

Music on the go

Top choices for music on the move, some of our Best Buy MP3 players are also ideal for viewing photos or watching video

MP3 players and digital music have revolutionised the way we listen to and buy music. And with the launch of digital music downloads on Amazon.com, which will probably spread to the UK site, and rumours that Google is to launch a digital music service to compete with Apple's iTunes, this looks set to continue.

But an MP3 player isn't just for music enthusiasts. You can also listen to podcasts (see 'Jargon explained', p48), books, travel guides and walking tours. And some players have big colour screens, ideal for viewing photos or video.

In the last year MP3 players have become hugely popular and mainstream, because players are becoming easier to use and relatively cheap. And with increased access to broadband, people

can spend more time online for less money browsing and buying music.

The main manufacturers are focusing on new technology for the larger-capacity hard-disk or jukebox players, constantly trying to store more songs on smaller players and to steal market share from the dominant Apple iPod. There are also many tiny solid-state or Flash players with smaller memories that are much cheaper. See 'Jargon explained', p48, for explanations of the two different types.

Another option for mobile music is a combined phone with MP3 player. You'll find the Sony Ericsson W800i and Motorola ROKR in our table on p50.

Some brands of MP3 player are available online only, including Archos, iAudio and iRiver.

An MP3 player isn't just for music. You can listen to talking books, podcasts and travel guides



Measuring sound pressure and leakage in the booth

Testing more players, more quickly

We've recently changed the way we test MP3 players. We're now testing them in co-operation with European consumer groups. This big test runs year round and new releases go to the lab as soon as we can get hold of them. MP3 players will still feature regularly in the magazine but we'll also report on as many players as we can, as fast as we can, online.

And if you're wondering why the classic iPod is absent from our table, it's because with our new scoring system, it's no longer a Best Buy. See www.which.co.uk/mp3s to see how the iPod and 15 other models performed.

More thorough testing

Our new testing is even more comprehensive. For your listening pleasure, we drained 2,174 hours of batteries to check running time, whether playing music or video. We also uploaded and downloaded 12GB worth of music to each player – which took 11,454 seconds (over three hours) – to check how long it takes to transfer music to and from the players.

Prices

Prices are the cheapest widely available high-street price for each memory size as we went to press. Where models are available online only, we say so.

What you should look for

MP3

MP3 files, the best known and most flexible digital music format, can play on most players. See 'Jargon explained', p48, for other formats

Headphones

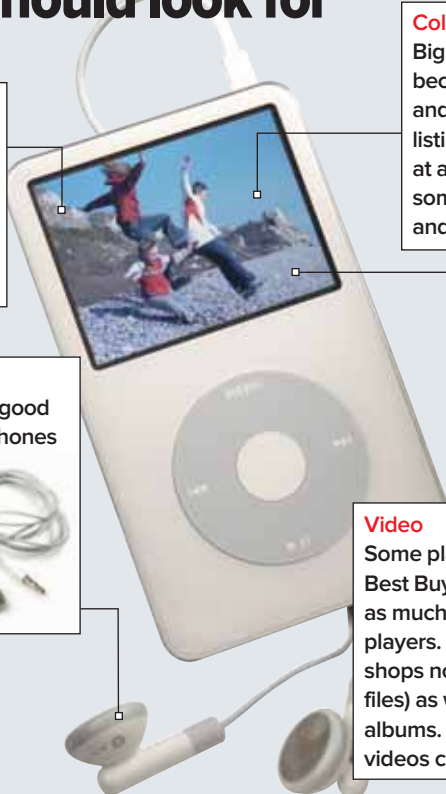
All our Best Buys sound good with the supplied headphones but even better with a better set, like our current Best Buy Sennheiser PX100, around £30

Colour screen

Big colour screens are becoming more common and let you see track listings in colour, look at album covers and, in some cases, view photos and watch video

Video

Some players, such as the Best Buy Archos AV700, are as much video players as MP3 players. Some online music shops now sell videos (MP4 files) as well as songs and albums. For example, music videos cost £1.89 from iTunes



1 1GB OR LESS

68% iAudio G3

£50/£80/£120/£200

It looks a little like a mini tape recorder but this MP3 player gives other solid-state players a run for their money. Battery life is good at 33 hours per charge and it's easy to use. You need only one hand to use the joystick

WHICH?
BEST
BUY

control to navigate playlists, and the supplied software is good. **WE FOUND** Though small, it's not short on features: it packs in an FM radio, clock and alarm.

