

Pro Headphone Buyers Guide 2020



Intro

So you need to buy headphones for audio work. You compare the spec sheets of a few popular models and you're not sure what each of the parameters means and if they even matter. We hear you!

The truth is very little of the information found in headphone technical specifications reliably translates to their performance in the real world. Frequency response range? Doesn't tell you anything. All modern studio headphones cover the range of human hearing and beyond. Harmonic distortion? Most spec sheets will state something along the lines of "< 0.1% THD at 1kHz," which means nothing, as no modern pro headphones will exhibit significant distortion at 1 kHz—it's the sub-bass range that's problematic in some models.

Impedance should give you an impression as to if mobile devices such as laptops and tablets will be able to drive a particular pair of headphones, or if you'll need a headphone amp. Impedance doesn't show you the full picture without taking sensitivity into account. In most cases, low impedance headphones are easier to drive than higher impedance ones, but there are plenty of 250ohm headphones that can easily be driven from a smartphone.

Then there's closed-back, open-back, and semi-open-back designs and different driver sizes and technologies: dynamic, planar magnetic, and electrostatic. The worst bit? Paying more doesn't necessarily yield a higher quality product that will perform better at the task at hand. Long story short—choosing what headphones to buy can be daunting, especially if you're new to this.

We're here to help

We at Sonarworks have measured more than 800 different headphone models and have compiled our favourites in this guide.

Customers have asked us for years: I have X euros, my use case is Y, what are the best headphones to use with Reference? This guide will try to answer that question and help you find the best tool for your task and budget, in a simple, straightforward manner.

While all these models sound great when used with Reference, that doesn't necessarily mean that they are good on their own. In fact, some of them have such heavy sound coloration that they'd be a nightmare for any serious audio work right out of the box. However, since Reference takes care of the frequency response by making it neutral, it is no longer a key factor when considering different models.

This allows us to prioritize properties like comfort, harmonic distortion, build quality, and replacement parts availability. That said, we have highlighted a few models that, out of the box, have close to neutral frequency response. All of these headphones will play with ample volume by virtually any modern audio interface unless stated otherwise





**Production / Mixing
/ Mastering in studio**

When working long hours in the studio on your productions, mixes, and masters, two requirements absolutely must be met by your headphones: clean, neutral sound, and comfort. Some argue that neutral-sounding headphones are not needed in the production phase—that you don't need to pay attention to the tonal balance of your track before you start mixing. We believe there are strong benefits to starting your work with flat sound right from the get-go. If you can hear every instrument and effect properly, without any coloration from your headphones, it's highly likely that the decisions you make will lead to better sounding productions. You'll spend less time in the mixing phase fixing mistakes you wouldn't have made if you just had flat sound all along. And if instead of mixing your tracks yourself you send them to a mixer, there will be fewer surprises when you receive your mixed tracks back.



All headphones in this list are trustworthy monitoring tools when used in tandem with Reference 4, however, the lower-priced models typically will be less comfortable and offer fewer replaceable parts. If you can afford it, we highly recommend stretching your budget to one of the models found in the Goldilocks zone, there you'll find headphones that are close to perfect, yet are still relatively affordable. With one of these models and Reference 4, nothing can stop you from making Grammy-worthy tunes!

Above the Goldilocks zone, there's the threshold of diminishing returns. Models priced beyond it are surely great but are more of a luxury than a necessity.

For best available sound, go for the open - or semi-open back models, as these designs inherently lead to flatter frequency response and more natural sound. Keep in mind though that they do leak sound quite a bit and offer little sound isolation from the outside world. If these are potential issues for you, choose one of the closed-back alternatives.

It's assumed that these headphones will be used with an audio interface and most of the modern interfaces will be able to drive almost all of these models beyond safe listening levels. We have added notes to the few Beyerdynamic models that may have issues with volume.



