



An exploded view diagram of an Apple II computer, showing the main white plastic casing, the internal logic board with its various chips and connectors, the power supply unit, the floppy disk drive, the keyboard, and the mouse. The diagram illustrates how these components fit together to form the complete computer system.



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## INTRODUCTION

When Apple goes to the extreme, we do too. What exactly does it take to be extreme? Whatever it may be, challenge accepted. Join us to find out just what awaits in the new high-rise AirPort Extreme.

Want even more extreme? Follow us in the tubular [Twitter-sphere](#) or find us on our fly [Facebook page](#).

If you're curious about the Apple Time Capsule instead of the Extreme, check out the [Time Capsule teardown](#) instead.



### TOOLS:

- [Metal Spudger](#) (1)
  - [Spudger](#) (1)
  - [64 Bit Driver Kit](#) (1)
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## Step 1 — AirPort Extreme A1521 Teardown



- We snapped up this 2013 rendition of the AirPort Extreme, which was announced at WWDC just one day prior to its release. Spoiler alert: it's TALL. The winner of this year's "[tallest](#) wireless router that is white, roughly rectangular, and has an Apple logo on top" award also boasts:
  - IEEE 802.11a/b/g/n/ac
  - Beamforming antenna array
  - Simultaneous dual-band 2.4 GHz and 5 GHz
  - Gigabit Ethernet WAN port
  - Three Gigabit Ethernet LAN ports
  - USB 2.0

## Step 2



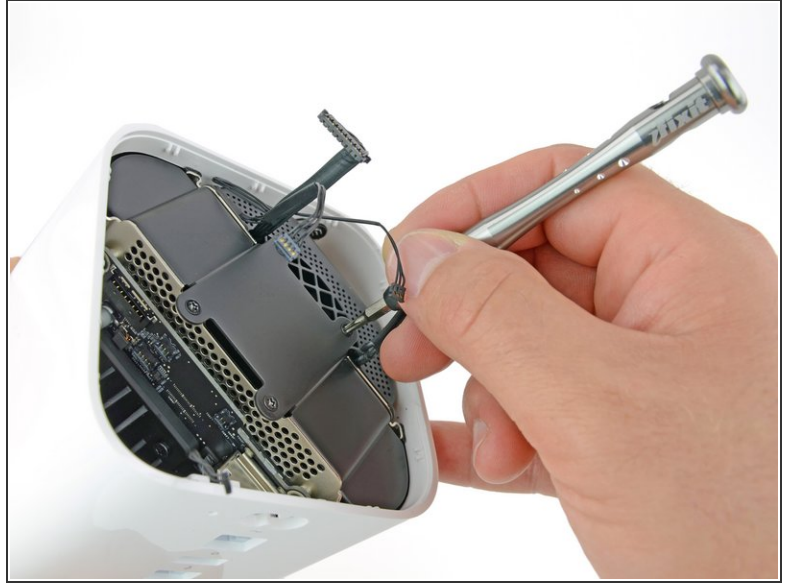
- First to go are the protective stickers.
- What's behind sticker number one?
  - Ports, lots'o'ports.
- What's behind sticker number two?
  - The way in....

## Step 3



- Alright! Enough lollygagging! Let's get inside this white brick of wonder.
- Our method of entry involves using a metal spudger to release the retaining clips holding the black base of the device.
- Base aside, our first glimpse is what appears to be a heat sink... But it's not. <Suspense>
- Before we cast the base to the darkest depths, it has one final message for us: a new model number.
  - This year's AirPort Extreme sports the model number A1521. Neat.

## Step 4



- Just like an earlier advancement in [Mac Mini technology](#), this new device's power supply moves inside, contributing to its extreme stature.
- We begin to free the internals with a flick of the spudger and a twist of the Torx screwdriver. The non-proprietary T8 Torx screws come out with ease.



