



Technical Description Of AirPods

Javokhir Radjabov

City College of New York

ENGL 21007

Elizabeth Von Uhl

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Table Of Contents

- Cover	[page 1]
- Table Of Contents	[page 2]
- Introduction	[page 3]
- Overview	[page 4]
- Components	
- Airpods:	
- Amplitude: Front Mic, Speaker, Rear Mic, End Mic	[page 4]
- Accelerator	[page 5]
- Processor	[page 5]
- Communication Interface	[page 5]
- Battery Device	[page 5-6]
- Technical Description	[page 6-7]
- Conclusion	[page 8]
- References	[page 9]

Technical Description Of Airpods

The Airpods, 1st generation, came out on December 16, 2016. Apple heads went and patiently waited to get their new Apple gadget. The Airpods brought new meaning when they were introduced to the public. They stood for power and wealth. Many people were just flexing (showing off) at that point. However, that is not what the Airpods only stood for. They were a way of disconnecting from the real world, in my opinion. They upgraded from the earpod to the AirPods. Since the earpods (the wired version) always tangled up whenever you placed them in your pocket, the Airpods solved this by being very short and easily accessible. It also captured many people's hearts with its slick design. The Airpods, 1st generation, are single fit size, satisfying its customers with its household name brand which everyone was wearing, like Jake Gyllenhaal, Mark Wahlberg, and Kylie Jenner.



(Punch M, 2018)



(Ordonez E, 2019)



(Jenner K, 2020)

Overview

- AirPods (each): 0.65 by 0.71 by 1.59 inches (16.5 by 18.0 by 40.5 mm)
- Charging Case: 1.74 by 0.84 by 2.11 inches (44.3 by 21.3 by 53.5 mm)
- AirPods (each): 0.14 ounce (4 g)
- Charging Case: 1.34 ounces (38 g)

Components

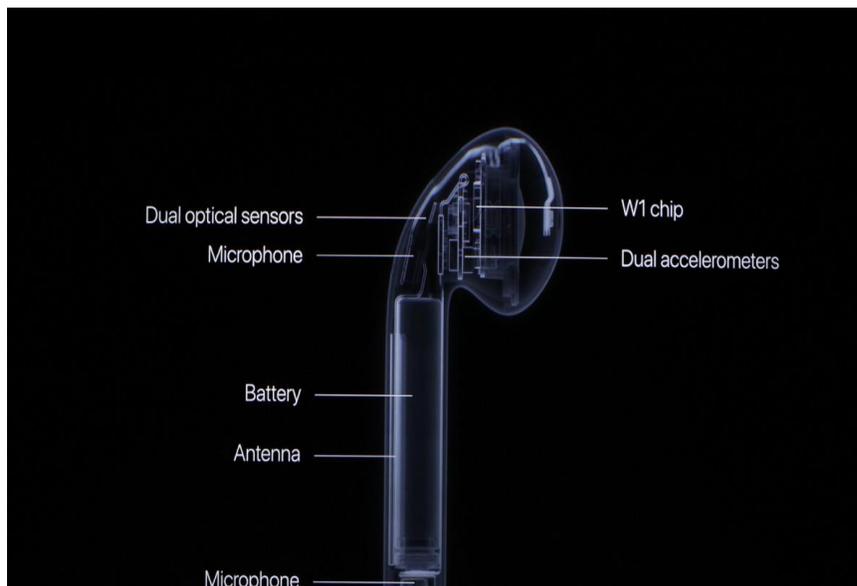


Image: Lam, S(2019) - The image provides a great outline of the parts in the bud and the connection between them.

- **Airpods: Earbud**

- **Amplification**

- There are several parts in the amplification department: front mic, speaker, rear mic, and end mic. The front mic allows phone calls and interactions with Siri, the speaker produces rich, high-quality audio and voice, and the rear mic filters out background noise so

the audio is high-fidelity (Hi-Fi) meaning the high-quality audio.

And finally, the end mic, allows the user's voice to be heard by the device.

- **Accelerator**

- allows them to recognize tap commands

- **Processor**

- Inside each pair of AirPods, some processors allow them to connect and control the Bluetooth connection, switching between devices, connection time on voice calls, and of course delivering audio to the speakers. In the original AirPods, the processors used were Apple's W1 chips.

- **Communication Interface**

- The W1 chip automatically routes the audio and engages the microphone. And when you're on a call or talking to Siri, an additional accelerometer works with beamforming microphones to filter out background noise and focus on the sound of your voice.

