

How to Choose Headphones

Forget those cheaply made headphones or earbuds that came with your MP3 player. With the right pair of headphones, you can experience music on a whole other level. Whether you're listening at home or on the go, consider investing in a high quality pair of headphones (or buds) for maximum enjoyment.

Steps



1

Decide between earbuds or headphones.

- Earbuds are best for people who are short on space, but still want a way to listen to their music. The higher-quality earbuds, like from Sennheiser or Ultimate Ears, usually come with little cases to put your earbuds in when you're not using them, so they won't get ruined or dirty at the bottom of your bag. If you keep a very small purse and want to keep your iPod Nano and earbuds together in it, or you're a guy with limited pocket space, earbuds are probably a better choice. They're also great if you are on a limited budget, because there's a lot more to choose from and they tend to cost less.
- Cheaper earbuds often run into problems like falling out of ears, hurting ears, or simply making dents in them from the cheap plastic. With higher prices (but still low-end in terms of quality) ranging from \$25-50, you'll get more comfortable 'buds, and they are well-worth the money you spend. However, if you're an audiophile, you should consider other options. A pair of buds from Sennheiser (like the CX 500, \$130), Shure (SE 115, \$120), EtyMotic Research (HF5, \$150), Sony (XBA-H1, \$150), or even Ultimate Ears (minimum Super.fi 4) will be preferable.
- Headphones are great if you enjoy putting them around your neck while you're walking from one place to another, or if you just carry your headphones that way. You also tend to get beefier cords and fun options like wireless/bluetooth headphones. The drawback is that good headphones within your budget might be hard to find. They take up more space than earbuds, and the DJ-style headphones take up a ridiculous amount of space if you don't carry around a larger bag.
- DJ-style headphones are just that. Huge, bulky, awesome-looking headphones that are reminiscent of what you'd see someone named Double D mix his jams with. The structure lends itself to good sound containment but bad size usage. And a lot of music buffs get them because of the better sound quality and less pressure exuded on the eardrum, resulting in longer listening time and less damage to the eardrum.
- Behind-the-neck headphones are exactly that as well, headphones with a connecting band that goes behind the neck instead of over the top of the head. This is recommended for joggers or people who wear hats a lot and also for sunglasses fanatics. Therefore, if you're a girl (or guy) with long hair, and you hate headphones that press your hair down or dislike headphones that irritate your ear piercings, this type

would be a good choice. Besides that, there are very few things that separate them from DJ-style or "regular" headphones.



2.

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Remember that you get what you pay for. Generally, more expensive headphones are made with higher quality materials and better engineering, improving the sound quality. \$30 headphones will sound good, but not as good as \$60 ones. Up in the \$80-90 range, you may hear stuff in your music that you've never heard before. \$9.99 bargain bin earbuds or headphones may last, at longest, a year, and will not sound great to begin with. So spending at least \$20 on them insures you at least get basic music quality. One guideline is to spend \$50 on portable headphones and \$250 on a

pair for a home stereo. Another thing you get with quality is durability. There are probably people out there with headphones from the 70's and 80's that still work because they're made well, and made to last. When you get a brand name you aren't just paying for the name sometimes; you're paying for the trusted quality.



3.

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Evaluate the headphones' sound isolation. This refers to how well they keep music in and **block** outside noise. Nothing is more annoying than having to turn up your volume to drown out the sound of the bus. There's also the fact that if you're rather deaf, enjoy turning your music up loud, and/or use it to drown out background noise and the headphones are very open, you'll end up giving everyone around you something to

gossip about. Sound isolation will also keep you from having to waste precious battery life or turn up the volume to hear properly.

- Earbuds and in-ear headphones tend to be better at sound isolation, due to the seal they provide in your ear; and the same with (huge) DJ-style headphones that create a little sealed environment around the ear.
- When buying over-the-ear stereo headphones, notice if they are open-backed or closed-backed. Open headphones tend to sound more natural and not distorted, but people will hear your music and you'll hear the environment around you. They're recommended for home and tend to be more comfortable. Closed headphones isolate noise better and sound more like the music is in your head, not in the environment. They tend to be less comfortable and have some reverberation from sound waves bouncing off of the closed, plastic back. Some people like closed-backed for the booming bass sound and isolation, while some prefer open-backed for the natural and precise sound.



4.

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Investigate the frequency range. A wider frequency range means you can hear more from the music; large ranges such 10 Hz to 25,000 Hz will often be recommended - anything within that range will be fine.