TOP headphones list

Production / Mixing / Mastering in studio



Monoprice 8323

Closed [Read full review →](#)

Weight: 237 g

Cable: 1.2 m straight

Pros

- ✓ Extremely affordable
- ✓ Replacable cable
- ✓ Two cables included

Cons

- ✗ Comfort not great
- ✗ Questionable longevity



Superlux HD 681

Semi-Open

Weight: 230 g

Cable: 2.5 m straight

Pros

- ✓ Unbeatable price

Cons

- ✗ Comfort not great
- ✗ No replaceable cable



ATH-M20x

Closed

[Read full review →](#)

Weight: 190 g

Cable: 3 m straight

Pros

- ✓ Quite neutral frequency response

Cons

- ✗ No replaceable cable
- ✗ Comfort not great
- ✗ Quite high THD



Samson SR850

Semi-Open

Weight: 276 g

Cable: 2.5 m straight

Pros

- ✓ More comfortable than HD 681
- ✓ Less THD than HD 681

Cons

- ✗ No replaceable cable



DT 240 Pro

Closed

[Read full review →](#)

Weight: 196 g

Cable: 1.5 m coiled

Pros

- ✓ Sturdy build
- ✓ Fantastic value

Cons

- ✗ Long session comfort not great



Philips SHP9500S

Open

Weight: 330 g

Cable: 3 m straight

Pros

- ✓ Comfort
- ✓ Most affordable good open-backs

Cons

- ✗ Limited availability outside U.S.
- ✗ Relatively high THD in sub bass



DT 770 Pro 250 Ohm

Closed

[Read full review →](#)

Weight: 270 g

Cable: 3 m coiled

Pros

- ✓ Superb comfort
- ✓ Many replaceable parts

Cons

- ✗ No replaceable cable
- ✗ Quite high THD
- ✗ Harder to drive than it's rivals



AKG K612 Pro

Open

Weight: 238 g

Cable: 3 m straight

Pros

- ✓ Comfort

Cons

- ✗ No replaceable cable
- ✗ High THD in sub bass at high volumes



ATH-M50x

Closed

Weight: 283 g

Cable: 1.2 m straight, 3 m straight, 3 m coiled

Pros

- ✓ Low THD
- ✓ 3 different length cables included

Cons

- ✗ Channel imbalance in low mid range



Goldilocks

The following models we recommend for mastering



€229

Focal Listen Pro

Closed

[Read full review →](#)

Weight: 280 g

Cable: 1.4 m straight, 5 m coiled

Pros

- ✓ Good comfort
- ✓ High quality plastic build
- ✓ 2 cables included

Cons

- ✗ Replacement ear pads not available



€169

DT 880 Pro

Semi-Open

[Read full review →](#)

Weight: 295 g

Cable: 3 m coiled

Pros

- ✓ Superb comfort
- ✓ Many replaceable parts

Cons

- ✗ No replaceable cable
- ✗ Harder to drive than it's rivals



Drop HD 58X (150 Ohm)

Open

Weight: 260 g

Cable: 1.8 m straight

Pros

- ✓ The most affordable version of the classic design
- ✓ Superb comfort
- ✓ Exceptionally flat frequency response

Cons

- ✗ Not the cleanest sub-bass due to THD
- ✗ 1.8m cable might be too short for some



Drop HD 6XX (300 Ohm)

Open

Weight: 260 g

Cable: 1.8 m straight

Pros

- ✓ Superb comfort
- ✓ Exceptionally flat frequency response

Cons

- ✗ Not the cleanest sub-bass due to THD
- ✗ 1.8m cable might be too short for some



Audio-Technica ATH-R70x

Open [Read full review →](#)

Weight: 210 g
Cable: 3 m straight

Pros

- ✓ Lower THD than it's rivals
- ✓ Exceptionally flat frequency response
- ✓ Lightweight

Cons

- ✗ Comfort not for everyone, try before buy



Sennheiser HD 600

Open

Weight: 260 g
Cable: 3 m straight

Pros

- ✓ Superb comfort
- ✓ Exceptionally flat frequency response

Cons

- ✗ Not the cleanest sub-bass due to THD



€339

Sennheiser HD 650

Open

[Read full review →](#)

