Twotrees SK1

Twotrees SK1 3D Printer User Manual

Model: SK1

INTRODUCTION

This manual provides comprehensive instructions for the setup, operation, and maintenance of your Twotrees SK1 3D Printer. The SK1 is a high-speed FDM 3D printer featuring Klipper firmware, a CoreXY motion system, automatic leveling, and a touch color screen, designed for efficient and precise 3D printing.

Figure 1: Front view of the Twotrees SK1 3D Printer.

Key features of the Twotrees SK1 include:

- **High-Speed Printing:** Capable of printing at speeds up to 700mm/s in legendary mode and 350mm/s in normal mode, significantly reducing print times.
- **Klipper Firmware:** Utilizes Klipper firmware for advanced control and performance.
- **CoreXY Structure:** Ensures stable and precise movement during printing.
- **Automatic Leveling:** Features Z-Tilt inclined leveling and mesh bed compensation for hassle-free bed calibration.
- **High-Temperature Nozzle:** Heats to 300°C in approximately 30 seconds, supporting a wide range of filament types.

- **Filament Sensor:** Automatically detects filament run-out or breakage, allowing for print resumption.
- **Print Resume Function:** Recovers from power interruptions, continuing prints from the last position.
- **User-Friendly Interface:** Equipped with a 4.3-inch color touch screen supporting multiple languages for intuitive operation.
- **Double Linear Guide:** Enhances printing precision and stability.

SETUP

Before operating your Twotrees SK1 3D Printer, ensure proper assembly and initial calibration. Refer to the included quick start guide for detailed assembly steps.

1. Unpacking and Inspection

- Carefully remove all components from the packaging.
- Verify that all parts listed in the packing list are present and undamaged.
- Remove any protective films or shipping restraints from the printer.

2. Assembly

Follow the step-by-step assembly instructions provided in the separate assembly manual. Ensure all screws are tightened securely and connections are properly seated.

3. Power Connection

- Connect the power cable to the printer's power input.
- Plug the power cable into a grounded electrical outlet.
- Ensure the power switch is in the OFF position before connecting to power.

4. Initial Calibration and Leveling

The SK1 features automatic leveling. Upon first power-on or after moving the printer, it is recommended to perform an automatic calibration.

Z-Tilt Leveling + Mesh Bed

Never need manual leveling

Figure 2: Illustration of Z-Tilt Leveling and Mesh Bed compensation, eliminating the need for manual leveling.

- Navigate to the "Leveling" or "Calibration" menu on the touch screen.
- Select the automatic leveling option. The printer will perform a series of movements to measure and compensate for bed irregularities.
- The Z-Tilt leveling system automatically adjusts the bed's inclination for optimal first layer adhesion.
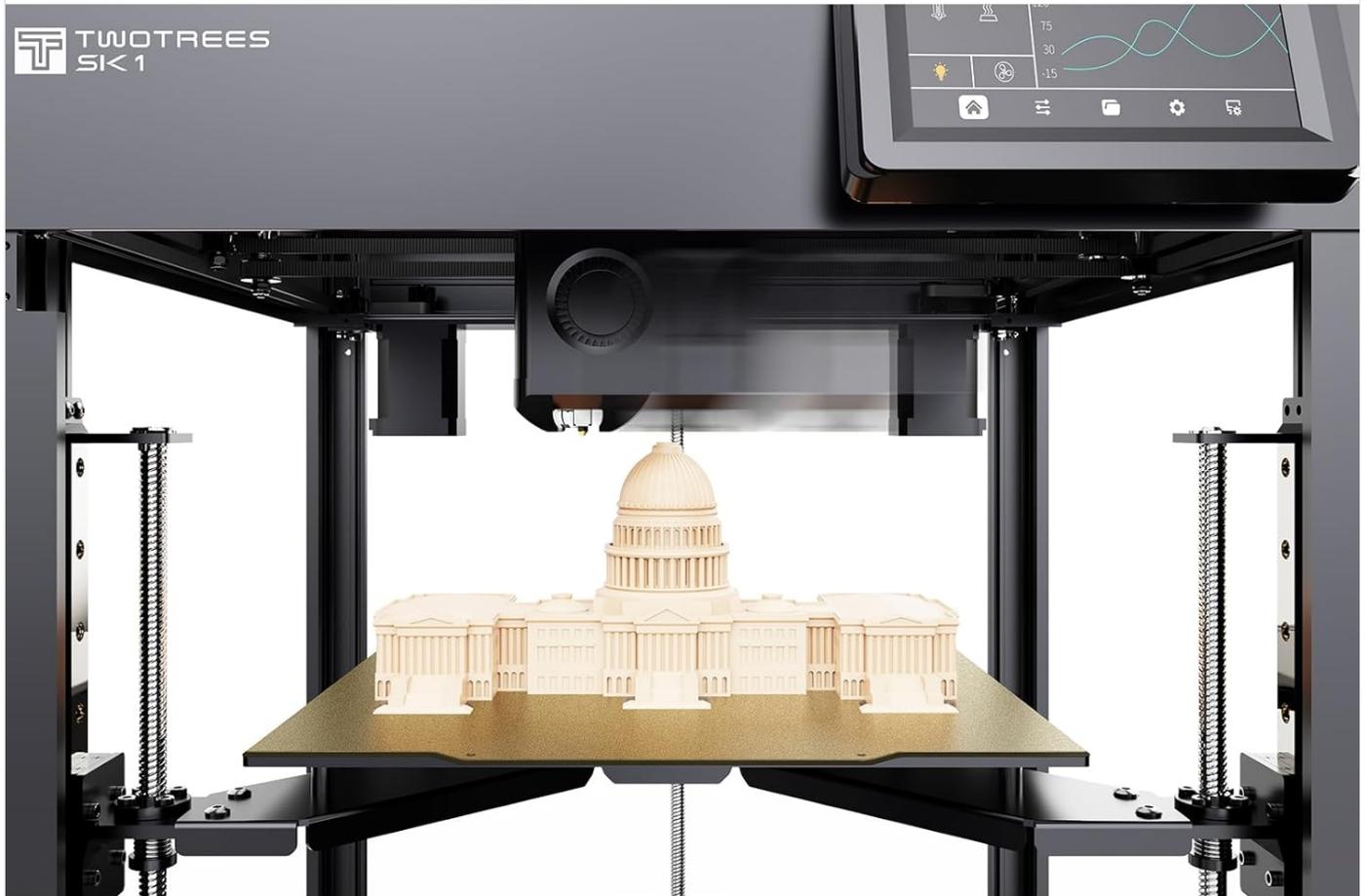
Figure 3: The printer performing automatic calibration, including flow calibration, vibration compensation, and vibration pattern optimization.

