MacBook Air 11" Mid 2013 Teardown

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INTRODUCTION

As Apple announced the new MacBook Airs at WWDC, we were asking ourselves the age old question: exactly what is the difference between ~~apples and apples~~ an 11" and 13" MacBook Air? Wonder no more! For you, our adoring public, no question is too tough.

Questioning your tech prowess? The answer is to follow us on Twitter and like us on Facebook.

🔧 TOOLS:

- P5 Pentalobe Screwdriver Retina MacBook Pro and Air (1)
- Spudger (1)
- Phillips #00 Screwdriver (1)
- T5 Torx Screwdriver (1)
- T8 Torx Screwdriver (1)
- Tweezers (1)

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Step 1 — MacBook Air 11" Mid 2013 Teardown

- Thought we were done after the [MacBook Air 13" Teardown](#)? Think again; we've found another Apple for our [bushel](#).

  - 4th generation Intel Core i5 processor with Intel HD graphics 5000

  - 128 GB flash storage (configurable to 512 GB)

  - 4 GB LPDDR3 RAM, configurable (but not upgradable) to 8 GB

  - 11.6" 1366x768 pixel display (~135 ppi)

  - 802.11ac Wi-Fi connectivity

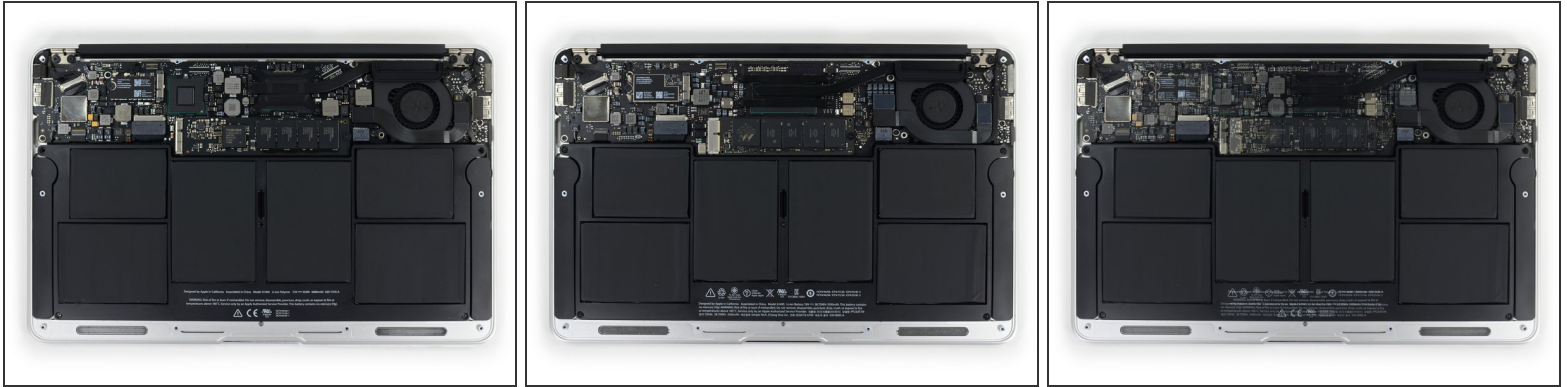 - Dual microphones

Step 2

- If you're wondering what makes the 11" Air different from its bigger sibling, you're looking right at it.

- The smaller 11.6" LCD has a slightly higher pixel density than the 13" model (135 vs. 128 ppi), but it's still nowhere near the Retina display that many were hoping for.

- As with its larger sibling, the refreshed MacBook Air 11" retains the same model number as the 2012 iteration: A1465.

- From the looks of the default icon, we're in *2013 an Air Odyssey*. Open the pod bay doors, Apple.
  - *I am sorry, iFixit, but I just can't do that.*
  - Never mind, we're getting the Pro-tech.

