

AFFIDAVIT OF NATHANIEL E FRANK-WHITE

1. I am a Records Request Processor at the Internet Archive. I make this declaration of my own personal knowledge.

2. The Internet Archive is a website that provides access to a digital library of Internet sites and other cultural artifacts in digital form. Like a paper library, we provide free access to researchers, historians, scholars, and the general public. The Internet Archive has partnered with and receives support from various institutions, including the Library of Congress.

3. The Internet Archive has created a service known as the Wayback Machine. The Wayback Machine makes it possible to browse more than 450 billion pages stored in the Internet Archive's web archive. Visitors to the Wayback Machine can search archives by URL (i.e., a website address). If archived records for a URL are available, the visitor will be presented with a display of available dates. The visitor may select one of those dates, and begin browsing an archived version of the Web. Links on archived files in the Wayback Machine point to other archived files (whether HTML pages or other file types), if any are found for the URL indicated by a given link. For instance, the Wayback Machine is designed such that when a visitor clicks on a hyperlink on an archived page that points to another URL, the visitor will be served the archived file found for the hyperlink's URL with the closest available date to the initial file containing the hyperlink.

4. The archived data made viewable and browsable by the Wayback Machine is obtained by use of web archiving software that automatically stores copies of files available via the Internet, each file preserved as it existed at a particular point in time.

5. The Internet Archive assigns a URL on its site to the archived files in the format http://web.archive.org/web/[Year in yyyy][Month in mm][Day in dd][Time code in hh:mm:ss]/[Archived URL] aka an "extended URL". Thus, the extended URL http://web.archive.org/web/19970126045828/http://www.archive.org/ would be the URL for the record of the Internet Archive home page HTML file (http://www.archive.org/) archived on January 26, 1997 at 4:58 a.m. and 28 seconds (1997/01/26 at 04:58:28). The date indicated by an extended URL applies to a preserved instance of a file for a given URL, but not necessarily to any other files linked therein. Thus, in the case of a page constituted by a primary HTML file and other separate files (e.g., files with images, audio, multimedia, design elements, or other embedded content) linked within that primary HTML file, the primary HTML file and the other files will each have their own respective extended URLs and may not have been archived on the same dates.

6. Attached hereto as Exhibit A are true and accurate copies of browser screenshots of the Internet Archive's records of the archived files for the URLs and the dates specified in the attached coversheet of each printout.

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archive.org

7. I declare under penalty of perjury under the laws of the United States of America that the foregoing is true and correct.

DATE: May 9, 2024

Nathaniel E Frank-White

Nathaniel E Frank-White

EXHIBIT A

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Published on Sep 20, 2014
Its been two years since the last full redesign for the iphone, and we couldn't be more anxious to see the new upgrade up close. So we sent our Teardown team all the way to Melbourne, Australia to get the first look inside the new iPhone 6.

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The iPhone 6 Teardown Review

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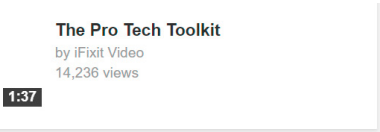
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Apple iPhone 6 teardown, in pictures



Following on from their thorough iPhone 6 Plus teardown, the iFixit team dissect the regular iPhone 6.
Picture: iFixit

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IN APPLE



iPhone 6 Plus teardown



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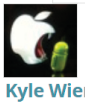

Nick
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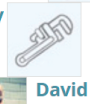

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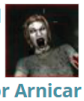

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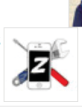

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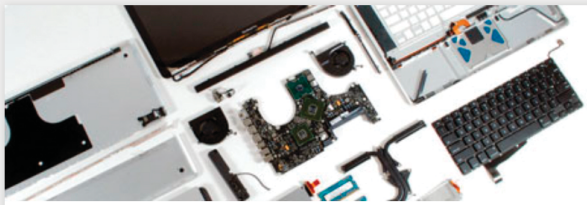
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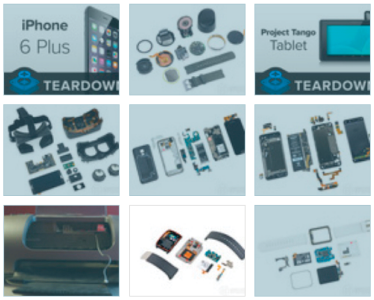


Gadget Teardowns

User-contributed sneak peeks inside the hottest new gadgets.
Comprehensive disassembly photos, hardware analysis, and witty commentary.



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Teardown of the Samsung Gear Live on July 7, 2014.



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iPhone 6 Teardown on September 18, 2014.

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iPhone 6 Plus Teardown on September 18, 2014.

Motorola Moto 360
by Geoff Wacker
Motorola Moto 360 Teardown on September 8, 2014.



Project Tango Tablet

Acer Liquid E1

by Walter Galan
Project Tango Tablet teardown.



by Paintskill
This will let you tear down your Acer Liquid E1 in a few easy



Oculus Rift Development Kit 2
by Walter Galan
Oculus Rift Development Kit 2



Samsung Galaxy S5 Mini
by Geoff Wacker
Samsung Galaxy S5 Mini



Sony Xperia U
by Anthony
This is a simple teardown for a colourful device.



Amazon Fire Phone
by Andrew Optimus Goldberg
Torn down on July 24, 2014.



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Repairability: **7** / 10

iPhone 6 Repair

Released on September 19, 2014, this 4.7" screen iPhone is the smaller version of the iPhone 6 Plus.

Create a Guide

9 Teardowns

iPhone 6 Teardown		iPhone 6 Teardown		Démontage de l'iPhone 6	
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No Answers 0 Score	iPhone 6 Silver Nano SIM Card Tray Slot	iPhone 6
2 Answers 0 Score	Can the iPhone 6 Plus camera fit in the iPhone 6?	iPhone 6
1 Answer 0 Score	Info on the iPhone 6 chips. Chip specs & name of its manufacturer?	iPhone 6
2 Answers 0 Score	iPhone 6 Power On/Off Flex Cable?	iPhone 6

Tools

These are some common tools used to work on this device. You might not need every tool for every procedure.

Spudger


54 Bit Driver Kit


Precision Tweezers Set


iSclack


Heat Gun

Background and Identification

The iPhone 6 is part of the iPhone line, succeeding the iPhone 5s. Apple held an event to formally introduce the phone (and its bigger brother, the iPhone 6 Plus) on September 9, 2014. Notable features include a new 4.7" Retina HD display, an updated body styling that is .7 mm thinner than the 5s, and NFC capability for Apple's new mobile payment system Apple Pay. The iPhone 6 also features expanded fitness tracking abilities with a new fitness-tracking application powered by the updated M8 motion coprocessor and a barometer used to sense elevation.

Specifications

Announce date: September 9, 2014

Model: A1549, A1586

Developer: Apple Inc.

Operating System: iOS 8

Display (Retina HD Display):

- 4.7 in (119.4 mm) LED-backlit widescreen
- Multi-touch display with IPS technology
- 1334-by-750-pixel resolution at 326 ppi
- 1400:1 contrast ratio (typical)
- 500 cd/m2 max brightness (typical)
- Full sRGB standard
- Dual-domain pixels for wider viewing angles
- Fingerprint-resistant oleophobic coating on front

Fingerprint reader: Touch ID fingerprint reader

Camera: Contains both front and rear facing cameras.

- **Rear-facing iSight camera**
  - 8 MP with 1.5µ pixels
  - Autofocus with Focus Pixels
  - ƒ/2.2 aperture
  - 1080p HD video recording (30 fps or 60 fps)
  - Slo-mo video (120 fps or 240 fps)
  - 3x zoom
  - True Tone flash
  - Five-element lens
  - Hybrid IR filter
  - Backside illumination sensor
  - Sapphire crystal lens cover
  - Auto image stabilization
  - Auto HDR for photos and videos
- **Front-facing Facetime camera**
  - 1.2-megapixel photos (1280 by 960)
  - ƒ/2.2 aperture
  - 720p HD video recording

- Backside illumination sensor
- Auto HDR for photos and videos

Processor: 1.2 GHz Apple A8 chip with 64 bit architecture and M8 motion coprocessor

RAM: 1 GB LPDDR3

Storage: 16, 64, 128 GB Flash Memory

Sensors:

- Touch ID
- Barometer
- Three-axis gyro
- Accelerometer
- Proximity sensor
- Ambient light sensor

Wireless Connectivity:

- Integrated 802.11 a/b/g/n/ac (Dual band 2.4 GHz and 5 GHz)
- Bluetooth 4.0
- GSM, CDMA, 3G, EVDO, HSPA+, LTE
- Digital Compass
- GPS and GLONASS signal reception

Dimensions: 5.44 × 2.64 × 0.27 in (138.1 × 67.0 × 6.9 mm)

Weight: 129 g (4.55 oz)

Colors: Space Gray, Silver, Gold

Additional Information

- Apple: iPhone 6
- Wikipedia: iPhone 6

View Statistics: Today: 573 This Week: 7,053 This Month: 34,291 All Time: 34,291

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- HP Photosmart D110a
- HP Photosmart c3180
- HP PSC 2410 Photosmart All In One Printer
- Logitech Webcam Pro 9000
- Polaroid LCD-0700P
- Anker 2.4G Wireless Mouse
- Lexmark Intuition S505
- Acer AL1916
- Engage Wired Optical Mouse

Household Repair

- Shure SM58
- General Electric Telephone 2-9710A
- Uniden TCX905
- Planet Eclipse Geo3
- Ibanez 5 String Bass Model SR405QM
- Fender Frontman 15r
- Nerf N-Strike Elite Hail-Fire
- Conair Infiniti Pro Model 259NP
- Lite FX Rotating Big Ball of Lite Model 1929
- Conair Cord-Keeper 169XR

Electronics Repair

- Panasonic DVD-RV31 Player
- Zeal Optics iON
- TI-Nspire
- Sharp Aquos LC13B2UA
- Midland X-tra Talk Radio LXT118
- Cobra 29 LTD Classic
- Texas Instruments TI-92
- Sharper Image iPulse SI325
- Tapwave T2907US Zodiac 2
- Toshiba SD-K740

Vehicle Repair

- Specialized Expedition
- Free Wheelchair Mission GEN 1
- Skateboard
- Nishiki Aero II
- GEN 2 Wheelchair
- Trek 820
- Giant Reign 2
- Triace A310
- Suzuki FA50 Moped
- Raleigh M20

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iPhone 6 Plus Teardown

Teardown
Teardowns provide a look inside a device and should not be used as disassembly instructions.

Featured Guide
This guide has been found to be exceptionally cool by the iFixit staff.

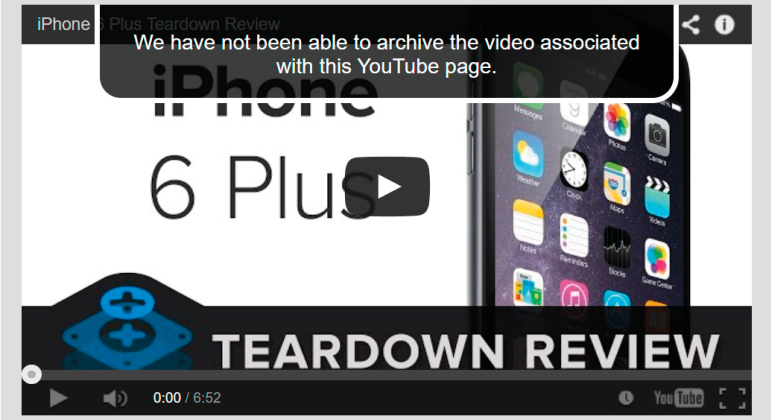
x 85 x 111 Tweet

Over the years, we've seen the iPhone evolve—and grow. It began as just the iPhone. Soon it learned how to 3G, it gained an S (it would lose and gain this every other year), and it even learned to read fingerprints. Years of hard work and dedication have made the iPhone into what it is today, the iPhone 6 Plus. Join us live as we explore this gargantuan iPhone 6 Plus.

