



# Kindle Fire HD 2013 Teardown

Kindle Fire HD 2013 Teardown, October 2, 2013.

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## INTRODUCTION

**Looking for the new (considerably less repairable) Kindle Fire HDX 7" teardown? [Look no further, we have it right here.](#)**

Here at iFixit, there are two things we just can't resist: gutting gadgets and [fire](#) (sometimes even [gutting gadgets with fire](#)). Lucky for us, today we get both!

This year's Kindle Fire HD has arrived and we're smoking with anticipation to get inside. E-read along as we see what Amazon has in store with this latest iteration of its e-reader gone tablet.

Ready to spark the repair fire in your life? Follow us on [Twitter](#), friend us on [Facebook](#), or get your [Instagram](#) on.

## TOOLS:

- [iFixit Opening Tools](#) (1)
- [iFixit Opening Picks set of 6](#) (1)
- [T5 Torx Screwdriver](#) (1)
- [Spudger](#) (1)

## Step 1 — Kindle Fire HD 2013 Teardown

# Kindle Fire HD 2013



# TEARDOWN



- Here it is, the Kindle Fire HD 2013—and it's bringin' the heat:
  - 7" HD display; 1280 x 800 at 216 ppi with IPS technology, polarizing filter, and anti-glare finish
  - 1.5 GHz dual-core processor with Imagination PowerVR 3D graphics core
  - Dual-band Wi-Fi antenna
  - Dolby Audio with dual stereo speakers
  - 8 or 16 GB internal storage

## Step 2



- What is this? A certified frustration-free opening procedure? [Nice.](#)  
*ⓘ* Hopefully that applies to the device along with the packaging...
- And we're in...the box. Here's the first glamour shot of our new prize.  
*ⓘ* This would be considered the "before" shot; we like to show off the total transformation our gadget surgery provides.

## Step 3



- A quick glance at the rear case reveals Amazon's smiling face logo and newly prominent power and volume buttons.
- A quick close-up reveals the model number: P48WVB4.
- Other findings include speaker grilles, power requirements, FCC info, and the standard "[Made in China](#)".

*(i)* At a guess, the hand-level speaker slats will turn your cupped palms into parabolic amplifiers. That is, as long as you don't put your fingers directly on top of them...

## Step 4



- Ports! We've got ports! Get 'em while they're hot.
- Headphone jack up top, Micro-USB on the bottom. Like the flounder, Amazon seems to be [shifting its vitals around](#).
- Contrasting [last year's Fire HD](#), which had ports on the side and bottom, this year's port layout was assuredly driven by some internal component shifts. We look forward to finding out what they are!

## Step 5



- Despite the fiery name, we're happy to find we don't need heat to open this Kindle. So far, a [plastic opening tool](#) and an [opening pick](#) are all we need.
- Heatless opening procedures make us all warm and fuzzy inside—it means that when your device loses its [spark](#), you can keep your cool with easy repairs.
- We made it! What do we have here?
  - Big battery: check.
  - Motherboard: check.
- It looks like every tablet we've opened; let's see if we can find something a bit more interesting...

## Step 6



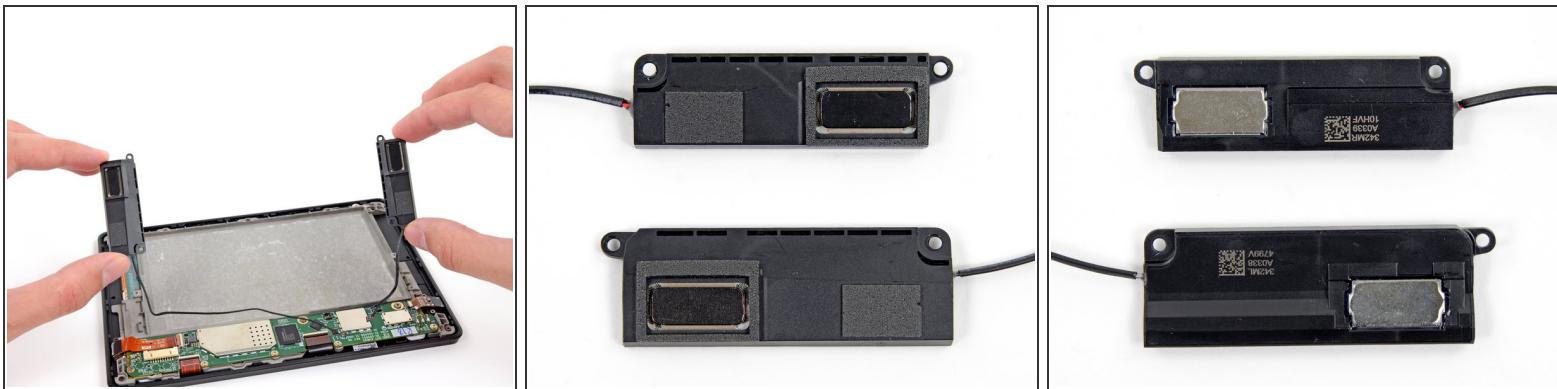
- The volume buttons come out easily enough, once we liberate the volume bracket from the rear case.
- The button assembly is hefty, which means we won't lose it and can replace it, even with our [big meaty claws](#).