Available Online only Type of player Solid state Memory sizes 256MB/512MB/1GB/2GB Compatible formats MP3, WMA, Ogg, WAV Uploading 100MB 51sec Batteries supplied Standard Running time 33hr Radio Yes Photos No



2 1GB OR LESS

68% iRiver U10

£65/£145

If you tire of music, you can view photos, watch video, listen to radio or record your voice, for personal reminders, or just for fun.

This isn't the easiest player to set up, but once done it's easy to use and all the basic functions are to hand.

WORTH KNOWING Running time is 28 hours per charge with the rechargeable batteries supplied and charging takes three hours.

Available Online only Type of player Solid state Memory sizes 1GB/2GB Compatible formats MP3, WMA Uploading 100MB 1min 5sec Batteries supplied Rechargeable Running time 28hr Radio Yes Photos Yes



3 1GB OR LESS

68% Samsung YP-T8

£130/£180

This MP3 player looks like a miniature mobile phone handset but with noticeably fewer buttons. There is a radio that you can record from as well as listen to, and you can view photos, too. Its battery life is OK at 17 hours per charge but this is one of the heavier solid-state Best Buys.

WHICH?
BEST
BUY

WE LIKE It's easy to use, with good supplied software and a decent colour screen.

Cheapest store John Lewis Type of player Solid state Memory sizes 512MB/1GB Compatible formats MP3, WMA, Ogg, WAV Uploading 100MB 14sec Batteries supplied Rechargeable Running time 17hr Radio Yes Photos Yes



4 1GB OR LESS

66% iAudio 5

£109/£129/£209

The size and shape of a cigarette lighter, this player has a radio and runs on a single AA battery. Battery life could be better – it's 15 hours with the standard

batteries supplied and slightly less with rechargeables. The basic functions are easy to find and it's simple to navigate.

WORTH KNOWING You can choose the screen colour you prefer (blue, red or green) from the player's set-up.

Available Online only Type of player Solid state Memory sizes 256MB/512MB/1GB Compatible formats MP3, WMA, Ogg, WAV Uploading 100MB 47sec Batteries supplied Standard Running time 15hr Radio Yes Photos No



5 1GB OR LESS

65% iRiver T10

£85/£112

This iRiver player has brilliant battery life. However, it isn't quite as easy to use as some of the other small MP3 players and it's one of the heavier solid-state Best Buys. It comes with a radio and has a handy clip to fasten the player to your clothes, belt or bag.

WHICH?
BEST
BUY

WE LIKE It runs on a single AA battery, and you can listen for two days non-stop before the batteries wane.

Available Online only Type of player Solid state Memory sizes 512MB/1GB Compatible formats MP3, WMA, Ogg Uploading 100MB 47sec Batteries supplied Standard Running time 48hr Radio Yes Photos No



6 1GB OR LESS

65% iRiver T30

£70/£90

This is a basic player: it doesn't have a radio and you can't view photos or watch video, but it does have a voice recorder. It's easy to set up and use but, like the T10, not as easy to use as some other small players. It has a respectable 15 hours' battery life per charge.

GOOD FOR MUSIC This iRiver is fine for listening to music.

Available Online only Type of player Solid state Memory sizes 512MB/1GB Compatible formats MP3, WMA, Ogg Uploading 100MB 51sec Batteries supplied Standard Running time 15hr Radio No Photos No





14 AROUND 5GB

65% Apple iPod Nano £110/£140/£180

The pencil-thin Nano is a solid-state player; its chunkier sibling is a hard-disk player. It's easy to use, with the same iPod scroll-wheel to control playing and track selection. It also has a clear colour screen for viewing pictures, though it can't display video like its bigger brother. It comes with iTunes software, so you can manage your music, and more.

WHICH? BEST BUY

WORTH KNOWING iPod's little brother matches the original with great sound quality.

Cheapest store Argos, Comet, John Lewis **Type of player** Solid state **Memory sizes** 1GB/2GB/4GB **Compatible formats** MP3, M4P, Apple lossless, WAV, Audible **Uploading** 100MB 27sec **Batteries supplied** Rechargeable **Running time** 15hr **Radio** No **Photos** Yes



15 AROUND 5GB

65% Philips HDD1620 £155

Small, dark and handsome, this sleek black Philips player is easy to set up on first use and to find the basic functions. With the rechargeable batteries supplied, it does have a slightly better battery life than the iPod Nano, at 17 hours per charge. On the sound and vision front, you can view your photos on the colour display. Although, like the iPod Nano, it lacks a radio, it does have a clock and a timer. **WE LIKE** It's easy to use, with touch-sensitive controls and a scroll bar.

