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› Comgrow Creality 3D V4.2.7 Silent Mainboard User Manual

Comgrow Silent mainboard

Comgrow Creality 3D V4.2.7 Silent Mainboard User Manual

Model: Silent mainboard | Brand: Comgrow

1. PRODUCT OVERVIEW

The Comgrow Creality 3D V4.2.7 Silent Mainboard is an upgraded control board designed for Creality Ender 3 series 3D printers. This mainboard features silent stepper motor drivers, significantly reducing operational noise during printing. It is a 32-bit board, offering improved performance and stability compared to older 8-bit versions.

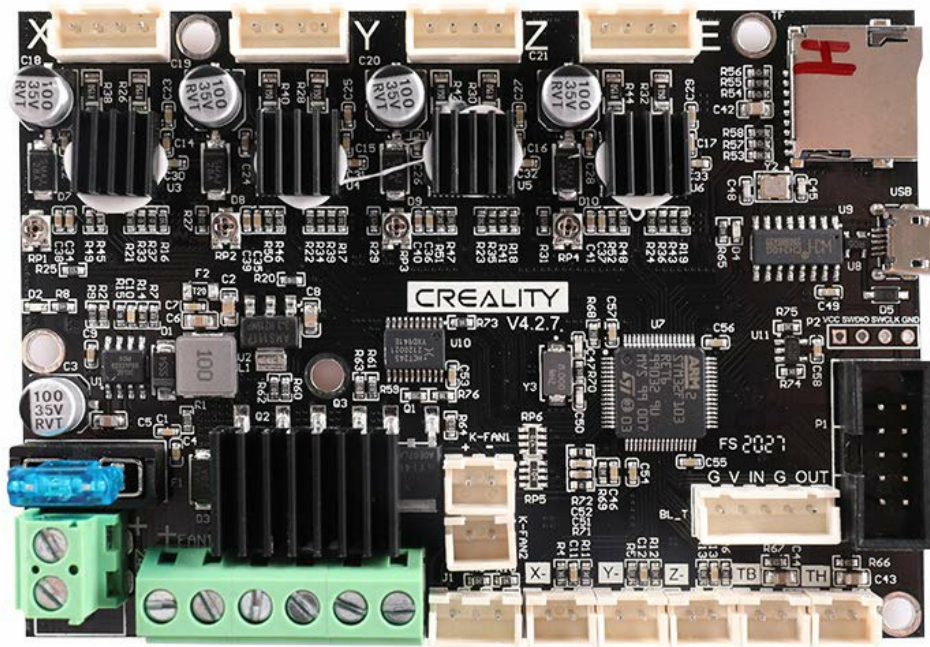


Figure 1: The Creality 3D V4.2.7 Silent Mainboard, showing its various ports and components.

2. KEY FEATURES

- **Silent Operation:** Equipped with TMC2208 stepper motor drivers, which greatly reduce noise during printing, providing a quieter printing environment.
- **32-bit Architecture:** Upgraded from 8-bit to 32-bit, offering faster processing speeds and improved stability for more complex operations.
- **Integrated Design:** All-in-one design for easy installation and compatibility with various Ender 3 models.
- **Firmware Compatibility:** Supports various firmware versions, with pre-installed firmware for Ender 3 series printers. Firmware updates are straightforward via SD card.
- **Enhanced Reliability:** Built with high-quality components for long-term durability and consistent performance.



Figure 2: Visual comparison illustrating the significant noise reduction achieved with the V4.2.7 silent mainboard compared to older versions.