Oh, were you looking for the normal-sized iPhone 6 teardown? We've got that, too.

This year we're doing the iPhone 6 Plus in English, Français, Deutsch, Español, Italiano, Nederlands, Русский, and 中文.

Follow us on Facebook, Instagram, or Twitter for all the latest teardown news.



Tools
- 54 Bit Driver Kit
- iSclack
- Precision Tweezers Set
- Jimmy
- Plastic Opening Tools
- Spudger

Buy these parts and tools

Relevant Parts
Pro Tech Screwdriver Set
$59.95





iPhone 6 Plus
Released on September 19, 2014, this 5.5" screen iPhone is the larger version of the iPhone 6.

9 Solutions

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Step 1 — iPhone 6 Plus Teardown

Edit

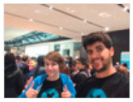
- Ladies and gentlemen, the time is nigh. Today, we stand among a select few in the shadow of a colossus, the iPhone 6 Plus. But what makes this enormous phone special? We're glad you asked:
  - Apple A8 processor with 64-bit architecture
  - M8 second-generation motion coprocessor



- 16, 64, or 128 GB onboard storage capacity
- 5.5-inch 1920x1080 pixels (401 ppi) Retina HD display
- 8 MP iSight camera (with 1.5µ pixels, phase-detection autofocus, and optical image stabilization) and a 1.2 MP FaceTime camera
- Touch ID home button fingerprint sensor, barometer, 3-axis gyro, accelerometer, ambient light sensor
- 802.11a/b/g/n/ac Wi-Fi + Bluetooth 4.0 + NFC + 20-band LTE







Step 2

Edit

News flash from the Land Down Under:

- The line was already 50 people strong yesterday around 1 PM local Aussie time.
- By 7 AM there were close to a thousand people in line.
- Our teardown team was #53 in line, and the Apple Store only had 40 iPhone 6 Plus models in stock.
- But hey, no worries—we got our hands on an iPhone 6 Plus, all thanks to a wonderful Australian iFixit fan named Ricky. Thanks Ricky!

  It turns out Ricky is not related to this Ricky.
- After our little Apple Store adventure, we skedaddled back to MacFixit Australia, where the teardown's taking place. We want to send out a big thanks to our good friends at MacFixit for letting us use their office. They stock Mac and iPhone upgrades/accessories, and also carry our iFixit toolkits. Thanks MacFixit Australia!



Step 3

Edit

- Coming soon to a supermarket near you, the iPhone 6 Plus Pop-Tarts Bluetooth/NFC speaker.
- The iPhone 6 Plus measures in at 158.1 mm long, 77.8 mm wide, and 7.1 mm thick. Quite literally bigger than a Pop-Tart.

  At 7.1 mm, it's the thicker of the new crop of iPhones—but thickness is the one dimension in which it undercuts last year's iPhone 5s, which measured 7.6 mm.





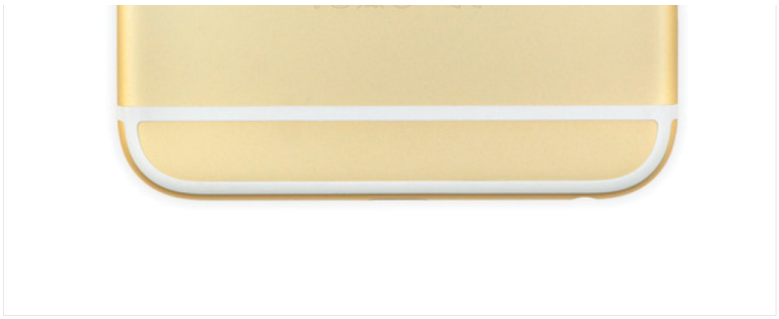




Step 4

Edit 2

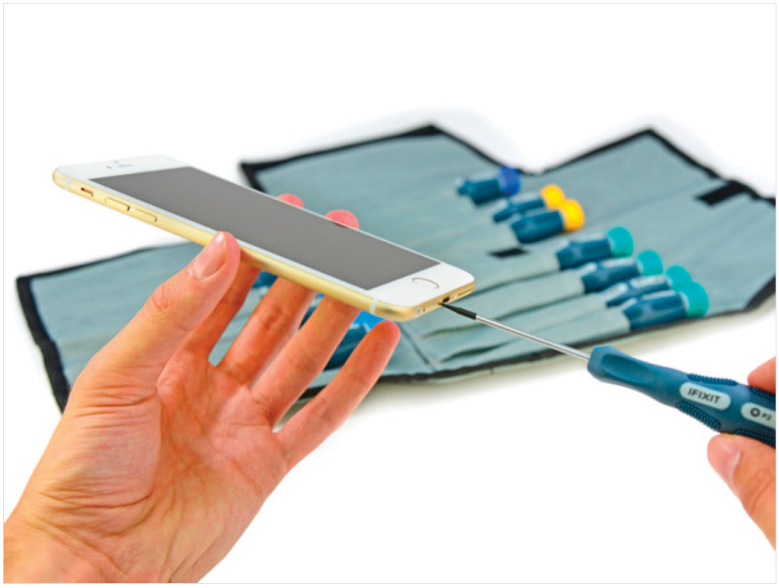
- Just like the iPhone 5s, the iPhone 6 Plus is available in three different colors: Silver, Gold, and Space Gray. Of course we went for the Gold.
- The iPhone 6 Plus is identified by its model



number: A1524.

- Much to the distress of some reviewers, both iPhone 6 models feature a noticable camera "bump". It seems that Apple was unable to shave enough thickness off of the camera sensor to keep it flush with the rest of the chassis. The lens cover may be made out of sapphire glass, but we're still concerned about what this design choice might mean for durability.

- Much like the HTC One M8, the iPhone 6 Plus features two plastic antenna stripes on the outer case. These stripes help with wireless reception that would otherwise be blocked by an all-metal outer case.

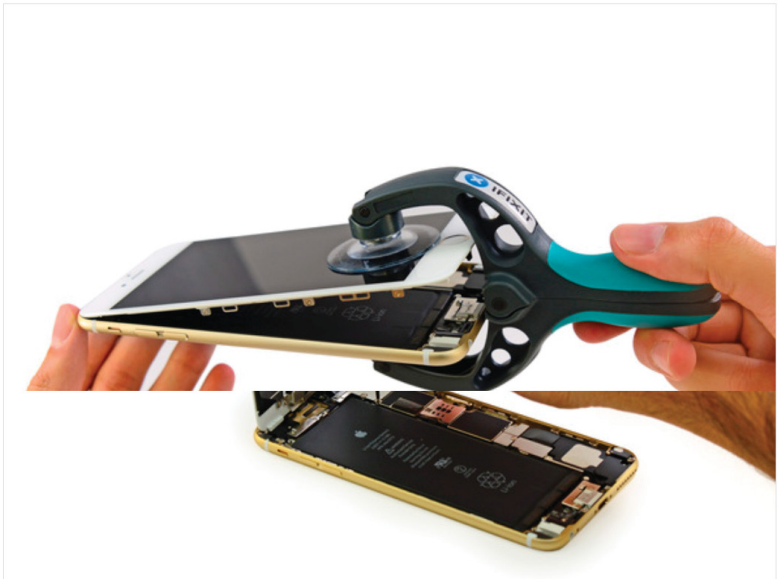


Step 5

Edit

- It seems Apple is reluctant to switch from Pentalobe screws to good ol' regular Phillips screws. Luckily, we brought our Pro Tech Screwdriver Set to remove those pesky Pentalobe screws.

  While proprietary screws are not our favorite, we are happy that we don't have to go straight to heat.









Step 6

Edit

- It's iSclack time! This handy tool allows us to easily shuck the display assembly from the rear enclosure.

  We proceed cautiously, remembering the surprise from last time.

- With no noticeable booby traps, we proceed to open our little gold treasure chest.

  Apple's rerouting of the Touch ID sensor cable recalls the cleaner design (and safer opening procedure) of the iPhone 5—the iPhone with the highest repairability score to date.

- Much like iPhones of the past, the display assembly cables are held securely to the logic board by a metal bracket.



Step 7

Edit 1

- With the display assembly removed, we get our first look at the innards of the iPhone 6 Plus.

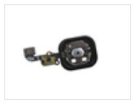
  The internal layout of the iPhone 6 Plus appears to be similar to the 5s, but we immediately notice the sheer size of the battery. Based on its volume alone, we suspect the iPhone 6 Plus will be no slouch when it comes to battery life.







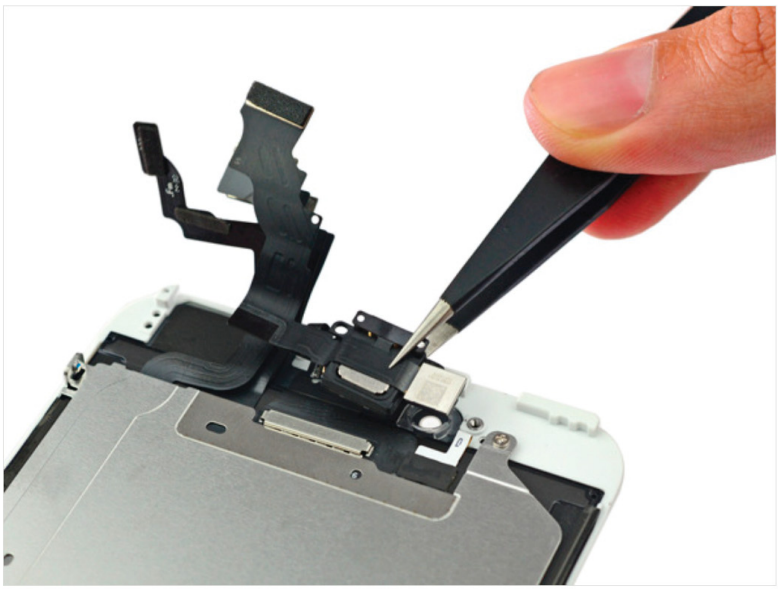




Step 8

Edit

- The home button assembly is secured by a metal bracket. Removing the bracket allows us to simply pop the home button off the front panel assembly.
- This design is on-par with last year's home button—modular, if a bit time-consuming to get to in the event of a repair.







Step 9

Edit 2

- The front-facing camera is part of a larger cable assembly, which includes the earpiece speaker. Both reside on the front panel assembly.



Step 10

Edit 2

- Next we decide to remove the metal plate from the front panel assembly.
- In a big win for repairability, Apple has completely redesigned how the home button connects to the main board. Gone is the awkwardly short and fragile cable of the iPhone 5s days. Instead, Apple has made the effort to run the home button cable all the way to the opposite end of the phone. We're quite happy to see this improvement!

We can't think of a reason to extend the cable this way except to improve repairability. Thank you, Apple.



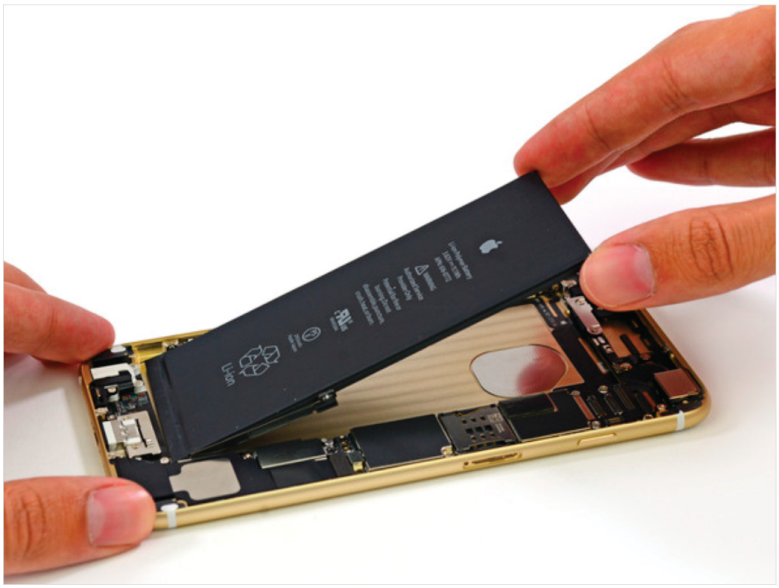




Step 11

Edit

- The next logical step is to remove the battery from the iPhone 6 Plus.
- The battery connector is covered by a metal bracket, which we dispose of using our metal tweezers.
- Near the bottom of the battery, we locate some sticky pull tabs.
- Here's what we know about sticky iPhone battery pull tabs: pull it right, and it is super easy; pull it wrong, and it is the end of the world.
- This adhesive is similar to a 3M Command adhesive, and when you pull the tab correctly it shears the entire strip off.