- More importantly, notice the sound curve, frequency response curve, sound signature, whatever you want to call it. If the low end is higher on the line graph, there will be more bass. This does not mean that the bass will be more precise or better. For example, Beats headphones tend to be very bass boosted, yet the bass is commonly described as muddy and boomy with no precision.

- Typically, most headphones under \$100 will have a U curve - meaning the mid-range is cut out. They may sound "fun" and pleasing to the ears at first, but you won't be able to analyze the layers of music easily. Flat response headphones don't favor any range, meaning you'll hear every layer of the music equally. However, the first impression if you're used to U curves is usually "these have no bass" or "they sound boring". Most people just need to grow into that sound signature to enjoy it.



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Don't look for noise-canceling features unless you're willing to shell out the big bucks. Anything less than around \$200-250 isn't worth the price. Even if you're the frequent traveler type, noise-canceling, 90% of the time, just isn't worth the money.

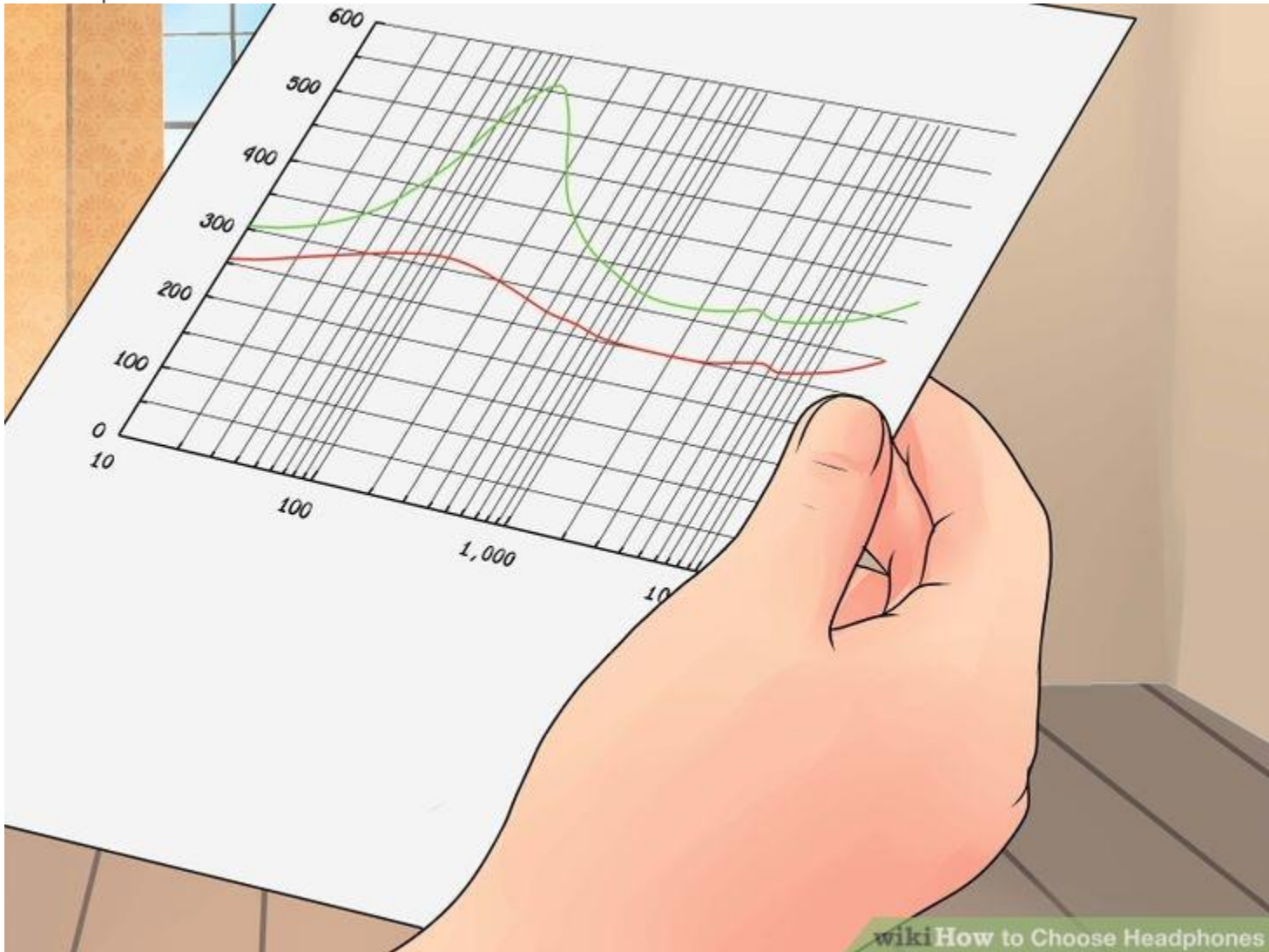
Some of your music might get canceled out as well, forcing you to turn up the volume. If you really do need noise reduction, however, look for brands like Etymotic, or Bose which have spongy earplugs that fill the ear canal.

