GEPRC TAKER F722 BL32 E55A SE STACK

GEPRC TAKER F722 BL32 E55A SE STACK User Manual

Model: TAKER F722 BL32 E55A SE STACK | Brand: GEPRC

1. Introduction

The GEPRC TAKER F722 BL32 E55A SE STACK is a high-performance flight controller and electronic speed controller (ESC) stack designed for FPV racing drones. It integrates an advanced F722 processor with a robust BL32 55A 4-in-1 ESC, providing precise control, efficient power delivery, and excellent thermal management for demanding flight conditions. This manual provides essential information for setup, operation, and maintenance of your TAKER F722 BL32 E55A SE STACK.

2. Specifications

Feature	Description
Flight Controller Processor	STM32F722
ESC Current	55A (BL32 4-in-1)
Mounting Pattern	25.5mm x 25.5mm
BEC Output	Independent 10V and 5V
Black Box	Integrated storage for flight data
Connectivity	USB
Dimensions	Approximately 2"L x 2"W x 2"H
Weight	Approximately 17 Grams (0.6 ounces)

3. Product Overview and Components

The TAKER F722 BL32 E55A SE STACK consists of a flight controller board and an ESC board, designed to be stacked together. Key components include the F722 processor, gyroscope, and the 55A 4-in-1 ESC with metal-encapsulated modules for heat dissipation.

