



Nothing Ear (1) Teardown

Teardown of the first product from the Nothing company, the in-ear headphones called ear (1)—
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INTRODUCTION

The Nothing company now has *something* for the tech market: in-ear headphones dubbed the Ear (1). Although the partly see-through, enthusiast-minded design gives a glimpse of the headphones' inner workings, we're sure there are further treasures to be discovered with a good old teardown!

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TOOLS:

- [Essential Electronics Toolkit](#) (1)
 - [Vise](#) (1)
 - [Heat Gun](#) (1)
 - [Halberd Spudger](#) (1)
 - [ESD Safe Tweezers Blunt Nose](#) (1)
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Step 1 — Nothing Ear (1) Teardown



- The Ear (1) headphones offer much more than *Nothing*:
 - Active noise cancellation (ANC)
 - 5 hours of listening time with the earbuds alone, and 34 total hours (ANC off) if recharged with a full case, according to Nothing
 - Three high-definition mics and Clear Voice Technology
 - IPX4 splash and sweat resistance
 - Customizable equalizers, gestures, and Find My Earbud function with the ear (1) app
 - Bluetooth 5.2
 - A single earbud weighs 4.7 g; the case with both buds inside weighs 66.8 g.

Step 2



- The Nothing Ear (1) come in a partly see-through charging case, calling to mind some [iMacs of yore](#).
- ⓘ Unlike [AirPods](#), the ear (1) buds lie flat in their charging case. Magnets and ridges within the case keep the contents from shaking loose.
- We're already peering inside for a battery, and wondering if the invisible adhesive in those see-through parts will become a nuisance in this teardown.

Step 3



- Before heading into these crystal sound caves, let's do a quick comparison to the [AirPods Pro](#):
 - With a height of 28.9 mm, the Ear (1) are slightly smaller than the 30.9 mm AirPods Pro, and 0.8 g lighter.
 - Although the stem of the ear (1) is rectangular with rounded corners, the head looks very similar to the AirPods Pro head, but without any mesh grills for pressure equalization.
 - Charging is handled a bit differently between these two, with a pair of circular contacts on the Ear (1) placed at the inner side of each stem, whereas each AirPods Pro charges via a stylish metal ring at the bottom.
 - We're unable to find any model number on the Ear (1)—not even an L or R to identify which bud goes where in the charging case (or your ears). Instead, the "left" and "right" indicators consist of red and white dots on the earbud stems, which match up to similar markings within the charging case.

Step 4



- Before finding a way inside these plugs, we remove the silicone eartips.
- The eartips sled over an oval groove outside the earbud head, providing a relatively large sound opening.
- Since these are sled-over tips, they should be replaceable with any aftermarket tips you prefer. That's worth something (for Nothing).
- Since the vise and heating procedure was a good choice in [previous earbud teardowns](#), we decide to put a little bit of pressure on the Ear (1) to get inside the opaque head.
- Success! With the help of a [halberd spudger](#), we can peek into previously hidden components.

Step 5



- Inside, the first thing to catch our eye is adhesive. Guess that's why Nothing made the Ear (1) only *partly* transparent—adhesive is not very pleasing, and they know it!
- The second point of interest is a button cell battery, similar to what we found in the [AirPods Pro](#) and the [Galaxy Buds Pro](#).
 - As long as this is not a custom cell, this might be a good sign for replaceability.
- In order to continue, we need to disconnect the in-ear portion from the stem. And it looks like we're lucky with adhesive for once ...
 - This red glob glues a tiny press-fit connector to its socket and prevents it from accidentally disconnecting during a fall.
 - With delicacy, and without any heating or tearing, we manage to maneuver our tweezers around the adhesive and disconnect the flex cable. *Huzzah!*