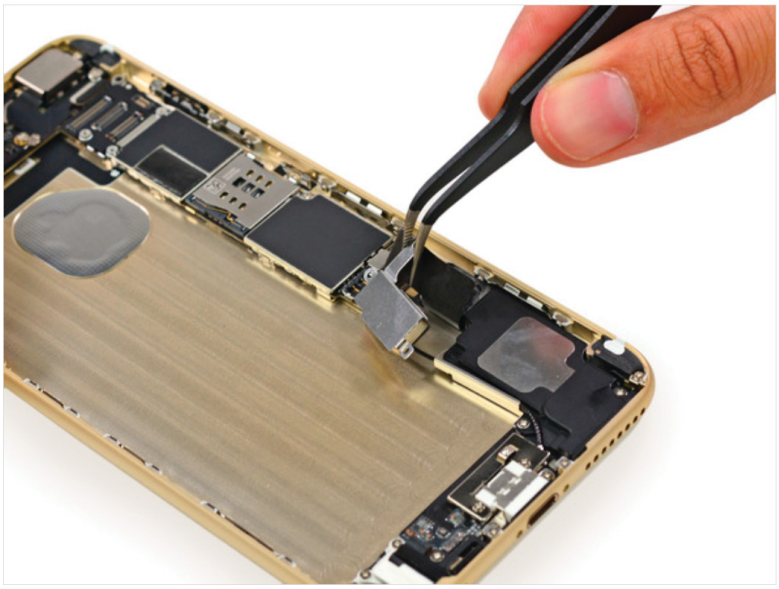




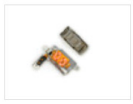
Step 12

Edit 3

- After saying the magic words, the 43-gram, 4.7" x 1.9" x 0.13" battery mystically lifts off the rear case enclosure.
- In line with rumors, the battery is rated at 3.82 V and 11.1 Wh of energy, for a total of 2915 mAh—nearly double the capacity of the 1560 mAh unit in the iPhone 5s, and slightly larger than the 2800 mAh burner in the Galaxy S5.
- Between the larger battery and improvements in power efficiency, Apple touts a talk time of up to 24 hours on 3G, and 384 hours of standby time.
- The battery found in the Plus is larger than the standard iPhone 6's 6.91 Wh, 1810 mAh battery—which explains the longer life, despite the much larger screen.



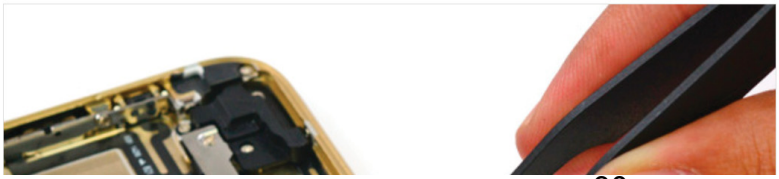




Step 13

Edit 4

- This is new! We have something new! The vibrator assembly is located to the right of the battery, below the logic board.
- Do you remember Jimmy? Of course you do. Everyone remembers Jimmy. With the help of Jimmy, we pry open the vibrator assembly.
- Thanks Jimmy! Inside we find a delicate array of copper coils. They create alternating magnetic fields that shake a permanent magnet mass, which rides on a couple of springs.



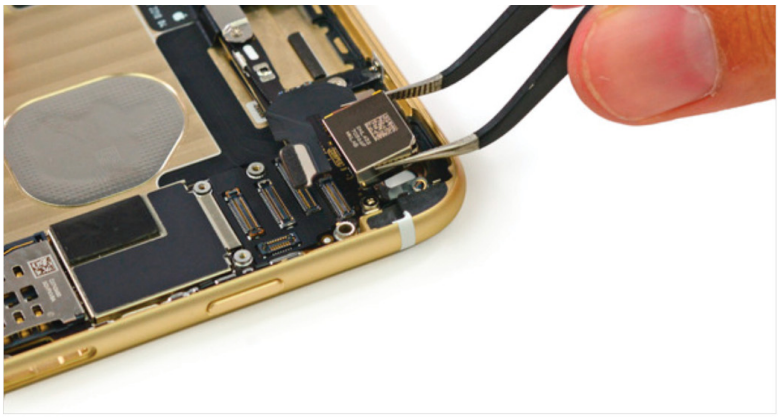




Step 14

Edit 7

- The rear-facing camera is easily dispatched with a



pair of tweezers.

- The back of the iSight camera is labeled DNL432 70566F MKLAB.
- Just like the iPhone 5s, the 6 Plus features an 8 MP (with 1.5µ pixels) ƒ/2.2 aperture rear-facing camera. The 6 Plus brings two new additions to the table: optical image stabilization, and "Focus Pixel" phase-detection autofocus.

> Phase-detection autofocus has been around for awhile in DSLRs, but is relatively new to smartphones. However, the iPhone 6 and 6 Plus aren't the first to feature it — the Samsung Galaxy S5 had it first.



Step 15

Edit

- Such wiggles. Much wiggles.







Step 16

Edit 1

- Apple loves to focus on their cameras, touting the iPhone as the world's most popular camera in their Keynote. So what's behind the lens? Let's take a peek...
- Using a plastic opening tool and some steady fingers, we remove the camera housing.
- While it may not look like much here, the updates found in the iPhone 6 Plus's camera (along with the increased storage) have piqued the interest of amateur and indie filmmakers. We just hope this camera is ready for its closeup...





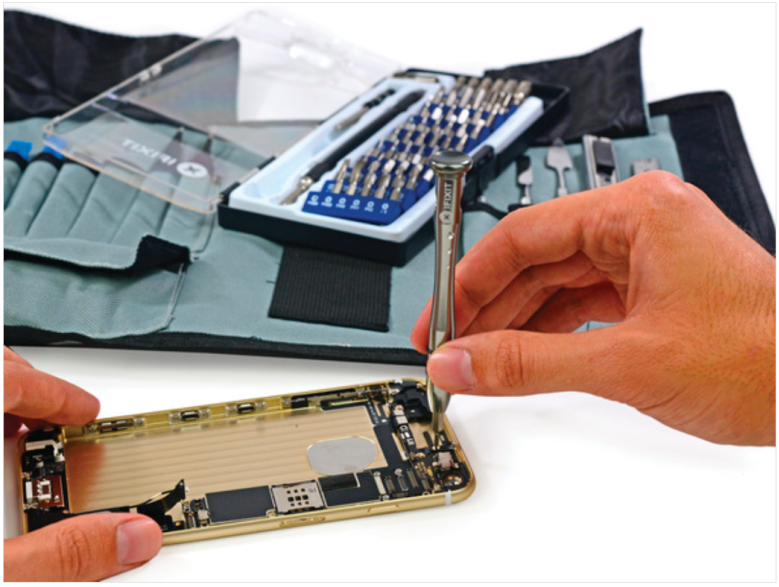


Step 17

Edit

- A deeper look at the inside of the rear-facing camera reveals just what we expect: a small lens.
- Beneath the lens we see the camera's sensor.
- The key feature differentiating this camera from that of the standard iPhone 6 is **optical image stabilization**—a technology we've seen before. The lens element on the left is nested into a tiny metal cage, nudged to and fro by the electromagnetic coils surrounding the sensor on the right.
- Constant readings from the gyroscope and the M8 motion coprocessor give the iPhone 6 Plus detailed data on the movements of your shaky human

hands, allowing it to compensate by rapidly moving the lens assembly. Result: sharper, clearer photos, even in low-light environments.



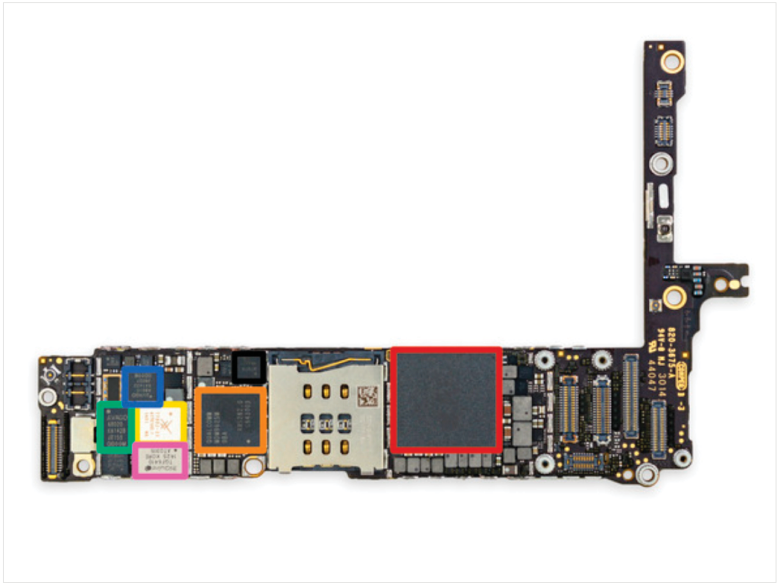




Step 18

Edit

- It's about time we remove the logic board, secured tightly to the rear case enclosure by a few screws.
- But before we finish, we're reminded to spudger away an antenna connector from the back of the logic board.

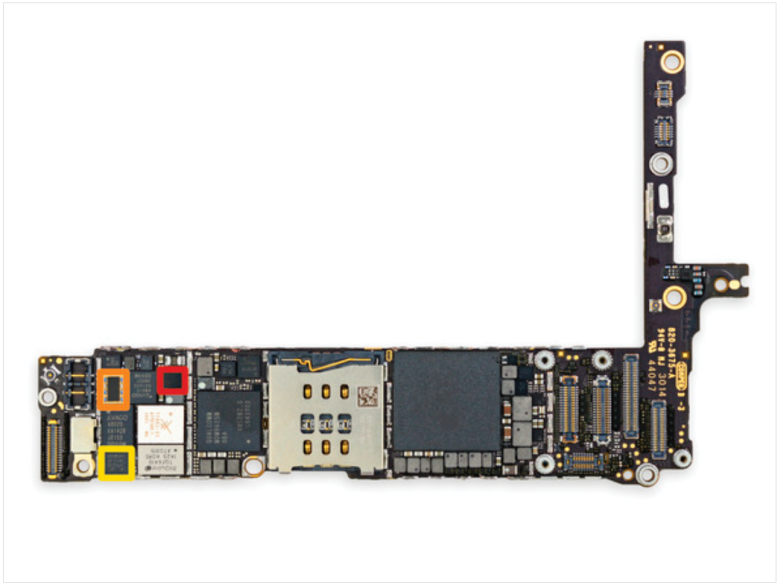





Step 19

Edit 10

- Let's identify some ICs on the front side of the logic board:
  - Apple A8 APL1011 SoC + Elpida 1 GB LPDDR3 RAM (as denoted by the markings EDF8164A3PM-GD-F)
  - Qualcomm MDM9625M LTE Modem
  - Skyworks 77802-23 Low Band LTE PAD
  - Avago A8020 High Band PAD
  - Avago A8010 Ultra High Band PA + FBARs
  - TriQuint TQF6410 3G EDGE Power Amplifier Module
- InvenSense MP67B 6-axis Gyroscope and Accelerometer Combo