- **Battery Device**

- ultralow-power W1 chip manages battery life so well, that AirPods deliver an incredible 5 hours of listening time on one charge. And they're made to keep up with you, thanks to a charging case that holds multiple additional charges for more than 24 hours of listening time. Need a quick charge? Just 15 minutes in the case gives you 3 hours of listening time

- AirPods with Charging Case: More than 24 hours of listening time, up to 11 hours of talk time
- AirPods (single charge): Up to 5 hours of listening time, up to 2 hours of talk time
- 15 minutes in the case equals 3 hours of listening time or over an hour of talk time

Technical Description

First thing you want to do when you purchase one of these bad boys is open the contents and test the product as soon as possible. You would open the AirPods and place them near your phone.

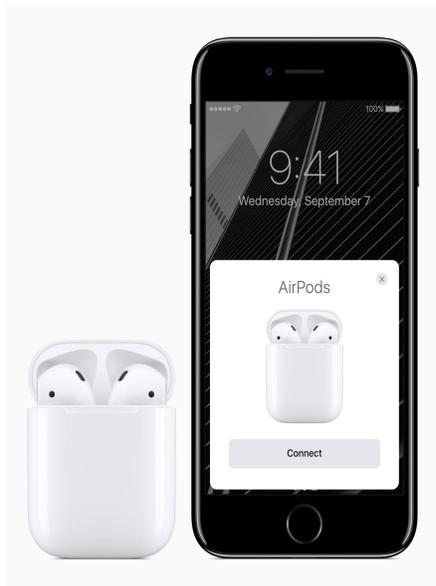


Image: Apple (2016) - As you can see, there is no hassle to untangle your wired earbuds that used to tangle up when placed away. The AirPods are also compatible with Android, which is a competitive industry.

After connection, when the buds are placed in your ear, you would hear a very delightful one-note tone informing you that the connection is successful. This is caused by the processors which control the connection between the device and the buds through Bluetooth.

Upon wearing them, you would either talk to someone on the phone, listen to music, or watch whatever you like. However, in instances such as listening to music or a podcast when your phone is away from your touch, you would use the double-tap action. This is the accelerometer part that recognizes the signal, the tap command.

Then there is the time when you are just jamming—listening to a song, and you receive a call. You remember that you can use the tap command to pick up a call. This process is called the communication interface, where you are on a call. The antenna inside the bud, as shown in the earlier image, transmits the signal to the front mic for you to hear and then when you talk, sends a signal to the other side.

While you are watching a video, listening to music, or talking, the AirPods battery will get used up. The normal lifespan of the AirPods is 5 hours (mainly listening) fresh out of the charging case. However, thanks to the charging case, it can last well more than twenty-four hours. This is with the help of Apple's W1 chip.

The Apple W1 chip provides the use of one-third of battery life as a traditional wireless chip (meaning it will last longer than other wireless headphones), in ear-detection (when both pods are in your ear and you take one of them off, the music stops and resumes when the pod back in), access Siri with double-tap which can help you; “select and control your music, change the volume, check battery life, or perform any other Siri task” (Trudy et al. 2016).

Conclusion

The introduction of AirPods had a huge impact on society with its introduction with the Apple W1 chip. This is the most successful chip which only is owned by Apple and is being developed even further. The AirPods (1st Generation) were the stepping stone to introducing the Apple W1 chip and it changed the world for the better for the Apple gadget. For instance, the way we listen to music has drastically changed and the AirPods brought convenience that a lot of people looked up to. The only downside of the 1st Generation is that it is only 1 size fit—it is made for one size so it can not be changed.

References

AirPods (1st generation) - Technical Specifications. (2021, October 24). Apple.Com.

https://support.apple.com/kb/SP750?locale=en_US

Apple reinvents the wireless headphone with AirPods. (2016, September 7). [Photograph].

Apple.Com.

<https://www.apple.com/newsroom/2016/09/apple-reinvents-the-wireless-headphones-with-airpods/>

I Am Horny For Guys Who Wear AirPods. (2019, January 9). [Photograph]. Elle.Com.

<https://www.elle.com/culture/a25362501/airpods-make-me-horny-review/>

Kylie and Kendall Jenner endorsed “knock-off” Apple products on Instagram. (2020, July 31).

[Photograph]. Bbc.Com. <https://www.bbc.com/news/technology-53596192>

Mark Wahlberg seen wearing Apple AirPods on his way to NBC’s Today Show promoting his new movie Instant Family on November 08, 2018, in New York City. (2018, November 8).

[Photograph]. Alma.Com.

<https://www.alamy.com/new-york-ny-usa-08th-nov-2018-mark-wahlberg-seen-wearing-apple-airpods-on-his-way-to-nbcs-today-show-promoting-his-new-movie-instant-family-on-november-08-2018-in-new-york-city-credit-rwmedia-punchalamy-live-news-image224412981.html>

What Happens to AirPods When They Die. (2019, May 28). [Illustration].

<https://onezero.medium.com/what-really-happens-to-airpods-when-they-die-9ba2fe97b346>