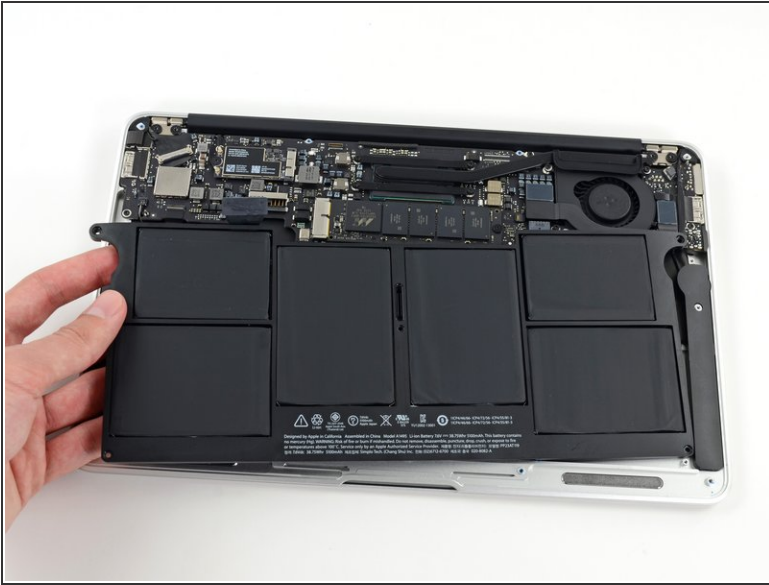- (i) We're hoping this unit is has a better lifespan than HAL's [AE35](#) unit.

Step 3

- The slim, trendy profile of the 11" model is identical to that of its 13" sibling, down to the new dual-microphone array.

- It's a Pentalobe popping party!

  ⓘ Planning your own party? Don't be that guy—bring a Pro Tech Toolkit, you'll be life of the party.

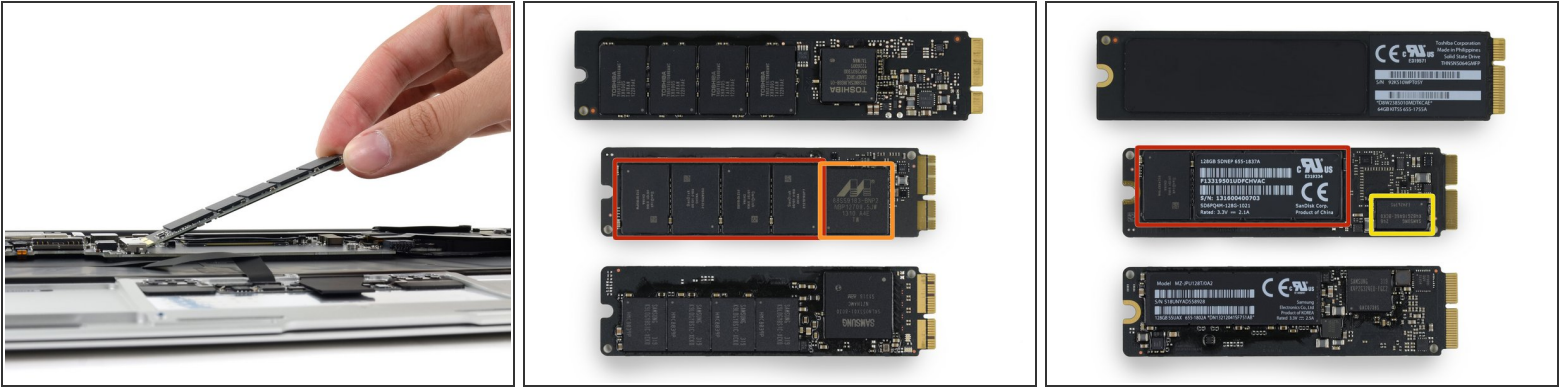- Alright, party's over. Time to get inside.

Step 4

- Comparison shots: 2012 edition (first image), 2013 edition (second image), overlay (last image).

- The differences?