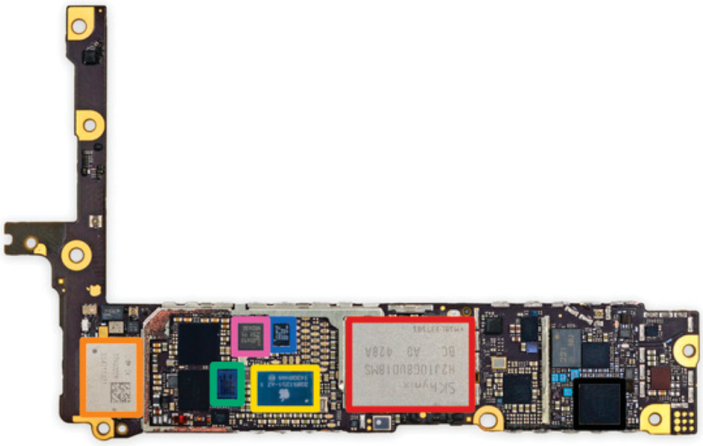
Step 20

Edit

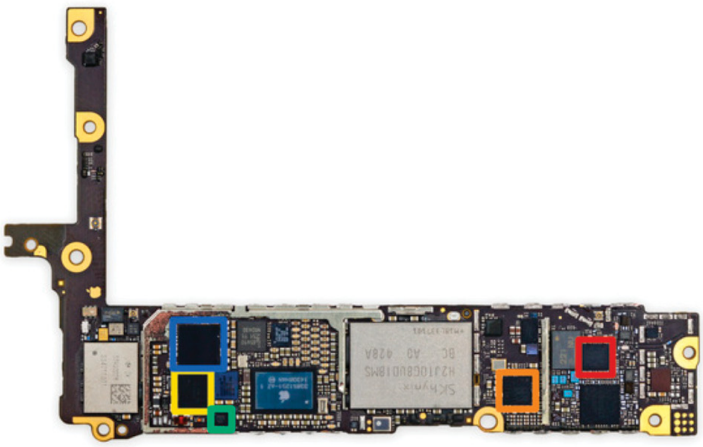
- More ICs on the front of the logic board:
  - Qualcomm QFE1000 Envelope Tracking IC
  - RF Micro Devices RF5159 Antenna Switch Module
  - SkyWorks 77356-8 Mid Band PAD

Step 21

Edit 8



- Back of the logic board.
  - SK Hynix H2JTDG8UD1BMS 128 Gb (16 GB) NAND Flash
  - Murata 339S0228 Wi-Fi Module
  - Apple/Dialog 338S1251-AZ Power Management IC
  - Broadcom BCM5976 Touchscreen Controller
  - NXP LPC18B1UK ARM Cortex-M3 Microcontroller (also known as the M8 motion coprocessor)
  - NXP 65V10 NFC module + Secure Element (likely contains an NXP PN544 NFC controller inside)
  - Qualcomm WTR1625L RF Transceiver



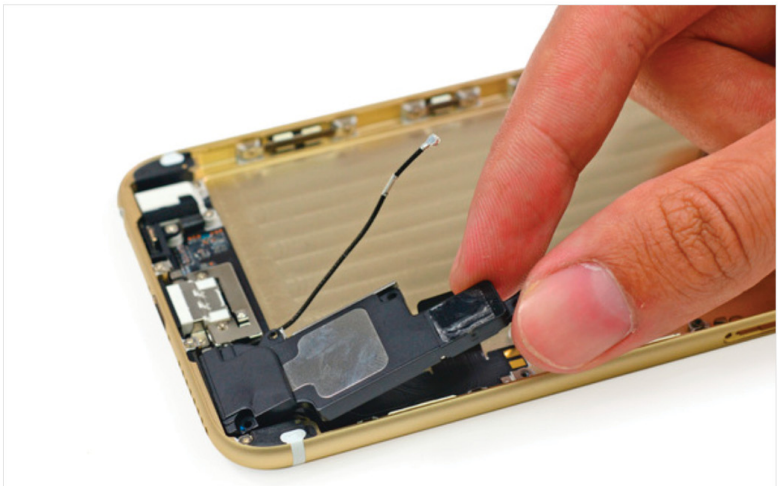


Step 22

Edit 5

- More ICs on the back of the logic board:
  - Qualcomm WFR1620 receive-only companion chip. Qualcomm states that the WFR1620 is "required for implementation of carrier aggregation with WTR1625L."
  - Qualcomm PM8019 Power Management IC
  - Texas Instruments 343S0694 Touch Transmitter
  - AMS AS3923 NFC Booster IC
  - Cirrus Logic 338S1201 Audio Codec

A big and hearty mega-thanks to our pals at Chipworks for helping us ID all of this tech. We definitely couldn't have done it without them!









Step 23

Edit 2

- The iPhone 6 Plus's solitary speaker comes out next.
- The modularity of the speaker design is appreciated, even if its markings are inscrutable. The manufacturing origins of this speaker remain shrouded in secrecy, for now.









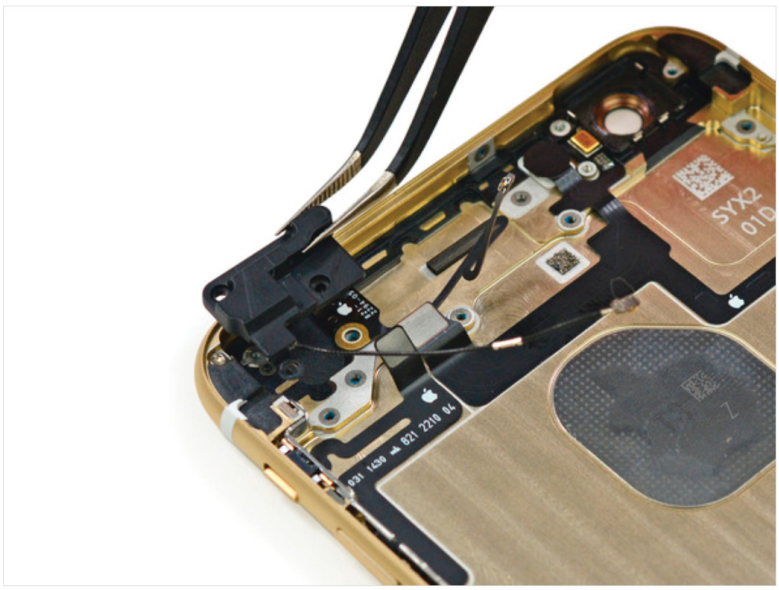
Step 24

Edit 2

- The Lightning connector assembly is comprised of the headphone jack, Lightning connector, and a few antenna connectors.



Cable packages like this are great in terms of space-saving, but not-so-great when your headphone jack decides it doesn't like being pulled on every day.



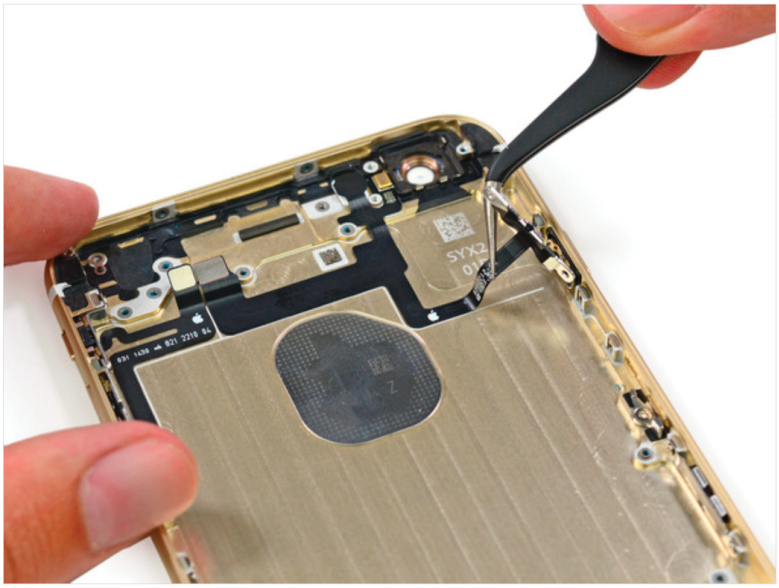




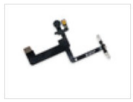
Step 25

Edit

- We turn our focus to the top of the rear case enclosure, where a plethora of antennas await. These antennas prove to be no match for our trusty tweezers though.



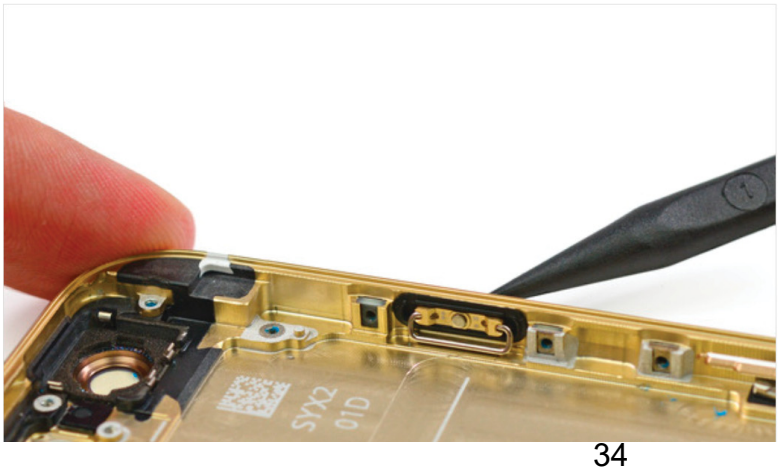




Step 26

Edit 2

- As we near the end of the teardown, we come across both the power button ribbon cable assembly and the volume button ribbon cable assembly.
- Both assemblies consist of tiny components strung on thin, fragile cables like twinkle lights.

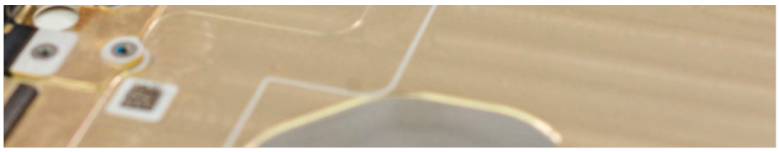





Step 27

Edit 3

- We're button-pushers around here, so we took particular interest in this fancy new rubber gasket surrounding the power button.
- Similar gaskets surround the volume buttons. Altogether, this seems to represent a move toward increased water/dust resistance, and therefore improved durability.









Step 28

Edit 4

- We have slain the giant. The iPhone 6 Plus earned a respectable seven out of ten, an improvement over the iPhone 5s. Here's why:
- Continuing the trend from the iPhone 5 series, the display assembly comes out of the phone first, simplifying screen repairs.
- The battery is straightforward to access. Removing it requires a proprietary pentalobe screwdriver and knowledge of the adhesive removal technique, but is not difficult.
- The fingerprint sensor cable has been re-routed, fixing a significant repairability issue with the iPhone 5s and making the phone much safer to open. (On the 5s, the cable is easily torn if a user is not careful while opening the phone.)
- The iPhone 6 Plus still uses proprietary Pentalobe screws on the exterior, requiring a specialty screwdriver to remove.
- Apple does not share repair information for the iPhone 6 Plus with independent repair shops or consumers.

Required Tools

Spudger
$2.95 · 50+ In stock

Plastic Opening Tools
$2.95 · 50+ In stock

54 Bit Driver Kit
$24.95 · 50+ In stock



Precision Tweezers Set
$9.95 · 50+ In stock



iSclack
$24.95 · 50+ In stock



Popular Products

PC3-8500 4 GB RAM Chip
$54.95 · 50+ In stock



iPad 3rd Gen Front Panel Assembly
$94.95 · 16 In stock



iPhone 5 Dock Connector and Headphone Jack
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iPhone 5 Rear Camera
$39.95 · 29 In stock



iPad Mini (1st Gen/Retina) Front Panel Digitizer Assembly
$94.95 · 26 In stock



Comments

Comments are on | turn off

Guide
Add comment

How much is the Ram?1G?2G?

jamdali5, 6 days ago

> If this has 1GB of RAM, it's going to be bricked like iPhone 3G, iPhone 4 with 3GS specs and 4x pixels can't run iOS7, like iPhone 4S can't handle iOS8, like iPad 1's 256MB of RAM, like iPad 3 with 4x pixels on iPad 2 specs. iPhone 5 will run iOS11 fine with 1GB and iPhone 6 Plus will lag with less available memory.
>
> iphone6splus, 6 days ago

amount on ram in 6+???

bowsa2511, 6 days ago

> Ram of CPU is 1 GB
>
> Joel Morales, 6 days ago

> RAM is 1 GB, that's been confirmed by several people already (including Macworld).
>
> Eric, 6 days ago

> I'm guessing 1 gig for the ram

Steve, 6 days ago

Macworld didn't confirm it. They said it appears to be 1GB.

iphone6splus, 6 days ago

Android Users be like: Please let it be 1 gig memory...Apple Users like: Oh no,hopefully he does not scratch it.

