

Plug in, turn on

Everyone you see these days seems to own a set, but which are the best in-ear headphones for listening to music?

They're usually the lightest and cheapest types of headphones, which makes them ideal to use with a portable music player.

No wonder then that in-ear and plug headphones make up 69 per cent of UK sales and were the fastest-growing part of the market in the last year (most popular makes are Philips, Sennheiser and Sony).

As they're so popular, we've singled them out for testing this time. Their sound quality doesn't match that of other types of headphones, so we can't recommend any Best Buys. However, there are several sets worth considering if this is the type

you want (see opposite). But if sound quality is all important, go for an on-ear or over-ear Best Buy (see p52).

We've also looked at two noise-cancelling sets, the Sony MDR-NC22 (7) and the Panasonic RP-HC50 (23), with the Sony the clear winner.

You may be looking to buy a pair of headphones without trailing wires. Sadly, the two wireless sets we looked at, the Sony DR-BT1OCX (24) and Jabra BT320s (25), were among the worst for sound on test. See 'Time to go wireless?', right, for more.

If sound quality is all important, go for an on-ear or over-ear Best Buy



TIME TO GO WIRELESS?

Paul Orange 34,

sales and marketing leader

Paul uses Sony on-ear wireless headphones to watch TV and play computer games. He finds them comfortable and likes the sound. They're heavy, though. The two in-ear wireless sets we've tested suffered weak bass, background noise and sound distortion and we don't recommend them for listening to music. For both sets you need a transmitter (costing up to £60) if one doesn't come with your music player or mobile. If you want to go hands-free, see our Bluetooth headsets test next month.

What you should look for

TYPE OF EARPIECE

We've tested both in-ear (below left) and plug sets (below right). They can offer good sound but don't match what is possible with a quality on-ear or over-ear set



FIT

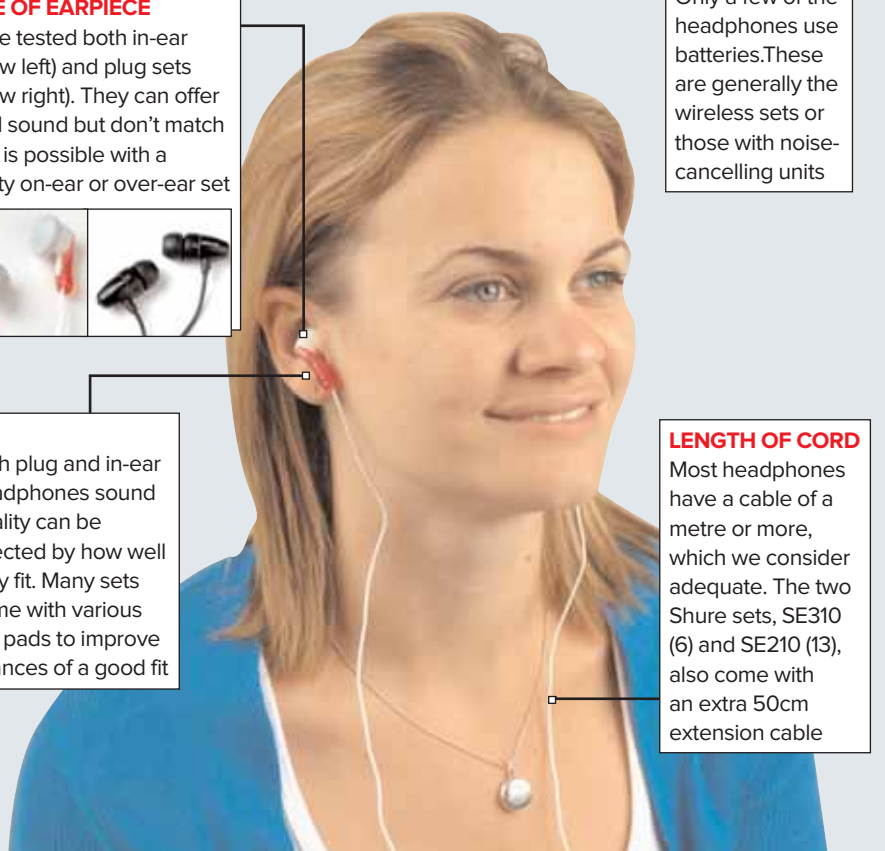
With plug and in-ear headphones sound quality can be affected by how well they fit. Many sets come with various ear pads to improve chances of a good fit

