MacBook Air 13" Early 2015 Teardown

MacBook Air 13" Early 2015 teardown on March 10, 2015.

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INTRODUCTION

It's that time of year again: the MacBook Air has come out of hibernation with some new specs for spring.

At Monday's "Spring Forward" event, Apple promised us next-gen Broadwell CPUs with updated graphics, Thunderbolt 2, and faster flash memory. Join us as we pop the hood to confirm, and see if anything has changed in these past eleven months.

The 11" MacBook Air got a refresh too, so we're on double teardown duty. Check out the 11" Air here.

Be the early bird and get the news by friending us on Instagram, Twitter, and Facebook!

🔧 TOOLS:

- P5 Pentalobe Screwdriver Retina MacBook Pro and Air (1)
- T5 Torx Screwdriver (1)
- Spudger (1)

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## Step 1 — MacBook Air 13" Early 2015 Teardown

- Can you smell it? There's fresh silicon in the Air. The MacBook Air 13" Early 2015 contains:
  - 5th generation, dual-core Intel Core i5 processor with Intel HD Graphics 6000
  - 128 GB flash storage (configurable to 512 GB)
  - 4 GB LPDDR3 RAM, configurable (but **not** upgradable) to 8 GB
  - 13.3" 1440x900 pixel display (~128 ppi)
  - 802.11ac Wi-Fi connectivity
  - Thunderbolt 2
  - Dual microphones

Step 2

- This newest 13" Air keeps its traditional model number, A1466. For identification purposes, you'll need your serial number, EMC (2925), or model year (2015).

  - (i) At least it's not [A1278](#).

- The right side is fitted with an SDXC card slot, USB 3.0 port, and (all new!) Thunderbolt 2 port. As before, the opposite end hosts the MagSafe 2 power port, audio jack, and another USB 3.0 port. Also included are dual microphones, designed to diminish background noise.

- Ahh, mine old nemesis *Pentalobe*.

  - We see Apple hasn't changed its stripes—the classic pentalobe keeps this Air sealed up from the common fixer.

- Luckily, we have a [handy driver](#) for just these occasions. And... we're in!

Step 3
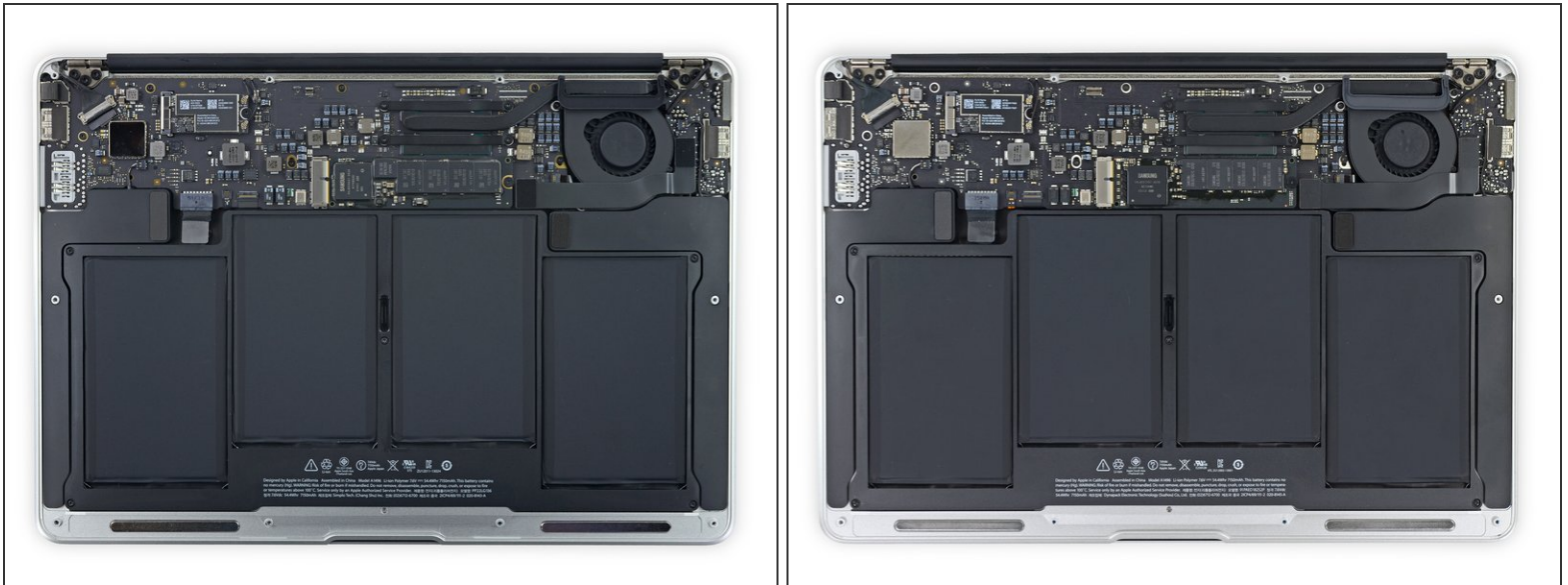
- One of these is the updated, Early 2015 MacBook Air, and the other hails from mid-2013. Can you tell which is which?

