



# AEE Mach 1 Motherboard Replacement

This guide shows the user how to replace the motherboard inside the AEE Mach 1 quadcopter drone.

Written By: Jake Kenison



## INTRODUCTION

This guide will show users how to properly replace the motherboard of the AEE Mach 1 quadcopter. The motherboard manages all of the various controls involved in flight, such as handling controller input signals, regulating propellor speed, and processing and sending camera data to the user's screen. If you have issues with any of the processes mentioned above, a motherboard replacement may restore functionality to your drone!

Some soldering skills will be required to complete this guide, so if you are unfamiliar with best practices, check out our [How To Solder and Desolder Connections](#) guide before you begin.

---

### TOOLS:

- [T5 Torx Screwdriver](#) (1)
  - [Phillips #0 Screwdriver](#) (1)
  - [Phillips #00 Screwdriver](#) (1)
  - [Spudger](#) (1)
  - [Soldering Iron](#) (1)
  - [ESD Safe Tweezers Blunt Nose](#) (1)
-

## Step 1 — Motherboard



- Take out the AEE Mach 1 and place it on a flat surface with its propellers facing up.

## Step 2



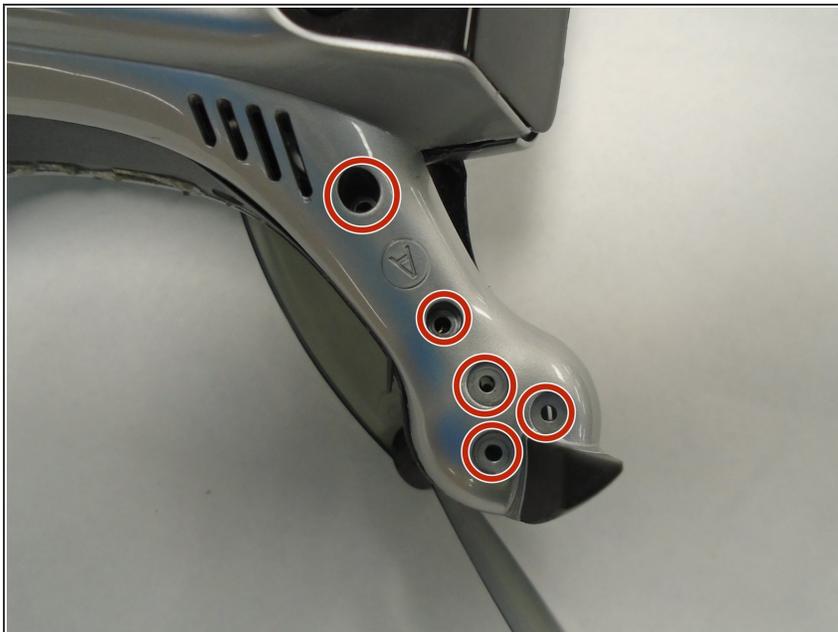
- Holding the base of each propeller still, unscrew the propeller clockwise for each arm.

### Step 3



- Flip the drone so that the bottom of the AEE Mach 1 is facing up.

### Step 4



- Remove the five screws on the drone's arms using a Torx T5 screwdriver.

## Step 5



- Gently pry open the top panel of the drone using a spudger.
- ⓘ Do not completely remove the panel, as there will still be wired connections between the two halves.

## Step 6



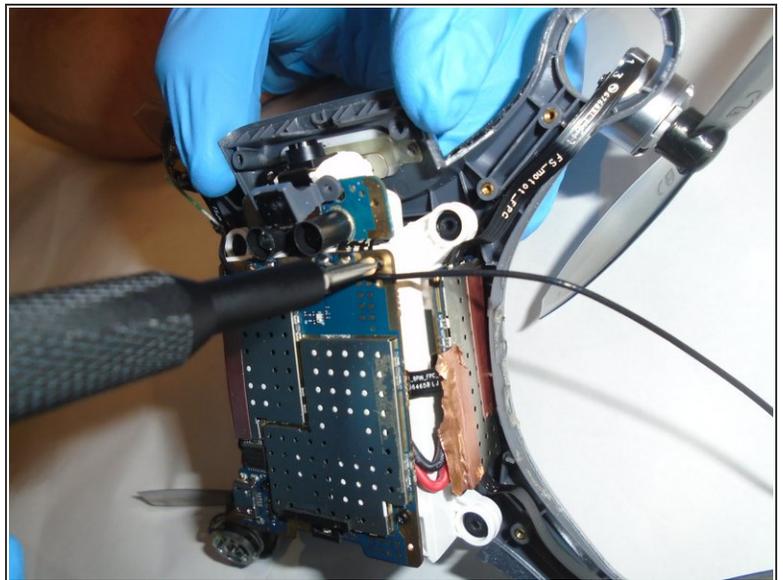
- Take out and set aside the battery pack, located on the back of the AEE Mach 1.

