



# Xbox One S Teardown

Teardown of the 2TB Xbox One S, released August 2nd 2016.

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## INTRODUCTION

Today a new Xbox lands in our inbox, and that's a rare thing—though not as rare as it used to be. What makes the new **Xbox One S** a worthy mid-cycle update to Microsoft's console? Let's tear down this surprisingly *slimmer*, possibly *speedier*, appreciably *sassier* Xbox One and find out. Game on!

This teardown season is just getting started—add us on [Facebook](#), [Instagram](#), or [Twitter](#) and never miss a beat.

[video: [https://www.youtube.com/watch?v=uF\\_jNJ1FSYc](https://www.youtube.com/watch?v=uF_jNJ1FSYc)]

## TOOLS:

- [iFixit Opening Tool](#) (1)
- [T8 Torx Screwdriver](#) (1)
- [T8 Torx Security Bit Screwdriver](#) (1)
- [T10 Torx Screwdriver](#) (1)
- [Tweezers](#) (1)
- [Flathead 3/32" or 2.5 mm Screwdriver](#) (1)

## Step 1 — Xbox One S Teardown



- You'd expect some differences from the [Day One Edition Xbox One we tore down way back in 2013](#), and you'd be right. Here's what we know:
  - Spec-bumped GPU supporting [HDR10](#) along with the same [AMD "Jaguar" 8-core SoC](#) found in the original Xbox One.
  - 2 TB of storage (500 GB and 1 TB configurations are coming)
  - HDMI 2.0a connectivity with support for 4K video at 60 Hz
  - Internal power supply
  - IR blaster
  - Fancy vertical stand (2 TB model only)
  - Redesigned Xbox Wireless Controller

## Step 2



- Etched into the starboard side of the Xbox One S, we find a cute reminder that this console [still](#) hails from the *other* tech capital of the West Coast: "Hello from Seattle," home of the Microsoft brigade.
- Moving right along, we discover the Xbox One S is now identified as Model 1681.
- In a design decision that takes us back to [consoles of old](#), this One features mechanical buttons in lieu of capacitive ones.
-  Gamers with a [toddler](#) or [wet-nosed pet](#) know the pain of the [ultra-sensitive power button](#) on the original Xbox One.

## Step 3



- Around back, under the many vent holes we find:
  - Power inlet
  - HDMI out (left) and in (right)
  - Two USB 3.0 ports (in addition to the one on the front)
  - IR output, [optical audio](#), and Ethernet ports
- What about my Kinect, you ask? You can apply for a ["free" Kinect USB adapter](#)—provided you already own a Kinect, an original Xbox One, *and* the Xbox One S.
  - Those who buy a Kinect to go with their Xbox One S will have to [purchase the \\$40 adapter separately](#).
- Our first act of teardown: tamper evident sticker removal. But no screws in sight, just the back of an immobile plastic clip. Bummer.