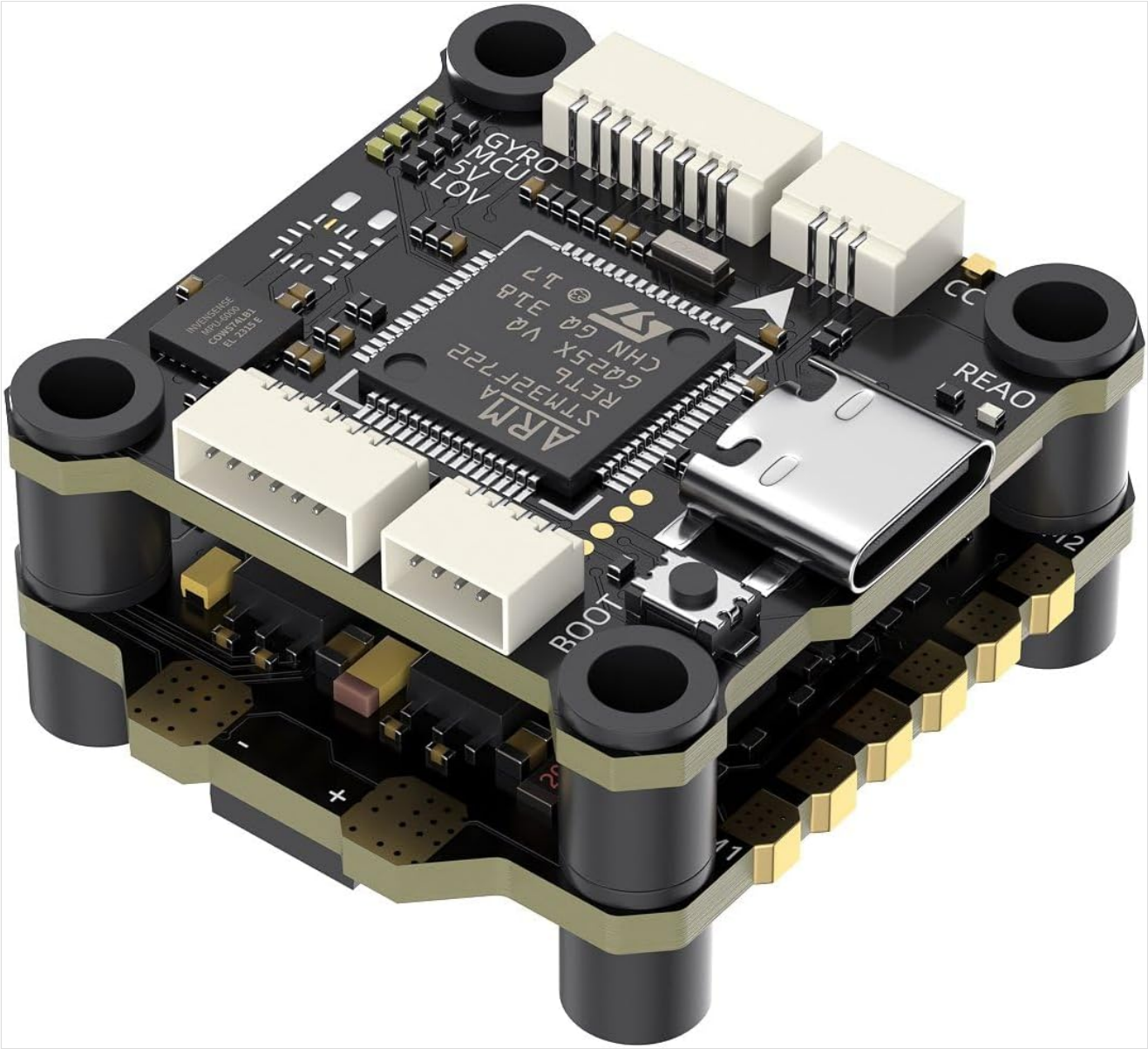

Figure 3.1: Top-down view of the GEPRC TAKER F722 BL32 E55A SE STACK, showing the flight controller board with the F722 processor and USB-C port.