Step 6



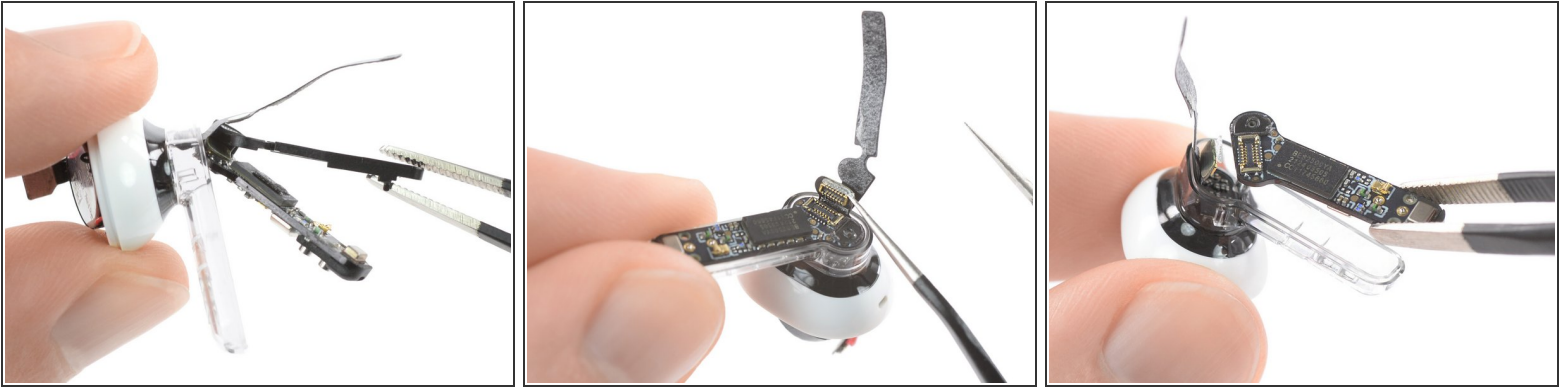
- The in-ear portion of the Ear (1) houses the driver assembly, while the battery stays in the outer half of the head.
- Besides the driver, we find a microphone on this flex cable assembly similar to the one we found in the [AirPods Pro](#). It's positioned to detect in-ear noises for more effective active noise cancellation (and probably helps isolate your voice for clearer calls, too).
- The driver used in the Ear (1) measures 11.6 mm and the voice coil has a diameter of 5.7 mm.
- ❗ A headphone driver actually consists of three elements: a magnet to create a magnetic field, the voice coil which moves the diaphragm to create the sound you hear when an electric current passes through, and the diaphragm which vibrates to create the sound waves traveling into your ear.
- The last component of the in-ear portion is the tiny driver grille, quickly pushed aside with the help of a spudger.

Step 7



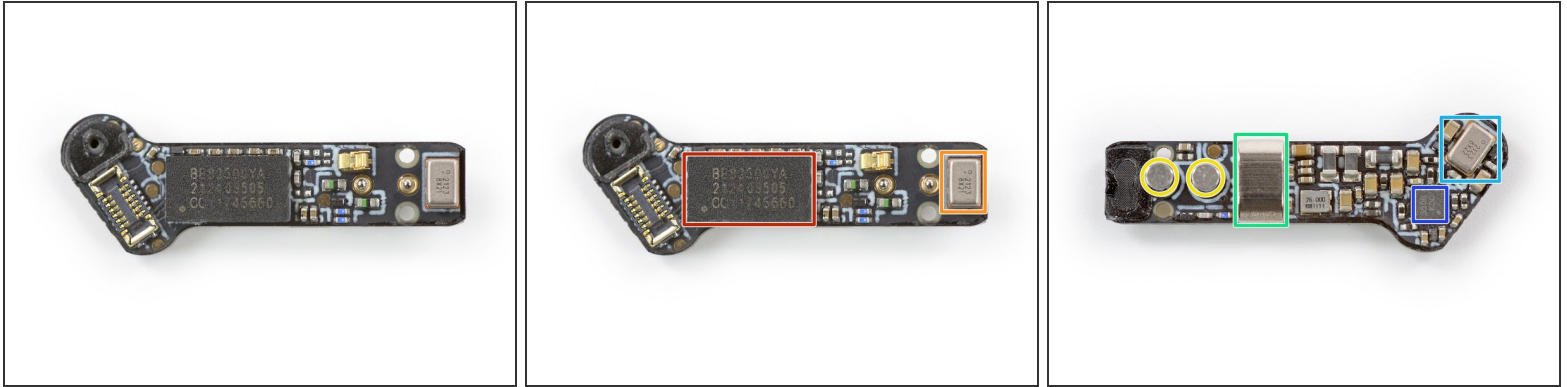
- With one half of the Ear (1) fully disassembled, we're keen to finally check out the button cell ...
- ... and we're stopped by two cables clenching the cell tight in their soldered embrace.
- ❗ A soldered battery makes a repair way more complex than we'd like. At this point a battery replacement might be possible, but requires delicate soldering work.
- We leave the battery alone for a moment and remove its plastic brace instead. Embedded within we find the main magnet, which holds the headphone in its charging position inside the case.
- With nothing left in the opaque white head portion, we'll proceed into the fancy-looking see-through part with the board in it.
- Expecting the worst, we're surprised to lever open the stem rather quickly. A little bit of heat and prying with an [opening tool](#) grants access to the remaining components.