Steve, 6 days ago

> Shame that Android users weren't bright enough to realise that a phone based of [a ripoff] Java machine is going to need absurd amounts of memory. Which is why Android phones fail so badly when the user runs multiple applications.
>
> henry3dogg, 5 days ago

INVN OIS in the rear facing camera?

Dre1107, 6 days ago

You guys used a 54-bit toolkit to repair a 64-bit phone? That's not enough power! You need an upgrade! :-D

zeromeus, 6 days ago · Reply

> YES! You need at least 128 bits.
>
> Ari Porad, 5 days ago

iPhone 6 4.7 inch model teardown too? Or only Plus for now? Even thought it's the same internals on the board it's a different design after that.

alec tokosch, 6 days ago

> We're doing the 6 Plus first. Fret not, the iPhone 6 isn't getting off the hook. :)
>
> Jeff Suovanen, 6 days ago

RAM is 1G according to the part no. F8164A3PM-GD-F (8 stands for 8Gb=1GB)

Benson, 6 days ago

> 16 stands for 16Gb=2GB
>
> iphone6splus, 6 days ago

> '8' stands for 8Gb=1GB (for 2GB SDRAM, the part no. will be 'A')
> "64" stands for 64-bit data width (for 32-bit SDRAM, the part no. will be "32")
> The datasheet of Elpida SDRAM can be found here: http://www.micron.com/-/media/documents/...
>
> Benson, 6 days ago

> F8164A3PM had 0 results. You should've said EDF8164A3PM. Thanks for the link!
>
> iphone6splus, 6 days ago

> Where do you see that in this article?
>
> fish, 6 days ago

> It's on the A8 chip. Step 15, image 2.
>
> iphone6splus, 6 days ago

> Ah, unfortunate. This is my first iphone, !&&* my last android I bought a bit over two years ago had double the ram of this. Oh well, so it goes
>
> fish, 6 days ago

> The part no. of SDRAM (F8164A3PM-GD-F) can be found on the right of Apple A8 SOC.
> According to the datasheet, F is the product family (Mobile LPDDR3 SDRAM); A is the power supply interface (1.8V and 1.2V); 3 is the revision; PM is the package code.
> This SDRAM should be a customized product with customized package (the SDRAM in Apple A7 SOC is F8164A1PD while the standard part no. is F8164A1MA).
>
> Benson, 6 days ago

> Benson, you made it on MacRumors, congrats. http://www.macrumors.com/2014/09/18/ipho...
>
> iphone6splus, 6 days ago

They know all we care about is the RAM. But its been largely already confirmed to be 1 gig, probably 99% confirmed.

fish, 6 days ago

Thanks for doing this!!!

TechRx, 6 days ago

Will they open the A8 SoC to check suppliers???

DeandreCole, 6 days ago

ram is 1gb, been confirmed by many, here's one http://forums.macrumors.com/showthread.p...

minh, 6 days ago

mmm, 6 days ago

INVENSENSE OIS in the rear camera?

steve, 6 days ago

Is the speaker louder than the iPhone 5s?

Alex Ortiz , 6 days ago

Optical image stabilization by Invensense?!?

nann, 6 days ago

Is the tear down complete? Who won the gyro/accelerometer? Invensense?

steve, 6 days ago

> InvenSense did indeed supply the gyro/accelerometer.
>
> Geoff Wacker, 5 days ago

Does anyone know where you can buy that camera assembly?

Jason McMinn, 5 days ago

What about compass and the advertised barometer?

Pavel, 5 days ago

> Take look at the position of the pressure sensor:
> http://www.eetimes.com/author.asp?sectio...
>
> Joe Ortaniak, 18 hours ago

So what's inside the Murata wi-fi module? Based on the marking, it looks pretty similar from IP5s's wi-fi module (with Broadcom's chipset). Can you please confirm? Thanks.

Chris, 5 days ago

can you check to see if the camera ring is magnetic in anyway ?? there was a patent filed back in jan 2014 for a similar magnetic ring by apple. and the ring is what ether keeps the camera steady or what holds on different lenses. i think this is maybe why the camera protrudes.

misterkrad, 5 days ago

dt40 please elaborate on this "making fat stacks". You have my attention...

Jonathan Bell, 5 days ago

Any snapshot of the internals so I can use it as my wallpaper when I get the phone? Thanks.

WL Wong, 5 days ago

Could you identify display manufacturer?

Osman Zengin, 5 days ago

Where is the NFC antenna? How small it is to put into iphone?

Jay, 5 days ago

> It involves the entire top frame, looks pretty complex.
>
> Tom Chai, 5 days ago

Step 19: InvenSense MP67B 6-axis Gyroscope and Accelerometer Combo

RJG, 5 days ago

> I would say MP576 from zoom of photo
>
> Anthony, 4 days ago

I'm amazed at how people do not understand RAM usage in a modern OS. Android still suffers from outdated methods, so it needs more RAM. iOS and WP do not need more RAM. More RAM would provide zero benefit.

scottwilkins, 5 days ago

> Tell that to me next time your safari tabs reload after you load 3 simultaneously.
>
> Joey Geraci, 5 days ago

> Be reasonable Scott. If he was bright enough to understand that, he wouldn't have bought Android in the first place.
>
> henry3dogg, 5 days ago

Any idea what the layer count of the circuit board is?

Steve, 5 days ago

So is this USB 3.0 capable?

Fee Knix, 5 days ago

> The USB 3 extension, USB Type-C will attempt to bring USB 3 up to the level of the Lightning connector.
>
> henry3dogg, 5 days ago

Step 17:

Constant readings from the gyroscope and the M8 motion coprocessor give the iPhone 6 Plus detailed data on the movements of your shaky human hands, allowing it to compensate by rapidly moving the lens assembly. Result: sharper, clearer photos, even in low-light environments.

I am still puzzled by the fact that both models have the M8 and MP67B chips. So, why do you say that OIS is only in the 6+ model?

DoubleBagel, 4 days ago

The best part about the iPhone 6 plus is it's size. I think Apple are really out there satisfying two variants of customers - those who prefer large screens and those who are comfortable with the smaller screens. Also, I kinda found this awesome site that is already giving them away in Dubai before everyone else. You guys should check em' out - http://www.alshop.com/apple-iphone-6

Akhil Arun Kumar, 3 days ago

Can you do an itemised list of all the components so we know how much it costs to manufacture botth iPhone 6 & plus.

teradil, yesterday

Step 4
Add comment

I'm pretty sure the lens cover is no longer made of sapphire. Can you guys confirm that?

Joey Geraci, 5 days ago

> Apple's technical specification explicitly states that it IS sapphire.
> https://www.apple.com/iphone-6/specs/
>
> henry3dogg, 5 days ago

Step 7
Add comment

any word on the display maker/materials?

some, 5 days ago

Step 9
Add comment

I'm a little confused.. Shouldn't there be mroe of a teardown on the screen? Seems the backplate on the LCD would have some ribboncable hidden beneath it?

MobiFix, 5 days ago

Can the front camera b removed without interupting the function of the earpiece speaker?

lzsdn, 3 days ago

Step 10
Add comment

Apple is most likely primarily focused on the ease of assembly rather than ease of repair.

Hacked2123, 5 days ago

Exactly. A short cable that has to be attached like the iPhone 5S means a time-robbing assembly step that's done in tight situations. Making the cable long may cost 10 cents more in materials costs, but if it saves the worker 20 seconds of time, it increases manufacturing throughput of that worker and thus makes up for the extra cost.

Worf, 5 days ago

Step 12
Add comment

How much does the battery weigh ? Is the mA density per gram higher than previous generations ?

Joao Fabio Tavares, 6 days ago

Correct me if I am wrong - at 3.82 V and 11.1 Wh, isn't the battery more like 2905 mAh?

Valserp, 5 days ago

Can anyone tell me what the minimum A or mA will be to charge the phones? Curious if some 3rd party power banks I have will still work.

nmccmv12, 14 hours ago

Step 13
Add comment

What kinds of vibrator? Looks different from the conventional. What are the dimensions of the vibrator?

Louis Jeong, 5 days ago

> i think its new apple made and we will see some similar in the apple watch (taptic engine)
>
> 3gfisch, 5 days ago

> The vibrator isn't the common motor/counterweight type. It seems like a linear see-saw motor, using the magnets themselves as

the moving masses.
raymondjram, 5 days ago

Annoyingly loud, this new vibrator. Calling it "silent" mode is now pushing it.
b c, 5 days ago

Step 14
Add comment

Invensense OIS in rear camera?
Piy, 6 days ago

it does not seem so
visiblenoise, 11 hours ago

invensense in rear facing camera???????
nann, 6 days ago

INVN in the cam?
T1138, 5 days ago

sony sensor or no? Which?
seff, 5 days ago

Is it possible to put 8MP camera of iPhone 6 plus in iPhone 6 ?
youplaou, 5 days ago

Step 17:

Constant readings from the gyroscope and the M8 motion coprocessor give the iPhone 6 Plus detailed data on the movements of your shaky human hands, allowing it to compensate by rapidly moving the lens assembly. Result: sharper, clearer photos, even in low-light environments.

I am still puzzled by the fact that both models have the M8 and MP67B chips. So, why do you say that OIS is only in the 6+ model?
DoubleBagel, 4 days ago

Step 16
Add comment

Metal shield, 6 pins. What is is Captain!
Evil Otaku, 5 days ago

Step 19
Add comment

Can you tell if the A8 was manufactured by Samsung or TSMC?
halo1982, 6 days ago

The A8 was definitely manufactured by TSMC in TAIWAN!~
Benson, 6 days ago

who won the gyro/accelerometer???
DeandreCole, 6 days ago

Invensense !
Piy, 5 days ago

It looks like there is another accelerometer right next to the IMU... Might be that they are having problems with Invensense?
visiblenoise, 11 hours ago

Can you open the rear facing camera to see if Invensense is in it?
nann, 6 days ago

Love you Invensense gyroscope :))= :)
Piy, 5 days ago

Is there a small Qualcomm IC next to the Avago and Skyworks parts with a QFE 11xx number?
Chris, 5 days ago

You're correct Chris! It's a Qualcomm QFE1100.
Geoff Wacker, 5 days ago

Where is the barometer? Is it from Bosch?
Nick Wong, 5 days ago

Step 21

Add comment

NFC is not connected to the battery right? It could never be used to wirelessly charge correct?

Court Kizer, 6 days ago

> That's correct.
>
> Kyle Wiens, 6 days ago

holy crap you guys getting nerd hard ons ... where the F#$ is my pocket protector %#*@ IT ALL!!!

Hayward Life, 5 days ago

> Big business. For instance Invensense in iPhones for first time ever. If they are in the 6 also, that is 200+million chips sold over the next year. Revenues/Cash Flow up. Buy some stock(hopefully you already owned some or atleast some calls)! This teardown represents billions of dollars.....the question is who's making it. Its not all about iPhones and pocket protectors....its more about making stacks and stacks of money. One day you will figure it out.
>
> dt40, 5 days ago

Any chance you could remove the cover of the Murata 339S0228 Wi-Fi Module to see what's inside?