## Step 5



- We free the top cover, only to find...3.5" of empty space.
- While the AirPort Extreme **doesn't come equipped with storage**, we dug up a standard 3.5" SATA hard drive, just to test it out. Perfecto!
- This could potentially be good news to DIYers who want to turn their AirPort Extreme into a Time Capsule—except we can't find any connectors where we'd plug in the hard drive, only empty spaces on the logic board. But we'll keep our fingers crossed until we've had the chance to crack open a Time Capsule.

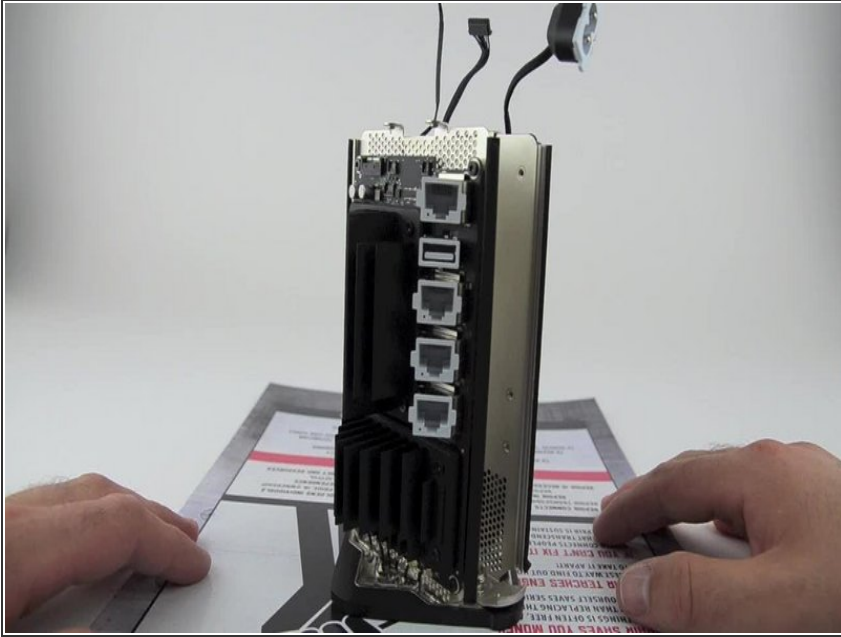
## Step 6



- We hate to see our tools collect dust, so we're happy to find that opening the AirPort Extreme requires busting out the flexible shaft extension from our 54 bit driver kit.
- Two spring-loaded, captive Torx T10 screws are the last fasteners clinging to the outer case, but not for long.
- Like a shucked corn cob, the innards of the AirPort Extreme escape their white plastic prison and are borne from captivity.