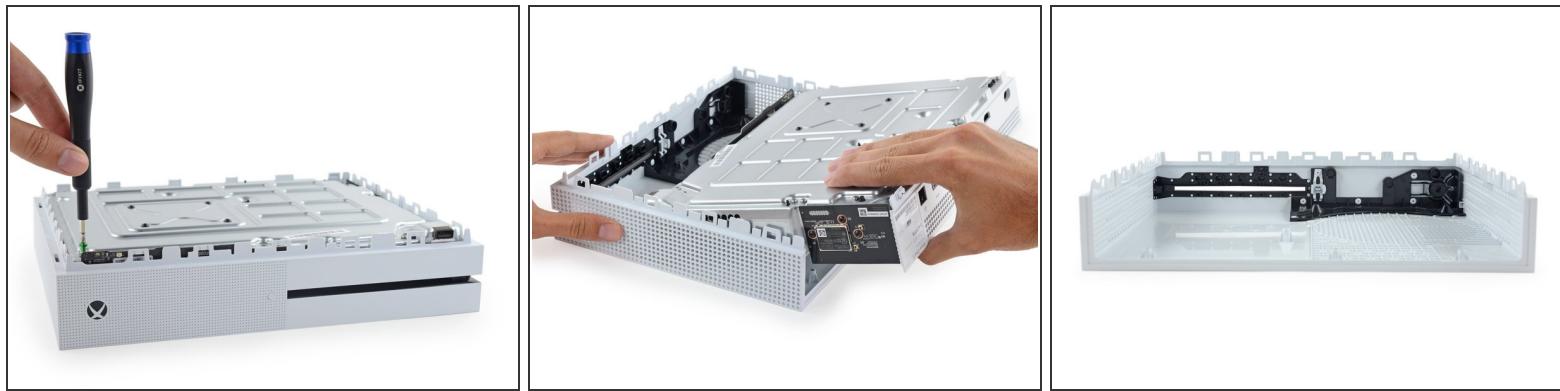
## Step 4



- ⓘ We take a moment to reminisce about our old [Xbox 360 Opening Tool](#), but decide our trusted [iFixit Opening Tool](#) would be of more use here.
- Make that opening *tools*—because popping that plastic "security" nub takes a little extra *oomph*.
  - Do we like security clips? Not in a box. Not with a fox. Not in a house. Not with a mouse. We do not like them here nor there; we do not like them anywhere.
- After some intense prying, we successfully remove the bottom cover, revealing a metal interior case.

⚠ These clips may be tough at first, but plastic is bound to bend or break, unlike a reusable screw. The next time you open your One S it may not clip back together...

## Step 5



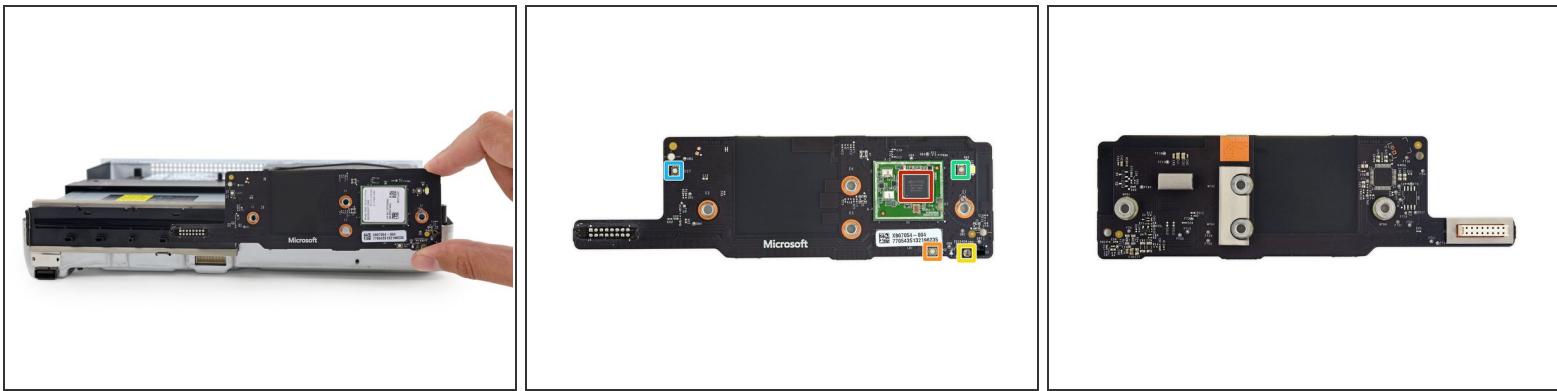
- Some nostalgic green screws labeled F (for first?) free the primary assembly from the upper case.  
⭐ Remember when Xbox was black and green and not a [Destiny bundle PS4](#)?
- This One, more streamlined than its predecessor, doesn't feature any [weird, afterthought components](#) left out in the cold.
- All that's left in the PC/ABS case are some button covers and [Sabic and Samsung](#) logos—probably the plastic suppliers.  
 ⓘ Okay, is it just the teardown giddiness, or does this case vaguely resemble a [Star Destroyer hangar](#)?

## Step 6



- Lifting one metal midbody panel reveals a beautiful sight: such nice, sleek components that we are momentarily inclined to keep the cover off forever.
- Somebody call the [Jackson 5](#), 'cause identifying these numbered *and* labeled components is easy as 01-02-03 (and 04).
- But wait—who's that we spy?
  - Master Chief has [arrived](#) on a new world, this time to protect the optical disc drive bracket. Hopefully [the Flood](#) keeps out of this drive for good.