5. Filament Loading

- Place the filament spool on the designated holder.
- Feed the filament through the filament sensor and into the extruder.
- On the touch screen, select the "Load Filament" option. The extruder will heat up and pull the filament through until it exits the nozzle.
- Ensure the filament is loaded smoothly without kinks.

OPERATING

Operating the Twotrees SK1 involves preparing your 3D model, transferring it to the printer, and initiating the print process.

1. Slicing Your Model

- Use a compatible slicing software (e.g., Cura, PrusaSlicer) to convert your 3D model (STL, OBJ) into G-code.
- Configure print settings such as layer height, infill density, print speed, and support structures according to your model and filament type.

- Save the generated G-code file to a USB drive or transfer it via Wi-Fi if configured.

2. Starting a Print

- Insert the USB drive into the printer's USB port or ensure the G-code file is accessible via network.
- On the 4.3-inch color touch screen, navigate to the "Print" menu.
- Select your desired G-code file from the list.
- Confirm print settings and initiate the print. The printer will begin heating the bed and nozzle to the specified temperatures before starting the print.
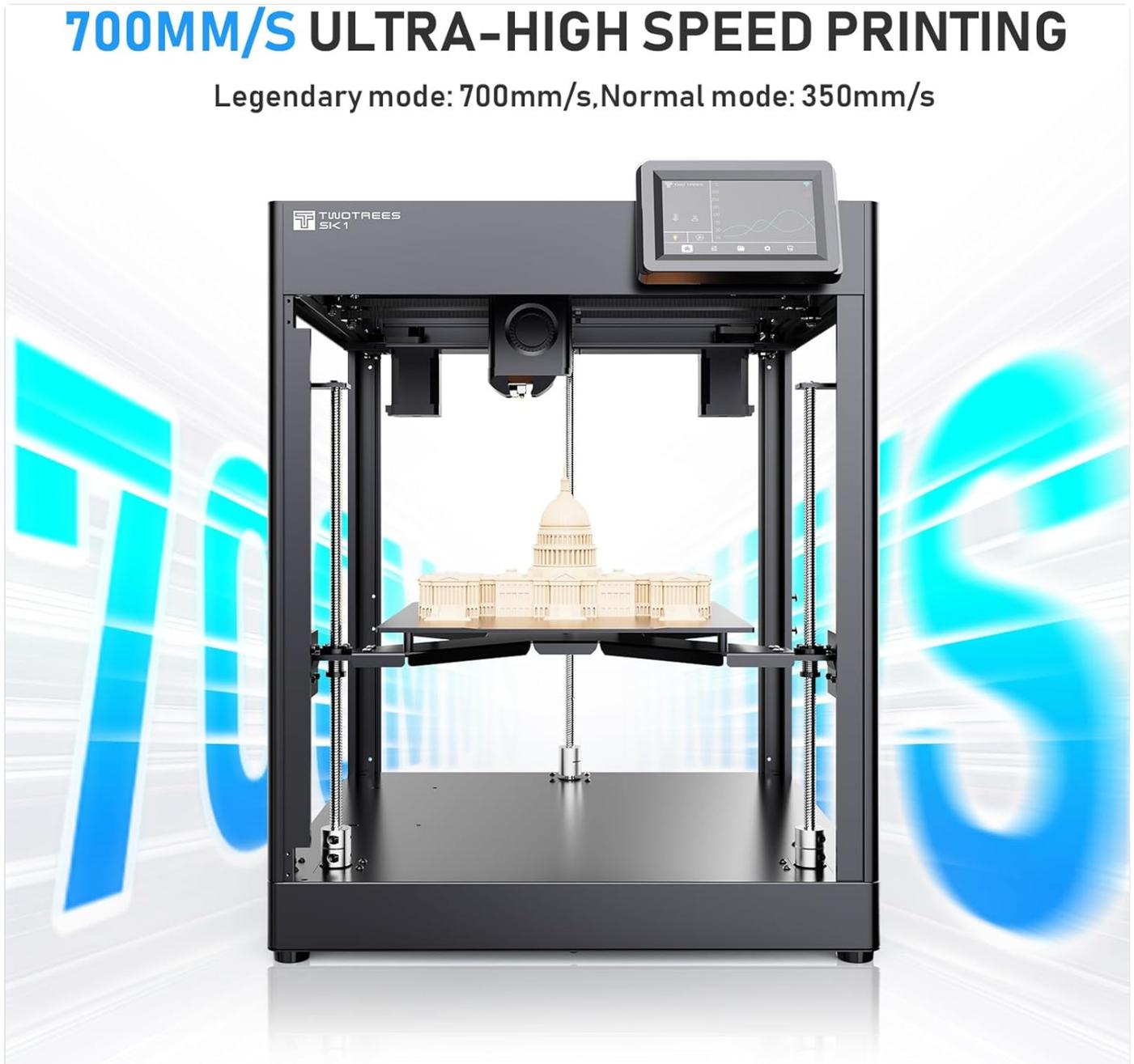

Figure 4: The Twotrees SK1 demonstrating its ultra-high speed printing capability, reaching up to 700mm/s in legendary mode and 350mm/s in normal mode.

3. Monitoring and Adjusting Prints

- Monitor the print progress via the touch screen.
- Adjust print speed, temperature, or fan speed during printing if necessary, using the on-screen controls.
