** 10W laser module fixed focus introduction Laser module Adjustment block Object Fixed-I...
 lang:en score:23 filesize: 9.89 M page_count: 34 document date: 2023-11-08



[pdf] Declaration of Conformity

Declaration Letter of Model Difference Shenzhen TwoTrees Technology Co Ltd TTS 20MAX LASER ENGRAVER 2A7F8 2A7F8TTS20MAX tts 20max
 Shenzhen TwoTrees Technology Co., Ltd. Add: Room 402, Building 11, No.9 Qilin Road, Nankeng Community B ... ax, TTS-25 Pro, TTS-25 Max, TTS 25 Pro, TTS 25 Max, TTS-55 Pro, TTS-55 Max, TTS 55 Pro, TTS 55 Max, TTS-10 Pro, TTS-10 Max, TTS 10 Pro, TTS 10 Max, TTS-20 Pro, TTS 20 Pro, TTS 20 Max, TTS-25, TTS-55, ...
 lang:tl score:23 filesize: 71.32 K page_count: 1 document date: 2024-07-11



[pdf] Test Report

Test Report 2 4GWIFI Shenzhen TwoTrees Technology Co Ltd TTS 55PRO LASER ENGRAVER 2A7F8 2A7F8TTS55PRO tts 55pro
 Shenzhen HTT Technology Co., Ltd. Report No.: HTT202311547F01 TEST Report
 Applicant: Shenzhen Two ... EUT Product Name: LASER ENGRAVER Model No.: TTS-55 Pro Series model: Trade Mark: TTS-25 Pro, TTS-10 Pro, TTS-20 Pro, TTS 25 Pro, TTS 55 Pro, TTS 10 Pro, TTS 20 Pro, TTS-25, TTS-55, TTS-10, TTS ...
 lang:en score:18 filesize: 3.67 M page_count: 37 document date: 2023-12-04

HTT Shenzhen HTT Technology Co., Ltd.
 Report No.: HTT202406375F01

TEST Report

Applicant: Shenzhen TwoTrees Technology Co., Ltd.
Address of Applicant: Room 402, Building 11, No.9 Qilin Road, Nankang Community, Bao'an Street, Longgang District, Shenzhen, Guangdong, China, 518000
Manufacturer: Shenzhen TwoTrees Technology Co., Ltd.
Address of Manufacturer: Room 402, Building 11, No.9 Qilin Road, Nankang Community, Bao'an Street, Longgang District, Shenzhen, Guangdong, China, 518000
Equipment Under Test (EUT): LASER ENGRAVER
Product Name: TTS-20 MAX
Model No.: TTS-25 Pro, TTS-25 Max, TTS-25 Pro, TTS-25 Max, TTS-55 Pro, TTS-55 Max, TTS-55 Pro, TTS-55 Max, TTS-10 Pro, TTS-10 Max, TTS-10 Pro, TTS-10 Max, TTS-20 Pro, TTS-20 Max, TTS-25, TTS-55, TTS-10, TTS-20
Trade Mark: N/A
FCC ID: 2A7F8-TTS-20MAX
Applicable standards: FCC CFR Title 47 Part 15 Subpart C Section 15.247
Date of sample receipt: Jun. 18, 2024
Date of Test: Jun. 18, 2024 ~ Jun. 27, 2024
Date of report issued: Jun. 27, 2024
Test Result: PASS *

* In the configuration tested, the EUT complied with the standards specified above.

This report shows in this test report refer only to the samples tested, this test report cannot be reproduced, except in full, without prior written permission of the company. The report would be invalid without specific items of test results with the signature, stamp and approval.

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Test Report 2 4GWIFI Shenzhen TwoTrees Technology Co Ltd TTS 20MAX LASER ENGRAVER 2A7F8 2A7F8TTS20MAX tts 20max

Shenzhen HTT Technology Co., Ltd. Report No.: HTT202406375F01 TEST Report
 Applicant: Shenzhen Two ... k: TTS-25 Pro, TTS-25 Max, TTS 25 Pro, TTS 25 Max, TTS-55 Pro, TTS-55 Max, TTS 55 Pro, TTS 55 Max, TTS-10 Pro, TTS-10 Max, TTS 10 Pro, TTS 10 Max, TTS-20 Pro, TTS 20 Pro, TTS 20 Max, TTS-25, TTS-55, ...
 lang:en score:17 filesize: 3.67 M page_count: 37 document date: 2024-07-11

PRODUCT MANUAL

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 TTS-20 MAX
 TTS-25 Pro, TTS-25 Max, TTS-55 Pro, TTS-55 Max, TTS-10 Pro, TTS-10 Max, TTS-20 Pro, TTS-20 Max, TTS-25, TTS-55, TTS-10, TTS-20
 CE FCC RoHS PFM
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 3091404 PRODUCT MANUAL TEL: 0086-0755-23987110 Http: www.twotrees3d.com
 E-mail: service twotrees3 ... 2.00 Sculpt objects Cutting The thickness of the engraved object is 2mm Adopt the second step 12 **TTS-10 PRO** 10W laser module fixed focus introduction Laser module Adjustment block Object Fixed-I...
 lang:en score:16 filesize: 9.58 M page_count: 34 document date: 2023-09-15

Related Documents

	<p>TwoTrees TS2 Laser Engraver Product Manual Comprehensive user manual for the TwoTrees TS2 laser engraver, covering assembly, operation, software setup, safety guidelines, and troubleshooting.</p>
	<p>TwoTrees TTS-20 PRO Product Manual Comprehensive product manual for the TwoTrees TTS-20 PRO laser engraver, covering assembly, setup, operation, software, and safety guidelines.</p>
	<p>TwoTrees TTS-10 Laser Engraver Product Manual Comprehensive product manual for the TwoTrees TTS-10 laser engraver, covering assembly, parameters, wiring, software usage, and safety guidelines.</p>
	<p>TwoTrees SK1 Housing Project: Design and Parts Guide Detailed overview of the TwoTrees SK1 3D printer housing project, including design notes, build progress, and a comprehensive list of parts and materials required for assembly.</p>