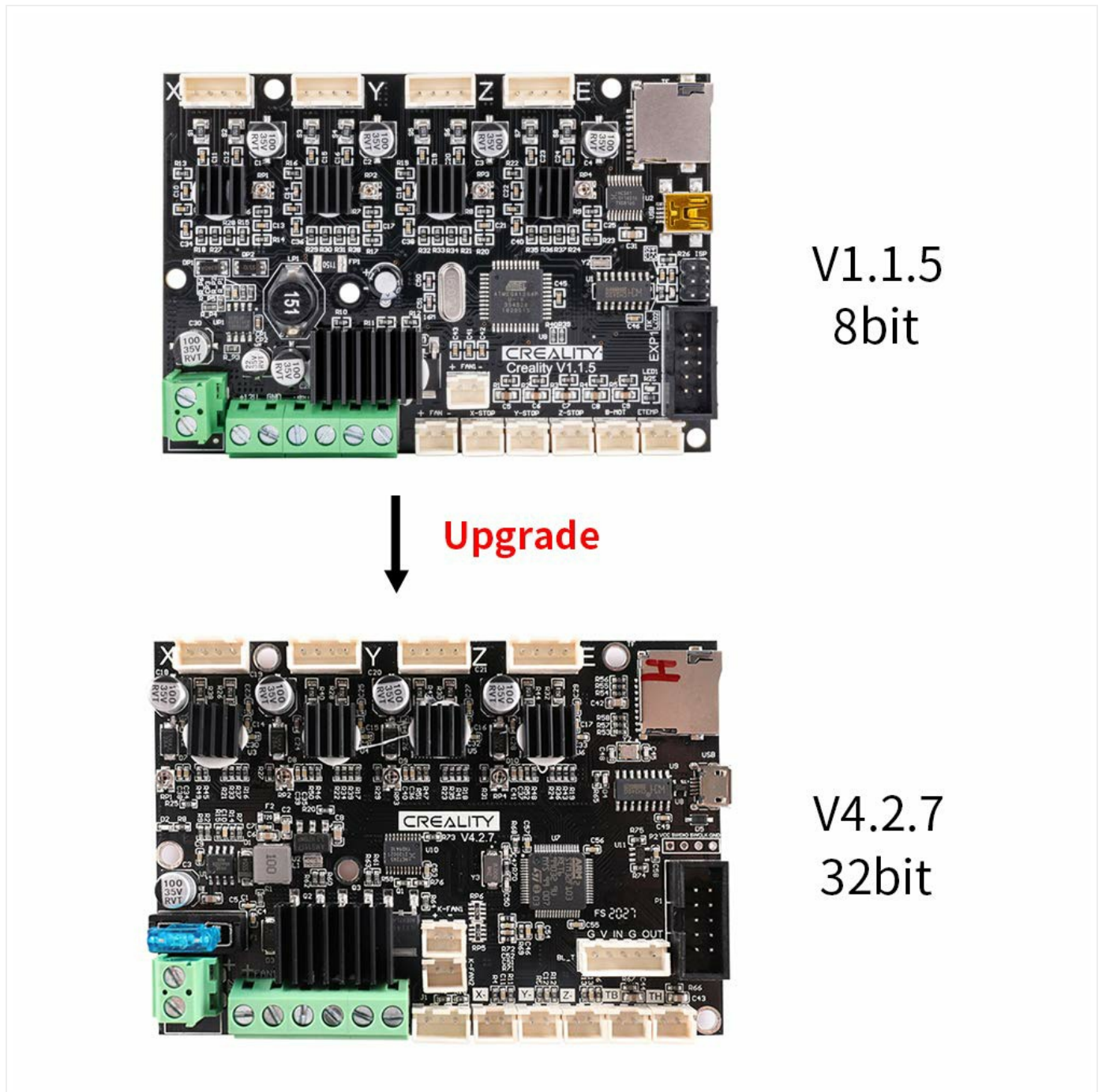


Figure 3: Comparison showing the physical differences and upgrade path from the older V1.1.5 8-bit mainboard to the V4.2.7 32-bit mainboard.

3. INSTALLATION GUIDE

This section provides instructions for replacing your existing mainboard with the Comgrow Creality 3D V4.2.7 Silent Mainboard. It is recommended to watch official installation videos or consult professional guides if you are unsure about any steps.

3.1 Safety Precautions

- Always disconnect the 3D printer from the power supply before beginning any installation or maintenance.
- Discharge any static electricity from your body by touching a grounded metal object before handling the mainboard.
- Handle the mainboard by its edges to avoid touching sensitive electronic components.

- Keep small screws and components organized to prevent loss.

3.2 Tools Required

- Screwdriver set (Phillips head recommended)
- Small pliers or tweezers (optional, for small connectors)
- Anti-static wrist strap (recommended)

3.3 Installation Steps

1. **Power Off and Disconnect:** Ensure your 3D printer is completely powered off and unplugged from the wall outlet.
2. **Access the Mainboard:** Locate and open the control box of your 3D printer. This usually involves unscrewing a few screws on the bottom or side panel.
3. **Photograph Connections:** Before disconnecting anything, take clear photos of all existing wiring connections to the old mainboard. This will serve as a reference for reassembly.
4. **Disconnect Wiring:** Carefully disconnect all wires from the old mainboard. Pay attention to the orientation of connectors, especially for stepper motors (X, Y, Z, E), hotend, heated bed, thermistors, and endstops.
5. **Remove Old Mainboard:** Unscrew the old mainboard from its mounting points within the control box and remove it.
6. **Install New Mainboard:** Place the new Comgrow Creality 3D V4.2.7 Silent Mainboard into the control box, aligning it with the mounting holes. Secure it with the screws removed earlier.
7. **Reconnect Wiring:** Using your reference photos, carefully reconnect all wires to the corresponding ports on the new mainboard. Ensure all connections are secure and correctly oriented.