  - Smaller SSD module

  - No separate platform controller hub

  - New heat sink clamp

  - Different battery, same dimensions

- ⓘ Is there an echo in here?

Step 5

- You want to talk about batteries? Let's talk about batteries.

- While it doesn't get the "all day performance" of the 13" Air, the 7.6 V, 5100 mAh battery provides up to 9 hours of life in the 11" MacBook Air.

- At 8.08 oz and 38.75 watt-hours, the new battery trumps last year's puny 7.90 oz module rated at 35 watt-hours and providing a measly 5 hours of battery life.

- For comparison's sake, the 12-hour unit in the 13" model tips the scales at 10.35 oz.
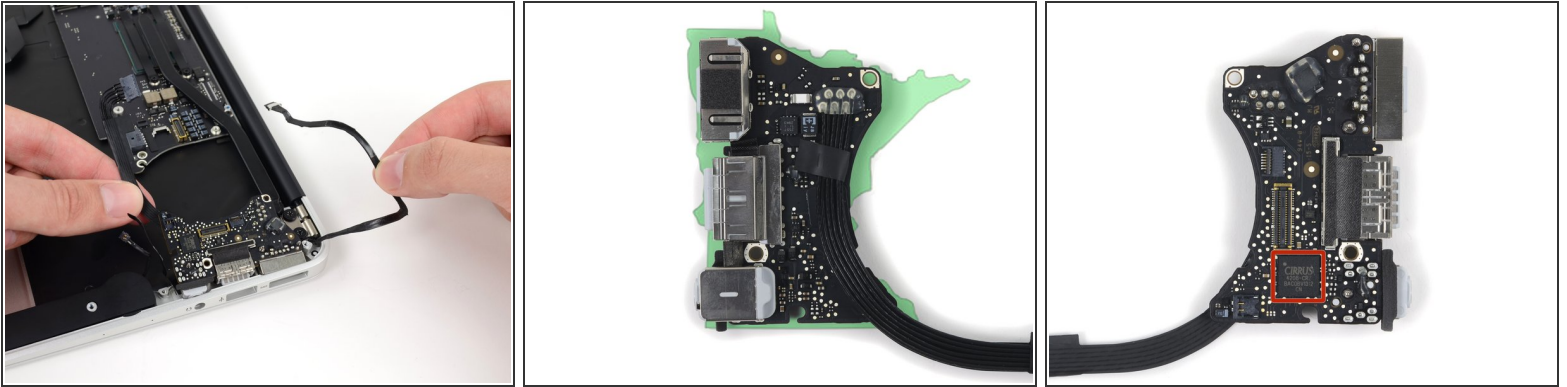
Step 6

- *Yoink.* There goes the proprietary solid state drive.

- SSDs from MacBook Air models from top to bottom: 2012-11", 2013-11", and 2013-13".

- It appears that the 2013 MacBook Air 11" uses the same PCIe-based SSD that we dug out of the 13" model. However, this particular drive is a SanDisk module, fitted with components from three different manufacturers:

  - SanDisk 05131 016G 16 GB NAND flash (four on each side, total of 8 x 16 GB = 128 GB)

