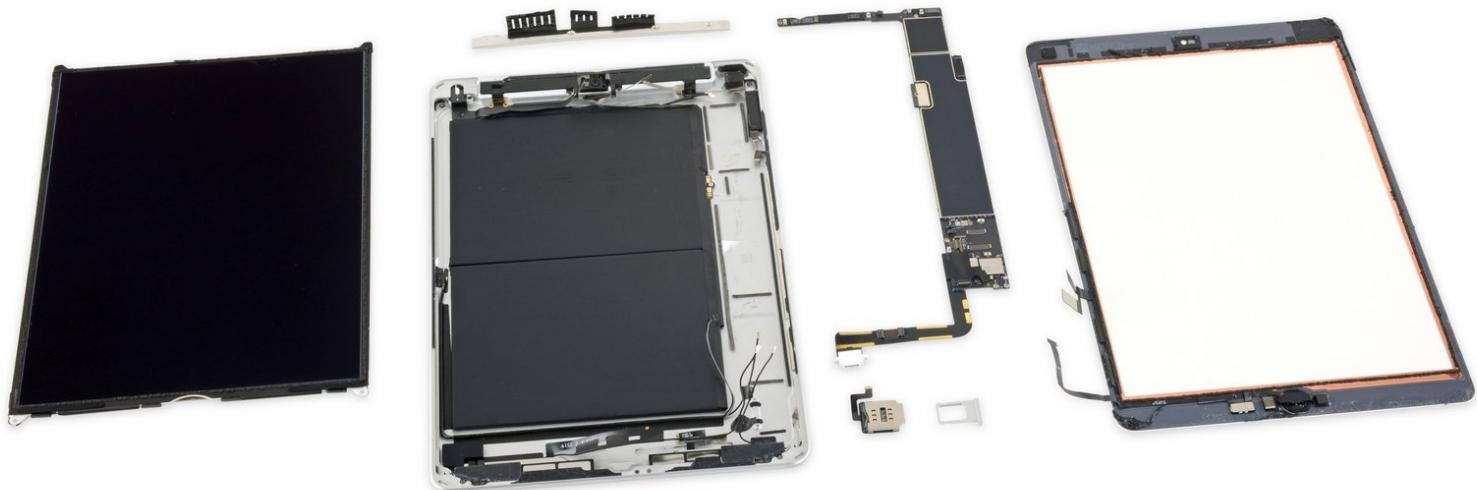




# iPad 7 Teardown

To finish off our September Apple teardown-athon, we take a peek inside the 10.2" iPad 7.