POWER SUPPLY

Only a few of the headphones use batteries. These are generally the wireless sets or those with noise-cancelling units

LENGTH OF CORD

Most headphones have a cable of a metre or more, which we consider adequate. The two Shure sets, SE310 (6) and SE210 (13), also come with an extra 50cm extension cable



How we test

We listen for clear playback of music of all types

Listening test

Our five experienced listeners use a high-quality amplifier and CD player for this test, and each chooses their own volume. They listen to speech, piano and orchestral pieces such as Handel's 'Mariengesänge' and Tchaikovsky's 'Piano Concerto Number 1', jazz ('Kind of Blue' by Miles Davis), a rock track with dominant bass ('By the Way' from the Red Hot Chili Peppers) and a modern electro-dance track. This gives a full sense of the sound the headphones can produce. We also check for known problems with headphones such as undesired distortion, background noise and interference. With wireless sets, we also check whether the lack of a cord affects sound.

Best of the bunch

None of the in-ear or plug headphones tested are Best Buys. However these six sets, all plugs, are worth considering



68% Sony MDR-EX90LP £80

Fans of many types of music should like these small, compact plugs, as they sounded good for all our six types of music. They fit easily and come with three pairs of rubber pads to suit different-sized ears. They are available at Argos.

WE LIKE They come with a leather case.

Cheapest store Argos **Type** Plug **Weight** 8g **Cable length** 126cm
Colour Black with silver **Noise cancelling** No **Case** Yes



67% Ultimate Ears Super.fi 5EB £99

These are easy to fit, with five sets of removable ear pads. The cable nearest the ear buds is stiff and can be used to hold them in place. Despite this, comfort could be better – they don't hold in the ear well. Available online.

WORTH KNOWING You can choose from black or white ear buds.

Available Online **Type** Plug **Weight** 11g **Cable length** 132cm
Colour Black or white **Noise cancelling** No **Case** Yes



66% Bose In-Ear £69

All our users found these easy to fit as there were three different sizes of easy-to-change ear pads. Sound is decent, though limited at the treble end. They come with a small storage case. Available at John Lewis.

WE LIKE These are one of the most comfortable sets on test.

Cheapest store John Lewis **Type** Plug **Weight** 9g
Cable length 132cm **Colour** Black **Noise cancelling** No **Case** Yes



66% Denon AH-C350 £33

Both you and people near you should be happy with this plug set. They let you cocoon yourself in your music by effectively blocking exterior noise, and your music won't leak out, either. The sound quality is good, too. They're easy to fit and comfort is OK. Three sets of removable pads are provided for different-sized ears. These headphones are available online.

WE LIKE They weigh just 4g.

Available Online **Type** Plug **Weight** 4g **Cable length** 124cm
Colour White with grey, and black **Noise cancelling** No **Case** No



66% Philips SHS8000 £30

The cheapest of our tested sets worth considering, these are also lightweight, portable and sound good. There is a flexible ear hook, which is soft and rubbery. Though perhaps a bit small for some, this set fitted all our users comfortably. Three sets of removable ear pads help you find a decent fit. Available at Currys.

WE LIKE The plug-and-ear-hook combination gives a comfortable fit.

Cheapest store Currys **Type** Plug **Weight** 8g **Cable length** 130cm
Colour Black or white **Noise cancelling** No **Case** No



66% Shure SE310 £170

These are excellent at blocking outside noise, especially when using the supplied foam pads, but they're the most expensive set on test. Seven different sets of removable ear pads are provided, and although they can be hard to change, they offer good fit and comfort. Available online.

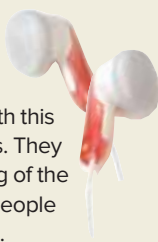
WORTH KNOWING The SE210 set (13, in the table, p52) is similar but cheaper.

Available Online **Type** Plug **Weight** 7g **Cable length** 100cm plus 50cm extension
Colour Black or white **Noise cancelling** No **Case** Yes

Types of headphones

IN EAR

Portable music players usually come supplied with this type, or with plugs. They rest in the opening of the ear and fit some people better than others.



PLUG

As with ear plugs, you push these right into the ear canal. They can be difficult to fit but, if done correctly, they are good at blocking outside noise and stopping sound leaking out.



Some have different-sized pads you can mould to fit your ear.

ON EAR These sit on the ears not over them, so are usually smaller than over-ear types. They tend to have foam or leatherette pads for extra comfort.