WHICH? BEST BUY

Cheapest store Comet **Type of player** Hard disk **Memory size** 6GB **Compatible formats** MP3, WMA, WAV **Uploading** 100MB 28sec **Batteries supplied** Rechargeable **Running time** 17hr **Radio** No **Photos** Yes

Jargon explained

Plus all you need to know about podcasts and where to find them

TYPES OF PLAYER

Hard-disk players have built-in hard drives and can store many music files.

Solid-state players use a memory card to store music, and often have less capacity than hard-disk players. You store tracks on your PC (or Mac) and download music to the player as you want it.

MUSIC FILE FORMATS

Most players support the MP3 format. Other formats are: AAC, used by Apple; ATRAC3, which is Sony's format; WMA, a Microsoft format, compatible with Windows Media Player; WAV, the default for audio files on Windows PCs. Flac and Ogg are free open-source formats.

MEMORY As a rule of thumb a typical, decent-quality pop track uses about 4.5MB of memory. So a 20GB hard-disk

player can store about 4,500 songs and a 512MB solid-state player, about 120. You can reduce file sizes, but this reduces quality, too.

PODCASTING

Podcasting is the free and legal online distribution of music, talk – or a combination – that you can download to your MP3 player.

DO IT YOURSELF

Anyone with basic audio-editing software, an internet connection and some ideas can make a radio show, dubbed a podcast, and put it online.

WHERE TO FIND PODCASTS

You can download free podcasts of programmes from big broadcasters.

The BBC offers radio programmes from several stations to download at www.bbc.co.uk/radio/downloadtrial. You can also subscribe to receive

the latest programme automatically.

Virgin Radio offers many of its shows as podcasts, at www.virginradio.co.uk

The Guardian offers specially recorded podcasts, as well as a weekly Media Guardian podcast, at www.guardian.co.uk

Search the web – there's lots of choice. You can find a directory of the many amateur podcasts available at www.podcastingnews.com/forum/link_183.htm

HOW TO GET PODCASTS ON TO YOUR PLAYER

Simply go to a podcasting website, click on a programme you fancy and download it to your MP3 player – just as you would with music tracks. Or with podcasting software, you can subscribe to a site and receive weekly updates.

MODEL		SPECIFICATION	
		PRICE (£)	WEIGHT (g)
1GB OR LESS			
1	iAUDIO G3	50/80/120/200	36
2	iRIVER U10	65/145	69
3	SAMSUNG YP-T8	130/180	55
4	iAUDIO 5	109/129/209	47
5	iRIVER T10	85/112	71
6	iRIVER T30	70/90	36
7	EZAV XEN EMP-600	119	53
8	IOPS Z5 Colour	119	32
9	CREAM Creamselector	49/69	27
10	SONY NW-E207	90	42
11	QOOLQEE X3 Sports	49/69/79	29
12	SAFECOM SMFD	35/55/65	32
13	BANG & OLUFSEN Beosound 2	330	89
AROUND 5GB			
14	APPLE iPod Nano	110/140/180	43
15	PHILIPS HDD1620	155	87
16	PHILIPS PSA615	170	102
17	MINISTRY OF SOUND MOSMP055	170	79
18	SANYO HDP-M3000	100	88

21 10GB OR MORE

68% iAudio X5L

£230/£254/£280

This player can be used to view photos and play video. It also has an FM radio, which you can record from, as well as a voice recorder. Loading music is very quick. It's easy to use and to find the

basic functions. You'll get 30 hours' playing time on the supplied rechargeable batteries – which is impressive – though this dips to 18 hours if you're watching video.

WORTH KNOWING The supplied software automatically updates when you plug the player into your PC.

Available Online only Type of player Hard disk Memory sizes 20GB/30GB/60GB Compatible formats MP3, WMA, Ogg, WAV Uploading 100MB 13sec Batteries supplied Rechargeable Running time 30hr Radio Yes Photos Yes

22 10GB OR MORE

67% Archos AV700

£320/£365

Though it could be seen as more of a portable movie player, the

Archos still stores and plays music. The 40GB version can store about 9,000 songs; the massive 100GB version will hold up to 250 films. It has no radio but you can view photos as well as video on the large

screen; you can even record from TV. It works with Macs.