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## INTRODUCTION

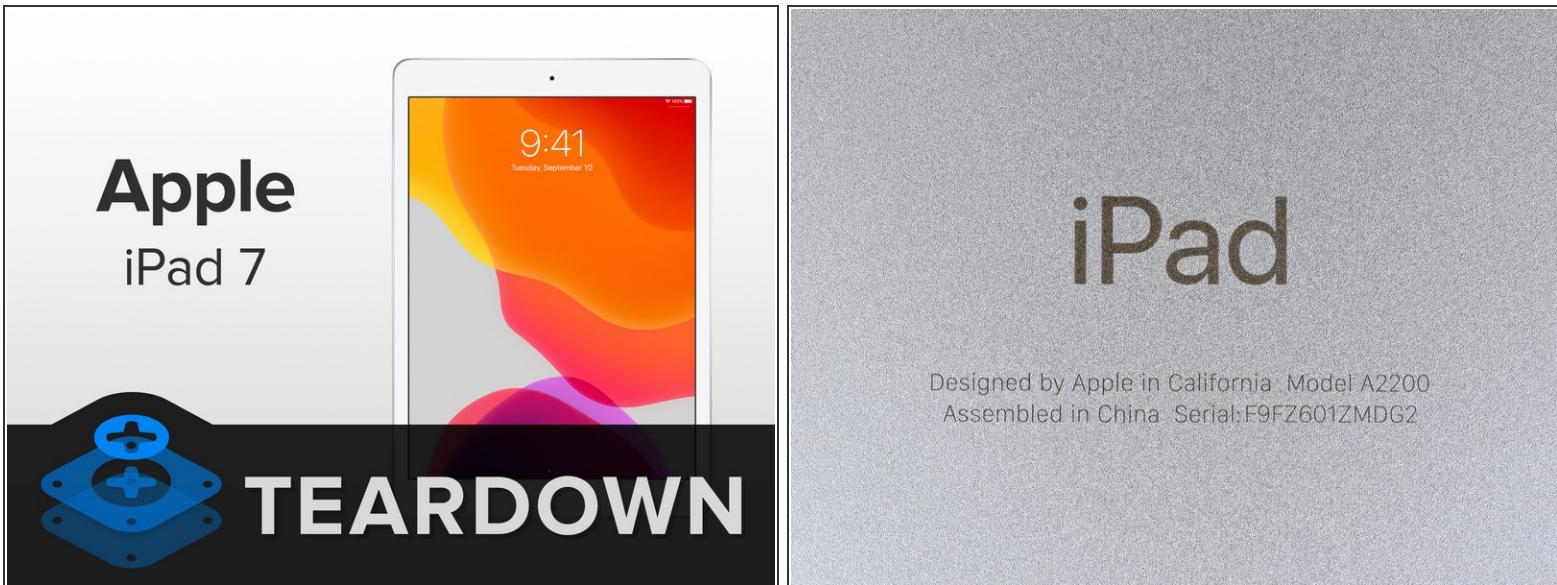
Apple's 7th-generation iPad has arrived on the scene with some new bells and whistles! Along with the new 10.2" display, there's ... hmm. As the most basic tablet in Apple's lineup, this iPad mostly inherits hand-me-down features from its more prestigious kin. What else has Apple re-purposed? We're here to spill the beans with a teardown.

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## TOOLS:

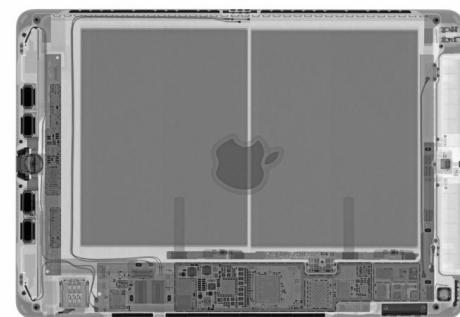
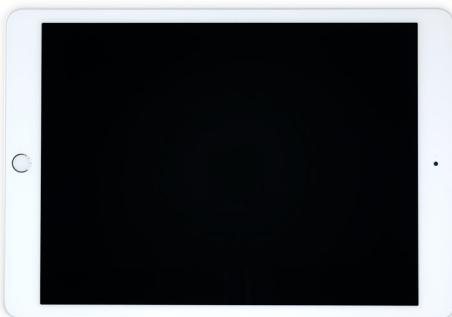
- [iOpener](#) (1)
- [Suction Handle](#) (1)
- [iFixit Opening Picks set of 6](#) (1)
- [Spudger](#) (1)
- [Tweezers](#) (1)
- [Phillips #00 Screwdriver](#) (1)
- [Battery Blocker](#) (1)

## Step 1 — iPad 7 Teardown



- While warming up our screwdrivers, we like to look over the device specs—and this year it's a mix of old and new:
  - Apple A10 Fusion processor with embedded M10 motion coprocessor (for those long runs on the beach with your iPad)
  - 10.2-inch multi-touch Retina display with  $2160 \times 1620$  pixel resolution (264 ppi)
  - 32 GB or 128 GB of internal storage
  - 8 MP 1080p rear-facing camera + 1.2 MP 720p front-facing FaceTime HD camera
  - 802.11a/b/g/n/ac dual band MIMO Wi-Fi + Bluetooth 4.2
  - Touch ID fingerprint sensor + 3-axis gyro + accelerometer + barometer + ambient light sensor
- This iPad does get a new model number, and it's a beauty: **A2200**. And it still has the name *iPad* stamped prominently on the back, ignoring the precedent set by those [trendy new iPhones](#).