- The filament sensor will pause the print if filament runs out or breaks, allowing you to load new filament and resume.

- In case of a power outage, the print resume function will allow the printer to continue from where it left off once power is restored.

4. Removing a Print

- Once the print is complete and the bed has cooled, carefully remove the printed object from the PEI build plate.
- Flexing the PEI plate slightly can help in detaching the print.
- Use a spatula or scraper if needed, being careful not to damage the build surface.

MAINTENANCE

Regular maintenance ensures the longevity and optimal performance of your Twotrees SK1 3D Printer.

1. Cleaning the Build Plate

- After each print, clean the PEI build plate with isopropyl alcohol to remove any residue and ensure good adhesion for future prints.
- Avoid using abrasive materials that could scratch the surface.

2. Nozzle Maintenance

- Periodically inspect the nozzle for clogs or wear.
- If a clog occurs, perform a cold pull or use a nozzle cleaning needle to clear it.
- Replace the nozzle if it shows signs of significant wear or damage. The high-temperature nozzle can reach 300°C.

HIGH-TEMPERATURE NOZZLE

It only takes **30** seconds to heat to **300℃**

300°C

Figure 5: Close-up view of the high-temperature nozzle, capable of reaching 300°C for printing with various filament types.

3. Lubricating Linear Rails and Screws

- The printer features double linear guides and ball screw guide rails. Periodically apply a small amount of lithium-based grease to the linear rails and Z-axis lead screws to ensure smooth movement.
- Wipe off any excess lubricant.