Weight: 260 g

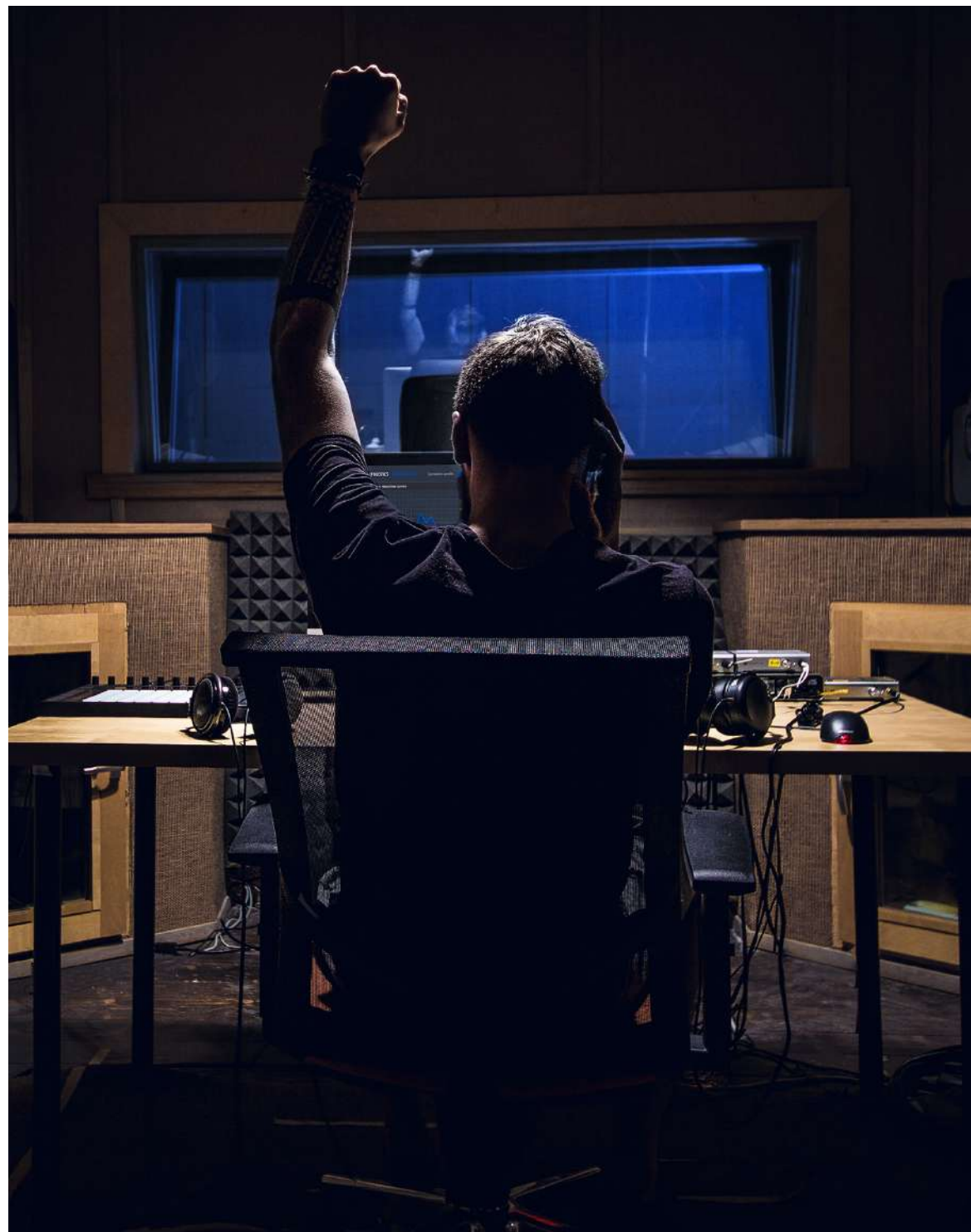
Cable: 3 m straight

Pros

- ✓ Superb comfort
- ✓ Exceptionally flat frequency response

Cons

- ✗ Not the cleanest sub-bass due to THD





DT 1770 Pro

Closed

Weight: 388 g

Cable: 3 m straight, 5 m coiled

Pros

- ✓ Superb comfort
- ✓ Premium build
- ✓ Low THD

Cons

- ✗ High-mid range not as accurate as open-back alternatives



DT 1990 Pro

Open

Weight: 370 g

Cable: 3 m straight, 5 m coiled

Pros

- ✓ Superb comfort
- ✓ Premium build
- ✓ Additional ear pads and cable

Cons

- ✗ Negligible upgrade over DT 880 sound-wise



Shure SRH1540

Closed

[Read full review →](#)

Weight: 292 g

Cable: 1.8 m straight

Pros

- ✓ Quite neutral frequency response
- ✓ Premium build
- ✓ Additional ear pads and cable