## Step 2



- The folks at [Creative Electron](#) have been [working extra hard this past week](#), but when we asked them for a look inside this iPad, they wrangled a few more electrons to give us a peek.
- Looking past the iPad's understated exterior, we notice the pattern of magnets along the edges is different than [last year](#).
-  Perhaps this is to better accommodate the Smart Keyboard?
- Speaking of smarts, look at how that Smart Connector cable snakes its way around the battery. It's a bit circuitous, but so much better than some [previous designs](#) that trapped the cable hopelessly under a glued-down battery.

## Step 3



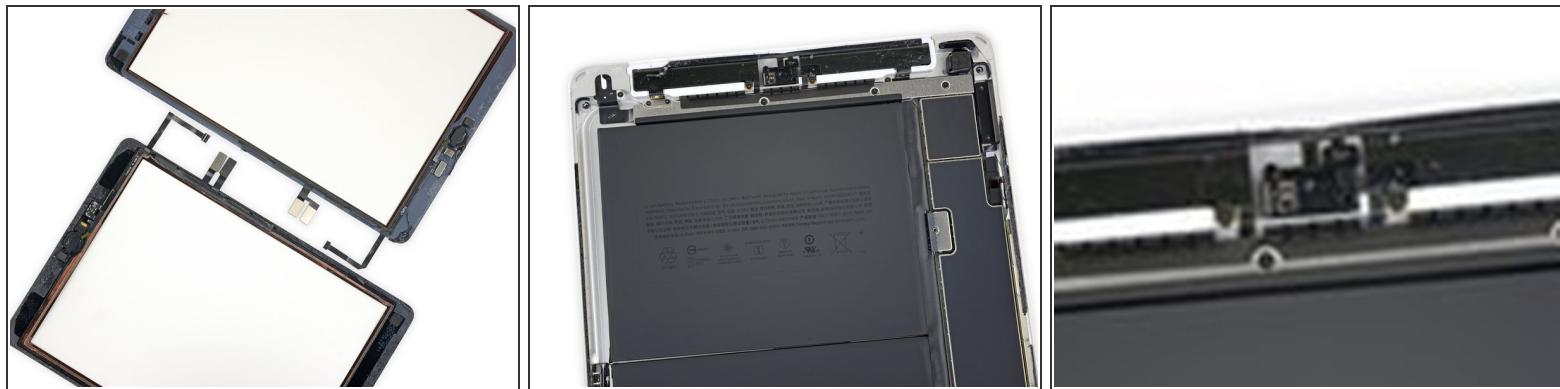
- No [bezel-shrinking magic](#) here—this 10.2" iPad is just flat-out bigger than last year's 9.7" iPad.
- *i* With great size comes big responsibility: the new iPad finally gets Apple's Smart Connector for keyboard compatibility. Yay for productivity!
- No dilly-dallying this time—we've got a long list of things to tear down, so we head straight for our tried-and-true, heat-and-suction opening procedure.
- We're not sure if we're just getting used to these glue monsters, but this iPad feels almost... easier to open? Could it be?
- *i* We've probably just leveled up since the last iPad teardown.