- A cheap way to cancel background noise might also be to just put over-ear hearing protectors (from the hardware store) over earbuds to cancel out most ambient noise. On the other hand, if you're not overly fussy, you may find lower priced noise-cancelling earbuds or headphones have considerable benefit for reducing background noise in airplanes, cars or public transportation. Panasonic (just one brand of many) makes an acceptable noise-cancelling earbud for just \$50.



6.

Test them out. The best way, really, to know if headphones can go loud enough for you is to test them out. Try on a friend's pair (if they're cool like that) or go to a good electronics store that will let you try on the headphones. Having around \$200 in cash handy and going to a store with a 30-day return policy will make the electronics store your unwilling friend while you learn what types of headphones you really want. Out of courtesy, however, always clean the wax out of your ears before trying on any headphones or earbuds!



7.

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Look for the impedance of the headphones. To get the best out of your headphones, you should match the impedance of the headphones to the audio equipment you are

using.^[1] This is measured in ohms. In reality if you don't this usually means that you will need to turn up the volume slightly compared to a matched pair of headphones.



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Finally, use your ears! You are the person who is going to be using these headphones day in day out. If a \$50 pair of headphones sounds the same as a \$1000 pair of headphones, go for the cheaper pair. The sound quality is not going to change just because they are more expensive! The only thing to remember is the overall build quality of the headphones - are they going to last as long? Does it matter if they are that much cheaper?

How to make your headphones sound better than ever

I know it might seem pretty straightforward -- put on headphones, play music - and that's all there is to it. Sure, that works, but with a decent set of headphones you can hear deep *inside* the music, *if* you do it right. Much more so than you ever will with a Bluetooth speaker, or even a very decent pair of speakers that interact with your room's acoustics, with headphones music is directly injected into your ears.



To make the most of the sound of your headphones let's start with the easy stuff. Do you have the headphone's left channel on your left ear, and the right one on your right ear? A lot of headphones don't make it so easy to distinguish between left and right channels, they might use tiny or nearly invisible "L" and "R" markings. Depending on the type of music you play, reversing left and right channels might not make much of a difference, but I always prefer to hear the stereo mix as the engineers intended. Take a moment to figure out a way to clearly identify the left and right channels on your headphone.

Which brings us to stereo: with headphones you're much more likely to hear the finer details of the stereo mix than you ever will from a single wireless speaker. Even with a *pair* of speakers, you only hear proper stereo when you're equidistant from both speakers. With headphones you're always in the sweet spot.

One more thing, with full-size on-ear or over-the-ear headphones experiment a bit with the placement of the ear cups relative to your ears -- move the cups a little higher or lower, and see how that changes the sound.

In-ear headphones and the quest for the perfect fit

If you're using in-ear headphones, but you don't have the optimum ear canal seal for both ears, all bets are off. Some folks have an easy time with this -- they pop in the ear pieces, wiggle 'em about a little bit, and the seal is perfect. The headphones deliver satisfyingly deep bass and block external noise, and you hear the headphones at their best.

Some folks have to try on a bunch of differing tip sizes and types, and never achieve the optimum seal, so the sound and isolation suffer. Whatever it takes to improve the seal, including buying **aftermarket tips**, will be worth it. One other thing to consider: your left and right ear canals might be slightly different sizes and thus need different size tips! If you're still having a tough time achieving a tight seal, try this: as you slide the tip into your ear canal, open your mouth, and tug a little on the top of your outer ear with your other hand. To do that, reach your hand up and over the top of your head to do the tug maneuver that'll open your canals a little so it's easier to insert tips.

Ear *buds* rest on the folds of the *outer* ear and don't require an air-tight seal, but ear buds never sound as good as headphones that fit *inside* ear canals.

Possibly the best way to listen to music: First listen to silence

I was intrigued by an episode of Manoush Zomorodi's always terrific WNYC Radio podcast, "**Note To Self**," where performance artist **Marina Abramović** had an audience sit in total silence wearing noise-canceling headphones for 30 minutes before a live performance of J.S. Bach's "The Goldberg Variations." Abramović asserted that the silence would allow the listeners to clear their minds and allow them to focus more intently on the experience. Zomorodi went, and heard celebrated pianist Igor Levit do the Bach piece at the Park Avenue Armory in New York City in late December of last year. Zomorodi was shocked how fast the 30-minute silent period flew by, so when the music started she was ready.