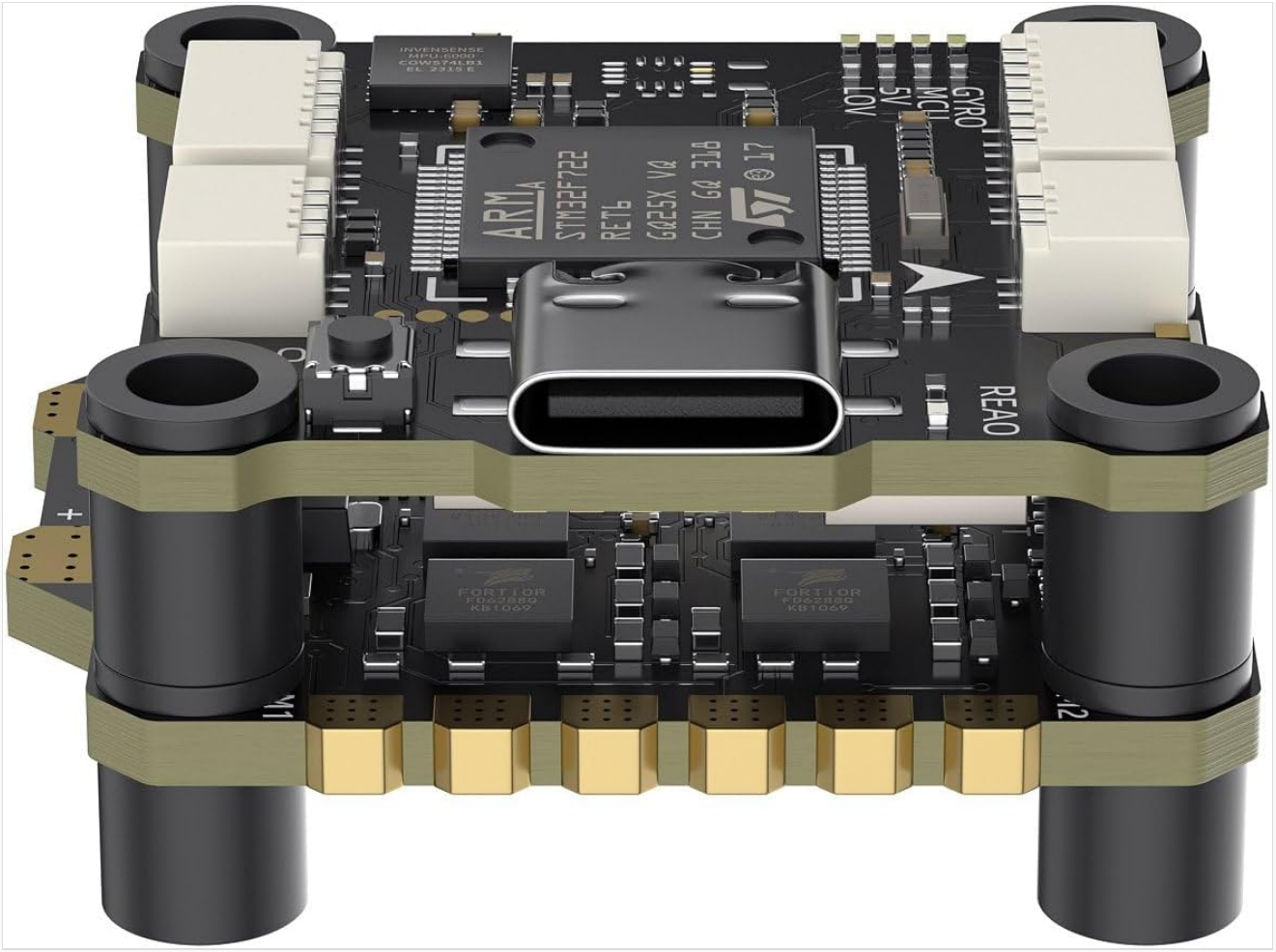

Figure 3.2: Front view of the stack, highlighting the USB-C port and connection headers.

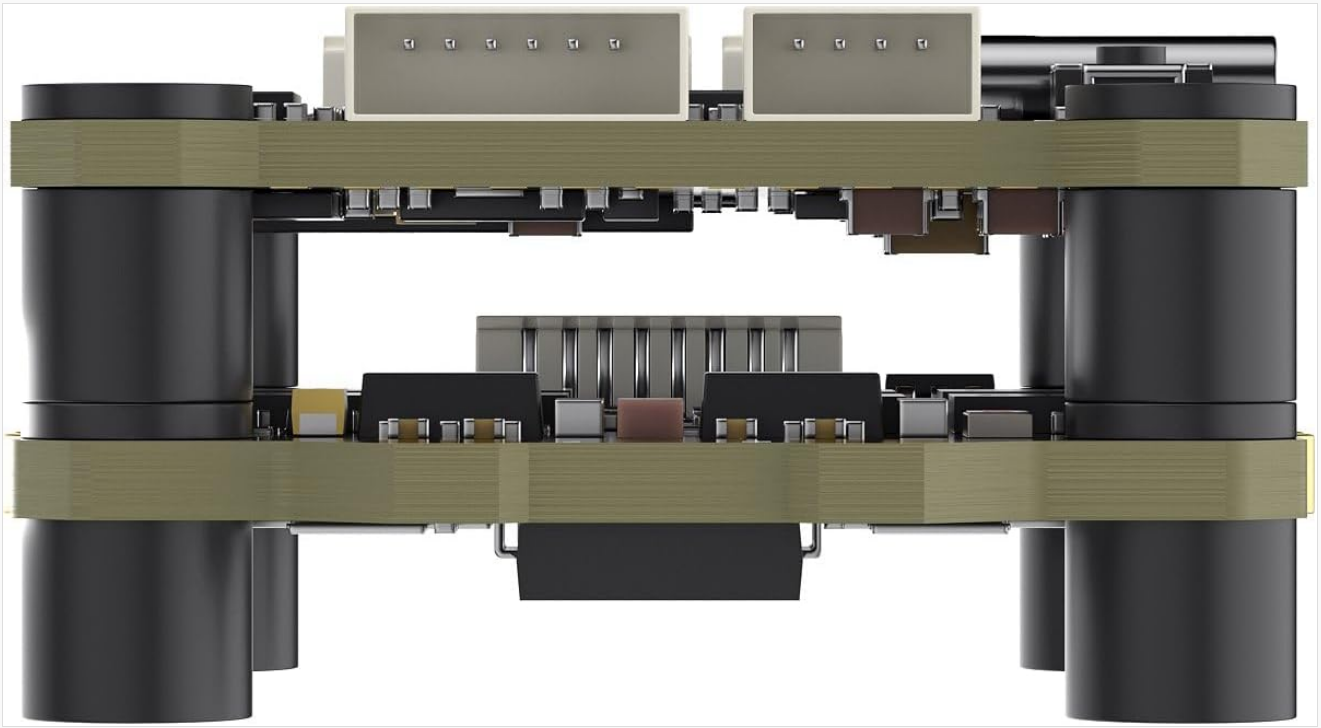

Figure 3.3: Side view of the stack, showing the separation between the flight controller and ESC boards.