  - Marvell 88SS9183 PCIe SSD controller

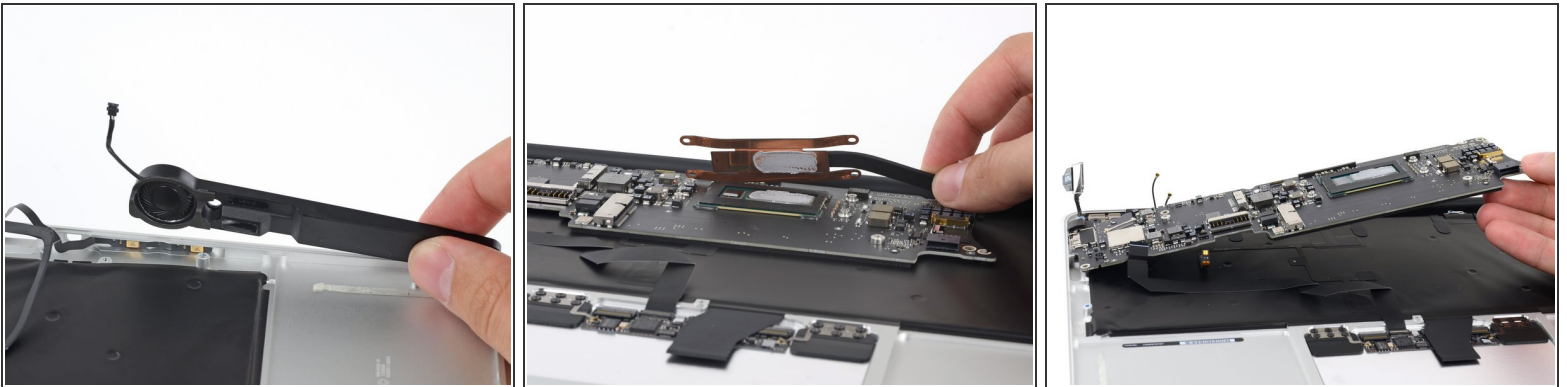 - Samsung K4B2G1646E 2Gb DDR3 SDRAM

Step 7

- The 802.11ac-equipped AirPort card is removed with ease.

- A comparison between the AirPort/Bluetooth cards from the MacBook Air 11" Mid 2012 (above) and the MacBook Air 11" Mid 2013 (below).

- The AirPort card comes equipped with exactly the same hardware as we found in the 13" Air:
  - Broadcom BCM4360 5G WiFi 3-stream 802.11ac gigabit transceiver

  - Broadcom BCM20702 Single-Chip Bluetooth 4.0 HCI solution with Bluetooth Low Energy (BLE)

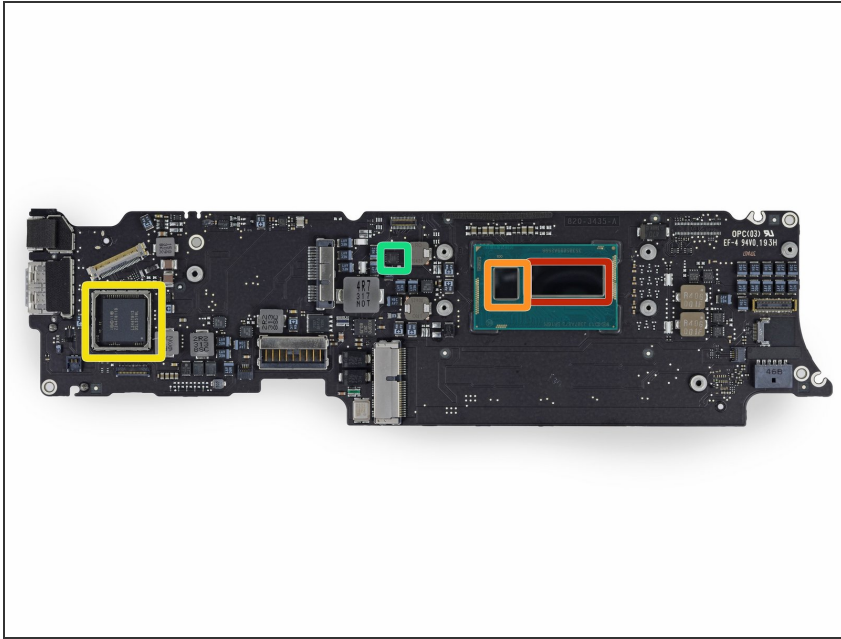 - Skyworks SE5516 dual-band 802.11 a/b/g/n/ac WLAN front-end module

Step 8

- Next we pull out the I/O board, and though it is similar to the one found in the 13" MacBook Air, it bears a more striking resemblance to a certain US state.

- You may know that a lot of people consider themselves Apple fanboys. You may not know that Apple considers itself a Minnesota fanboy.