Cons

- ✗ Audible THD in sub bass
- ✗ Not suitable for work with sub bass heavy content
- ✗ Comfort not for everyone, try before buy



Audeze LCD-2C

Open

Weight: 550 g

Cable: 1.9 m straight

Pros

- ✓ Super low THD
- ✓ Premium build

Cons

- ✗ Heavy



Fostex TH610

Closed

Weight: 375 g
Cable: 3 m straight

Pros

- ✓ Superb comfort, relaxed fit
- ✓ Premium build
- ✓ Low THD

Cons

- ✗ Weak isolation



Focal Elear

Open [Read full review →](#)

Weight: 450 g
Cable: 3 m straight

Pros

- ✓ Premium all metal build
- ✓ Super low THD
- ✓ Superb comfort

Cons

- ✗ Sound changes depending on wearing position



Fostex TH900mk2

Closed

[Read full review →](#)

Weight: 390 g

Cable: 3 m straight

Pros

- ✓ Superb comfort, relaxed fit
- ✓ Premium build
- ✓ Low THD

Cons

- ✗ Weak isolation



Sennheiser HD 800 S

Open

[Read full review →](#)

Weight: 330 g

Cable: 3 m straight

Pros

- ✓ Exceptional comfort
- ✓ Feels like wearing nothing
- ✓ Premium build

Cons

- ✗ Sound changes depending on wearing position
- ✗ Relatively high THD in sub bass



Audeze LCD-4z

Open

Weight: 600 g

Cable: 1.9 m straight

Pros

- ✓ Super low THD
- ✓ Exceptional build
- ✓ Fantastic sound

Cons

- ✗ Heavy
- ✗ Costs a fortune



**Production, Mixing
and Mastering on the go**

In order to make your work on-the-go worthwhile, neutral-sounding headphones are paramount. They enable you to continue the work you began in the studio on speakers, without things sounding too different and vice versa—take your remotely started work seamlessly to the studio.

The models in this category can be considered universal. They can be used for production, mixing, and mastering on-the-go or in the studio and even for tracking sessions. They won't deliver as much sound isolation as dedicated tracking headphones, yet there's plenty of scenarios where that'll be good enough to not cause any issues with your recordings.

When carrying your headphones around, you want them to be able to withstand some beating in the backpack. In case they break, it's great if the manufacturer offers a range of easily replaceable spare parts. To save space in your luggage or backpack headphones should be foldable and not too bulky. Bonus points if headphones can also be driven from a laptop's built-in audio output.

All headphones in this list will be reliable monitoring tools, however, for the less expensive models, you won't find replaceable parts, limiting their longevity.

Hopefully, you can stretch your budget to one of the models found in the Goldilocks zone. There you'll find sturdy headphones that'll deliver close to perfect sound when used in tandem with Reference 4, yet are still relatively affordable. Though, in most cases there's still a tradeoff between comfort and mobility, so you may have to prioritize one over the other.



Monoprice 8323

Closed [Read full review →](#)

Weight: 237 g

Cable: 1.2 m straight

Pros

- ✓ Extremely affordable
- ✓ Replacable cable
- ✓ Two cables included

Cons

- ✗ Comfort not great
- ✗ Questionable longevity



ATH-M20x

Closed [Read full review →](#)

Weight: 190 g

Cable: 3 m straight

Pros

- ✓ Quite neutral frequency response
- ✓ Easily driveable from portable devices

Cons

- ✗ No replaceable cable
- ✗ Comfort not great



DT 240 Pro

Closed

[Read full review →](#)

Weight: 196 g

Cable: 1.5 m coiled

Pros

- ✓ Sturdy build
- ✓ Easily portable
- ✓ Fantastic value
- ✓ Easily driveable from portable devices

Cons

- ✗ Long session comfort not great



DT 770 Pro 32 Ohm

Closed

Weight: 270 g

Cable: 3 m coiled

Pros

- ✓ Superb comfort
- ✓ Many replaceable parts

Cons

- ✗ No replaceable cable
- ✗ Bulky, not easily portable



ATH-M50x

Closed

Weight: 283 g

Cable: 1.2 m straight, 3 m straight, 3 m coiled

Pros

- ✓ Low THD
- ✓ Foldable design helps portability
- ✓ Easily driveable from portable devices

Cons

- ✗ Channel imbalance in low mid range



Focal Listen Pro

Closed

[Read full review →](#)