- At first glance, neither can we. This MacBook plays its AirPort cards pretty close to the vest.

- ⓘ The first image shows the 2015 model, and the second is from our MacBook Air 13" Mid 2013 Teardown.

- If you guessed wrong, fret not: we're about to get down to the nitty gritty.

Step 4

- Up next, our favorite Air feature: battery removal. Thanks to this tidy plastic frame, the battery is held in with five screws and no adhesive—easy for fixers, easy for recyclers.

  - (i) It's a design carried over from previous models—but if yesterday's reveal is anything to go by, it could be on the outs. It looks to us like Apple didn't like wasting internal space on a plastic frame that could instead be more battery.

  - ⚠ In the absence of a frame, we're guessing those cells will get the glue treatment, signaling a continuation of the trend started by the Retina Pro.

- The battery specs carry over as well: the Air continues to sport a 7.6 V, 54 Wh, 7150 mAh battery. Thanks to the new Broadwell chips, we're supposed to get more life out of the same capacity: Now up to 12 hours of web browsing or video playback.

  - For all you scorekeepers, that's 2 Wh and a theoretical 1 hour more than the new Dell XPS 13.

Step 5
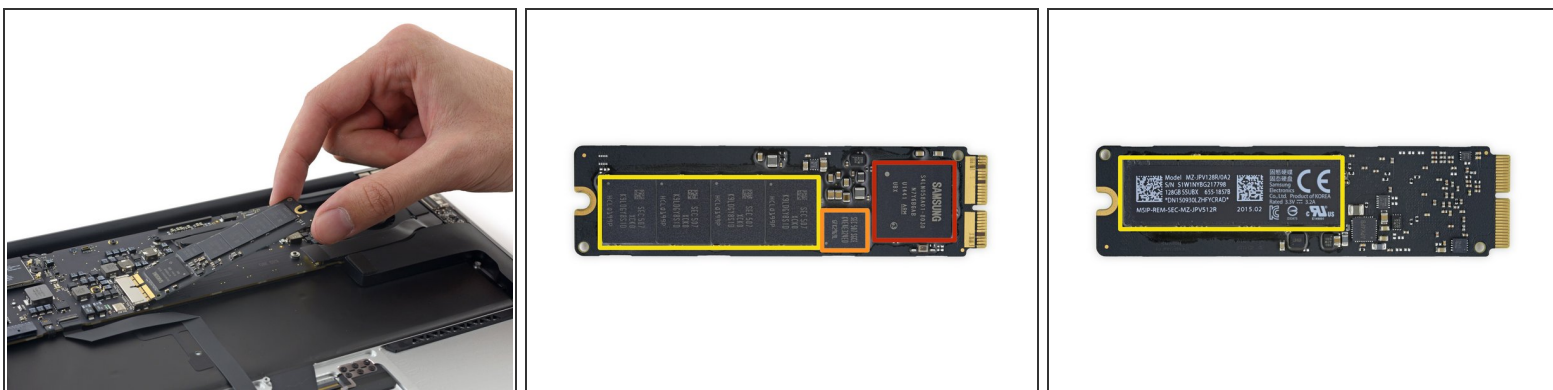
- The flash memory is still PCIe-based, and remains, thankfully, removable—at least for now. Popping it out for inspection, we find:

  - Samsung S4LN058A01 PCIe 3.0 x4 AHCI flash controller

  - Samsung K4E4E324ED 512 MB LPDDR3 DRAM

  - 8 x Samsung K9LDGY8S1D-XCK0 16 GB flash storage (128 GB total)

- Apple tells us this bad boy "...features faster flash storage that is up to two times faster than the previous generation."

  - (i) We did a little benchmarking, and found that the claim is valid. Nice one, Apple!