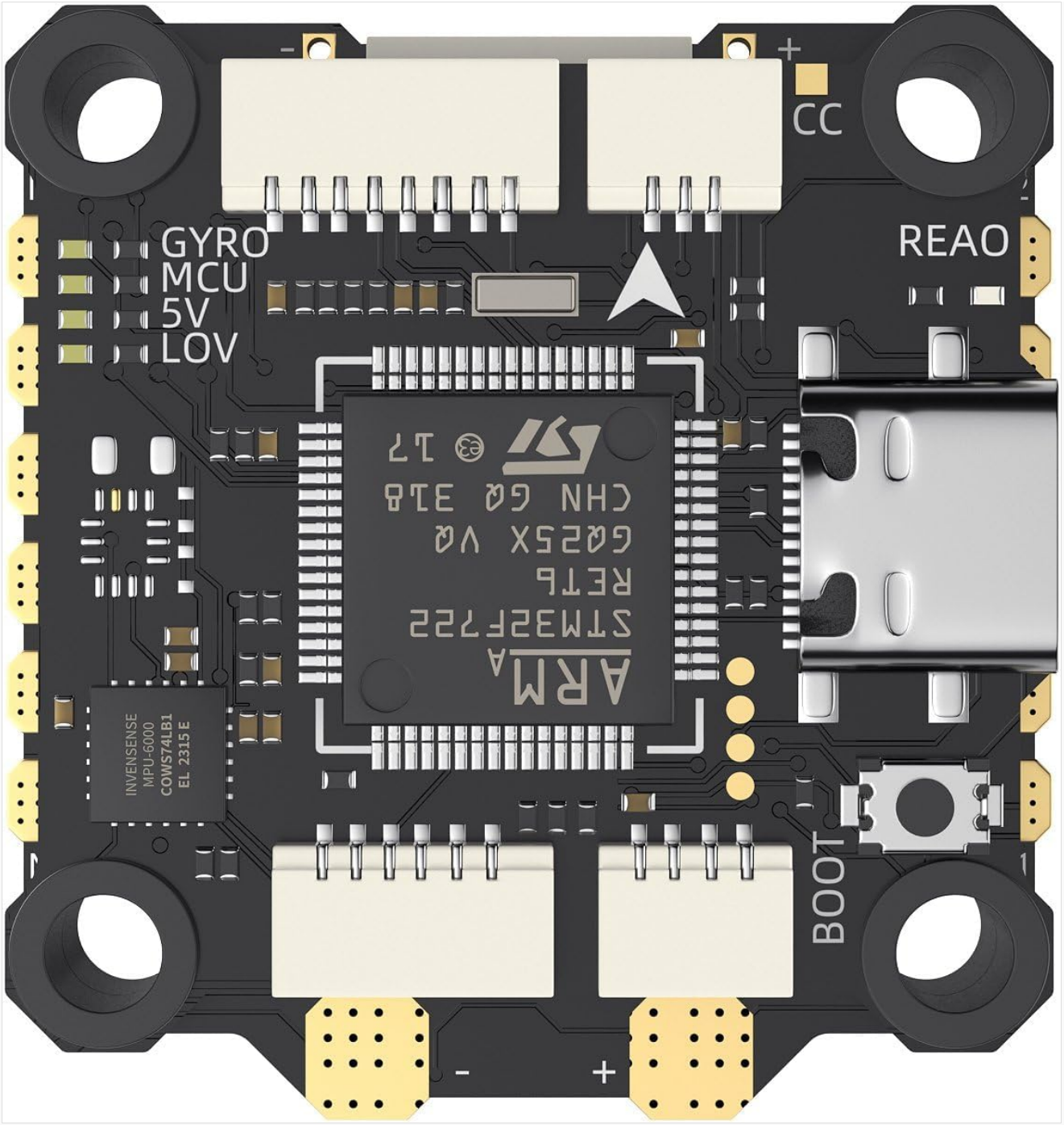

Figure 3.4: Detailed top view of the flight controller board, showing the F722 MCU and various solder pads.