Michael, 5 days ago

Can you confirm the M8 part no. LPC18B1UK isn't in the NXP manual; LPC185x is.

Anthony, 4 days ago

OK, looks like M8 is an LPC18B1UK as stated....http://en.wikipedia.org/wiki/Apple_M7

Anthony, 4 days ago

any view of the NFC antenna?

Raymond Yu, 3 days ago

Step 22

Add comment

What's a "touch transmitter"?
- Texas Instruments 343S0694 Touch Transmitter
I can't believe they use two controllers for the touch screen?!?
in step 21: Broadcom BCM5976 Touchscreen Controller

tre, 5 days ago

Does anyone know how much the AMS chip costs (ballpark)?

John Winters, 5 days ago

The guys from NFCworld found the ams chip now: http://www.ams.com/eng/Products/NFC-HF-R...
Seems you cannot find it Googling for it.
From the block diagram it seems the AS3923 is connecting to the antenna not the NFC controller.
Fits to the description saying that the chip is replacing the drivers of the controller.
They also mention to support peer to peer and other modes so we can hope for more than just payment it seems ;) Cant wait to get one...

Force, 5 days ago

There is the Barometer below the SanDisk NAND Flash. Looks like a BMP from Bosch Sensortec

Joe Ortaniak, 5 days ago

Do other phone manufacturers use an NFC booster or is this unique to IP6?

John Winters, 4 days ago

Step 23

Add comment

On the lower-left corner of the front of the speaker (second image, can't tell if front or back, guessing front), you can see what looks like a QR code and a serial number, but that's just out of focus enough so it's impossible to make out.

Danny Dalton, 5 days ago

> The barcode reads DXY43443115G34YAU dun think you can decipher anything from it.
>
> lawrence, 3 days ago

Step 24

Add comment

Is the 6 plus completely Samsung free ?

Tochi Nwa, 5 days ago

> At first blush, it appears so! Taking inventory of all the components, I noticed that as well.
>
> karrock, 5 days ago

Step 26

Add comment

re: SYX2 - get it? the industrial design team name for the case is SYX 2 i.e. the 6.2 inches in length of the case.

Jay, 5 days ago

> I really don't get it still...

Hacked2123, 5 days ago

Step 27
Add comment

Those ugly plastic stripes / inlays / antenna break-throughs – are the replaceable? Any chance anybody will offer a replacement for them which better meet the metal colors?

purchase, 5 days ago

Does either iPhone 6 actually feature official water resistance to any degree?

Joey Geraci, 5 days ago

Step 28
Add comment

5s? Pretty sure this was a 6 plus? =)

MobiFix, 5 days ago

> Whoops... fixed! :)
>
> Luke Soules, 5 days ago

OK, using pentalobe screws is kind of annoying, but you guys sell the driver for $8. Given how smoothly the disassembly went it doesn't seem fair to give a red dot (and maybe a drop from 8 to 7) for the requirement of an $8 part when repairing an $800 device.

Eric Domb, 5 days ago

The battery though....

ISMAIL OMAR, 5 days ago

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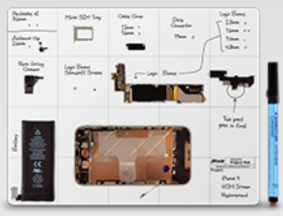


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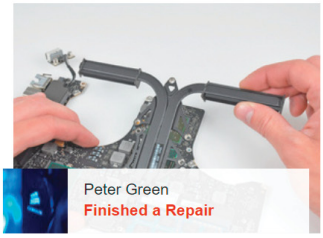
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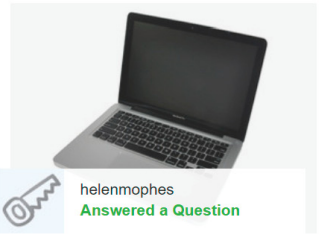
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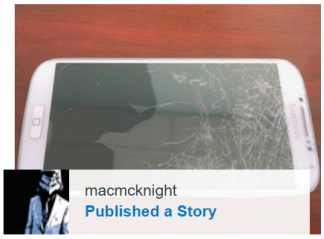
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iPhone 6 Teardown: The Short, Short Version

Sep 19, 2014

Double the iPhone, double the teardown! With the iPhone 6 Plus laid out for inspection, we turn our attention to the smaller...

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iPhone 6 Teardown

Teardown
Teardowns provide a look inside a device and should not be used as disassembly instructions.

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Double the iPhone, double the teardown! With the **iPhone 6 Plus** laid out for inspection, we turn our attention to the smaller iPhone 6—though at 4.7", it's still a giant among iPhones. What was so big that Apple couldn't fit it into the familiar form factor? Let's shake it out onto the teardown table and find out!

This year we're doing the iPhone 6 teardown in English, Français, Deutsch, Español, Italiano, Nederlands, Русский, and 中文.

Gear up for more teardown! Follow us on Facebook, Instagram, or Twitter for the latest teardown news.



Tools
- iSclack
- 54 Bit Driver Kit
- Precision Tweezers Set
- Spudger

Relevant Parts

Pro Tech Screwdriver Set
$59.95



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iPhone 6

Released on September 19, 2014, this 4.7" screen iPhone is the smaller version of the iPhone 6 Plus.

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Step 1 — iPhone 6 Teardown

Edit

- It's iPhone 6 time! Let's check out some tech specs:
  - Apple A8 processor with 64-bit architecture
  - M8 second-generation motion coprocessor
  - 16, 64, or 128 GB onboard storage capacity
  - 4.7-inch 1334x750 pixels (326 ppi) Retina HD display
  - 8 MP iSight camera (with 1.5µ pixels and phase-

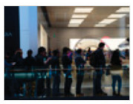


detection autofocus) and a 1.2 MP FaceTime camera

- Touch ID home button fingerprint sensor, barometer, 3-axis gyro, accelerometer, ambient light sensor
- 802.11a/b/g/n/ac Wi-Fi + Bluetooth 4.0 + NFC + 20-band LTE









Step 2

Edit

- We stood in some pretty long lines to get our hands on the new curved iPhone 6, and we couldn't be more excited to delve into it!
- We want to send out a big thanks to our good friends at MacFixit Australia for letting us use their office in Melbourne for the teardown. They stock Mac and iPhone upgrades/accessories, and also carry our iFixit toolkits. Thanks MacFixit Australia!







Step 3

Edit

- Apple has decided to brand this particular iPhone 6 as model A1586.
- The bump, as it's widely known, is prominently visible along the top of the iPhone 6. Apple chose improved optics in exchange for a lens assembly that is slightly thicker than the rest of the phone.

Just how big is this bump you ask? Our calipers say about 0.6 mm.

- You win this time, optics.







Step 4

Edit

- The rounded corner design of the iPhone 6 is very reminiscent of the first generation iPhone, sans the Lightning connector and Pentalobe screws.
- With our 54 Bit Driver Kit, we proceed to remove the Pentalobe screws from the iPhone 6.

It's well known that we hate proprietary screws, but we're happy that this iPhone won't require any heating action to crack it open.







Step 5

Edit

- All hail the iSclack. Opening phones in this fashion is so satisfying!

⚠ We trust the iSclack enough to wave our shiny new iPhone in the air, but if and when you decide to try this at home, you should probably use two hands for safety.

- With the front panel assembly open, we take a peek inside the iPhone 6.

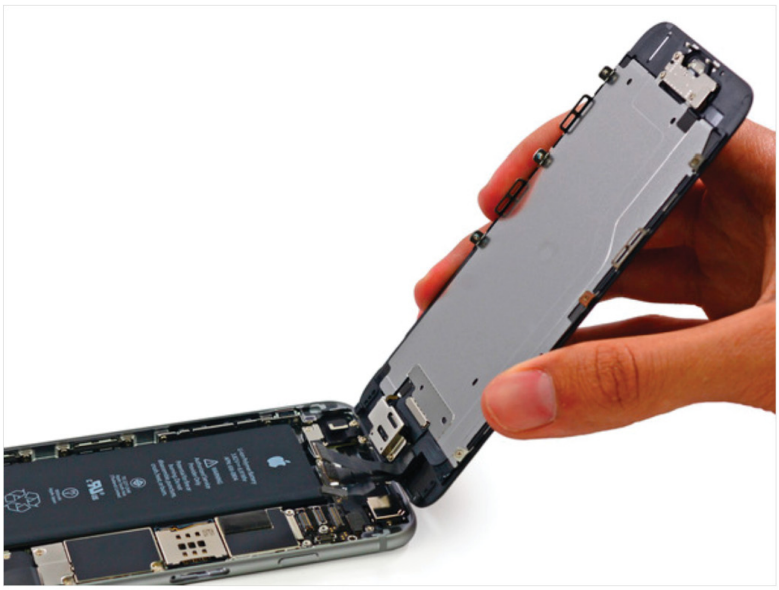


Step 6

Edit 2

⚠ This step may feature the improper use of a boomerang, performed either by professionals or under the supervision of professionals. Accordingly, iFixit must insist that no one attempt to recreate or re-enact any boomerang-related repairs performed during this teardown.

- This is how to boomerang, right? We spoke with several Australians, and they all came to the same conclusion. This is how you boomerang.







Step 7

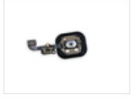
Edit

- While there may not be any Phillips screws on the outside of this phone, there are certainly Phillips screws on the inside. Fortunately, our Pro Tech Screwdriver Set can handle any type of screw this phone dishes out.

- With screwdriver in hand, we tackle the metal bracket screws that secure the front panel assembly in place.

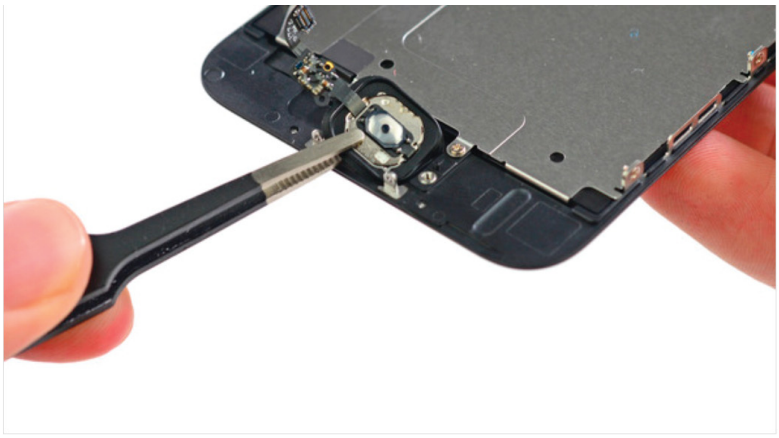




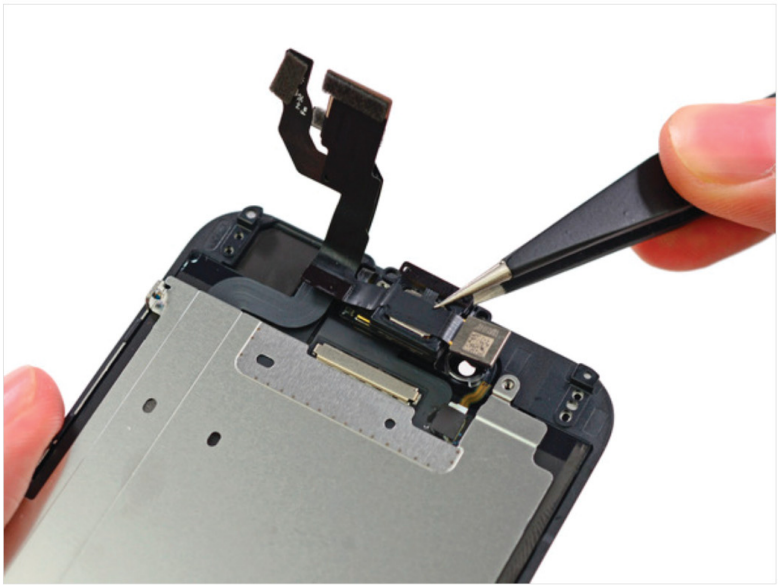


Step 8

Edit



- We peel the home button off the front panel assembly with ease—though, as ever, the surrounding rubber gasket is easy to tear if you don't have the steady hands of a tech surgeon.