Weight: 280 g

Cable: 1.4 m straight, 5 m coiled

Pros

- ✓ Good comfort
- ✓ Foldable design helps portability
- ✓ Transport hard case included
- ✓ Easily driveable from portable devices

Cons

- ✗ Focal doesn't sell replacement ear pads



DT 1770 Pro

Closed

Weight: 388 g

Cable: 3 m straight, 5 m coiled

Pros

- ✓ Premium build
- ✓ Superb comfort
- ✓ Transport hard case included

Cons

- ✗ Bulky
- ✗ Uncomfortable when wearred on neck
- ✗ Additional shorter cable would've been nice



Shure SRH1540

Closed

[Read full review →](#)

Weight: 292 g

Cable: 1.8 m straight

Pros

- ✓ Lightweight, premium build
- ✓ Quite neutral frequency response
- ✓ Transport hard case included

Cons

- ✗ Comfort not for everyone, try before buy
- ✗ High THD in sub bass
- ✗ Not suitable for work with sub bass heavy content

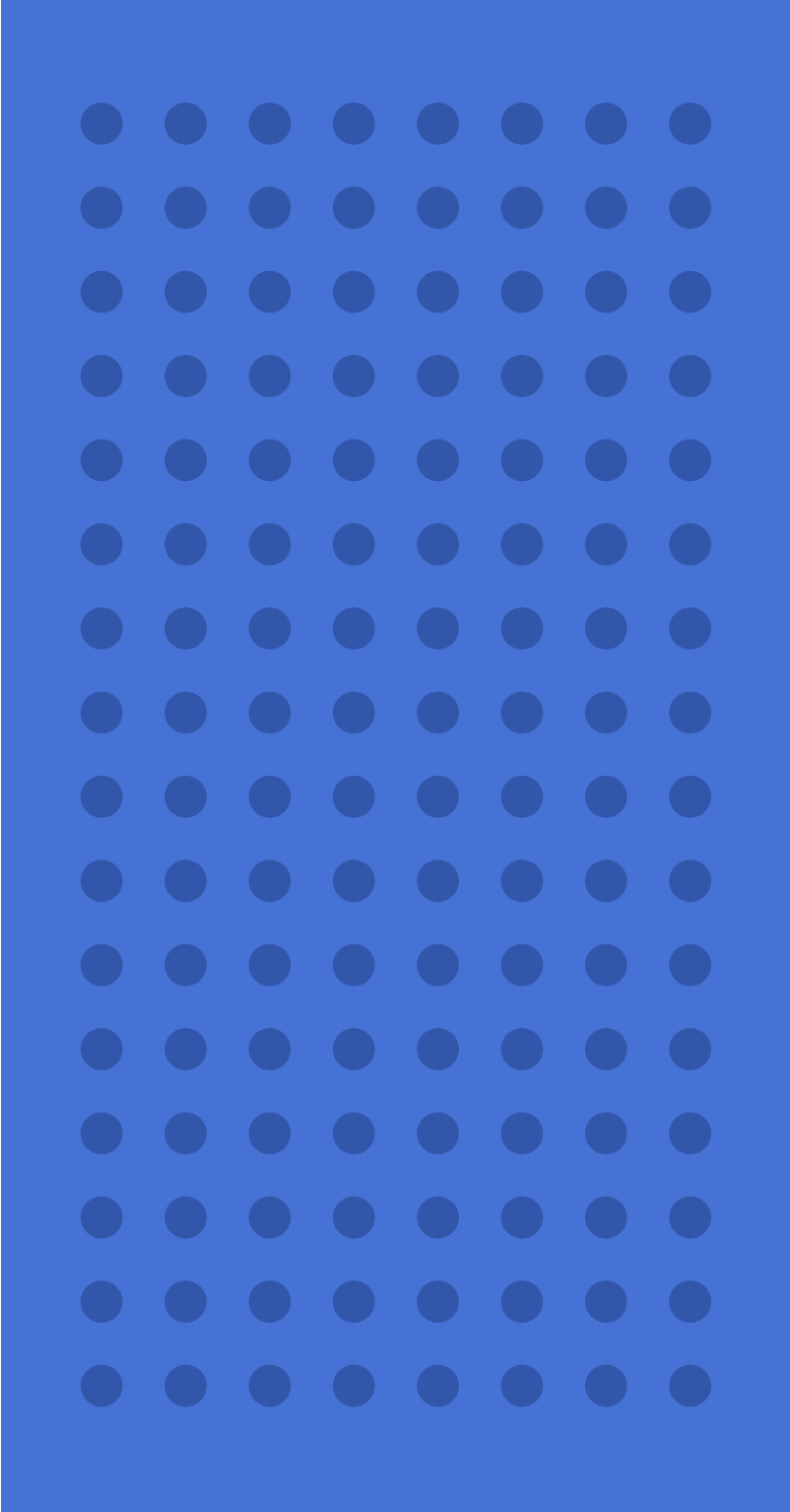


Tracking

When recording vocals and guitars you'll need headphones that don't leak sound to keep your tracks free from unwanted signals such as the metronome or backing track. If you're a drummer, there's a great chance that you're exposing yourself to extremely high volume. If that's the case, it's best if your headphones can provide isolation that protects your hearing as much as possible.

Whatever you're recording, having a neutral frequency response helps to hear your actual performance the way it is, without the sound coloration of headphones. Furthermore, if both you and your recording engineer use headphones with flat frequency response, nothing gets lost in translation—you both hear the same sound. Using the Reference plugin in zero latency mode will help you achieve this.

All headphone models in this list are up to the task. Some provide better isolation while others offer more comfort.





Monoprice 8323

Closed [Read full review →](#)

Weight: 237 g

Cable: 1.2 m straight

Pros

- ✓ Extremely affordable
- ✓ Replacable cable

Cons

- ✗ Comfort not great
- ✗ Questionable longevity



ATH-M20x

Closed [Read full review →](#)

Weight: 190 g

Cable: 3 m straight

Pros

- ✓ Quite neutral frequency response
- ✓ Relaxed fit yet good isolation