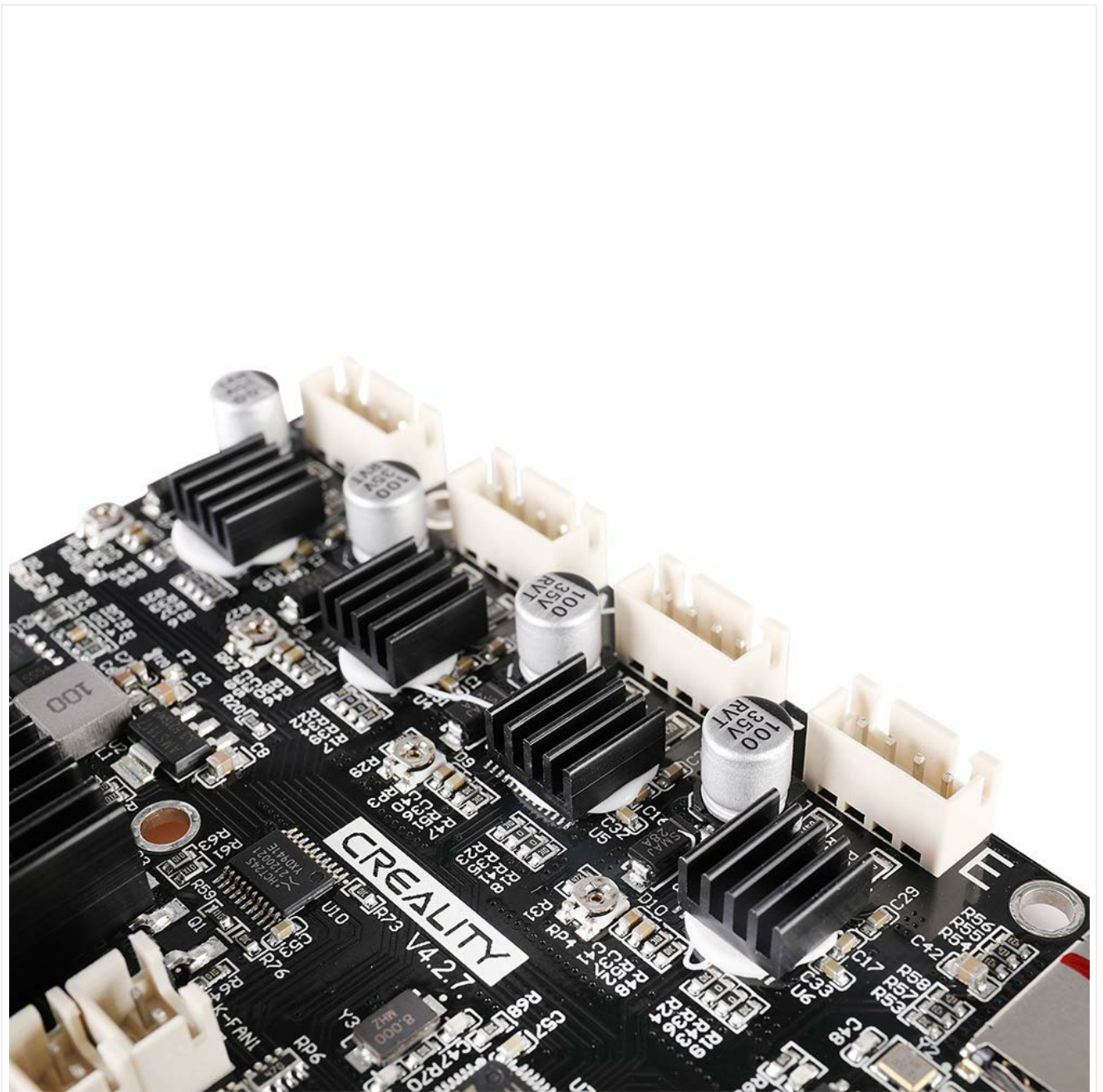


Figure 4: Close-up view of the mainboard, highlighting the various connectors for motors, sensors, and power.