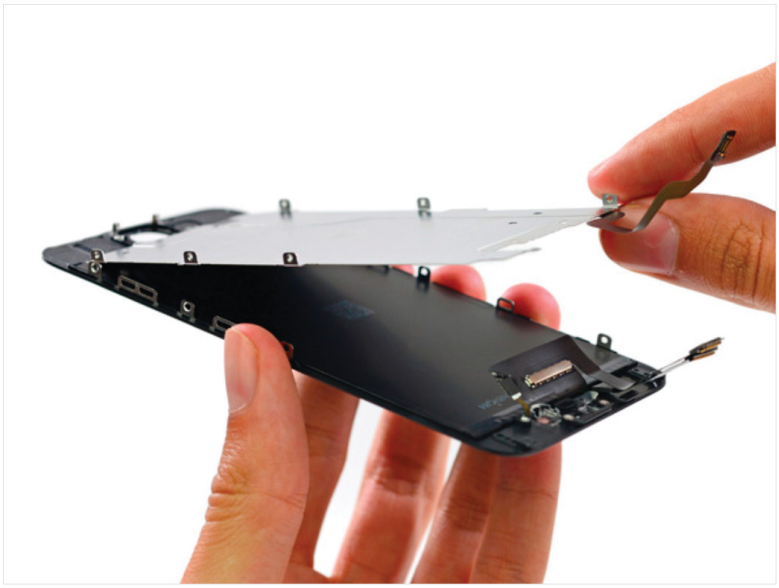




Step 9

Edit

- Much like the iPhone 6 Plus, the front-facing camera and earpiece speaker reside on the front panel assembly.
- We pull them out and line them up for inspection.



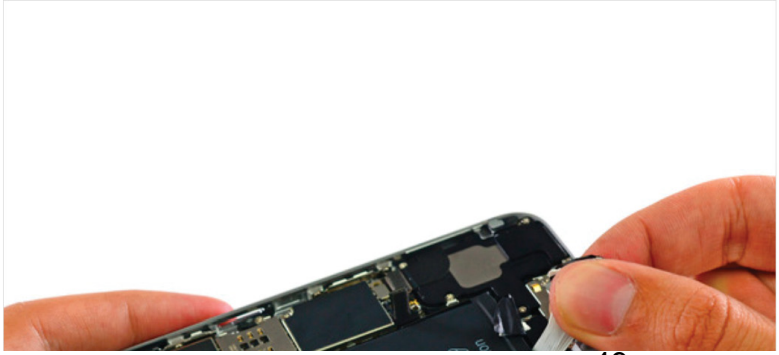




Step 10

Edit

- So far, the overall construction of this "small" iPhone 6 is a dead ringer for its big brother, the 6 Plus.
- This metal plate and the front panel assembly it covers are perfect examples. The design mirrors that of the iPhone 6 Plus, which in this case is a definite improvement.







Step 11

Edit

- We love these battery pull tabs. Pulled correctly, they'll save you the hassle (and potential hazard) of coaxing the battery out with a pry tool.
- This adhesive is similar to a 3M Command adhesive, and when you pull the tab correctly it shears the entire strip off.







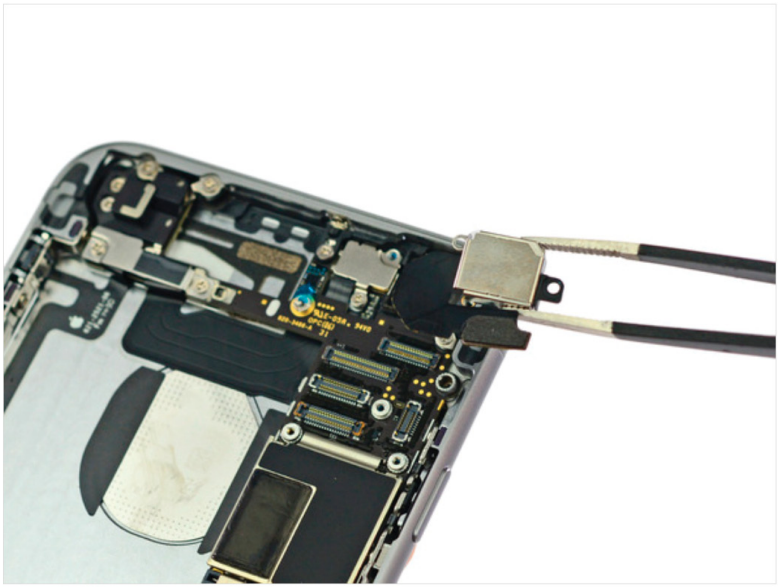


Step 12

Edit 2

- The iPhone 6 features an 1810 mAh, 3.82 V Lithium-ion Polymer battery with an energy rating of 6.91 Wh. Turning it over, the rating improves to 7.01 Wh! Perhaps the engineers were able to squeeze an extra 0.1 Wh in the battery after confirming the text on the front.
- Apple preaches that this 28-gram (3.75" x 1.5" x 0.13") power pack will let you talk for up to 14 hours on 3G and offers 250 hours of standby time.
- This is a fair bit smaller than the iPhone 6 Plus's 11.1 Wh, 2915 mAh battery—but still a notable bump from the 1560 mAh unit in the iPhone 5s.

This battery seems to have an identity crisis. On the front are markings of Apple South Asia (Thailand) Limited and Apple Japan. On the back, it says it's actually made in Huizhou, China.



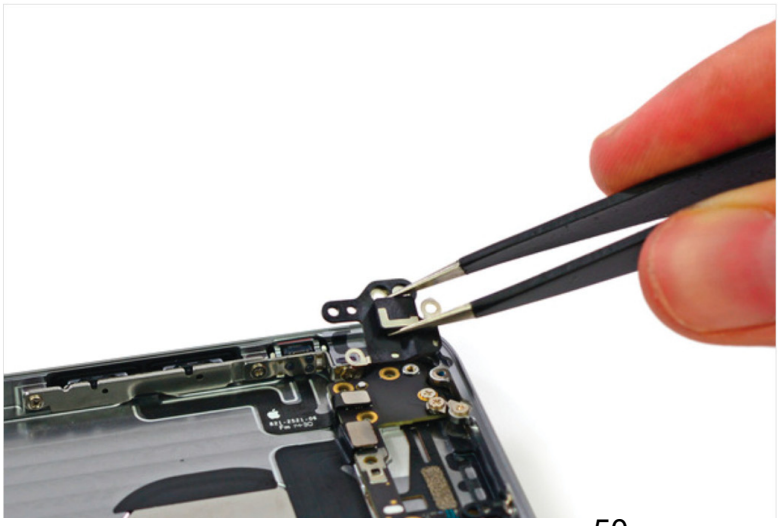




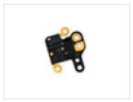
Step 13

Edit 4

- Good news, everyone! The rear-facing camera is easily removed with a pair of tweezers.
- Though it lacks the fancy optical image stabilization of the camera in the iPhone 6 Plus, this unit shares virtually all of its other specs: 8 megapixels, f/2.2 aperture, True Tone flash, and phase-detection autofocus.
- It also features electronic image stabilization, which aims to mimic the effects of OIS (optical image stabilization) using image processing techniques.









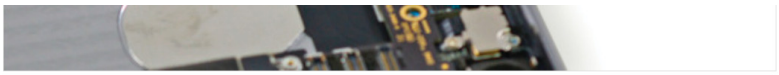
Step 14

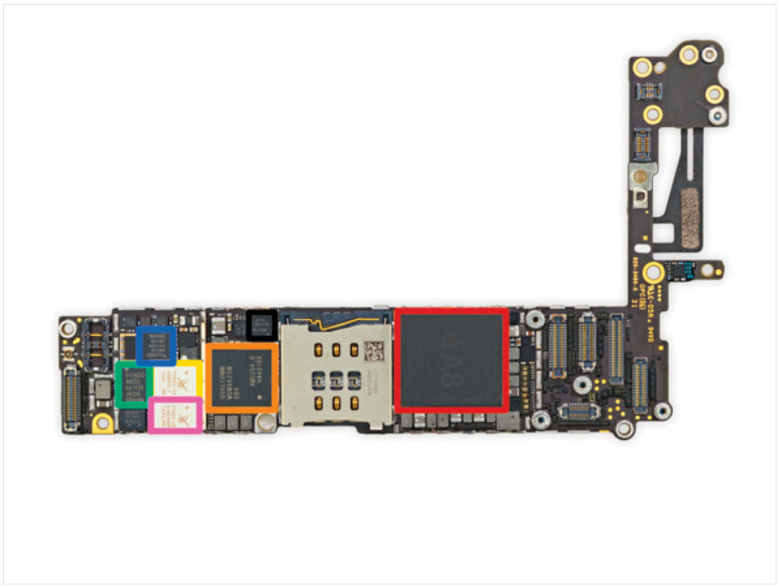
Edit 1

- We tweeze out antennas faster than you can remove punny parts from a buzzing board game.

We master the *operation* and quickly move on.

- Up next is the logic board. While it's quite elegantly dressed in its EMI shields, we want to see what lies beneath the veil.





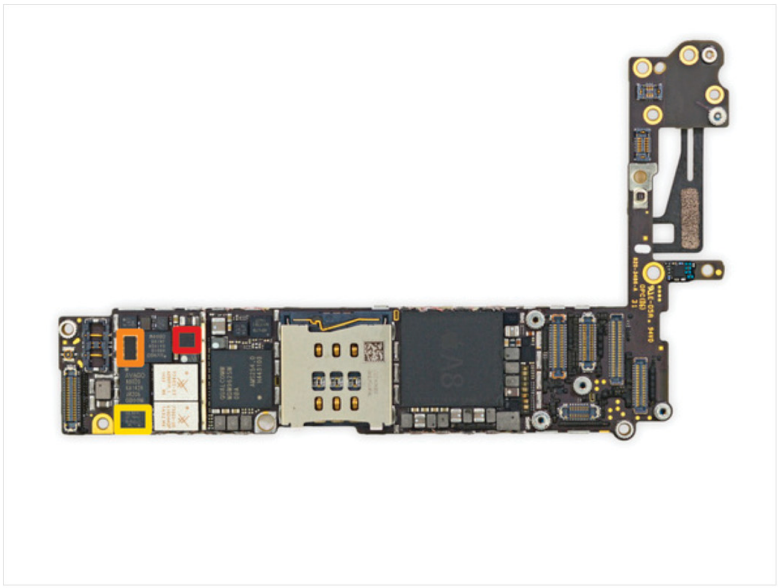




Step 15

Edit

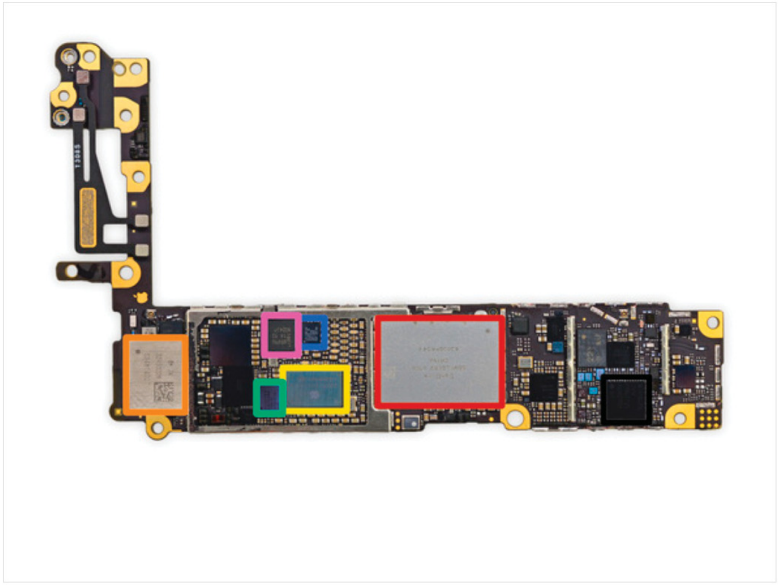
- The front side of the logic board:
  - Apple A8 APL1011 SoC + SK Hynix RAM as denoted by the markings H9CKNNN8KTMRWR-NTH (we presume it is 1 GB LPDDR3 RAM, the same as in the iPhone 6 Plus)
  - Qualcomm MDM9625M LTE Modem
  - Skyworks 77802-23 Low Band LTE PAD
  - Avago A8020 High Band PAD
  - Avago A8010 Ultra High Band PA + FBARs
  - SkyWorks 77803-20 Mid Band LTE PAD
  - InvenSense MP67B 6-axis Gyroscope and Accelerometer Combo



