



# Magic Trackpad Teardown

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## INTRODUCTION

Have you ever wondered what makes a trackpad magical? Well wonder no more. Join us as we delve into the deep abyss of Apple's ocean of magical peripherals to explore the mysterious Magic Trackpad.

Also check out the magical Vimeo [video slideshow](#) of the teardown!

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### TOOLS:

- [Heat Gun](#) (1)
  - [Soldering Iron](#) (1)
  - [Spudger](#) (1)
  - [Tweezers](#) (1)
  - [iFixit Opening Tools](#) (1)
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## Step 1 — Magic Trackpad Teardown



- The Magic Trackpad is the first full desktop trackpad that supports a full set of gestures, including click, scroll, swipe, and rotate, all available at the tip of your fingers.
- Requirements:
  - Mac desktop or laptop.
  - Bluetooth connectivity.
  - Mac OS X 10.6.4 or later.
  - And of course, batteries! ([Apple Battery Charger](#) not included).
- As the [rumors](#) confirmed, the Magic Trackpad is designated Model A1339.

## Step 2



- The Magic Trackpad is 80% larger than the trackpad included in current MacBook Pro models.
- It features the same aluminum design as its wireless keyboard counterpart, allowing for the perfect union of typing and gestures.
- Let us not forget the main attraction, which is the 0.5 mm thick, capacitive touch, wear-resistant glass surface.
- That's all good, but what lies inside?

## Step 3



- Removing the batteries is about as straightforward as it can get. Give a twist to the battery door and the two AA batteries slide right out.
- Check out those [square threads](#)! While square threads have the highest [mechanical efficiency](#) of all lead screws, their difficulty of manufacturing makes them prohibitive for most applications.
- Kudos, Apple, for sweating the details.

## Step 4



- Time to get our hands dirty!
- Use a plastic opening tool to pry the lower panel away from the adhesive securing around its left, right, and top edges.
- ⚠ Don't pry up along the bottom. There are a bunch of retaining clips.
- After slicing through most of the adhesive, the lower panel lifts right off.

## Step 5



- And there's.....not really that much to this thing.
- After a good amount of quasi-non-destructive prying, the inner spacer can be removed from the trackpad.
- ⓘ This spacer prevents the highly unlikely event of squeezing the lower panel against the logic board hard enough to damage it.

## Step 6



- Next, disconnect the two ribbon cables connecting the capacitive touch pad to the logic board.

**⚠** These things are ridiculously thin *and* are stuck to the underside of the touch pad. If you plan to remove them, proceed with caution.

## Step 7



- We've noticed a trend about Apple's newer products: thin and pretty = not user serviceable. The Magic Trackpad is no exception.
- After using a heat gun to warm up the adhesive, the touch pad can be carefully pried off the aluminum chassis.

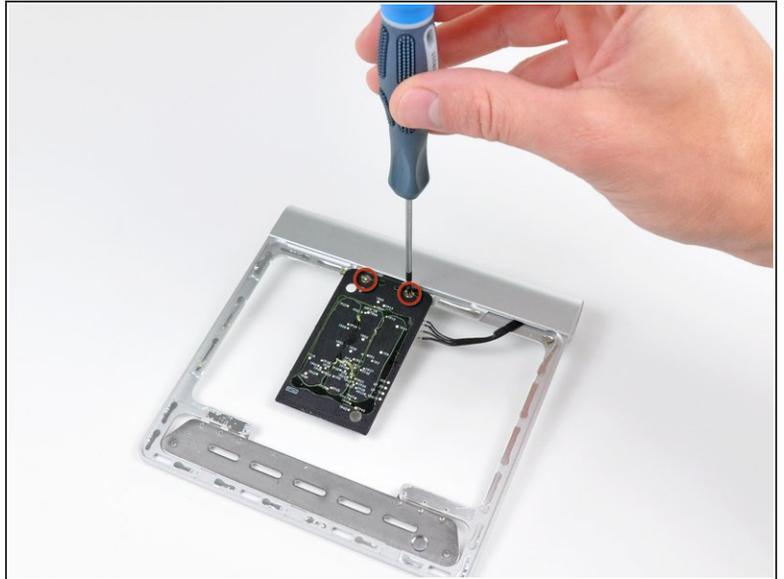
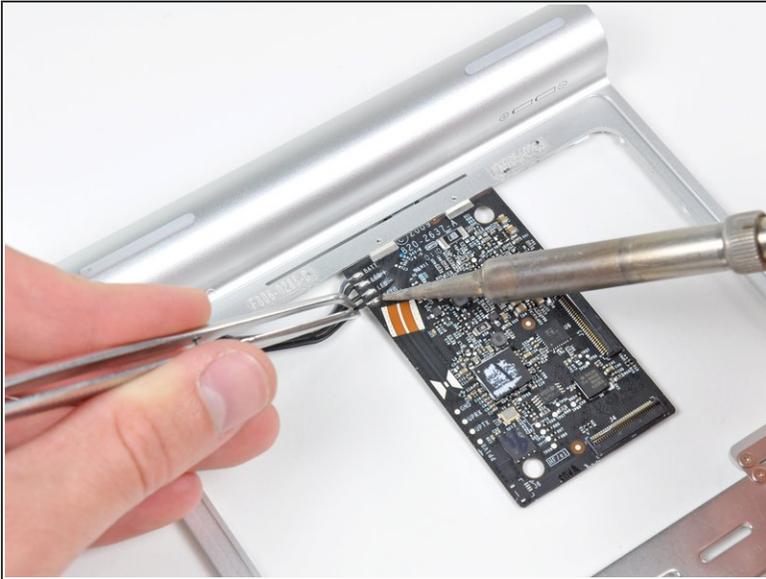
**⚠** This is not for the faint of heart. A copious amount of heat, guitar picks, and plastic opening tools were required to make this thing budge.