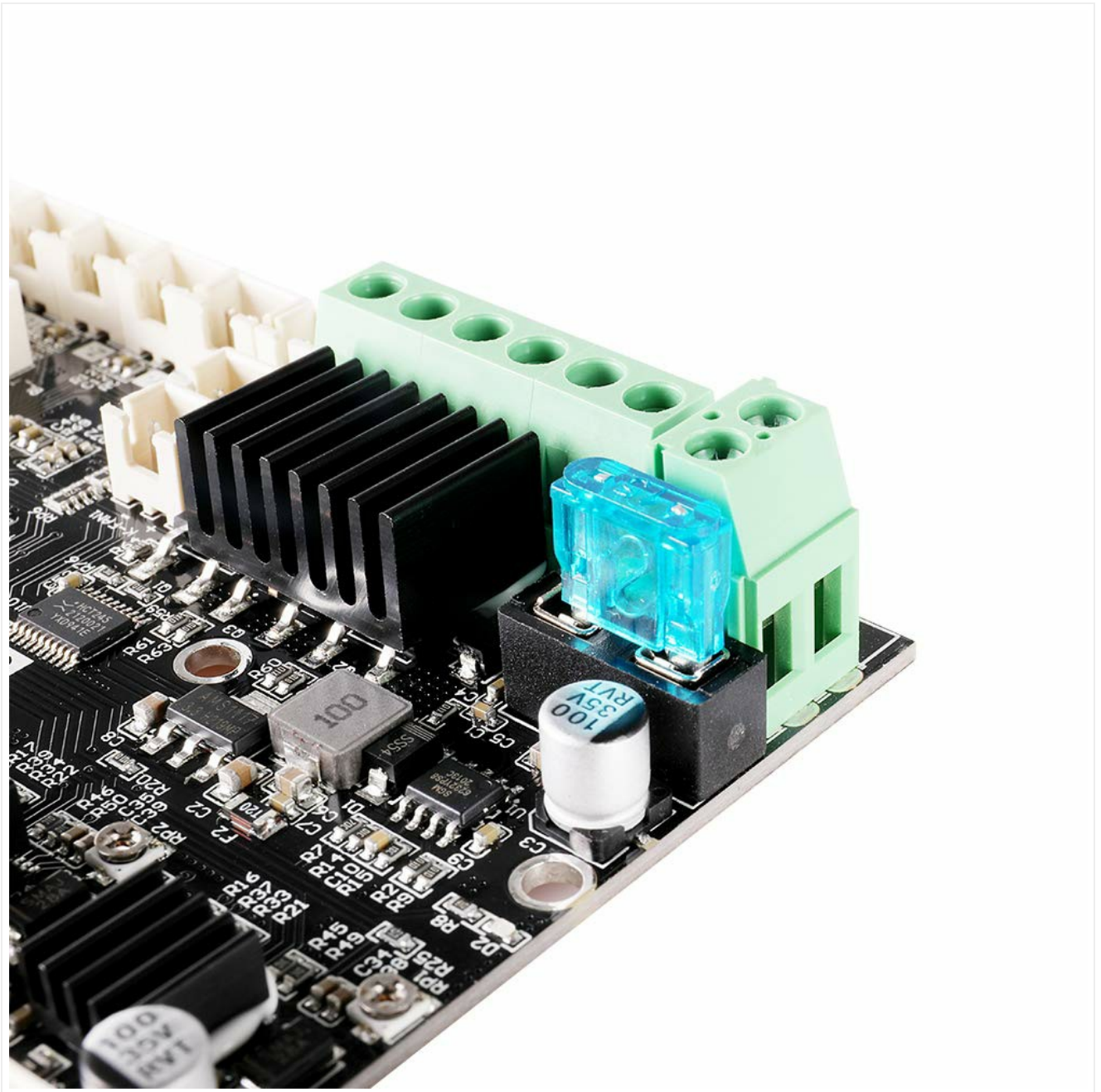


Figure 5: Detailed view of the power input terminal and integrated fuse on the mainboard, ensuring proper power connection.