Cons

- ✗ No replaceable cable
- ✗ Comfort not great



Vic Firth SIH2

Closed

Weight: 237 g

Cable: 1.2 m straight

Pros

- ✓ Best sound isolation of the bunch
- ✓ Suitable for drummers
- ✓ Strong clamping force keeps them in place

Cons

- ✗ Long session comfort not great
- ✗ No replaceable cable



DT 240 Pro

Closed

[Read full review →](#)

Weight: 196 g

Cable: 1.5 m coiled

Pros

- ✓ Sturdy build
- ✓ Fantastic value

Cons

- ✗ Long session comfort not great



€79

Sennheiser HD 280

Closed

Weight: 285 g

Cable: 3 m coiled

Pros

- ✓ Strong clamping force keeps them in place

Cons

- ✗ No replaceable cable
- ✗ Long session comfort not great
- ✗ Sound isolation not as great as some of its rivals



€118

DT 770 M

Closed

Weight: 300 g

Cable: 3 m straight

Pros

- ✓ 3rd best sound isolation of the bunch
- ✓ Good comfort for tracking headphones
- ✓ Many replaceable parts

Cons

- ✗ No replaceable cable



ATH-M50x

Closed

Weight: 283 g

Cable: 1.2 m straight, 3 m straight, 3 m coiled

Pros

- ✓ Low THD
- ✓ Comes with 3 cables
- ✓ Good comfort for tracking headphones

Cons

- ✗ Channel imbalance in low mid range



Direct Sound

Extreme Isolation EX-29

Closed

Weight: 326 g

Cable: 2.7 m straight

Pros

- ✓ 2nd best sound isolation of the bunch
- ✓ Suitable for drummers
- ✓ Many replaceable parts

Cons

- ✗ Cheaply built

Sound isolation performance ranking



1

Vic Firth
SIH2



2

Direct Sound
Extreme Isolation EX-29



3

Beyerdynamic
DT 770 M



4

Audio-Technica
ATH-M20x



5

Beyerdynamic
DT 240 Pro



6

Monoprice



7

Audio-Technica
ATH-M50x



8

Sennheiser
HD 280

If you're serious about studio headphones, then try this...

The same know-how we've used to make this e-book can be used to vastly improve your headphones. Our Reference 4 calibration software makes your headphones coloration free, so you can work with confidence.

Sonarworks Reference 4 takes our measurements and applies them to your headphones, so any tonal coloration is reversed. The resulting sound will outclass any headphones mentioned in this guide.

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