OVER EAR These are traditional-looking headphones where cushioned pads cover the whole ear. They tend to be bulkier than the other three types and are therefore the least suitable for portable use.



Best Buy on-ear and over-ear headphones

These two types of set stole the show when we tested headphones in August 2006, and the good news is that all our Best Buys are still available



BOSE QUIETCOMFORT2 £225

These over-ear headphones were best on test last time, but they're expensive. They offer good, natural sound and evenly controlled bass. Since our test, Bose has added the

WHICH?
BEST BUY

QuietComfort3 model to its range. These on-ear phones look similar to their predecessor but aren't quite as good. They're still Best Buys, scoring 80 per cent. As with the QuietComfort 2, noise cancelling impressed – it's neatly hidden in the ear pads. They're easy to charge and come with a large set of power adaptors, including one for planes. They cost £275.

SCORE 89%



BEYERDYNAMIC DTX900 £50

The dynamic sound of these over-ear headphones is clear and balanced, though they are heavier than our other Best Buys.

SCORE 85%

WHICH?
BEST BUY



GRADO SR60 £80

They may look basic but this Grado set offers superb sound that is rich and well balanced. However, they struggle to prevent sound escaping and to keep out unwanted noise.

SCORE 85%

WHICH?
BEST BUY



BOSE TRIPORT £99

A great option for use with portable players, they are surprisingly lightweight and sound is good.

SCORE 78%

WHICH?
BEST BUY



SENNHEISER PXC 250 £100

Ideal for commuters, these headphones fold up and a noise-reduction feature helps shut out the outside world.

SCORE 76%

WHICH?
BEST BUY



SENNHEISER HD 435 £45

This bulky set gives dynamic, well-balanced sound and the headband is easily adjusted.

SCORE 73%

WHICH?
BEST BUY



SENNHEISER PX 100 £30

The lightest and cheapest of the on-ear Best Buys. Sound is clear and bright with good bass.

SCORE 72%

WHICH?
BEST BUY

Facts & scores

What we discovered during our testing

For every mood

The Creative EP-480 headphones are available in ten different colours.

Apple of your ear

The headphones that come with an iPod are better than a replacement plug set that you can buy from Apple (£22), so hang on to your original set or buy the same again if you lose them.

Heavy metal

There is a titanium and an aluminium version of the Audio-Technica. We tested the titanium version, but sound quality should be the same for both.

Most portable

The Creative EP-360 plugs aren't a top-scoring set, but they are the lightest on test at just 3g.

Which should you choose?



Best in-ear set

SONY MDR-E10LP £10 The top scoring in-ear set (8), with sound quality that matches some of the best plug sets on test.



Best for noise cancelling

SONY MDR-NC22 £50 The Sony MDR-NC22 (7) was the better of the two noise-cancelling sets we tested, and had decent sound quality overall.



Best for hands-free

VIVANCO SREN-80 £80 ONLINE This plug set (19) has a neck strap that attaches to a portable music player, so you can keep your hands free while enjoying your music.

How to buy

Shops such as Argos, Currys, John Lewis and Maplins are worth trying, but many sets are cheaper or are available only online. Visit www.advancedmp3players.co.uk, www.amazon.co.uk, www.digitaldirect.co.uk or www.hmv.co.uk. If you shop online, the seller is responsible for goods until they're handed to you. You can cancel from when you place the order to seven working days from the day after you receive the goods. The seller can charge you the cost of returning the goods.