## Step 7



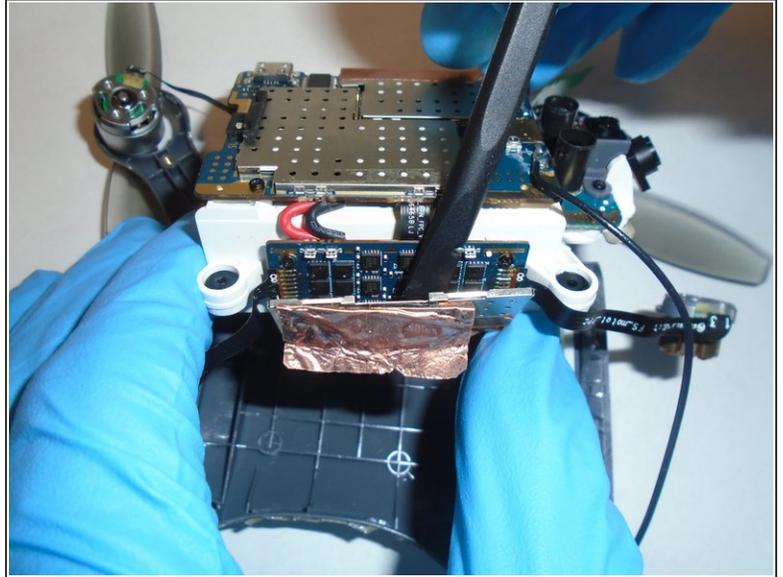
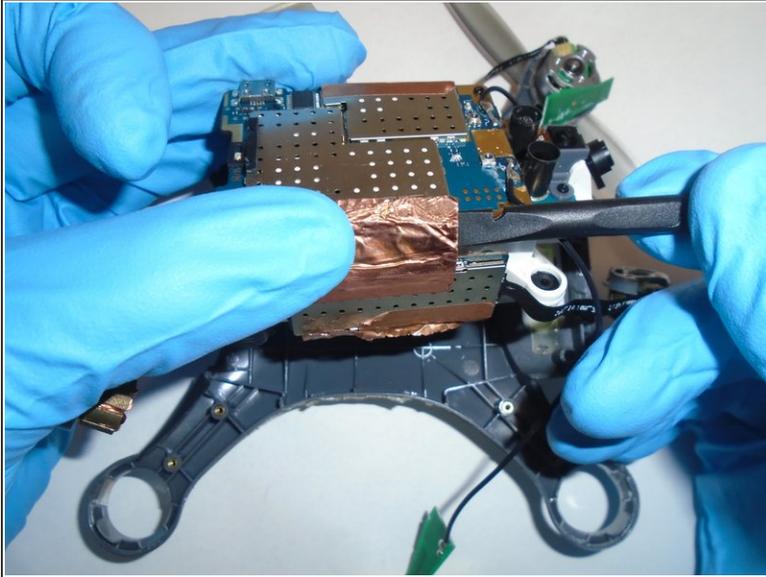
- Rotate the top panel slightly to reveal the four screws beneath each propeller arm.
- Remove each of the four screws with a Phillips #0 screwdriver.
- Lift off the top panel, as it should now be free from the rest of the device.

## Step 8



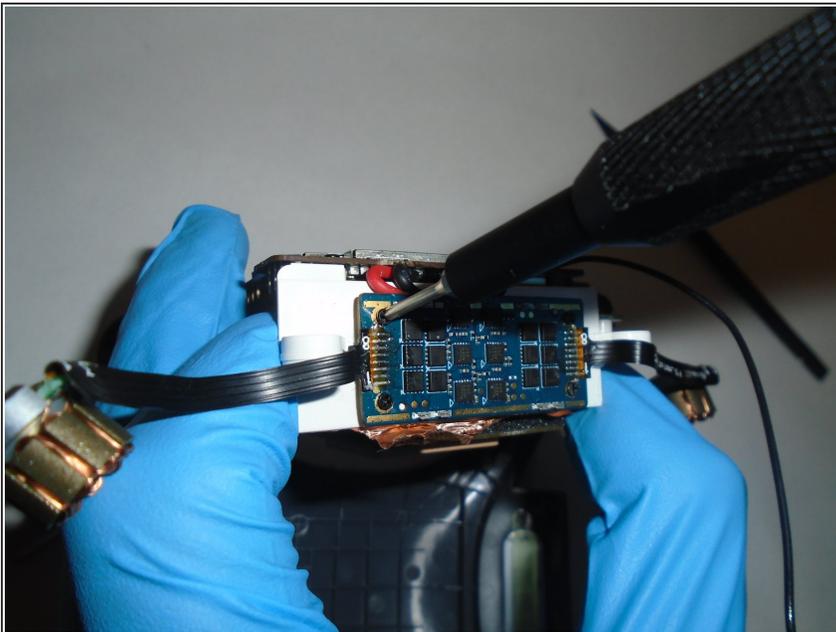
- Remove the four screws from each corner of the motherboard with a Phillips #00 screwdriver.