Step 16

Edit

- More ICs on the front side of the logic board:
  - Qualcomm QFE1000 Envelope Tracking IC
  - RF Micro Devices RF5159 Antenna Switch Module
  - SkyWorks 77356-8 Mid Band PAD



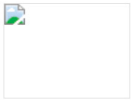
Step 17

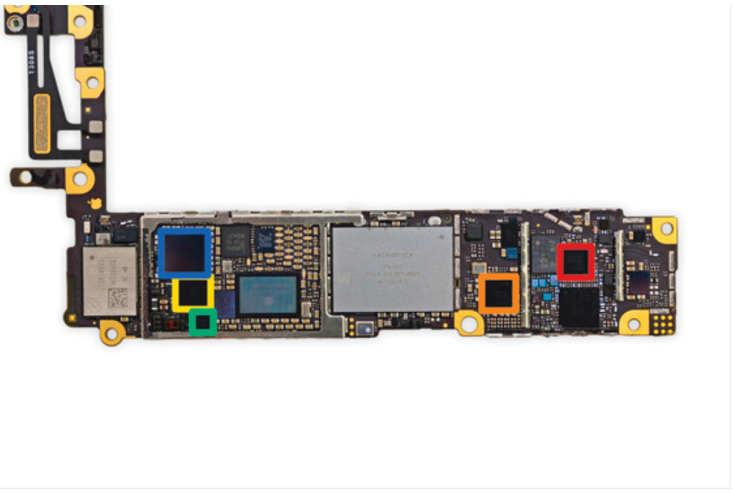
Edit 1

- Back side of the logic board:
  - SanDisk SDMFLBCB2 128 Gb (16 GB) NAND Flash
  - Murata 339S0228 Wi-Fi Module
  - Apple/Dialog 338S1251-AZ Power Management IC
  - Broadcom BCM5976 Touchscreen Controller
  - NXP LPC18B1UK ARM Cortex-M3 Microcontroller (also known as the M8 motion coprocessor)
  - NXP 65V10 NFC module + Secure Element (likely contains an NXP PN544 NFC controller inside)
  - Qualcomm WTR1625L RF Transceiver









Step 18

Edit

- More ICs await us on the back of the logic board:
  - Qualcomm WFR1620 receive-only companion chip. Qualcomm states that the WFR1620 is "required for implementation of carrier aggregation with WTR1625L."
  - Qualcomm PM8019 Power Management IC
  - Texas Instruments 343S0694 Touch Transmitter
  - AMS AS3923 NFC Booster IC designed to “improve performance of existing NFC controllers for challenging environments such as mobile and wearables” and also delivers “less restrictive antenna design requirements”.
    - We believe this chip is an NFC frontend to improve performance in noisy environments using 'active peer to peer bit rates [up to] 212kb/s.'
  - Cirrus Logic 338S1201 Audio Codec

A big and hearty mega-thanks to our pals at Chipworks for helping us ID all of this tech. We definitely couldn't have done it without them!



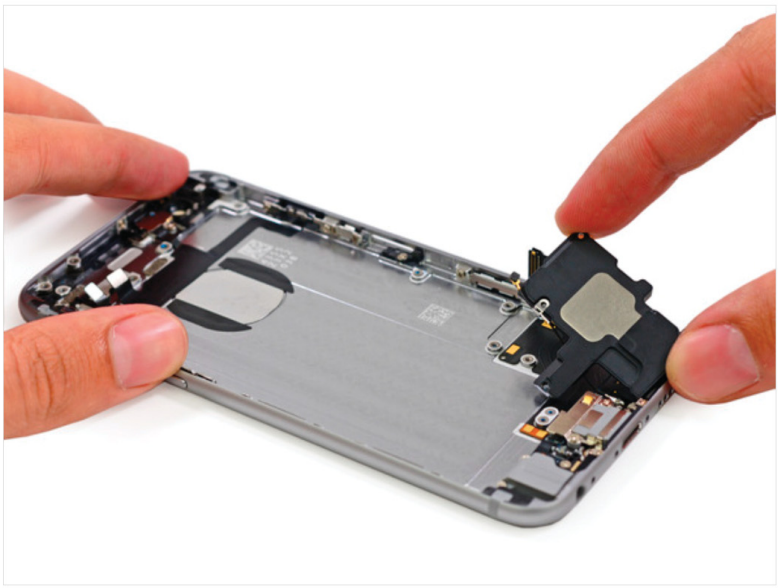




Step 19

Edit

- Removing the vibrator assembly. It's new and... improved?
- Vibrator mechanisms seem to be one of those choices like Coke or Pepsi where there is never a clear answer. Apple keeps changing this part's design:
  - iPhone 4 (counterweight)
  - iPhone 4S (linear oscillating)
  - iPhone 5/5s (counterweight)
- Based on appearances, we're guessing that Apple went with a linear oscillating design in this rendition of the iPhone.







Step 20

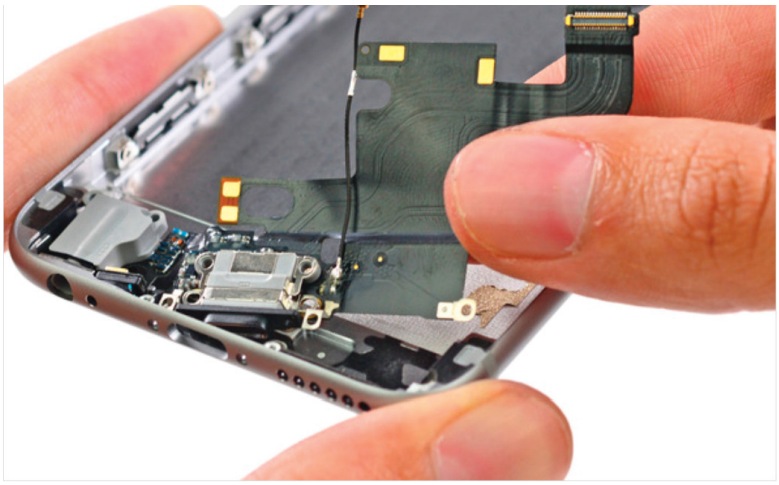
Edit 1

- This year's model is sporting a new design for the speaker assembly.
- Since markings are scarce, we expect that this is just a minor update from the iPhone 5s speaker.









Step 21

Edit 1

- We now pronounce you headphone jack and Lightning connector. Two have now become one assembly, residing on a single cable.
- This new unity means that you can't replace one without the other—which is bad news if you have malfunctioning ports.







Step 22

Edit

- Tweezers simplify our lives. They allow us to peel up the delicate cable assemblies, such as those associated with power button and volume buttons, with ease.
- Just like that, the button assemblies are out of their iPhone shell.

These assemblies look very similar to the ones we found in the iPhone 6 Plus.







Step 23

Edit 7

- That's all folks. The iPhone 6 earned a respectable seven out of ten. Here's why:
- Continuing the trend from the iPhone 5 series, the display assembly comes out of the phone first, simplifying screen repairs.
- The battery is straightforward to access. Removing it requires a proprietary pentalobe screwdriver and knowledge of the adhesive removal technique, but is not difficult.
- The fingerprint sensor cable has been re-routed, fixing a significant repairability issue with the iPhone 5s and making the phone much safer to open. (On the 5s, the cable is easily torn if a user is not careful while opening the phone.)
- The iPhone 6 still uses proprietary Pentalobe screws on the exterior, requiring a specialty screwdriver to remove.
- Apple does not share repair information for the iPhone 6 with independent repair shops or consumers.

Required Tools

Spudger
$2.95 · 50+ In stock

54 Bit Driver Kit

Popular Products

Unibody Laptop Dual Drive
$39.95 · 50+ In stock



iPhone 4S Display Assembly

$24.95 · 50+ In stock



Precision Tweezers Set
$9.95 · 50+ In stock



iSclack
$24.95 · 50+ In stock



$34.95 · 50+ In stock



iPhone 4S Blank Rear Glass Panel
$14.95 · 50+ In stock



iPhone 3GS Replacement Battery
$14.95 · 50+ In stock



54 Bit Driver Kit
$24.95 · 50+ In stock



Comments

Comments are on | turn off

Guide
Add comment

Did you take square on high res internal images like you did for the iPhone 5? I love having them as my wallpaper backgrounds. Thanks!

Jamie, 22 hours ago

who makes the screen and the driver chip?

adam, 19 hours ago

Step 6
Add comment

What exactly is the boomerang supposed to do, or is that a joke?

Zack Kilgore, 20 hours ago

> Dude! Nothing's a joke. As apple uses special screwdrivers for their special screws, they use boomerang to completely detach the front panel assembly from the main unit. I tell you that was very difficult to figure out. But ifixit did it! _/_
>
> Tarang Goyal, 19 hours ago

Step 12
Add comment

How does the 28-gram weight compare with previous versions ? And to the iP6 Plus density ?
64.6 mA per gram is better than competing battery solutions from LG and Samsung ?

Joao Fabio Tavares, 23 hours ago

Probably the 6.91 Wh is the design capacity and the 7.01 Wh is a measured value

cabo, 18 hours ago

Step 13
Add comment

Hope you breakout the calipers and measure the thickness of the rear camera between the 6 & 6 Plus.

Rette, yesterday

> +1 for this -----
>
> 3gfisch, yesterday

> That's also the first thing I was thinking about. How cool would it be if you can drop a 6+ camera module in a 6?
>
> Johnny, 19 hours ago

So would it actually be possible the swap the camera out for the 6 Plus camera?!? Looks about the same size.

arockstar, 19 hours ago

Step 14
Add comment

I'm curious about the antenna design, how did they fit wifi/bluetooth, GPS, diversity and NFC into the top area?

Tom Chai, yesterday

Step 17
Add comment

There is the Barometer below the SanDisk NAND Flash. Looks like a BMP from Bosch Sensortec

Joe Ortaniak, 18 hours ago

Step 20
Add comment

They are using a multi-driver speaker, trying to improve the sounds maybe.

Tom Chai, yesterday

Step 21
Add comment

They were together since the iPhone 5, so what is the point?

Tom Chai, yesterday

Step 23
Add comment

wait where is the NFC coils?

dennis97519, yesterday

> NFC doesn't need "coils" unless it's a low power device. The iPhone is not low power.

scottwilkins, yesterday

re: 4355 Z3X2 - design team name for case.
4355 - weight is 4.55 oz
Z3X2 - is a little more interesting, Z3X is an unlocking tool for SAMSUNG phones, and this is the first phone with no SAMSUNG chips in it i.e. Apple is unlocked from Sammy!

Jay, yesterday

Are the plastics bands removable? Do antennas run under them to the outside?

John, yesterday

> The antennas are actually metal side bands, the plastic bands are there just to separate the antennas and the main case.
>
> Tom Chai, 20 hours ago

Where is the barometer?

r0534322, 21 hours ago

I think you should also give credit to the unsung hero.....the screw manufacturer! SFS Group in Switzerland derive more than 10% of their total revenue from Apple and provided around 80 parts in each iPhone 5/5S! Were there more or less screws in the 6?

Adrian M, 7 hours ago

View Statistics: Today: **10,074** This Week: **93,220** This Month: **93,220** All Time: **93,220**

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