Ball bearing guide rail

High precision, Strong durability
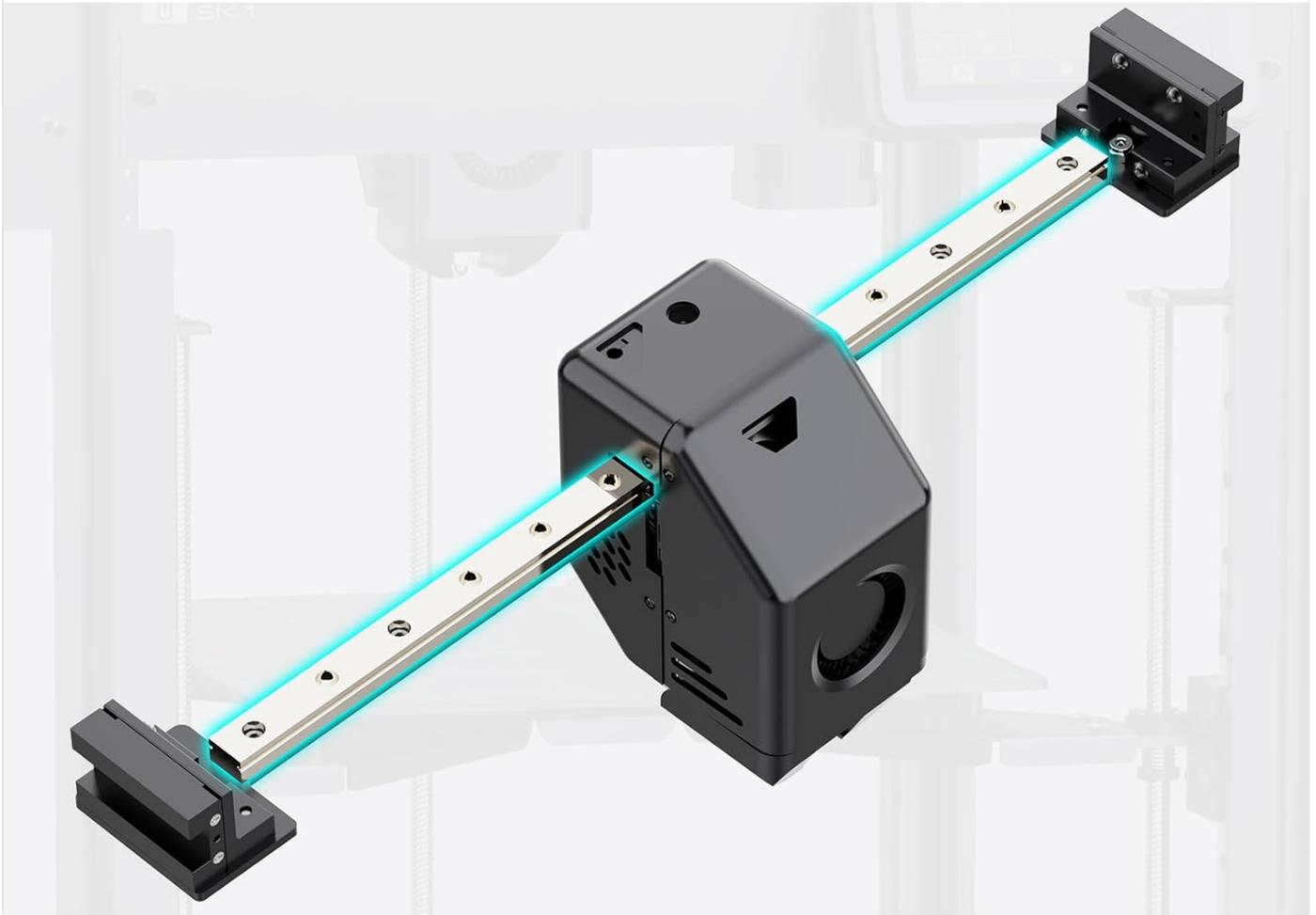
Figure 6: Illustration of the ball bearing guide rail system, designed for high precision and strong durability.

4. Firmware Updates

- Check the official Twotrees website for the latest firmware updates.
- Follow the provided instructions carefully when updating firmware to ensure compatibility and avoid issues.

TROUBLESHOOTING

This section addresses common issues you might encounter with your Twotrees SK1 3D Printer.

Problem	Possible Cause	Solution
Print not sticking to bed	Bed not level, bed temperature too low, dirty build plate, incorrect Z-offset.	Perform automatic bed leveling. Increase bed temperature. Clean the PEI build plate with isopropyl alcohol. Adjust Z-offset slightly closer to the bed.
Filament not extruding	Clogged nozzle, tangled filament, incorrect temperature, extruder gear slip.	Clear nozzle clog (cold pull or needle). Untangle filament. Ensure nozzle temperature is appropriate for filament. Check extruder gear for debris.

Problem	Possible Cause	Solution
Layer shifting	Loose belts, motor issues, print speed too high, object not adhering to bed.	Check and tighten X/Y axis belts. Reduce print speed. Ensure proper bed adhesion. Inspect linear rails for obstructions.
Poor print quality (stringing, blobs)	Incorrect retraction settings, excessive temperature, wet filament.	Adjust retraction distance and speed in slicer. Lower print temperature. Dry filament if it has absorbed moisture.
Printer not powering on	Power cable disconnected, faulty power supply, power switch off.	Check power cable connections. Ensure power switch is ON. Test power outlet. Contact support if power supply is suspected.

