



Apple TV 4K Teardown

Teardown of the Apple TV 4K, performed on September 22, 2017.

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INTRODUCTION

Two long years have passed since our last encounter with an Apple TV. Today on our teardown table, we have a shiny new Apple TV 4K plucked straight from the technology orchards of Cupertino. So what are we to do with Apple's first 4K HDR streaming device? Binge-watch Stranger Things? We definitely thought about it... but nah, we're tearing this sucker apart!

Do you want to see what else we've been up to? Follow us on [Facebook](#), [Twitter](#), and [Instagram](#) to stay up-to-date on all things repair!

TOOLS:

- [Spudger](#) (1)
- [Tweezers](#) (1)
- [T7 Torx Screwdriver](#) (1)
- [T3 Torx Screwdriver](#) (1)
- [T5 Torx Screwdriver](#) (1)
- [T6 Torx Screwdriver](#) (1)

Step 1 — Apple TV 4K Teardown



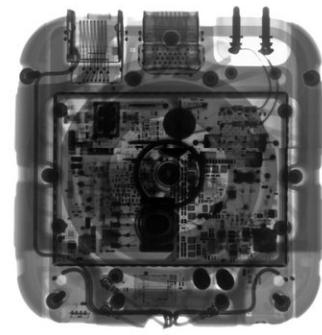
- We all know this little black obelisk is packing some serious 4K chops, but let's see what else is new in this revamped Apple TV:
 - 64-bit Apple A10X Fusion chip
 - Gigabit Ethernet, 802.11ac Wi-Fi, Bluetooth 5.0, IR receiver, and HDMI 2.0a
- ... and in the remote:
 - Glass touch surface
 - Dual microphones
 - Accelerometer and gyroscope
 - Bluetooth 4.0, IR transmitter, Lightning connector

Step 2



- We're excited to dig into a new TV offering from our favorite [UFO-dwelling](#) tech company in Cupertino—but first, let's compare Apples to *4K Apples*.
- The newest Apple TV doesn't [tower over its predecessor](#) this time around, but we did notice a couple of key differences in the design.
 - The bottom panel has been redesigned for what looks like some serious thermal venting.
 - Bye-bye, USB-C port.

Step 3



- Before we pop the box open, our partners at [Creative Electron](#) provided some fancy X-ray scans.
- X-ray vision reveals a new circular object which seems to coordinate closely with the new exhaust ports on the bottom panel.
- Is it a fan? A particle accelerator? A portion of the [Contact ring](#)?
- Alright, our interest is piqued. It's time to crack this black box open and see what this 4K upgrade is all about.

Step 4



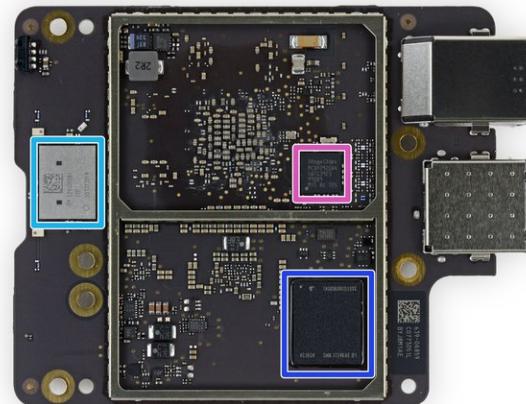
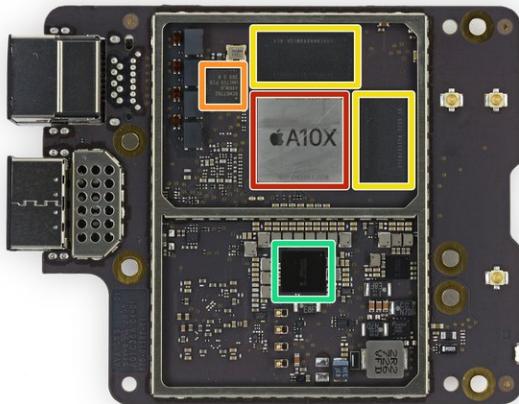
- We [take a familiar access route](#) through the underside of the Apple TV 4K.
- Just like with its [single-K sibling](#), the Apple TV 4K features repair-friendly plastic clips that secure its bottom panel.
- *(i)* These clips are a little more stubborn than what we've seen before—but still, they're not terribly difficult.
- No moat of glue or uncommon screws? This upgraded unit gets a [1 Up](#) as a reward.
- Peeling back the rear panel reveals a beefy fan secured by some Torx screws.