## Step 7



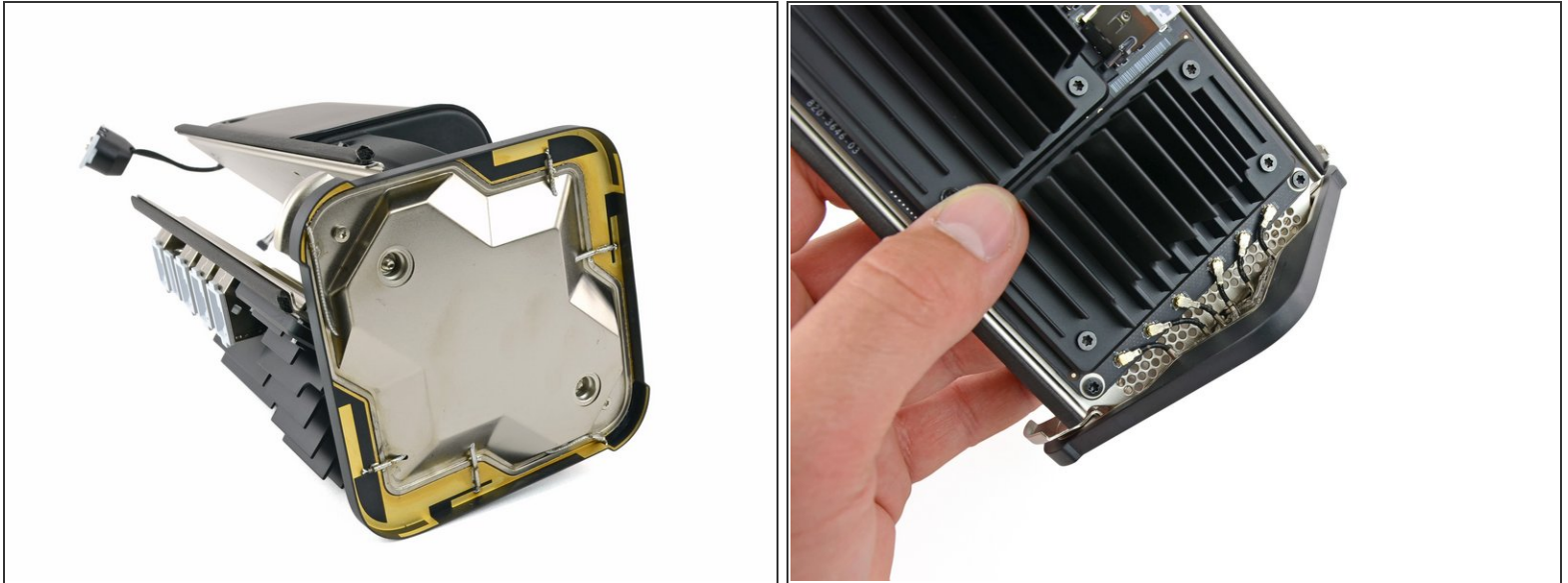
- Using the latest in turn-table technology, we bring you the full 360° of the Extreme's internals.
- Looking for your own turn-table technology solutions? [Look no further.](#)
- For those of you who just can't wait to get the latest Apple product made up of [vertical circuit boards surrounding a big empty space](#), the AirPort Extreme is the best available for now.

## Step 8



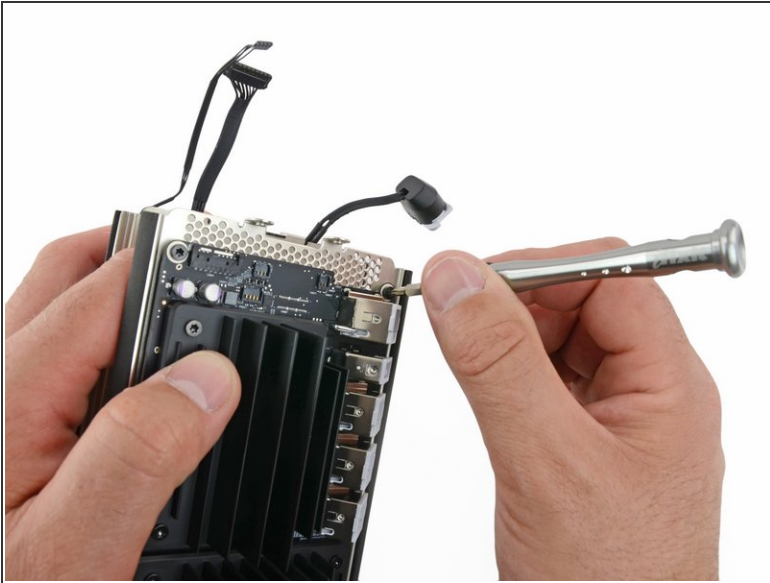
- Video is great and all, but let's break it down.
  - Port side
  - ~~Starboard-Slot~~ Slot side
  - Fan side