8. **Close Control Box:** Once all wires are connected and secured, close the control box and fasten its screws.
9. **Firmware Update (if necessary):** The V4.2.7 board typically comes pre-installed with firmware for common Ender 3 models. However, if you experience issues or require specific features, you may need to update the firmware.
 - Download the correct firmware file (.bin) for your specific printer model from the official Creality or Comgrow website.
 - Format an SD card (preferably 8GB or less) to FAT32.
 - Copy the .bin firmware file directly to the root directory of the SD card.
 - Insert the SD card into the mainboard's SD card slot.
 - Power on the printer. The mainboard will automatically detect and flash the new firmware. The screen may remain blank for a short period during this process.
 - Once the screen lights up and displays the main menu, the firmware update is complete. Remove the SD card.
10. **Test Printer:** Power on your 3D printer and perform initial tests, such as moving axes, heating the hotend and bed, and checking endstop functionality.

4. OPERATING CONSIDERATIONS

The V4.2.7 Silent Mainboard primarily functions as the central processing unit for your 3D printer. Its operation is integrated into the printer's overall functionality. Users will notice a significant reduction in noise from the stepper motors during printing operations.

- **Quieter Printing:** The main benefit is the reduced noise level, making the printer more suitable for home or office environments.
- **Improved Performance:** The 32-bit processor allows for smoother motion control and potentially faster processing of G-code, leading to more precise prints.
- **Compatibility:** Ensure that any future upgrades or accessories (e.g., BLTouch, filament runout sensor) are compatible with the V4.2.7 mainboard and its firmware.

5. MAINTENANCE

The Comgrow Creality 3D V4.2.7 Silent Mainboard requires minimal maintenance. However, adhering to general electronic component care practices will ensure its longevity.

- **Keep Clean:** Periodically inspect the mainboard for dust accumulation. Use compressed air or a soft brush to gently remove dust from the board and heatsinks. Ensure the printer is powered off and unplugged before cleaning.
- **Environmental Conditions:** Operate the 3D printer in a clean, dry environment with stable temperatures. Avoid extreme humidity or direct exposure to liquids.
- **Secure Connections:** Occasionally check that all wiring connections to the mainboard are secure and have not come loose due to vibrations.
- **Firmware Updates:** Keep the firmware updated to the latest stable version to benefit from bug fixes and performance improvements.

6. TROUBLESHOOTING

This section addresses common issues that may arise after installing the V4.2.7 Silent Mainboard.

Problem	Possible Cause	Solution
Printer does not power on after installation.	Incorrect power wiring; Blown fuse; Faulty power supply.	◦ Double-check all power connections to the mainboard. ◦ Inspect the fuse on the mainboard (refer to Figure 5). Replace if blown. ◦ Verify the power supply is functioning correctly.
Stepper motors are not moving or moving incorrectly.	Incorrect motor wiring; Loose connections; Incorrect firmware.	◦ Verify that X, Y, Z, and E motor cables are connected to the correct ports and in the correct orientation. ◦ Ensure all motor cable connections are secure. ◦ Confirm that the correct firmware for your printer model is installed.

Problem	Possible Cause	Solution
Printer screen is blank or displays garbled text.	Incorrect display cable connection; Firmware issue.	◦ Check the display cable connection to the mainboard and the display unit. ◦ Re-flash the firmware to ensure it was installed correctly.
Hotend or heated bed not heating.	Incorrect thermistor/heater wiring; Loose connections; Faulty components.	◦ Verify thermistor and heater cartridge wiring. ◦ Ensure connections are secure. ◦ Check if the thermistor or heater cartridge itself is faulty (requires multimeter).

7. SPECIFICATIONS

Feature	Detail
Model Number	Silent mainboard (V4.2.7)
Processor Architecture	32-bit
Stepper Drivers	TMC2208 (Silent)
Compatibility	Crealty Ender 3 series (Ender 3, Ender 3 Pro, Ender 3 V2, etc.)
Dimensions	Approximately 20 x 15.9 x 6 cm (as per parcel dimensions)
Weight	Approximately 180 g (as per parcel dimensions)
ASIN	B07TQ2NYXY

8. WARRANTY AND SUPPORT

Comgrow is an authorized seller of Creality 3D products and provides professional support to its customers. For any technical assistance, warranty claims, or inquiries regarding the Comgrow Creality 3D V4.2.7 Silent Mainboard, please contact Comgrow customer service.

Refer to the official Comgrow or Creality websites for the most up-to-date support information, firmware downloads, and contact details.



Figure 6: Certificate of Authorization confirming Comgrow as an official brand agent for Creality 3D products, ensuring genuine products and support.

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This manual is for informational purposes only. Specifications are subject to change without notice.