SPECIFICATIONS

Detailed technical specifications for the Twotrees SK1 3D Printer.

LARGER PRINTING SIZE
256*256*256mm

256mm 10inch

256mm 10inch

256mm 10inch
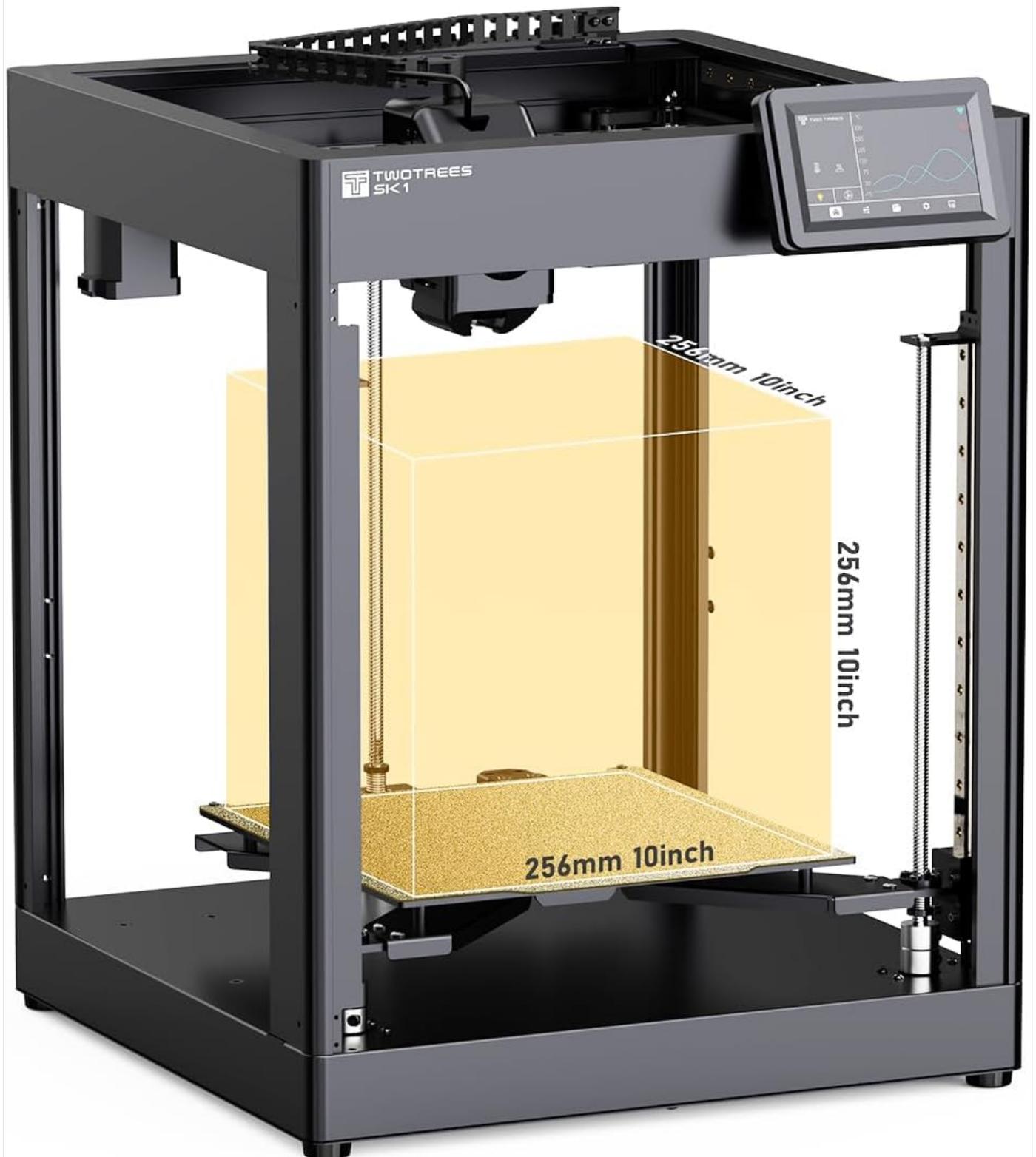
256mm 10inch

Figure 7: The Twotrees SK1 offers a generous printing volume of 256x256x256mm (approximately 10x10x10 inches).