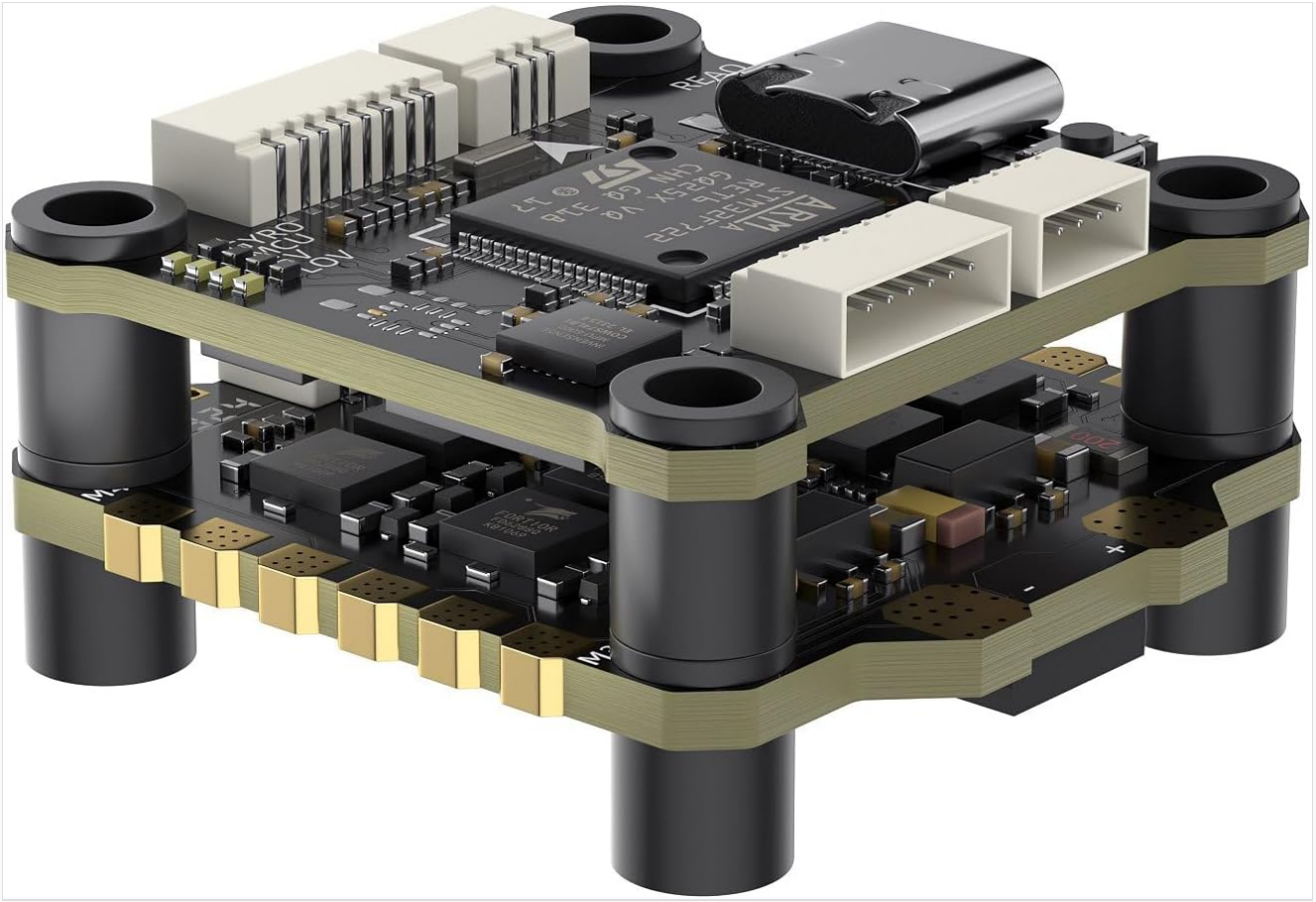

Figure 3.5: Angled view of the stack, providing a perspective of both boards and mounting holes.