Step 8



- Inside the stem we find a sandwich build consisting of the flex cable for gesture control, a protective cover for the board, and the board itself.
- Another glob of glue holds the press-fit connector for the battery cable assembly to the board. Here we go again!
 - Some gentle tweezing disconnects the flex cable as before. We wonder if we're just lucky with our specimen of the Ear (1), or if Nothing managed to use *just* the right mix of adhesive to keep the connectors in place without hindering disassembly too much.
- Finally, we hold the completely modular Ear (1) main unit in our hands ...

Step 9



- All aboard! Front-side we have:
 - Bestechnic BES2500YA Bluetooth Audio SoC
 - A microphone for your voice during calls, which sits next to the [opening at the bottom](#) of the headphone stem
- And on the back:
 - The two charging contacts
 - Another magnet to keep the ear plugs in place when charging
 - Another microphone for environmental noise cancellation
 - ThinkPlus Semiconductor [SY5500](#) Battery Charger

Step 10



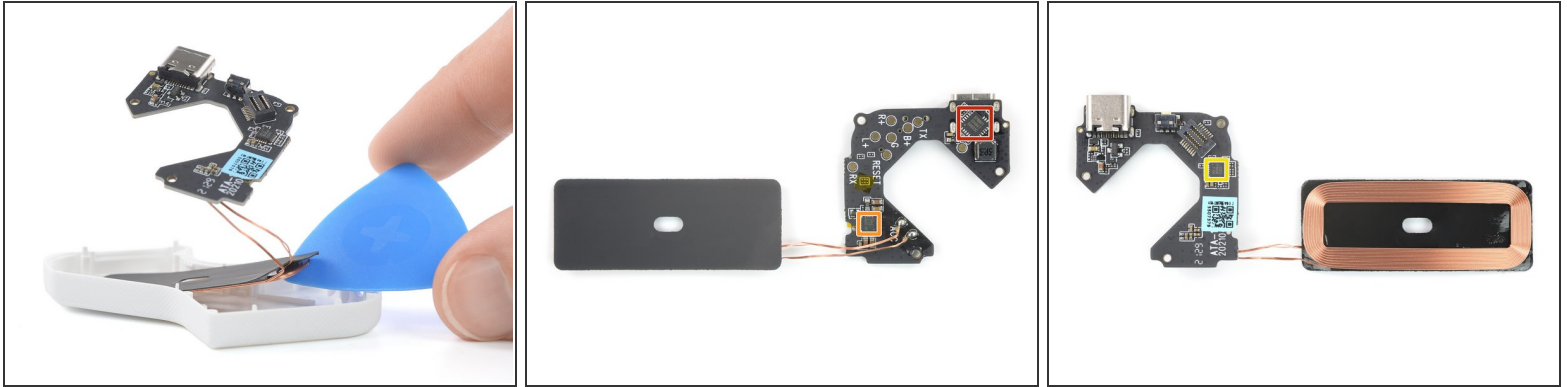
- With the board removed, we're able to extract the full battery cable assembly—with plenty of odds and ends attached to it:
 - The gesture control cable
 - Two connectors, one for the board and one for the driver assembly
 - An antenna cable
 - Goodix [GH611](#) in-ear detection chip/touch controller
 - The soldered battery which is running at 3.7 V with 31 mAh. This sums up to ~0.11 Wh. For those interested, the button cell has a ~10 mm diameter and a height of ~4.4 mm.
- ① In comparison we have the [Galaxy Buds Live](#) (0.2 Wh) and the [Galaxy Buds+](#) (~0.31 Wh) button cell next to it. With the [AirPods Pro](#) battery at 0.16 Wh, the Nothing Ear(1) has the smallest battery of the lot.