## Step 7



- Much like the [RF board on the Xbox One](#), the front panel board of the Xbox One S detaches outward from the lower case.
- With the front panel board's EMI shield removed, we quickly spy a lone IC and some of its friends:
  - MediaTek MT7632TUN (Likely a variation of [MT7632](#) 2x2 802.11n + Bluetooth 4.0 Module)
  - Sync switch for wireless controllers
  - IR Blaster
  - Power Switch
  - Eject switch

## Step 8



- Next up on the teardown chopping block is the Wi-Fi board. After removing a few Torx screws, it comes quietly just like the front panel board before it.
- This is a nice incremental improvement over its location in the [previous Xbox One](#)—it makes for one less step to open the inner metal case.
- Wi-Fi is handled by a MediaTek MT7612UN (Likely a variation of [MT7612U](#) 2x2 802.11ac Wi-Fi Module)

## Step 9



- At this point, component removal is a bit of a hunt, so we extract some screws and see which component is freed first.
- Oddly enough, despite being labeled 04, the hard drive is the first component out.  
*(i)* The labels are likely numbered according to assembly, rather than the disassembly.
- We find a Samsung Seagate Spinpoint M9T [ST2000LM003](#) 2 TB 5400 RPM with 32 MB Cache SATA III 6.0 Gb/s hard drive. Try saying that ten times fast.
- Sadly, hard drive replacements [still](#) void the warranty, and need some [tricky formatting](#).
  - The One S packs a sweet [SATA III](#) drive, but it *may* still be using the SATA II interface of the original Xbox One. You can always add an external hard drive though, thanks Microsoft!

## Step 10



- The next *to go* is number *two*: the optical drive—*too easy!* Master Chief is of course [along](#) for the ride.
- Here we have the [artist formally known](#) as a BD-ROM drive, courtesy of Philips and Lite-On Digital Solutions. The DG-6M5S model found in the Xbox One S is slightly different from the [DG-6M1S](#) found in the Xbox One, with the biggest upgrade being support for [BD-UHD](#).
- We also snag a couple rubber bumpers. These probably help keep the high-speed optical drive from rattling us off our rockers.

## Step 11

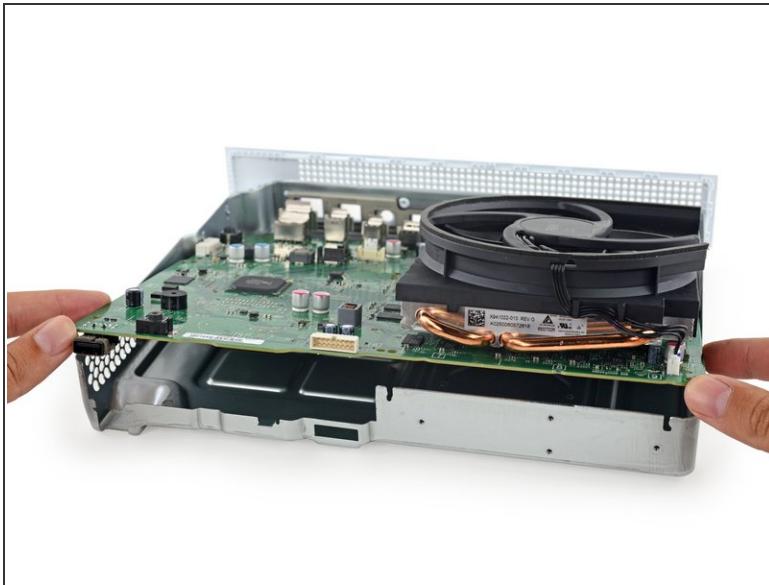


- Now we come to the One S's [hat trick](#) (a.k.a. #03)—a smaller, newly-fanless, neatly-integrated power supply. Gone is that dangling anchor of yore.
- [Welcome to the club](#), Xbox One.

**!** An external power supply is much easier to replace than an internal one. So lets hope Microsoft did their homework to mitigate that need!