## Step 9



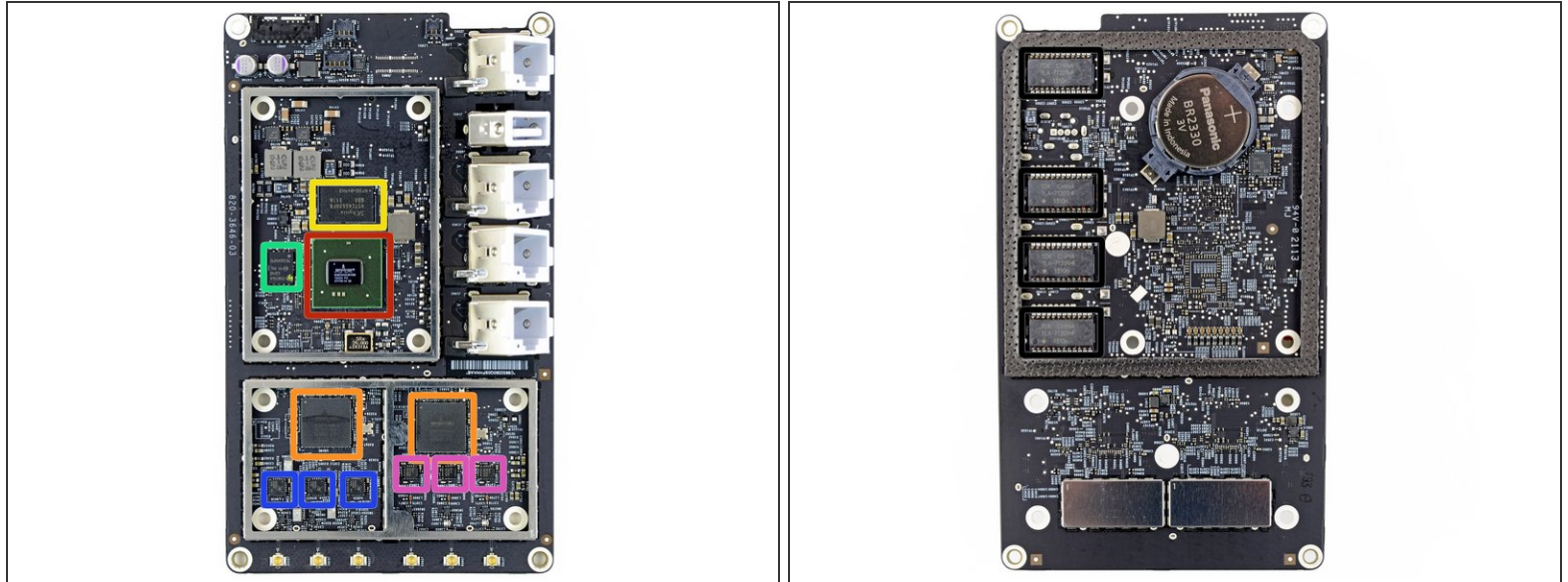
- Next on our path of deconstruction, we work on the shiny plate that caps the innards of the Extreme, and just happens to be the new-and-improved antenna array.
- The six antenna cables run under the apparent hard drive slot, up the center of the device, and into a big plate at the top, which functions as the antenna.
- The updated [802.11ac Wi-Fi](#) is designed to have multi-station WLAN throughput of at least 1 gigabit per second and a single link throughput of at least 500 megabits per second (500 Mbit/s).
- ⓘ Compared to 802.11n, 802.11ac has up to four times the RF bandwidth (up to 160 MHz), twice the MIMO spatial streams (up to 8), and four times the modulation (up to 256 QAM).

## Step 10



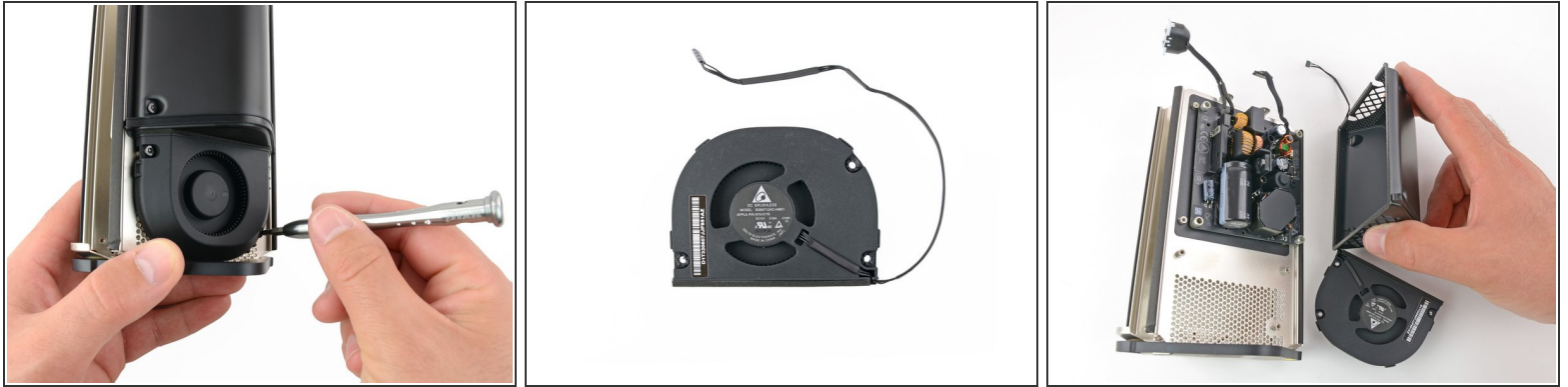
- A slew of T8 Torx screws secure the heat sinks to the logic board, and the logic board to the possible hard drive slot.
- With the screws out of the way, the layers slide right apart.