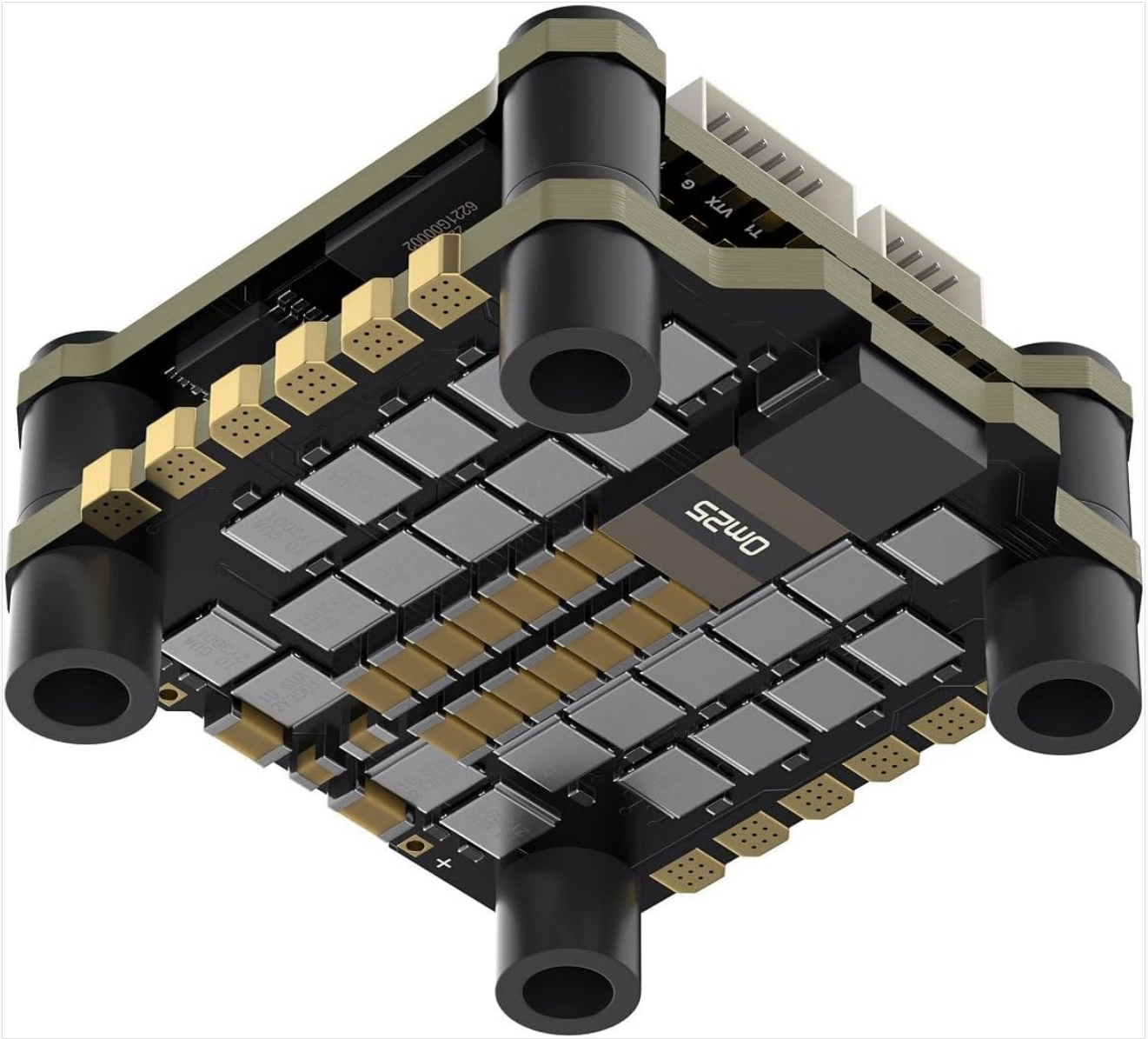

Figure 3.6: Detailed bottom view of the ESC board, showing the MOSFETs and power distribution layout.