## Step 8



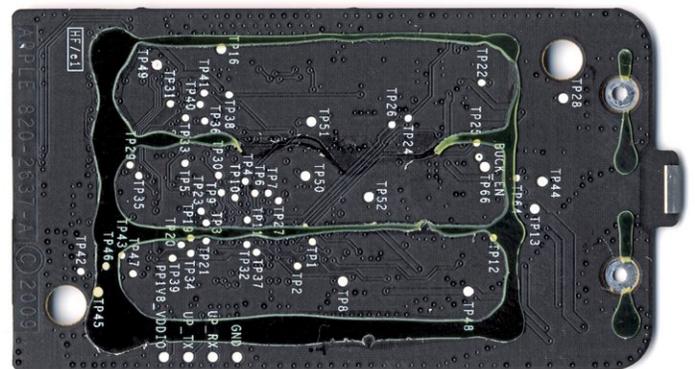
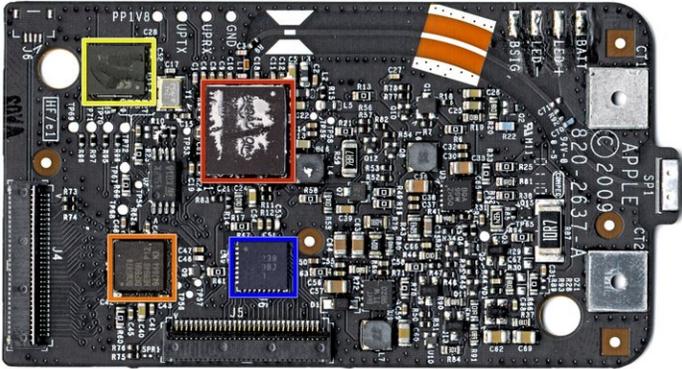
- After being freed from the adhesive securing it to the chassis, the touch pad can be easily removed.
- ⓘ The Magic Trackpad has a unique way of triggering the mouse button. As you press down on the top surface of the Trackpad, the two rubber feet near its front edge push up on the hinged plate and set screw (shown in orange) attached to the chassis. This squeezes the electronic mouse button switch (shown in red), producing the characteristic "click".

## Step 9



- To completely remove the logic board, you must first de-solder the four wires leading to the battery connector/status LED.
- After removing two Phillips screws, the logic board can be separated from the chassis.

## Step 10



- At the heart of the Magic Trackpad's logic board lies a Broadcom [BCM2042](#) for Bluetooth connectivity.
  - ⓘ This is the same chip used by the [Magic Mouse](#) for data transmission.
- We found a Broadcom BCM5974 touch screen controller chip that provides Multi-touch functionality.
  - ⓘ This is the same chip you'll find in the iPhone, iPod Touch, and [MacBook Air](#).
- Also, an SST 25WF020 provides 2 Mbit of serial flash memory.
- This appears to be a TI CD3238, which has been identified by Hearst as a RS232 line driver/receiver. It was also in the original iPhone with a BCM5973A.
- The back of the logic board features nothing but blackness and glue.

## Step 11



- And there it lies: the Magic Trackpad in nine difficult-to-disassemble pieces.
- Keep an eye on our [teardown](#) page for an inside look at the latest gadgets!

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