## Step 7



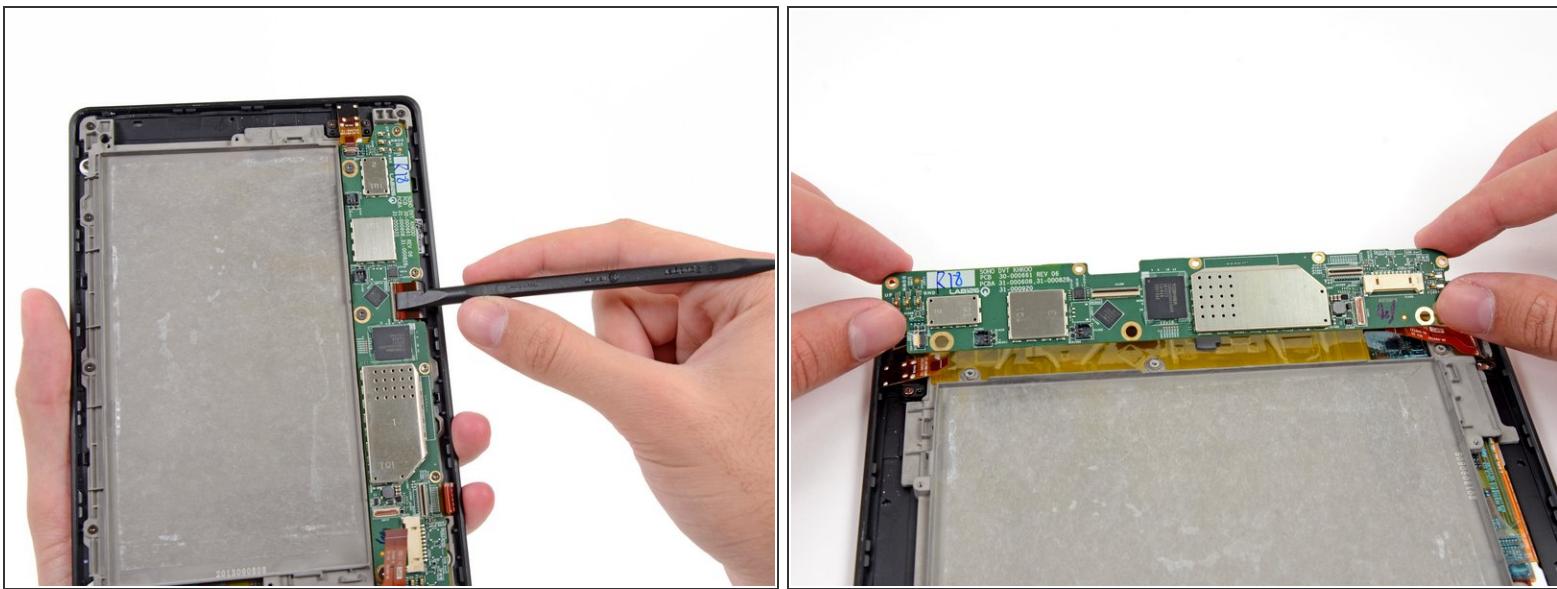
- A reasonable amount of adhesive holds the battery in place; we make short work of it with some fancy [spudgering](#).
- **(i) Verdict:** The battery is more replaceable than [some of the tablets](#) we encounter, but [slim design still rules](#).
- The 3.7 V, 4440 mAh battery boasts 10 hours of power during mixed usage—a decrease from the [2012 HD edition](#). Amazon calls it an *increase* in battery life compared to the "previous generation Kindle Fire."
- **(i) Let us break it down for you:** This HD is really the new Kindle Fire and the Kindle Fire HDX will be the new Kindle Fire HD. Confused yet?