## Step 4



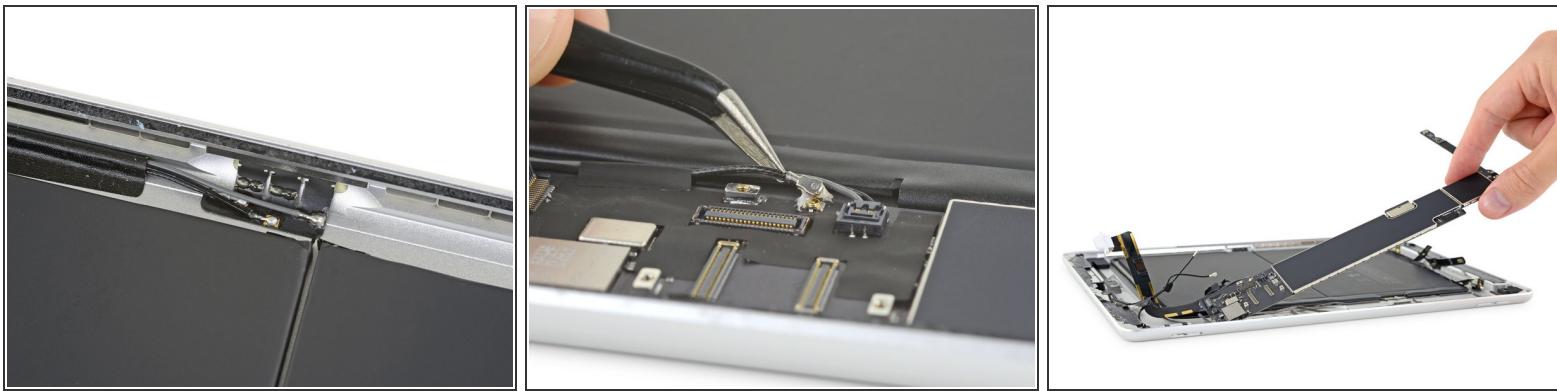
- Slicing through this much glue isn't our idea of fun... however... there's no second part to this sentence.
- Fortunately, much like [last time](#), the glass separates cleanly, leaving the display behind—a surprise to be sure, but a welcome one.
- *i* That means replacing the iPad 7's cracked glass may be laborious, but at least the materials will still be cheap—you won't have to replace the entire display, like you do on [all those other iPad models](#) with [LOCA](#)-laminated panels.
- After all that adhesive, we're happy to see the friendly face of a Phillips screw—especially after dealing with all those [tiny tri-points last week](#).
- This time around, our [Battery Blocker](#) only fits into the battery terminal after trimming it down with some scissors, but it's worth the effort to kill the power for a safe LCD extraction.

## Step 5



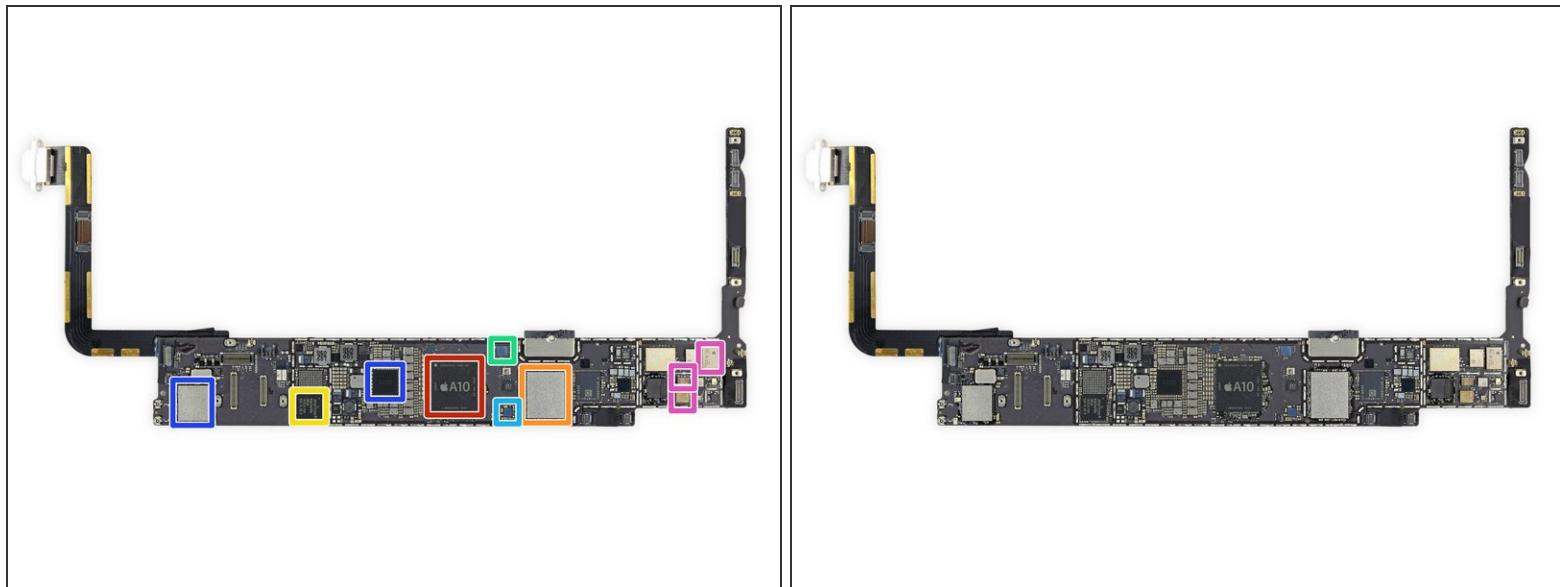
- Time to take a look at this year's 10.2" digitizer panel (top) next to its 9.7" predecessor (bottom):
  - The home button looks about the same to us—which is a bit unfortunate for screen swaps, as last year's was no fun to work on.
  - This new panel consolidates some cables though! Previously, we had to watch out for three cables during opening—but now two of them are thoughtfully overlapped, leaving us with one less booby trap to avoid. How nice.
- The battery is labeled A1484 and rated for 32.9 Wh—the exact same battery as [last year](#) and the [year before](#), despite the extra space in this year's larger case. After the [massive iPhone battery upgrade](#) we just saw, we were primed for a little more here.
  -  Still, Apple seems to squeeze some extra life out of the battery this time, with the same claimed 10 hours of charge as the iPad 6, despite the bigger screen.
- Meanwhile, check out this gorgeous close-up of that incredible 1.2-megapixel selfie cam. Such resolution!