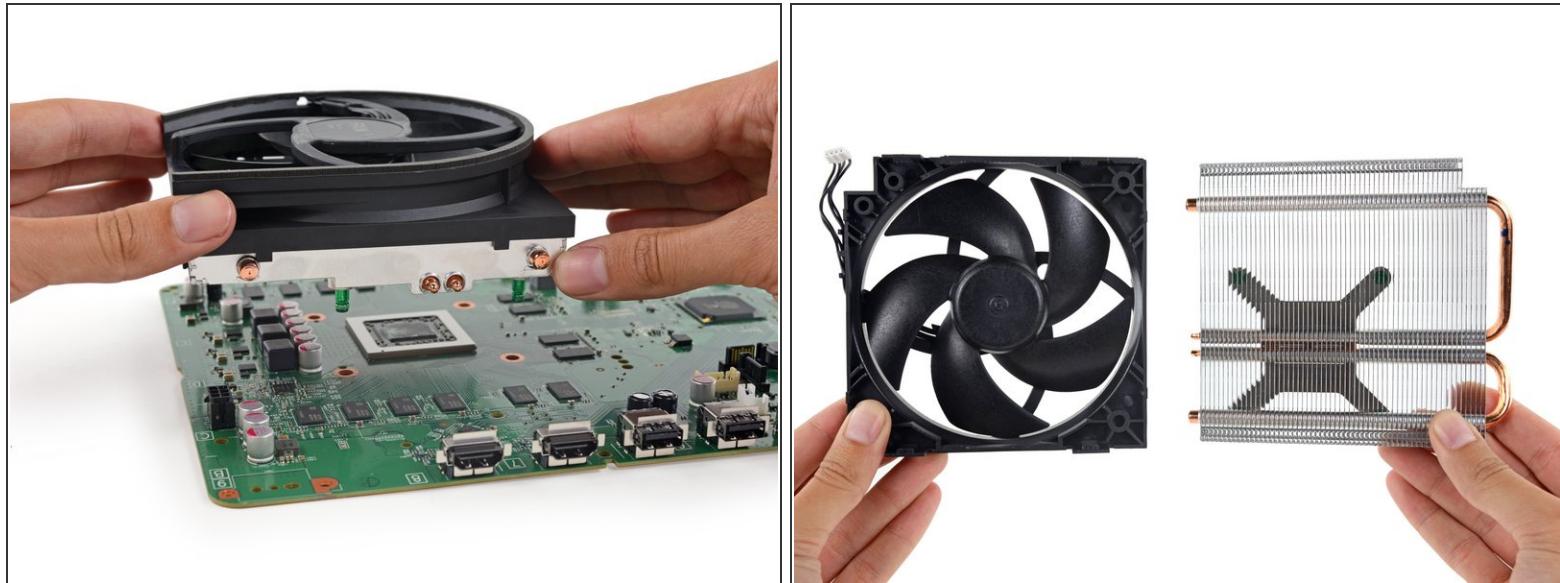
- This power supply also accepts 100-240 V inputs, meaning you can take it pretty much anywhere there's a socket. Take that, [Xbox One!](#)
-  The power supply connects with what PC gamers will instantly recognize as a perfectly ordinary, [6-pin PCIe connector](#).

## Step 12



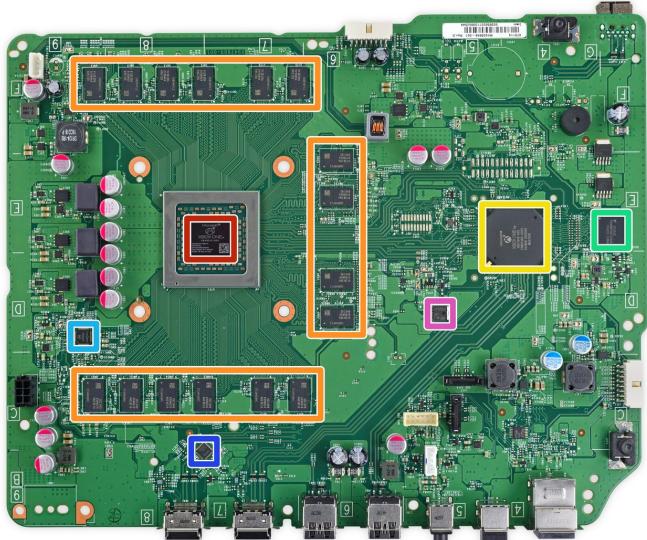
- Things are [heating up](#) in the teardown room, but we can't extract the "Thermal System" just yet. So we lift the whole dang motherboard assembly out of the metal casing.
- A springy, X-shaped bracket secures the heat sink to the motherboard—a signature part we've seen in every Xbox since the [original 360](#).
- The "X" is a bit fussy and takes some muscle, but some practiced prying with a flathead driver saves the day.