MODEL	SPECIFICATION				WHICH? TEST PERFORMANCE					SCORE %
	PRICE (£)	TYPE	WEIGHT (g)	CABLE LENGTH (cm)	SOUND	LEAKAGE	SHIELDING	NOISE CANCELLING	EASE OF USE	
1 SONY MDR-EX90LP	80	Plug	8	126	★★★★	★★★★	★★★★	n/a	★★★★	68
2 ULTIMATE EARS Super.fi 5EB	99	Plug	11	132	★★★★	★★★★	★★★★	n/a	★★★★	67
3 BOSE In-Ear	69	Plug	9	132	★★★	★★★★★	★★★★★	n/a	★★★★★	66
4 DENON AH-C350	33	Plug	4	124	★★★★	★★★★★	★★★★★	n/a	★★★★	66
5 PHILIPS SHS8000	30	Plug	8	130	★★★★	★★★★★	★★★★★	n/a	★★★★	66
6 SHURE SE310	170	Plug	7	100 ^a	★★★	★★★★★	★★★★★	n/a	★★★★	66
7 SONY MDR-NC22	50	Plug	10	162	★★★	★★★★★	★★★★★	★★★	★★★★	64
8 SONY MDR-E10LP	10	In ear	6	126	★★★	★★★★★	★★★★★	n/a	★★★★	63
9 CREATIVE EP-480	22	In ear	7	129	★★★	★★★★★	★★★★★	n/a	★★★★	62
10 DENON AH-C700	139	Plug	8	120	★★★	★★★★★	★★★★★	n/a	★★★	62
11 PHILIPS SHE2850	5	In ear	7	115	★★★	★★★★★	★★★★★	n/a	★★★★	62
12 SENNHEISER MX 50	10	In ear	8	129	★★★	★★★★★	★★★★★	n/a	★★★	61
13 SHURE SE210	100	Plug	6	100 ^a	★★★	★★★★★	★★★★★	n/a	★★★★	61
14 APPLE iPod current model	19	In ear	6	115	★★★	★★★★	★★★★	n/a	★★★	60
15 JVC HA-FX33	15	Plug	4	128	★★★	★★★★★	★★★★★	n/a	★★★	60
16 SENNHEISER PMX 70	30	In ear	18	130	★★★	★★★★★	★★★★★	n/a	★★★	60
17 XTREME MAC FS1	67	Plug	4	114	★★★	★★★★★	★★★★★	n/a	★★★★	60
18 AUDIO-TECHNICA ATH-CM7	120	In ear	8	129	★★★	★★★★★	★★★★★	n/a	★★★★	59
19 VIVANCO SREN-80	80	Plug	5	48	★★★	★★★★★	★★★★★	n/a	★★★★	59
20 SENNHEISER OMX 50	20	In ear	10	130	★★★	★★★★★	★★★★★	n/a	★★★	58
21 CREATIVE EP-630	28	Plug	3	127	★★★	★★★★★	★★★★★	n/a	★★★★	56
22 APPLE iPod replacement headphones	25	Plug	4	114	★★	★★★★★	★★★★★	n/a	★★★	47
23 PANASONIC RP-HC50	40	In ear	8	154	★★★	★★★★★	★★★★★	★	★★	46
24 SONY DR-BT10CX	46	Plug	5	39	★★	★★★★★	★★★★★	n/a	★★★★	43
25 JABRA BT320s	35	In ear	6	46	★★	★★★★★	★★★★★	n/a	★★★	42

^a Comes with a 50cm extension cable

USING THE TABLE

We tested best-selling models from leading manufacturers. The more stars the better.

Specification

Price Prices for all models are a guide. Prices for those available only online are shown in *italics*.

Type All are in-ear or plugs (see 'Types of headphones', p51).

Test performance

Sound Based on assessments by expert listeners. **Leakage** Based on technical measurements of sound leakage. **Shielding** Based

on how much external noise the headphones shield from the listener. **Noise cancelling** Based on measurement and expert user assessment of how well sets with noise-cancelling features block outside noise. **Ease of use** This includes fit and comfort and is based on both expert user assessment and technical measurements.

Score

Ignores price and is based on:
 Sound **75%**
 Comfort **12.5%**
 Adjusting fit/ease of use **12.5%**

Contacts

Apple 0845 600 1683; www.apple.com/uk

Audio-Technica 0113 277 1441; www.audio-technica.com

Bose 0800 107 4999; www.bose.co.uk

Creative 01628 776747; uk.europe.creative.com

Denon 01753 680568; www.denon.co.uk

Jabra 0800 032 7026; www.jabra.com

JVC 0870 330 5000; www.jvc.co.uk

Panasonic 0870 535 7357; www.panasonic.co.uk

Philips 0845 601 0354; www.philips.co.uk

Sennheiser 01494 551551; www.sennheiser.co.uk

Shure 020 8808 2222; www.shure.co.uk

Sony 0870 511 1999; www.sony.co.uk

Ultimate Ears www.ultimateears.com

Vivanco 01442 403020; www.vivanco.com

Xtreme Mac www.xtrememac.com

NEW RESULTS

Best Buys

More sets tested

Visit www.which.co.uk/headphones for test results on 39 more in-ear, plug, on-ear and over-ear headphone sets including full results for the new Bose QuietComfort3 Best Buy. See www.which.co.uk/loginhelp if you would like some help logging in.