




Selecting Headphones



Consumer Decision Making Study Materials



There are many different types of headphones, all ranging in price as well as style and comfort. When looking to buy a new pair of headphones the consumer wants to pick a style that best meets their needs and is in his/her price range. There are several types of headphones and features to consider in making this decision.



Main Types of Headphones

Type	Description	Best Uses	Price Range
Over-Ear/Full-Size 	These are traditional-looking headphones with cushioned pads that cover the whole ear. Full-Size headphones are bulkier, but generally very comfortable because of generous padding and ergonomic design.	Home or Office	\$40-\$300
On-Ear/Lightweight 	These are headphones which sit on the ears rather than over them. They typically have a thin headband that goes over or behind the head. Some other models use small clips that slip over your ear.	Exercising; Travel	\$20-\$130
In-Ear/Canalphones 	These headphones rest in the ear canals. They are capable of producing incredible audio quality. For optimal use, they fit snugly and can be custom made in order to fit your ear canal.	Noisy Environments; Travel	\$75-\$420

Type	Description	Best Uses	Price Range
<p>Canalbuds</p> 	<p>Canalbuds are the middle ground between earbuds and in-ear canal. They sit just on the inside of your ear instead of deep inside. They tend to be more comfortable because they are not as tightly fitting as the inner-ear canal and are generally less expensive.</p>	<p>On the Go</p>	<p>\$49-\$100</p>
<p>Earbuds</p> 	<p>Similar in size to in-ear headphones, earbuds are handy for listening to music while on the move. They sit outside the ear canal and don't fully seal your ear, meaning they are susceptible to sound leakage.</p>	<p>On the Go</p>	<p>\$5-\$90</p>



Other Types of Headphones

In addition to the main headphone types, there are other specialized types available for specific purposes. Here are a couple of examples.

Type	Description	Best Uses	Price Range
<p>Sports Headphones</p> 	<p>Ideal for exercising built to withstand the rigors of any workout; built for comfort and portability; designed to be water and sweat resistant.</p>	<p>Working out; running; any type of exercise</p>	<p>\$10-\$380</p>
<p>Monitor Headphones</p> 	<p>Studio monitoring headphones; specialist headphone, designed to be used by audio professionals, where accurate sounds produced are crucial.</p>	<p>Sound engineering; audio mixing</p>	<p>\$20-\$2,500</p>

Open versus Closed

Both the on-ear and in-ear headphones can also differ by the type of ear cups used. The ear cup variations create different listening conditions and the headphone type that is right for you is purely personal preference. Both designs have their pros and cons and it usually comes down to personal preference as to which ones to buy. It is a good idea to try each type out in-store before buying.

<p>Open Back</p> 	<p>Open is when the back of the ear pads are not completely sealed off. This can provide a more natural sound but open-back headphones tend to leak more noise.</p>
<p>Closed Back</p> 	<p>Closed is when the back of the ear pads are completely sealed off. They can sound a bit muffled, but are good at preventing sound leakage and blocking out unwanted noise.</p>

Headphone Features

Some headphones offer additional features; for example, blocking out unwanted outside noise with noise cancelling or noise isolation. Other headphones are great for when you want to be mobile; such as wireless, or Bluetooth connectivity.

Feature	Description
Noise Cancelling Headphones	Headphones with noise cancelling or noise reduction block outside sound keeping out all monotonous noise that is not your audio tuner. They tend to be good at eliminating unwanted low-frequency noise (such as traffic). This feature is mainly available with on- or over-ear headphones, but some in-ear models have it too.
Noise Isolation Headphones	Not to be confused with noise cancelling headphones, noise isolation headphones or earphones block outside sound by sealing in the ear when fitted. Some earphone models do look very similar to standard earbuds but the audio quality is improved.

Feature	Description
Wireless Headphones	Wireless sets allow you to listen to music without being tethered to the audio source. They use radio frequencies to transmit sound from their base station to your ears. Long-range wireless connections such as FM systems allow you to move from room to room or even outside. But the downside is you might experience interference.
Bluetooth Headphones	Bluetooth is a type of short-range wireless technology commonly used with hands-free mobile phone kits. These headphones also double as headsets letting the consumer switch between music and voice features. These are best suited for portable use as you have to keep the transmitter close to you.

Headphone Controls

Some headphones come with controls built into the cable or earpiece. Typical controls include playback functions such as play/pause and volume up/down. Others include mobile phone functionality, enabling the user to seamlessly switch between hands-free telephone calls and listening to music.

Terms to Know

Term	Definition
Decibels (dB)	The unit of measurement for sound
Ear Cup	The portion of the headphones that is placed over the ear and houses the speaker
Ear Cushions	The portion on the inside of the headphone ear cup that rests on your skin and around your ears
Frequency Response	The range of frequencies, in kHz, that drivers are able to reproduce before a significant drop in volume level
Headphone Amplifier	An electronic device that is designed to drive headphones rather than speakers. A dedicated headphone amplifier can provide better dynamic range, clarity and volume when driving headphones than the often cheap headphone output circuits on consumer electronics equipment.
Impedance	How much opposition (or resistance) the headphone gives to the signal from the audio source. (The larger the impedance the quieter the headphones will sound for a given volume level from the source. In contrast a set of headphones with low impedance will sound louder.)

Term	Definition
Maximum SPL	A measure of how loud your headphones can get, indicated in decibels (dB).
Nose-induced hearing loss (NIHL)	Exposure to harmful noise/sounds that are too loud or loud sounds that last a long time causing sensitive structures in the inner ear to be damaged
Plug	The headphone plug or headphone jack on the end of the headphone cord that plugs into the sound source. This jack plug is either 1/4" in diameter or 1/8" in diameter.
Plug Adapter	An attachment that slips over the plug making it useful with more sound sources. An adapter can convert a 1/8" plug to a 1/4" plug or a 1/4" plug to a 1/8" plug. Most headphones come with a 1/4" and a 1/8" plug which eliminates the need for an adapter.
Safe Hearing Levels	In general, sounds above 85 dB are harmful, depending on how long and how often you are exposed to them and whether you wear hearing protection, such as earplugs or earmuffs. (Average home noise is 40 dB and normal conversation is 60 dB.)
Sound Leakage	The ability of unwanted sound to flow in or outside of the headphones
Stereo	Designates sound reception to both ears.

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