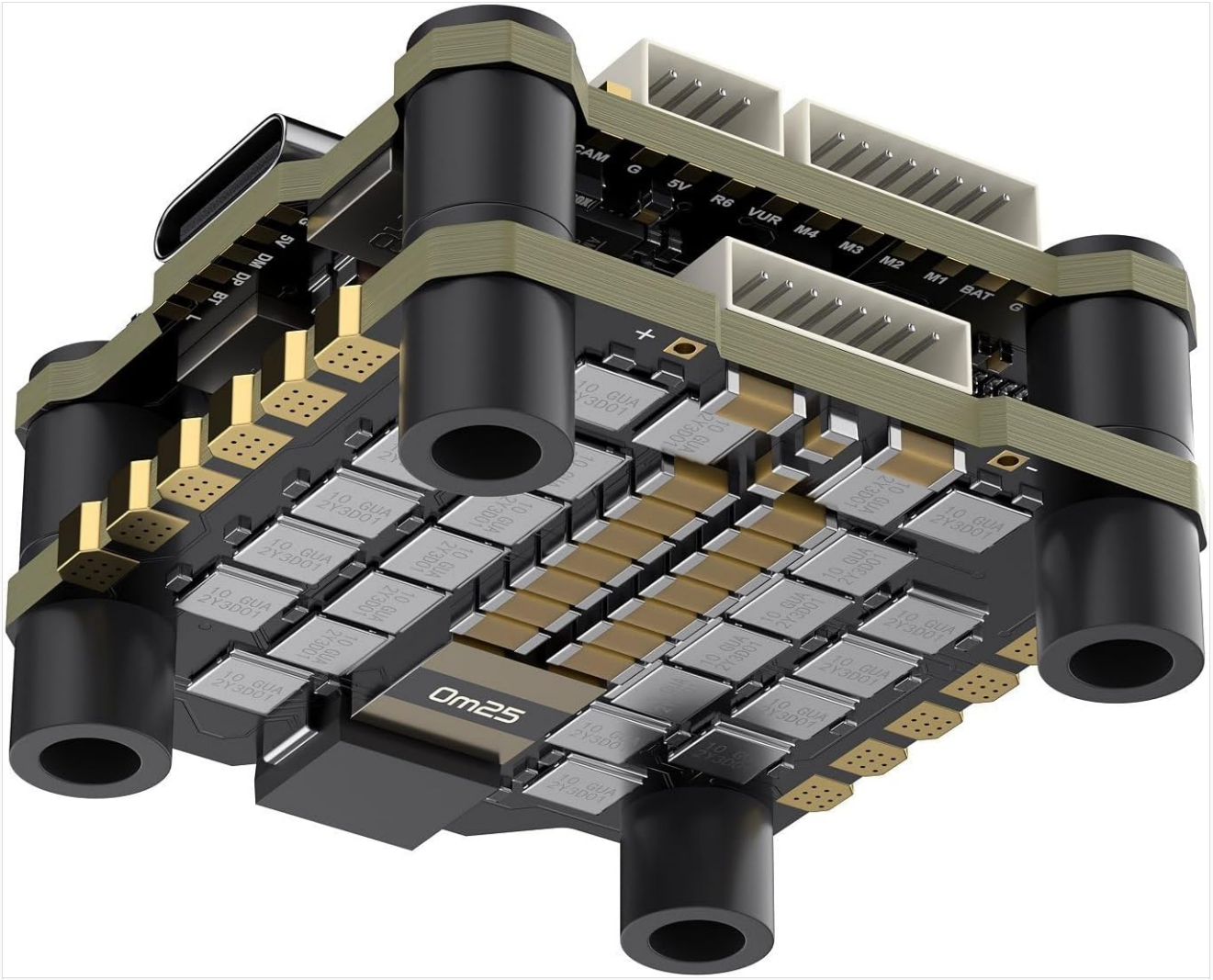

Figure 3.7: Angled view of the bottom of the stack, showing the ESC components and solder pads for motor connections.