Step 11



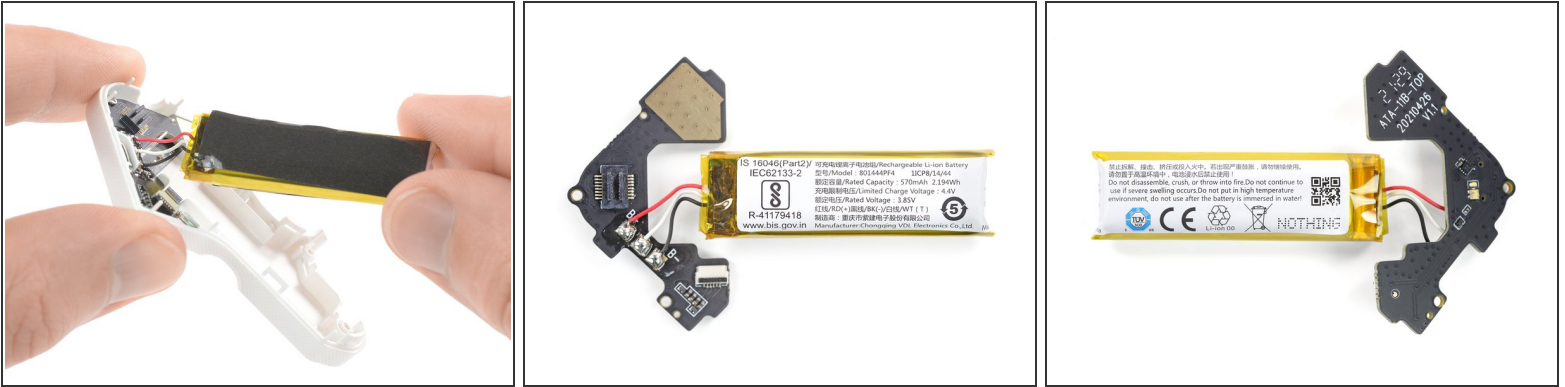
- So far, disassembling these earbuds is fairly non-destructive compared with [certain competitors](#) (albeit still not exactly repair-friendly). Let's see if that pattern holds as we dive into the charging case internals.
- Fortunately, the clear adhesive used in the headphone stems isn't any more troublesome in the charging case. Some heat and a good slice from an opening pick grants us entry.
- Separating the two white halves of the battery housing is a bit more of a challenge—they're connected via clips and plastic nibs, which are not only glued but seem to break easily as well. With careful heating and prying this is manageable, but definitely not ideal.
- Overcoming this hurdle reveals the single-cell battery inside the charging case, and a stacked circuit board.
- Did we say *stacked*? Oh yes, in each half of the housing we find a board held in place by standard Phillips screws. They're tethered together via a seemingly sturdy bridge connector.

Step 12



- The glued-in charging coil separates easily from the housing, but remains soldered to the bottom board of the charging case.
- The bottom board holds onto the soldered USB-C charging port, the pairing button, and some more chips:
 - ThinkPlus Semiconductor [SY8801](#) smart charge power and communication chip
 - NuVolta [NU1680](#) Wireless Power Receiver
 - Zbit Semiconductor, Inc. [CX32L003F8](#) 32-Bit ARM Cortex-M0+ Microcontroller w/ 64 KB Flash
- We have to say, there definitely seems to be room for more modularity in these products—at least within the charging case. Dear Nothing, since you're already showing off those tech-tastic internals, why not make it repair-friendly as well?

Step 13



- While we're happy to note that the adhesive inside the charging case battery is not too stubborn, and there's no heat required to remove it ...
- ... all the same, we're wary of all these repair-complicating soldered connections. Keeping internal connections secure is a concern in any wearable for sure, but we've seen competitors accomplish the same with a lot more modularity.
- The rated voltage of the case battery is 3.85 V at 570 mAh and 2.194 Wh. That's about 0.1 Wh more than the dual-cell battery in the [AirPod Pro charging case](#), and a lot more than the 1.03 Wh [Galaxy Bud case](#) has to offer.

Step 14



- Nothing of the nothing (what a name!) broke during our disassembly of these transparent fellas, and no harsh methods were needed to reach any components.
- That said, this wasn't exactly a piece of cake compared with some other earbuds we've encountered—and once inside, you'll find some critical components that *could* have been easily replaceable if they weren't soldered together.
- There are a few repairs within reach of a determined DIYer, like a motherboard or battery replacement within the charging case. But you're unlikely to reseal those see-through bits very tidily—and in the case of the stems, re-gluing them might actually clog up the works.
- Repair-wise, we can't help feeling that Nothing kind of shoots itself in the foot with their main design feature.

Step 15 — Final Thoughts

REPAIRABILITY SCORE:



- The Nothing Ear (1) earn a **1 out of 10** on our repairability scale (10 is the easiest to repair):
 - The motherboard is modular, if difficult to get to.
 - The see-through construction, while visually awesome, seems all but certain to get mucked up when gluing it back together.
- The few repairs that seem technically feasible are hobbled by soldered connections.