Step 5



- After pulling out the [T7 Torx screws](#), we meet Apple TV's biggest fan!
- It looks like Apple merged the new fan with the [heat sink/EMI shield](#) assembly from the Apple TV 4th Generation—combining them to form one whopper of a cooling solution.
-  This [Voltron](#) of a thermal assembly suggests that 4K HDR capability comes with a significant increase in thermal output.
- With the twist of a few more Torx screws, the assembly is *disassembled*—revealing a replaceable fan driven by a [Nidec brushless motor](#).
-  A replaceable fan is good news for owners. Otherwise, we're guessing that a failed fan would quickly mean a failed device.
- This new fan assembly is apparently secured by an [identity disk](#). TRON, is that you?

Step 6



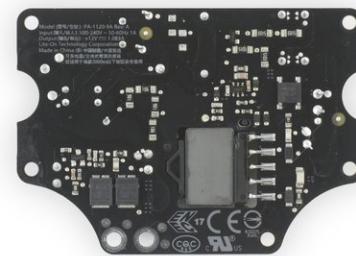
- We're pleased to see that Apple keeps with the tradition of easily removable logic boards for the Apple TV 4K.
 - Apple [343S00198](#) 64-bit A10X Fusion processor
 - Broadcom BCM57762 Gigabit Ethernet Controller
 - SK Hynix H9HCNNNBRUMLQR 2 GB LPDDR4 RAM **and** SK Hynix H9HCNNN8KUMLQR 1 GB LPDDR4 RAM for a total of 3 GB
 - Apple 343S00150 (similar part number to the 338S00055 custom memory controller found in the [Retina MacBook 2015](#))
 - Murata 339S00381 Wi-Fi/Bluetooth Module
 - Toshiba THGBX6G8D2LLDXG 32 GB flash memory
 - Megachips [MCDP2920A4](#) DisplayPort 1.4 to HDMI 2.0 converter

Step 7



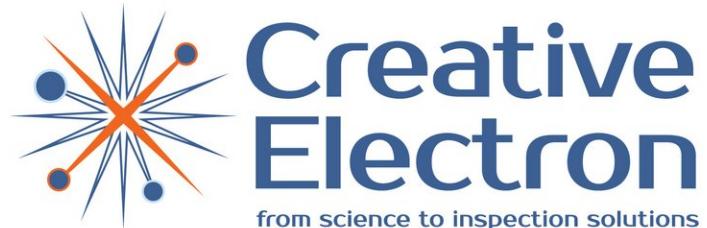
- We don't run into any surprises here; the heat sink remains much the same as its predecessor from 2015.
- We take a moment to [pluck](#) a familiar pair of presumed power posts from the body of the heat sink.
 - During our [Apple TV 4th Generation Teardown](#), we suspected that power was transmitted to the logic board via the heat sink screw posts. It looks like this is still the case with Apple TV 4K.
- With the heatsink and posts out of the way, the only thing left to do is remove the power supply board.

Step 8



- The new power supply is rated for 12 V at 1.083 A. This is a modest bump up from the 0.917 A power supply in the [Apple TV 4th Generation](#).
- Again taking a design lead from its older sibling, the Apple TV 4K eschews internal wiring between the power supply and logic board.
- *(i)* The use of conductive posts in lieu of wiring probably saves internal real estate, and it eliminates the possibility of pinched or bent wires during assembly.

Step 9



- There's all the bits! Now to reassemble this thing and binge-watch Stranger Things for real...
- And special thanks [Creative Electron](#) for sending us some sweet X-rays all the way from the other hemisphere!

Step 10 — Final Thoughts

REPAIRABILITY SCORE:



- Apple TV 4K Repairability: **8 out of 10** (10 is easiest to repair).
 - Plastic clips hold the case together for easy opening.
 - Modular components make for easy disassembly and repair.
 - The power supply is modular and features a removable AC-in jack.
 - Standard Torx screws hold everything together.
- All major components are soldered to the logic board, meaning fixing any port problems will require board-level soldering or a full board replacement.