- While on the opposite side of the board, the Cirrus 4208-CRZ audio codec is the same one found in the 13" model.
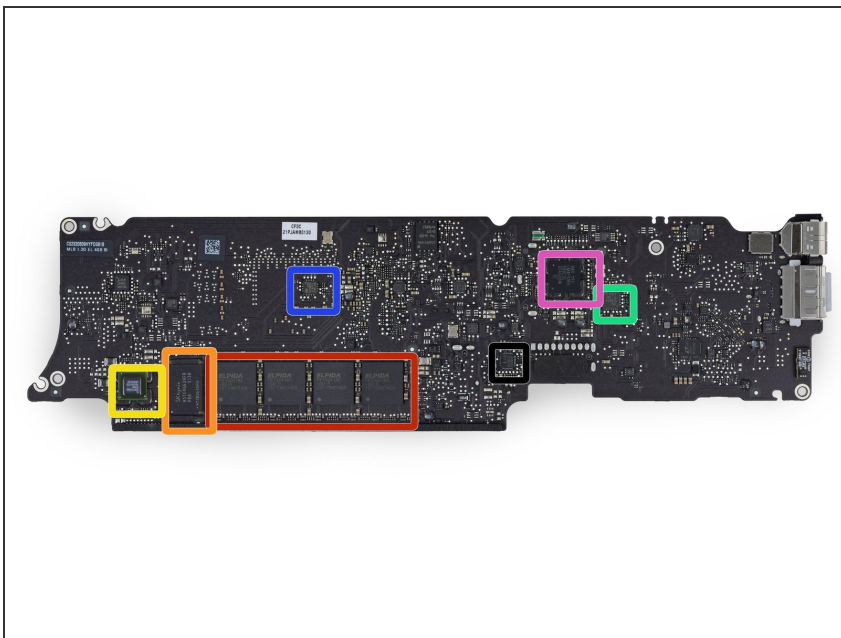
Step 9

- Crank it up, it's about to get hot in here!

- There go the nondescript speakers, followed by the redesigned heat sink.

- These components are mere collateral damage to get to the logic board.

Step 10

- The ICs on the front side of the logic board:
  - 1.3GHz (with Turbo Boost up to 2.6 GHz) dual-core Intel Core i5 processor, with integrated Intel HD graphics 5000
  - Intel platform controller hub (unmarked)
  - Intel Z244T011B Thunderbolt controller
  - Fairchild Semiconductor DD154P

Step 11

- Back side of the logic board:
  - Elpida F8132A1MC 8 Gb LPDDR3 RAM—(4 x 8 Gb = 32 Gb = 4 GB)
  - Hynix H5TC4G63AFR 4 Gb low power Double Data Rate III (DDR3L) Synchronous DRAM
  - Broadcom BCM15700A2
  - Texas Instruments TPS51980A synchronous buck controller
  - SMSC 1704-2
  - 980 YFC LM4FS1BH
  - Intersil 625 9AHRTZ

Step 12

- Yep, those adhesive tabs are still around, and still annoying.

- *Kerpow!* There goes the display assembly, finally free from the tyranny of the upper case.

- The trackpad features the same chips we found on the MacBook Air 13":

  - STMicroelectronics STM32F103VB microcontroller

  - MXIC MX25L2006E 2 Mb serial flash

  - Broadcom BCM5976A0KUB2G trackpad controller

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Step 13

- MacBook Air 11" Mid 2013 Repairability Score: **4 out of 10** (10 is easiest to repair).

  - Once you get past the outer case, all the major components are fairly easy to access for replacement.

  - The outer case is held on with Apple's proprietary Pentalobe screws, so you'll need the right screwdriver to get inside.

  - Just like the screws, all the components—including the RAM and SSD—are proprietary, making replacement parts more difficult to source.

  - Worst of all, this MacBook Air is not upgradeable after purchase. Like many generations of the Air, the RAM is soldered to the logic board, and SSDs are not compatible between generations.

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

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