Figure 3.8: Product List showing all included components such as screws, nuts, silicone shock absorbers, and various cables (camera, DJI O3 Air Unit, SH 1.0 4pin, analog video transmission, XT60 power cord).

4. Setup and Installation

Proper installation is crucial for optimal performance and safety. Always ensure power is disconnected before making any connections.

1. **Mounting:** Secure the stack to your drone frame using the provided 25.5mm x 25.5mm mounting pattern hardware. Ensure proper isolation from carbon fiber to prevent shorts.
2. **Motor Connections:** Connect your motors to the ESC pads (M1-M4). You can choose between soldering directly or using SH1.0 terminals if applicable. Ensure correct motor rotation direction is configured in your flight controller software.
3. **Power Connection:** Solder the XT60 power cord to the main battery pads on the ESC. Pay close attention to polarity (+ and -).
4. **Peripheral Connections:**
    - **Receiver:** Connect your radio receiver to the appropriate UART on the flight controller.
    - **FPV Camera:** Connect your FPV camera to the dedicated camera input, utilizing the 5V BEC output.
    - **Video Transmitter (VTX):** Connect your VTX to the appropriate video output and power from the 10V or 5V BEC, depending on your VTX requirements.
    - **DJI Air Unit (if applicable):** Use the dedicated DJI Air Unit cable for simplified connection and power.
5. **Firmware Flashing:** Connect the flight controller to your computer via the USB-C port. Use Betaflight Configurator or similar software to flash the latest firmware and configure settings according to your drone build.
6. **Initial Configuration:** Calibrate the accelerometer, set up modes, OSD, and other parameters in the flight controller software.

5. Operating Guidelines

Before each flight, perform a pre-flight check to ensure all components are secure and functioning correctly.

- **Battery Connection:** Always connect the battery securely. Ensure the battery voltage is within the supported range for the stack.
- **Arming:** Arm the drone only when it is on a stable, level surface and clear of any obstructions or people.
- **Flight Modes:** Familiarize yourself with different flight modes (e.g., Acro, Angle, Horizon) and their characteristics before flying.
- **Monitoring:** Pay attention to OSD data (voltage, current, RSSI) during flight to monitor the drone's health.
- **Disarming:** Disarm the drone immediately after landing or in case of an emergency.

6. Maintenance

Regular maintenance helps prolong the lifespan and ensure the reliability of your TAKER F722 BL32 E55A SE STACK.

- **Visual Inspection:** Periodically inspect the boards for any signs of damage, loose connections, or burnt components.
- **Cleaning:** Gently clean the boards with isopropyl alcohol and a soft brush to remove dust, dirt, or debris. Ensure no liquid remains before powering on.
- **Firmware Updates:** Keep the flight controller and ESC firmware updated to the latest stable versions to

benefit from performance improvements and bug fixes.

- **Connection Checks:** Verify that all solder joints are solid and all connectors are securely seated.

7. Troubleshooting

Problem	Possible Cause	Solution
No power to FC/ESC	Incorrect battery connection, short circuit, faulty power lead.	Check battery polarity, inspect for shorts, test power lead continuity.
Motors not spinning	Incorrect motor wiring, ESC calibration issue, motor protocol mismatch, disarmed.	Verify motor connections, calibrate ESCs, ensure correct DShot/OneShot protocol, check arming conditions.
Unstable flight	Incorrect PID tuning, vibrations, damaged propeller, faulty gyroscope.	Adjust PID settings, check for loose components, replace damaged props, inspect gyroscope for damage.
No FPV video signal	Incorrect camera/VTX wiring, VTX power issue, channel mismatch.	Verify wiring, check VTX power supply, ensure VTX and goggles are on the same channel.
USB connection issues	Faulty USB cable, driver issues, incorrect DFU mode.	Try a different USB cable, install correct drivers, ensure FC is in DFU mode for flashing.

8. Warranty and Support

GEPRC products are designed for high performance and reliability. For warranty information and technical support, please refer to the official GEPRC website or contact their customer service directly. Keep your purchase receipt as proof of purchase.

Online Resources:

- GEPRC Official Website
- GEPRC Amazon Store