## Step 13



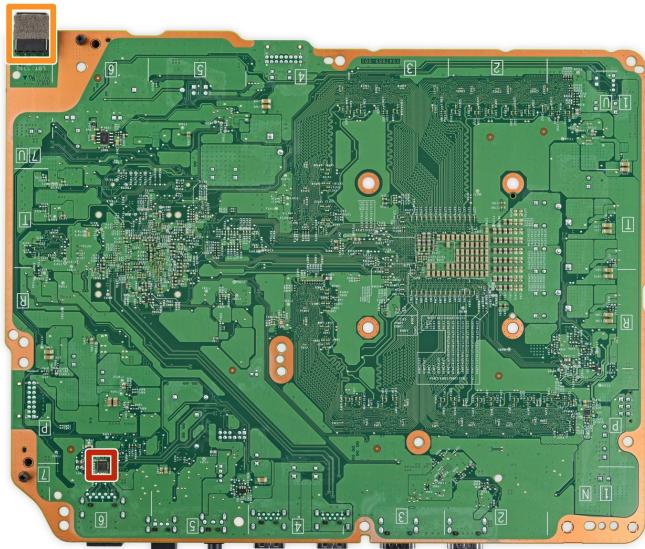
- With the component countdown nearly complete, it's time to extract part number 01: the thermal system.
- Out comes the system's single 120 mm fan—looking much like a PC case fan, but with some sculpting that's unique to the Xbox One's design.
  - (i)* The standard Xbox One had a similarly robust cooling setup, possibly designed to avoid a repeat of the Xbox 360's [billion dollar problem](#).
- The backup for the One S's biggest fan is an impressive aluminum heat sink and copper heat pipe set. *Cool.*

## Step 14



- Now on to our One true love, chips!
- **X949211-001 DG4001FYG871A**  
(Includes 1.75 GHz AMD "Jaguar" 8-core CPU + overclocked 914 MHz AMD Radeon Graphics GPU)
- 16 x Samsung SEC 549 [K4W4G1646E-BC1A](#) 4 Gb (512 MB) "gDDR3" SDRAM (total of 16 x 512 MB = 8 GB)
- **X861949-005 T6WD5XBG-0003**  
Southbridge
- **Toshiba [THGBMFG6C1LBA1L](#)** 8 GB eMMC NAND Flash
- **ON Semiconductor NCP4205 GASUY1614** (Likely an iteration of the NCP4204 GAC1328G Integrated Power Control IC found in the Xbox One)
- **Texas Instruments [SN75DP159](#)** 6 Gb/s DP++ to HDMI Retimer
- **STMicroelectronics GK009619**

## Step 15



- And on the back of the motherboard...is not much really.
- Realtek RTL8111HM (Likely an iteration of the [RTL8111](#) gigabit Ethernet Controller)
- Oh and that handy front-side USB port—which is on the opposite end *and* opposite side from its friends, poor guy.

## Step 16



- Now on to the controller!
- While we are disappointed by the lack of visible screws, we will celebrate a small concession: the batteries are still user-replaceable! (Looking at you, [DualShock 4](#)).
- Using our recent console expertise, we bust out the trusty opening tools and pop off some white paneling, finding some sneaky Torx *security* screws. Boo.
- Not only that, but a final Torx security screw is hiding under the battery compartment sticker. Double boo.

**i** But hey, still better than [Pentalobes](#).

## Step 17



- Popping off those plastic panels reveals what *looks* like a neat little assembly, complete with four haptic feedback motors.
- But once we start to extract the beast, we see the truth: Unless you're handy with a soldering iron, this is an all-or-nothing disassembly procedure.
  - We decided to pick option "all" and just lay everything out, still connected.
- Beauty is only skin-deep, and so too are this controller's physical changes. Inside, it's largely the same design as the original Xbox One controller—our [guides](#) should be relevant for both models.

## Step 18



- That's a wrap! Time to lay out the parts and calculate a repairability score.

## Step 19 — Final Thoughts

### REPAIRABILITY SCORE:



- Microsoft Xbox One S Repairability Score: **8 out of 10** (10 is easiest to repair):
  - Only a few tools are required to take the whole console apart.
  - Once inside, a clean, no-nonsense modular design allows the drives, fan, heat sink, PSU, wireless board, and front daughterboard to be easily replaced.
  - Fewer interlocking body panels and a simpler clip arrangement make opening this generation of Xbox easier than its senior.
- Replacing the hard drive will require both voiding your warranty and some difficult hackery to make it serviceable.