## Step 9



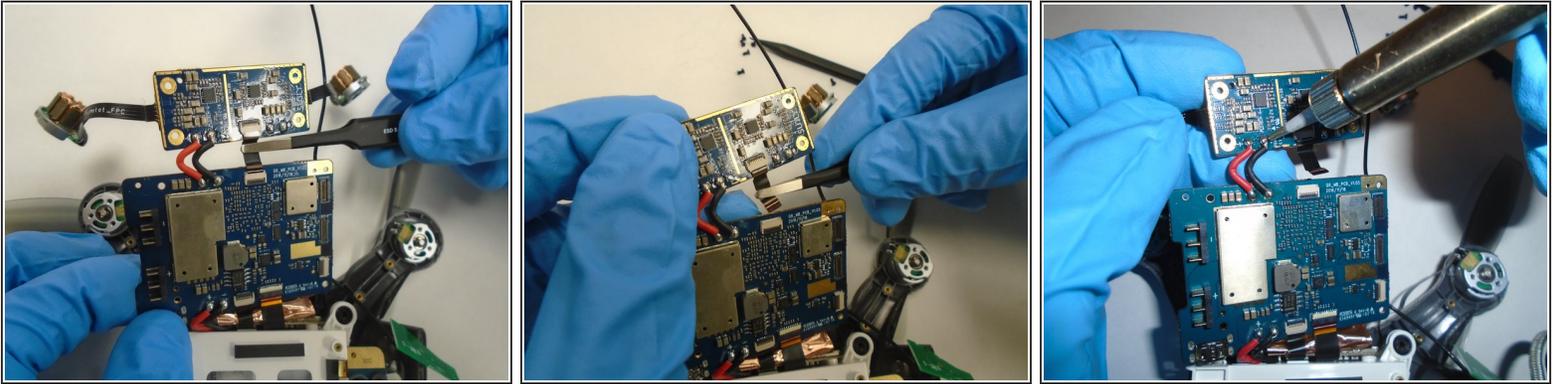
- Use a plastic spudger to gently remove the copper tape from the mother board.

## Step 10



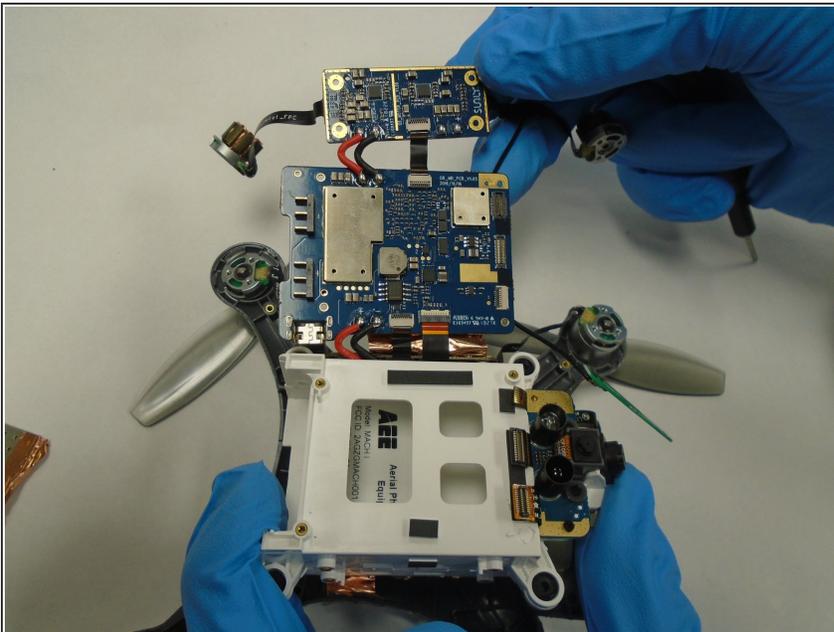
- ⓘ Peeling up the copper tape will expose another metal chip that has wires that are soldered to the mother board.
- Remove the four screws holding the secondary board in place using a Phillips #00 screwdriver.

## Step 11



- Remove the ZIF connector joining the motherboard and secondary board by prying up the locking black tab and pulling out the cable with some blunt nosed tweezers.
- Desolder the red and black wires joining the two boards.
- ⓘ For help soldering, check out our [How To Solder and Desolder Connections](#) guide.

## Step 12



- Remove the motherboard by lifting it from the case.

To reassemble your device, follow these instructions in reverse order.