## Step 11



- We finally get a closer look at the logic board. We find:
  - Broadcom [BCM53019](#) router SOC with gigabit switch
  - Broadcom [BCM4360KLMG](#), the same IC we found in yesterday's [MacBook Air Teardown](#)
  - Hynix [H5TC4G63AFR](#) 4 Gb (512 MB) synchronous DDR3 SDRAM
  - Micron [25Q256A](#) 32 MB serial flash
  - Skyworks [5003L1](#) 5GHz WLAN power amplifier
  - Skyworks [2623L](#) 2.4GHz WLAN power amplifier
  - TDK TLA-7T201HF (which appears to be a pulse transformer)

## Step 12



- Fans-away! Our trusty Torx screwdriver tackles the two screws holding the fan in place.
- The DC brushless fan is labeled BSB0712HC-HM01 and is made by Delta Electronics.
- We quickly blow off the fan in favor of peeking under the metal casing.



## Step 13



- [We've got the power](#)...supply.
- From the looks of it, it is a fairly standard 12 V, 5 A power supply with your standard large capacitors and coils.
  - Whatever you do, don't lick your fingers and then touch the large black cylinder. You may be *shocked* to discover what 400 V can do.
- Like the fan, this unit is made by Delta Electronics. They have named it ADP-60DFS, so as not to be confused with other, less-powerful power supplies.



## Step 14

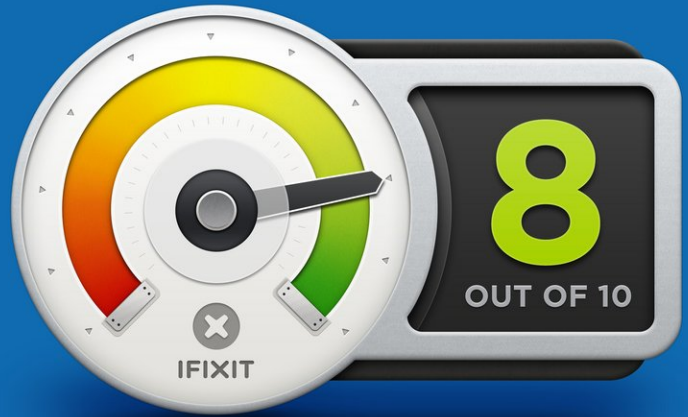


- Check out this *Extreeeeeme* layout.

## Step 15 — Final Thoughts



### REPAIRABILITY SCORE:



- AirPort Extreme A1521 Repairability Score: **8 out of 10** (10 is easiest to repair).
- No proprietary fastener funny business over here. The Extreme uses Torx screws throughout the structure to keep its act together.
- Disassembly is pretty straightforward, and modular components are used throughout.
- No glue (except for a small dab used for the status LED) is found inside.
- The opening procedure requires a bit of prying that may slightly damage the case if the user isn't careful.
- You'll have to disassemble a good portion of the device in order to clean the fan.
- Some of the connectors are super-small and can be prone to breaking.