## Step 8



- We pop out the dual speakers to see just what this Dolby Digital Plus speaker system is all about.
- Not only does your tablet have virtual surround sound, but it has clarity-optimized sound, with or without headphones. So you can be creeped out by [this barber shop experience](#) even without your [beets by Dr. Dre](#).

## Step 9



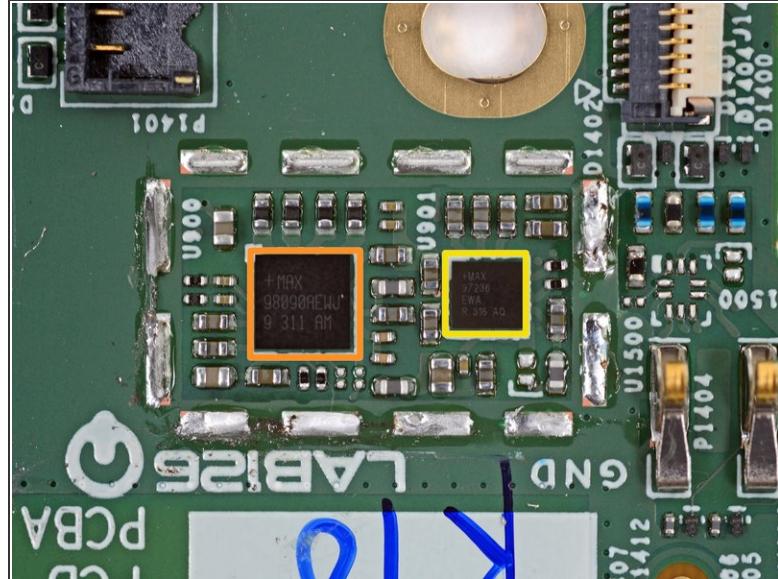
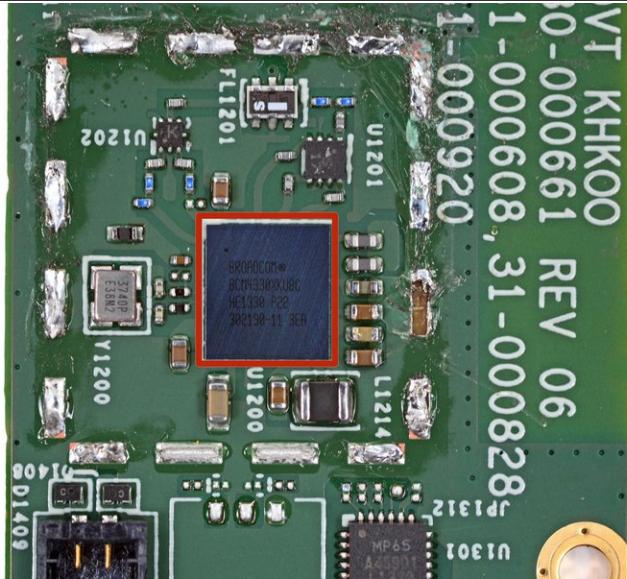
- Some dainty spudgering and a few twists of our screwdriver, and the motherboard is [free as the wind](#)...
- ...but not free enough. We still need to get under those pesky EMI shields and reveal the secrets nestled in this Kindle's [brain](#).