I didn't attend the concert, but I was eager to try to simulate the experiment at home. I don't own any noise-canceling headphones, but I have something even better, a set of **Sensaphonic ER custom-molded earplugs**, which I use every day on the NYC subway to hush the din. So I figured the earplugs would do a great job creating a quiet zone inside my apartment before listening to pianist

Glenn Gould's legendary 1955 performance of "**The Goldberg Variations**" (I used a special 2007 "Zenph re-performance" of the album).

The goal here with the silent treatment is to mentally prepare yourself to experience music without the distractions of modern life. It's a reboot, a refresh where you can settle into the stillness. To get started I set my kitchen timer for a half an hour, popped in the earplugs, turned off my phone, and sat on my couch with my eyes closed. When the timer went off, I started playing "The Goldberg Variations" SACD.

I sat there, expecting epiphanies, but no revelations appeared, nothing out of the ordinary happened. Undaunted, I repeated the silent treatment and played Miles Davis Quintet's "**Live in Europe, 1967**" CD and immediately felt a stronger connection to this music than before. The way Davis on trumpet and his young drummer Tony Williams were urging each other on, *daring* each other to take the music somewhere new that night, the feeling was palpable. Pianist Herbie Hancock and bassist Ron Carter were doing a similar dance, pushing each other to explore something new, even though the set list didn't change all that much from night to night. I was listening to music from nearly a half century ago, but it was fully alive in my Brooklyn loft!

The half hour of quiet time made a difference; it let me be more open to the music, hear deeper into it. So if you have noise-canceling headphones, a set of earplugs, or a *very* quiet room, ditch your smartphone, and try a half hour of silence to clear your head, and see if you hear music in a different way than before.

Why your favorite artists' recordings could have terrible sound quality

I get a lot of emails asking about the sound quality of recordings. The hard part is determining what "good" sound sounds like. To my ears the majority of **new music sounds nasty**, but it's not just me. Google "**Loudness Wars**" and you'll see what I'm talking about.

Sound quality is highly subjective, but one thing's for sure, no one sets out to make a bad sounding recording. Same for remastered recordings: No engineer would intentionally make a recording sound worse, but they will make one that sounds *different* than the original since today's listeners are likely to use mobile devices as their primary music players. A newly remastered album will probably be louder, so the music's natural soft-to-loud dynamic contrasts will be lost. There's a good reason for that: a loud recording will sound "better" than a quieter (less compressed) one played over a smartphone's speakers, **computer speakers**, in a car, plane, train or bus. That's why music is now more compressed than it was when a higher percentage of music buyers listened at home. Adele's new "25" album might sound fine on free ear buds, but it's unlistenable over my **NAD Viso HP50** headphones. What's going on?



The sound quality of a recording is largely determined by the engineers who originally recorded and mixed it. Their decisions about the choice of studio, microphones, processing and editing are key. The sound then might be further

compromised or improved in mastering, as well as by the limitations of the release format. So there's no way a music consumer can know in advance if a MP3, FLAC, CD or LP is the best sounding version of the music. Generally speaking, for older music the original release formats are truest to the musicians' intent.

I have found over the years that the sound quality of most bands' recordings can be pretty consistent from one album to the next. If you like it, that's great. But if you don't, chances are small that a remastered, or new high-res file, will change your opinion. The recording's innate quality -- whether good or bad -- will usually shine through. High-resolution versions of average or poor recordings won't substantially improve their sound or make them great, they have to be great to start with.

I would never claim LPs always sound better than CDs, or the other way around, or that high-resolution files are always better sounding than standard or even low-res files. Those are just *release formats*. The recording's sound quality is key, and a great one can sound great as a MP3, FLAC, CD or LP. A poor recording will still sound poor as a MP3, FLAC, CD or LP.

Share your experiences as well as your thoughts on bad and good sound quality in the Comments section below.

Sennheiser's new €50,000 headphone breaks the 'sound barrier'

Sennheiser's new Orpheus **electrostatic** headphone system was designed without budgetary constraints or limits, so expectations among the audiophile cognoscenti are running high. For my listening session in New York City on Tuesday, I loaded a USB drive with familiar tunes to evaluate the Orpheus. I'll tell you upfront the sound was, in many ways, more realistic than I've heard before. Sound "barriers" were indeed broken!

I was taken aback by the sound of brass instruments, which were incredibly present and alive, and cymbals' metallic sheen was brilliant. I've never heard better.