Parameter	Value
Model	SK1
Printing Size	256 x 256 x 256 mm
External Dimensions	400 x 400 x 510 mm
Max Printing Speed	700 mm/s (Legendary Mode), 350 mm/s (Normal Mode)
Max Acceleration	20000 mm/s²
Nozzle Max Temperature	300°C
Guide Rail Material	Ball Screw Guide Rail
Screen	4.3-inch Touch Color Screen
Leveling	Z-Tilt Inclined Leveling
Hot Bed Panel	Single Side PEI
AI Camera	Optional
EMMC Capacity	8 GB
Wifi Connection	Available
Material	Metal
Item Weight	13.8 kg
Compatible Devices	Laptop, Personal Computer

WARRANTY AND SUPPORT

Twotrees provides customer support and warranty services for the SK1 3D Printer. For specific warranty terms and conditions, please refer to the warranty card included with your product or visit the official Twotrees website.

Customer Support

If you encounter any issues not covered in this manual or require further assistance, please contact Twotrees customer support through their official channels. Be prepared to provide your product model (SK1) and purchase details.

- **Official Website:** www.twotrees3d.com
- **Email Support:** Refer to the website or product packaging for contact email.

Firmware and Software Resources

For the latest firmware, slicing profiles, and software tools, visit the Twotrees support page. Regularly checking for updates can improve printer performance and add new features.

Related Documents - SK1

	[Two Trees SK1 3D Printer: User Manual, Specifications, and Assembly Guide](#) A comprehensive guide to the Two Trees SK1 3D printer, detailing its features, technical specifications, included accessories, assembly instructions, and important safety precautions. Discover the high-speed printing capabilities and Core XY motion system of the SK1.
	[TwoTrees SK1 3D Printer User Manual and Specifications](#) Comprehensive guide for the TwoTrees SK1 3D printer, covering setup, operation, specifications, and maintenance. Learn about its features, parameters, and assembly instructions.
CUPS Driver Software Manual for macOS Supported Models Thermal Printers Portable Printers Dot Matrix Printers Rev. 7.1	**[Star CUPS Driver Software Manual for macOS](#)** This manual provides comprehensive setup procedures and functional outlines for the Star CUPS driver on macOS. It covers installation, uninstallation, printer functions, paper size settings, Ethernet environment guidelines, and IP command usage for various Star Printers, including thermal, portable, and dot matrix models.
	[Soomfon SK1 Mini Projector User Manual](#) Comprehensive user manual for the Soomfon SK1 mini projector, covering safety instructions, product specifications, setup, operation, and support. Learn how to connect devices, play media, and optimize your viewing experience.
JETE WARRANTY CARD and USER MANUAL KEYBOARD WIRELESS SK1 e–Usermanual IMPORTIR PT. DORAN SUKSES INDONESIA Jl. Lebak Jaya 2 Tengah No. 2, Surabaya CUSTOMER SERVICE 081217393609 jete.id jeteindonesia jeteindonesia jeteindonesia	**[JETE SK1 Wireless Keyboard User Manual and Warranty Information](#)** Comprehensive user manual and warranty details for the JETE SK1 Wireless Keyboard, covering setup, features, troubleshooting, and terms.
	[Thinkbee Wireless Switch and Receiver User Manual](#) User manual for the Thinkbee Wireless Switch and Receiver Kit, detailing product appearance, installation, pairing, and specifications for controlling lights without wiring or WiFi.

Documents - Twotrees – SK1

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.
lang:en score:33 filesize: 242.99 K page_count: 7 document date: 0000-00-00
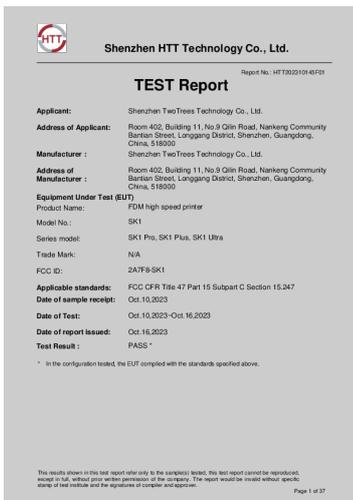
[pdf] Test Report
Test Report 2 4GWIFI Shenzhen TwoTrees Technology Co Ltd SK1 FDM high speed printer 2A7F8 2A7F8SK1 sk1
Shenzhen HTT Technology Co., Ltd. Report No.: HTT202310145F01 TEST Report Applicant: Shenzhen Two ... dong, China, 518000 Equipment Under Test EUT Product Name: FDM high speed printer Model No.: **SK1** Series model: **SK1** Pro, **SK1** Plus, **SK1** Ultra Trade Mark: N/A FCC ID: 2A7F8-**SK1** Applicable s...
lang:en score:26 filesize: 3.63 M page_count: 37 document date: 2023-10-28

Two Trees SK1 3D Printer: User Manual, Specifications, and Assembly Guide
A comprehensive guide to the Two Trees SK1 3D printer, detailing its features, technical specifications, included accessories, assembly instructions, and important safety precautions. Discover the high-speed printing capabilities and Core XY motion system of the SK1.
lang:en score:23 filesize: 1.45 M page_count: 15 document date: 2023-11-02