## Step 10



- The front side of the Kindle Fire HD's motherboard is occupied by the following ICs:
  - Toshiba THGBMAG6A2JBAIR 64 Gb (8 GB) e-MMC NAND Flash
  - Micron [3HAI8 D9QQD](#) 8 Gb (1 GB) Mobile LPDDR2 SDRAM
- **(i)** We believe that the [1.5 Ghz Dual Core TI OMAP4 \(4470\)](#) HS processor is nested underneath the Micron SDRAM IC.
- Synaptics S7301B Touchscreen Controller
- Texas Instruments [TWL6032](#) Fully Integrated Power Management with Power Path and Battery Charger
- InvenSense [MPU-6500](#) 6-axis gyroscope
- 347 CB307

## Step 11



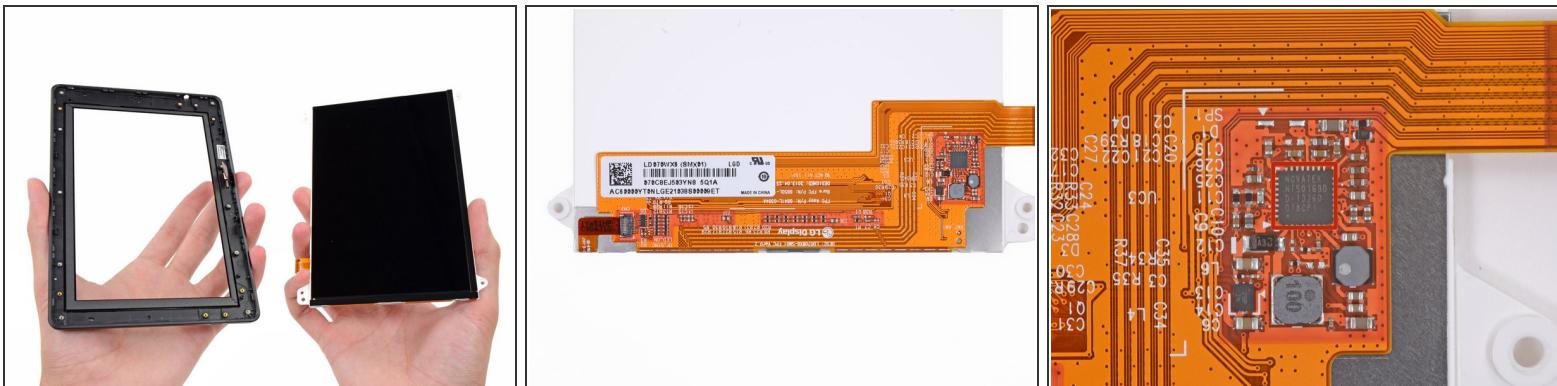
- A couple of close-ups for the tiny guys:
  - Broadcom [BCM4330](#) 802.11a/b/g/n MAC/Baseband/Radio with Integrated Bluetooth 4.0+HS & FM Transceiver
  - Maxim Integrated [MAX98090](#) Ultra-low Power Stereo Audio Codec
  - Maxim Integrated [MAX97236](#) Audio Amplifier

## Step 12



- We love [modularity](#). The separate and easily-removable headphone jack and Micro-USB connectors are exciting to find, especially compared to long [strings of components](#) that make repair pricier and more difficult.
- Out comes the midframe. While the material is unconfirmed, the possibility of magnesium kindles the [firebug in us](#).

## Step 13



- The display [once again](#) comes courtesy of LG. And just like last time, it's a mouthful: the [LD070WX6-SM01](#). *Gesundheit!*
- The front glass panel separates easily from the display, a return to the Kindle Fire construction.
  - Yet more evidence that, while the Kindle Fire HDs share the same name, the 2013 model descends from the Kindle Fire lineage. [Search your feelings, you know it to be true.](#)
- The LCD is piloted by a [Novatek](#) NT50169D LCD display driver.

**i** Novatek Microelectronics Corp. is a chip design company that makes display driver ICs.

**i** It should not be confused with Novatek, Russia's [largest independent natural gas producer](#).

## Step 14



- Kindle Fire HD 2013 Repairability Score: **8 out of 10** (10 is easiest to repair).
- Simple, modular design means the few components that might fail can be easily, inexpensively replaced.
- All the fasteners found inside are Torx T5 screws—one non-proprietary screwdriver is all you need.
- The LCD is not fused to the display and can be easily removed.
- The rear case is a little difficult to open, but it should be easy with directions.
- A decent amount of adhesive is used on the battery, meaning some prying and gentle working is required for disassembly.
- The glass panel is glued to the front plastic frame, so a heat gun will be required for replacing cracked glass (or you have to replace both components together).

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