## Step 6



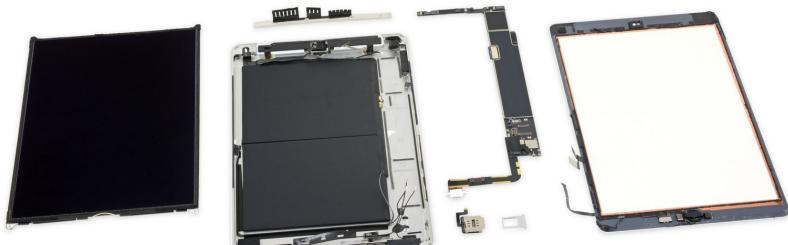
- Here's that new Smart Connector in all its *glue* glory.
- *i* What's that? You want a cheap iPad, but you're holding back because you want to connect a Smart Keyboard? Well boy, howdy! Apple did just that.
- There are no moving parts here, so you'll probably never need to worry about a Smart Connector replacement. But even if you did, this Smart Connector is actually pretty accessible by ordinary iPad standards.
- Meanwhile, over on the logic board, we've got these goopy antenna cable sockets. What is the function of this new goop?
  - *i* Speculation: corrosion protection, tamper-proofing, or simply a concession to the powerful goop lobby.
- Cables aside, we bring the heat one last time to pry this sticky logic board free from its home.
  - Sticky logic boards, sticky logic boards, why must you stick? Every time we think of thee, thou makest us sick.

## Step 7



- We have a pretty good [idea](#) what we'll find here, but let's take a closer look and make sure:
- Apple A10 Fusion APL1W24 SoC layered over Micron [D9WQC](#) 3 GB LPDDR4 SDRAM (that's [50% more RAM](#) than last year)
- SanDisk SDMRSEFJ2 032G 32 GB flash memory
- Broadcom [BCM15900B0](#) touch screen controller
- NXP [100VB27](#) NFC controller
- Cirrus Logic [CS42L83A](#) low power audio codec
- Apple 343S00314-A0 (PMIC) and Murata 339S00445 Wi-Fi/Bluetooth module
- Skyworks 850946, 203153033561852, and 13790697311912

## Step 8



- Well there you have it, the 10.2" iPad 6 iPad 7 laid out after facing the business end of a teardown.
- This turned out to be a pretty light refresh! Just a size increase, the addition of a Smart Connector, and an extra GB of RAM.
- The display and digitizer still aren't fused together, despite the addition of Pro-like features, which is something we're very happy to see survive.

*i* Given the changes made this year, we'll give you three guesses as to what the repairability score might be.

## Step 9 — Final Thoughts



- The 7th-Generation iPad earns a **2 out of 10** on our repairability scale (10 is the easiest to repair):
  - Non-laminated, separately replaceable cover glass and LCD makes most screen repairs far less expensive.
  - The LCD is simple to remove once you separate the cover glass/digitizer.
- As with all iPads, a solid barrier of very strong adhesive hinders all repairs.
- The Lightning port, a common point of failure, is soldered to the logic board.
- More adhesive holds nearly everything else in place. Battery and logic board replacements are particularly obnoxious.