[pdf] Confidentiality Request Letter

FCC Confidentiality request letter Shenzhen TwoTrees Technology Co Ltd SK1 2A7F8 2A7F8SK1 sk1
Sincerely, Name/Title Company: Address: Phone: Fax: E-Mail: Zijia Ouyang/Manager
Shenzhen TwoTrees Technology Co., Ltd. Room 402,Building 11,No.9 Qilin
Road,Nankeng Community Bantian Street,Longgang District Shenzhen China 86
13530926987 N/A ceo twotrees3dprinter.com ...
lang:en score:23 filesize: 153.12 K page_count: 2 document date: 2023-10-28

[pdf] User Manual Instructions

SK1   TwoTrees CoreXY 3D Printer User Manual Probots Two Trees Buy Online India probots co in
technical data |||
4041301 TEL: 0086-0755-23987110 Http: www.twotrees3d.com Facebook:
https://www.facebook.com/twotree ... the 3D printer without authorization to avoid
accidental injury. 29 15. Machine parameters model: **SK1** colour: black Nozzle
number: 1 Print size: 256x256x256mm Weight of machine14.3kg Nozzle diameter...
lang:en score:23 filesize: 12.11 M page_count: 33 document date: 2024-04-15

[pdf] SAR Rating

FCC RF Exposure MPE Shenzhen TwoTrees Technology Co Ltd SK1 2A7F8 2A7F8SK1 sk1
RF Exposure evaluation FCC ID: 2A7F8-**SK1** Exposure category: General
population/uncontrolled environment EUT Type: Production Unit Device Type: Mobile
Device 1. Reference According to 1.1307 b 1 , systems operating under the provisions
of this section shall be operated in a manner that ensures t...
lang:en score:20 filesize: 167.77 K page_count: 3 document date: 2023-10-28
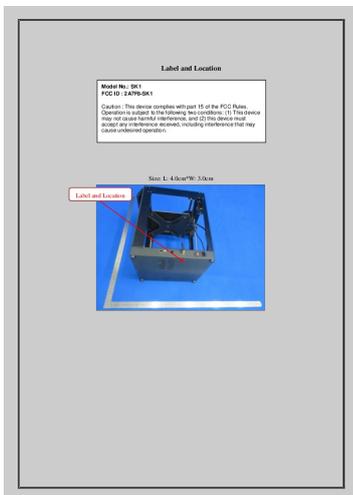
[pdf] Label

Label and Location Shenzhen TwoTrees Technology Co Ltd SK1 FDM high speed printer 2A7F8
2A7F8SK1 sk1
Label and Location Model No.:**SK1** FCC ID : 2A7F8-**SK1** Caution : This device
complies with part 15 of the FCC Rules. Operation is subject to the following two
conditions: 1 This device may not cause harmful interference, and 2 this device must
accept any interference received, including interferen...
lang:en score:20 filesize: 50.23 K page_count: 1 document date: 2023-10-28

[Shenzhen HTT Technology Co., Ltd. SK1 FDM High Speed Printer - Internal Construction Details](#)

Detailed internal constructional views and component identification for the Shenzhen HTT Technology Co., Ltd. SK1 FDM high speed printer, including images of the mainboard and power supply.
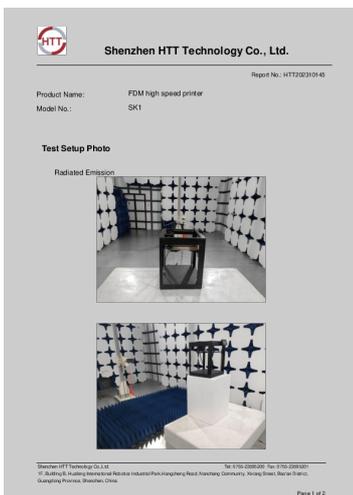
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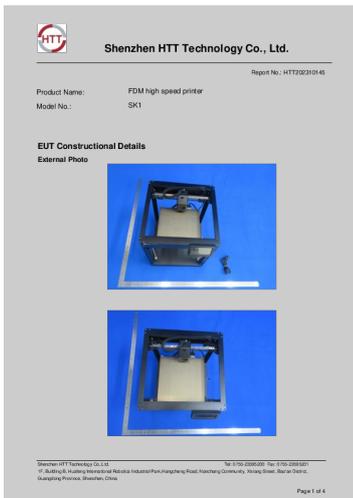
[Shenzhen HTT Technology Co., Ltd. - SK1 FDM High Speed Printer - Technical Specifications and External Views](#)

Technical report from Shenzhen HTT Technology Co., Ltd. detailing the external constructional aspects and photographs of the SK1 FDM high speed printer. Includes product specifications and company information.