Orpheus' effortless dynamics pushed the state of the art to new highs, and bass definition was no less thrilling. Stereo soundstaging was fine, but not as wide or spacious as I've heard from the Hifiman HE1000 or even Sennheiser's HD 800 headphones. Sadly, listening time was limited to about 20 minutes, and I didn't get to compare the Orpheus to any other headphone.

Orpheus is a closed system, meaning the headphone cannot be used with other brands headphone amplifiers. Priced at €50,000 in Germany (approximately \$55,000 in the US, £35,000 in the UK, and AU\$75,976 in Australia), Orpheus will be the most expensive headphone system in the world.

The Orpheus' ear cups feature vaporized gold ceramic electrodes, and superthin 2.4 micrometer, platinum-vaporized diaphragms that Sennheiser claims produce the lowest distortion that has ever been measured in sound reproduction equipment, at just 0.01 percent at 100 dB SPL at 1 kHz.. Orpheus's digital converters work with PCM files up to 32-bit resolution and sampling rates of up to 384kHz, and 2.8MHz or 5.6MHz **DSD files**.

The marble that Sennheiser selected for the tube amplifier comes from Carrara in Italy and is the same type of marble Michelangelo used to create his sculptures. The build quality, touch, look and feel of the entire Orpheus system is, even by high-end standards, exceptional. It's a rather large but extremely comfortable headphone.

The listening session was just a preview -- Sennheiser promised I will get to spend a lot more time with this system in the coming months, but for now I will say Orpheus left me shaken and stirred.

Orpheus production is set to begin in Germany next summer, and just 250 headphone/amp systems will be made each year. A team of Sennheiser technicians will build just one Orpheus system per day.

5 best movie apps for Windows

When people think of Windows, the idea of work always seems to come to mind, whether it's writing a document, formulating a spreadsheet or just checking your emails.

Thankfully, we know your PC is a lot more than just a tool for sorting out the basics; Windows 10 is also an entertainment machine.

If music is your favourite type of entertainment, you really are in luck. If you have a DVD drive you can insert a CD and use Windows Media Player to listen to tracks, but that's a pretty old school way of doing things now. Services such as Spotify, Tidal and TuneIn offer ways of streaming music straight to your PC, and most of them are completely free to use.

Of course, you can plug in a pair of headphones or some speakers to make your music sound better, but – again – that's a little bit old hat. If you have access to a Bluetooth speaker, you can connect to the speaker using your machine (provided it has Bluetooth built in) and beam your streamed tunes to it wirelessly, so you don't even need to lift a finger to crank out your music.

If you're more of a TV connoisseur, Windows has plenty to keep you entertained. The easiest way to get access to new TV shows and movies is to subscribe to Netflix and download the Netflix app to your PC, allowing you to stream content to your machine. Alternatively, you can watch movies you already own using VLC Media Player – it'll play any format you might have, including high definition movie files such as mkv.

Get connected

That all seems a little too easy though, and besides – what if you want to watch all this sort of stuff on your big-screen TV? Fear not, you can even beam content from your PC to your TV quite easily. The simplest way is to connect your machine directly to your TV using an HDMI cable – but what if you don't want to be tethered to it?

You can make things super easy, not to mention convenient, by streaming content to your TV wirelessly. You can do this by purchasing a device like the Google Chromecast, plugging it into your TV and 'casting' content to it from Google Chrome.

Naturally, your PC is a fine thing for playing games too, but you don't have a supersonic gaming rig just to cope with the latest blockbusters. Steam offers the biggest range of games titles anywhere (2500+), whether it's the newest games or simple indie titles that are just as much fun, but will happily run on any PC. Once you've installed the app, you can download any game you like.

The best Windows movie apps

1. PLEX - Free

Turn your PC into a Plex Media Server by downloading the [free Plex software](#). You can then stream media to any of your devices with a Plex app.

2. Stream to Chromecast - Free

Plug in a Google Chromecast to your TV, download Google Cast and beam online or offline files straight to your TV.

Price: £30 (for the Google Chromecast)

3. Windows Movie Maker - Free

If you prefer making your own movies, Microsoft's own software will allow you to edit videos, turning them into relative masterpieces that you can share in seconds.

Price: Free

4. Cloud Media Player - £5.39

If you store all your videos on your OneDrive account, this handy player allows you to stream them instantly without waiting for them to download.

5. Netflix - £6.99 a month (subscription)

Stream the latest TV or movies straight to your PC using your Netflix account. You can do this within your internet browser, or you can download the Netflix app from the Windows Store.