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Step 6
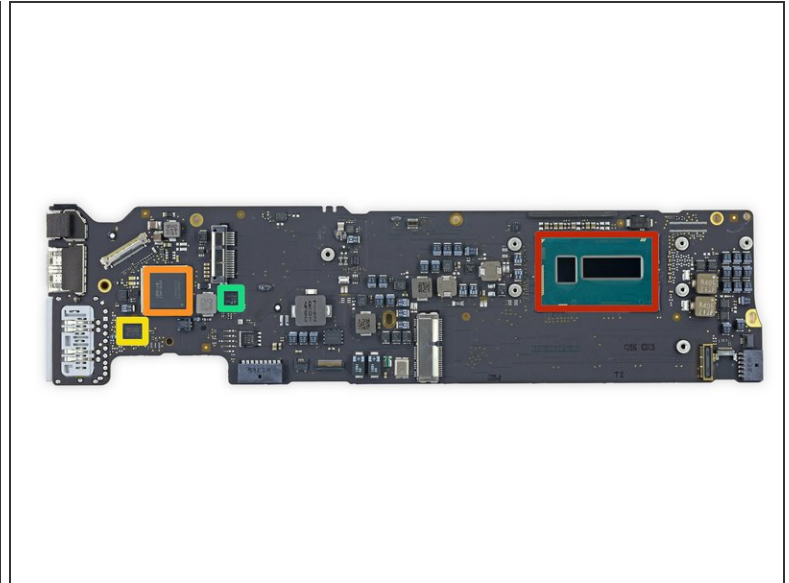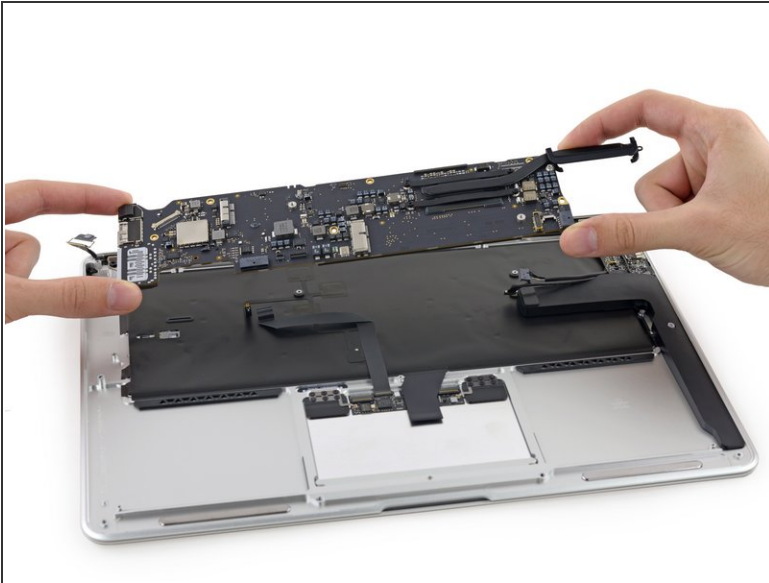
- With the heavy bits removed, we catch the logic board before it floats away. Turning it over, we found the heart of the matter:

  - 1.6 GHz Intel [Core i5 5250U](#) processor, with integrated Intel HD Graphics 6000

  - Intel [DSL5520](#) Thunderbolt 2 controller

  - GL3219 Genesys Logic SDXC controller

  - [LT3957](#) Linear Technologies inverting controller

- ⓘ [Broadwell](#) shrinks the MacBook Air's previous architecture (Haswell)—meaning [not a lot has changed performance-wise](#), but a new manufacturing process makes the transistors smaller, and the entire chip more power efficient by up to 30%.

- In contrast, the integrated Intel HD Graphics 6000 brings a legit graphics performance boost (roughly a 20-25% improvement over HD 5000).