lang:tl score:19 filesize: 317.99 K page_count: 4 document date: 2023-11-02

[Shenzhen HTT Technology Co., Ltd. SK1 FDM High Speed Printer Test Setup Report](#)

Details of the test setup for radiated and conducted emissions for the Shenzhen HTT Technology Co., Ltd. SK1 FDM high speed printer.

lang:tl score:19 filesize: 189.83 K page_count: 2 document date: 2023-10-28

Shenzhen TwoTrees Technology Co., Ltd.
Room 402,Building 11,No.9 Qilin Road,Nankeng Community Bantian Street,Longgang District Shenzhen China

Federal Communications Commission
Authorization and Evaluation Division
Equipment Authorization Branch
7435 Oakland Mills Road
Columbia, MD 21046

2023-10-28

To whom it may concern:

We, the undersigned, hereby authorize Eurofins Product Service GmbH to act on our behalf in all matters relating to applications for equipment authorization FCC ID: **2A7F8-SK1** including the signing of all documents related to these matters.

Any and all acts carried out by Eurofins Product Service GmbH on our behalf shall have the same effect as acts of our own.

By signing this application form, we agree to Eurofins' current valid General Terms and Conditions (AGB),Testing and Certification Regulations (PZO) which can be viewed on following website www.eurofins.de/ee or retrieved on request.

We also hereby certify that no party to this application is subject to a denial of benefits, including FCC benefits, pursuant to Section 5301 of the Anti-Drug Abuse Act of 1988, 21 U.S.C. 862.

Sincerely,

Zijia Ouyang

Name/Title: Zijia Ouyang/Manager
Company: Shenzhen TwoTrees Technology Co., Ltd.
Address: Room 402,Building 11,No.9 Qilin Road,Nankeng Community Bantian
               Street,Longgang District Shenzhen China
Phone: +86 13530926987
Fax: N/A
E-Mail: ceo@twotrees3dprinter.com

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FCC POA Shenzhen TwoTrees Technology Co Ltd SK1 2A7F8 2A7F8SK1 sk1

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深圳市科信无线技术有限公司
Shenzhen Kexin Wireless Technology Co., Ltd

Antenna Specifications
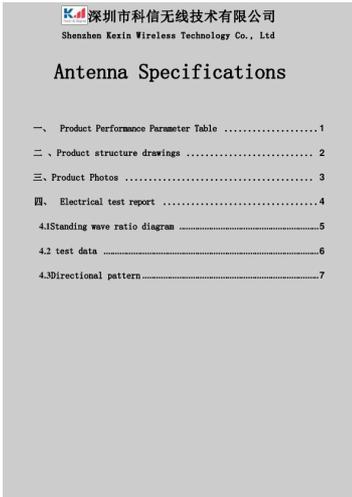
[pdf] Specifications

Antenna specification Shenzhen TwoTrees Technology Co Ltd SK1 2A7F8 2A7F8SK1 sk1

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4.1 .... 5 4.2

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Shenzhen TwoTrees Technology Co., Ltd.
Add: Room 402,Building 11,No.9 Qilin Road,Nankeng Community Bantian Street,Longgang District Shenzhen China

Date: 2023-10-28

FCC ID: 2A7F8-SK1

Dear Sir/Madam,

We, **Shenzhen TwoTrees Technology Co., Ltd.** Hereby declares the following statement for Federal Communications Commission, PCB board, circuit, structure and internal of these model(s) are the same, Only model number is different for these model:

Product name: FDM high speed printer
Model no.: SK1, SK1 Pro, SK1 Plus, SK1 Ultra

Sincerely,

Zijia Ouyang

Name/Title :   Zijia Ouyang/Manager
Company: Shenzhen TwoTrees Technology Co., Ltd.
Address: Room 402,Building 11,No.9 Qilin Road,Nankeng Community Bantian
               Street,Longgang District Shenzhen China
Phone: +86 13530926987
Fax: N/A
E-Mail: ceo@twotrees3dprinter.com

[pdf] Decleration of Conformity

Declaration Letter of Model Difference Shenzhen TwoTrees Technology Co Ltd SK1 2A7F8 2A7F8SK1 sk1

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[pdf] Decleration of Conformity

FCC Declaration of Disable WLAN Channel 12 and 13 Shenzhen TwoTrees Technology Co Ltd SK1 2A7F8 2A7F8SK1 sk1

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Covered Equipment Attestation 2 911 d 5 i and ii Shenzhen TwoTrees Technology Co Ltd SK1 2A7F8 2A7F8SK1 sk1

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[pdf]

US Agent 2 911 d 7 U V05 Shenzhen TwoTrees Technology Co Ltd SK1 FDM high speed printer 2A7F8 2A7F8SK1 sk1

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