Step 7
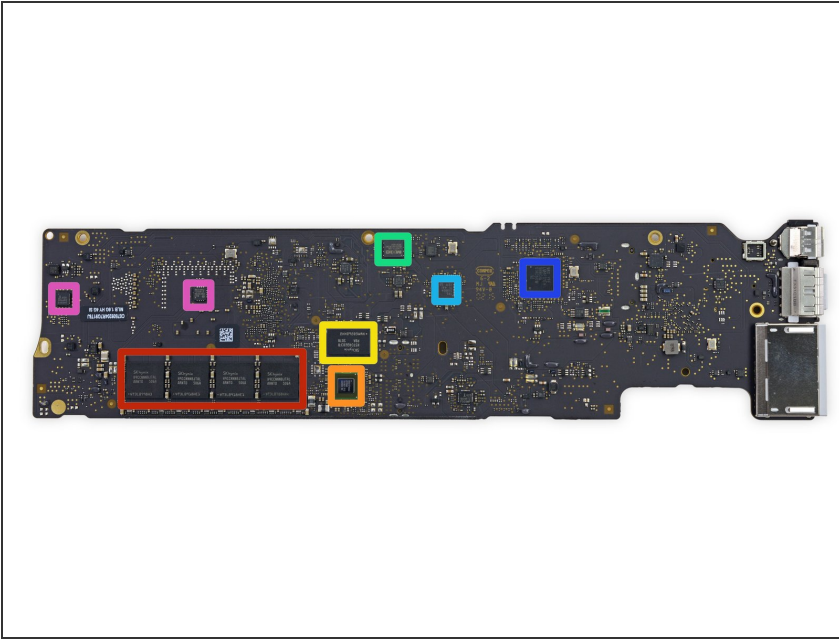
- On the flip-side, the logic board packs:

  - SK Hynix [H9CCNNN8JTALAR](#) LPDDR3 SDRAM 4 x 1 GB for 4 GB total

  - Broadcom BCM15700A2, [appears to be](#) a multimedia controller

  - SK Hynix [H5TC4G63CFR](#) 4 Gb low power synchronous DRAM

  - Macronix [MX25L6473E](#) serial multi I/O 64 Mb flash memory

  - Texas Instruments TPS51980A synchronous buck controller

  - Texas Instruments/Stellaris [LM4FS1EH](#) [SMC controller](#)

  - Intersil 958 26AHRZ N450MT and SMSC [EMC1704-2](#) Current/DC Power Sensor with Temperature Monitoring

Step 8
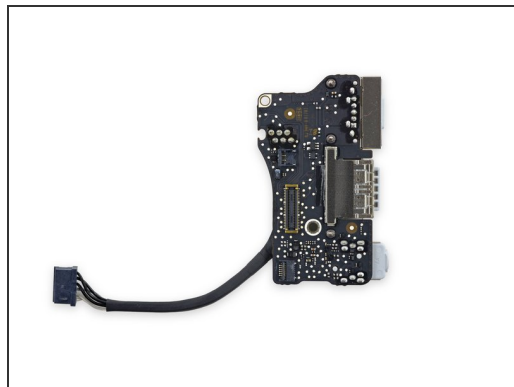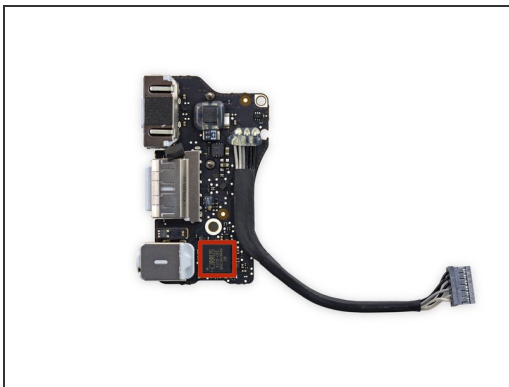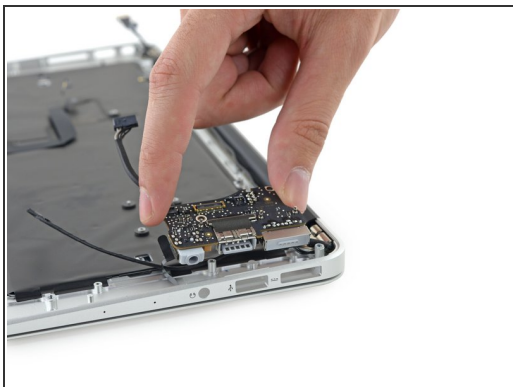
- Continuing the trend of [sameness](#), the I/O board is nearly identical to the one found in the [MacBook Air 13" Mid 2013](#), even down to the audio codec IC:
  - Cirrus Logic 4208-CRZ HD audio codec, likely similar to the [4207](#)

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Step 9

- MacBook Air 13" Early 2015 Repairability Score: **4 out of 10** (10 is easiest to repair).
  - Once you manage to take off the bottom cover, all the parts are pretty easily replaceable.
  - Proprietary screws on the case require the right screwdriver.
  - All the components—including RAM and SSD—are proprietary.
  - As with the prior iterations, this MacBook Air's biggest detractor is the lack of upgradeability. The RAM is still soldered to the logic board, and SSDs are not compatible between generations.

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