WE LIKE Battery life is great, putting the iPod to shame with 41 hours per charge.

Available Online only Type of player Hard disk Memory sizes 40GB/100GB Compatible formats MP3, WMA, WAV Uploading 100MB 12sec Batteries supplied Rechargeable Running time 41hr Radio No Photos Yes



		MEMORY		FEATURES				BATTERY		WHICH? TEST PERFORMANCE				SCORE %
SIZE (cm) HXWXD	MACINTOSH	TYPE	MEMORY SIZES AVAILABLE	FM RADIO	RADIO RECORD	MICROPHONE	VIEWING PHOTOS	TYPE	RUNNING TIME (hr)	SUPPLIED HEADPHONES	BEST BUY HEADPHONES	SOFTWARE	OVERALL EASE OF USE	
7x5x2		solid state	256MB/512MB/1GB/2GB	✓	✓	✓		standard	33	★★★★	★★★★★	★★★★★	★★★★★	68
4x7x2		solid state	1GB/2GB	✓	✓	✓	✓	rechargeable	28	★★★★★	★★★★★	★★★★★	★★★★★	68
8x4x2		solid state	512MB/1GB	✓	✓	✓	✓	rechargeable	17	★★★★	★★★★★	★★★★★	★★★★★	68
4x8x2		solid state	256MB/512MB/1GB	✓	✓	✓		standard	15	★★★★	★★★★★	★★★★★	★★★★★	66
4x9x3		solid state	512MB/1GB	✓	✓	✓		standard	48	★★★★	★★★★★	★★★★	★★★★	65
3x6x2		solid state	512MB/1GB			✓		standard	15	★★★★★	★★★★★	★★★★★	★★★★	65
7x4x2	✓	solid state	1GB	✓	✓	✓	✓	standard	12	★★★★	★★★★★	★★	★★★★★	62
6x3x2		solid state	1GB	✓	✓	✓	✓	rechargeable	4	★★★★★	★★★★★	★	★★★★★	61
7x4x1		solid state	512MB/1GB			✓		rechargeable	4	★★★★	★★★★★	★	★★★★	58
2x7x4		solid state	1GB					rechargeable	2	★★★★	★★★★★	★★★★	★★	57
5x5x2	✓	solid state	256MB/512MB/1GB	✓				rechargeable	1	★★★★	★★★★★	★	★★★★	54
2x6x2	✓	solid state	256MB/512MB/1GB	✓	✓	✓		standard	11	★★	★★★★★	★	★★★★	51
7x7x2	✓	solid state	none supplied					rechargeable	3	★★★★★	★★★★★	★★	★★	46
9x4x1	✓	solid state	1GB/2GB/4GB				✓	rechargeable	15	★★★★★	★★★★★	★★★★★	★★★★★	65
9x5x2		hard disk	6GB			✓	✓	rechargeable	17	★★★★★	★★★★★	★★★★	★★★★★	65
7x7x3		hard disk	6GB					rechargeable	15	★★★★	★★★★★	★★★★★	★★★★	60
8x5x2		hard disk	5GB			✓		rechargeable	12	★★★★	★★★★★	★★★★	★★★★	58
9x5x2		hard disk	6GB					rechargeable	10	★★★★	★★★★★	★★	★★★★	55

Table continues over page

23 10GB OR MORE

67% iAudio X5

£209/£239/£286

Sound quality with the supplied headphones is very good. This shiny black player has a large colour screen for viewing photos as well as text, plus a radio and a microphone. Its small

WHICH?
BEST
BUY

joystick-type control is easy to use and the supplied software is good, too. This model can be used with Macs. At just 13 hours per charge, battery life could be better.

WORTH KNOWING If you're a discerning listener, a set of Best Buy headphones will improve the sound quality even more.

Available Online only Type of player Hard disk Memory sizes 20GB/30GB/60GB Compatible formats MP3, WMA, Ogg, Flac, WAV Uploading 100MB 8sec Batteries supplied Rechargeable Running time 13hr Radio Yes Photos Yes



24 10GB OR MORE

67% iRiver H10

£160

Just a bit bigger than the iPod, this aluminium player is available in four colours. It is possible to view your photos but the small screen has low resolution, so the results aren't brilliant. There's also an FM radio which you can also record from. It's easy to use with a touch-sensitive control. Battery life with the supplied rechargeables is acceptable at 15 hours per charge.

WHICH?
BEST
BUY

WE FOUND The supplied software is easy enough to use, it is simple and quick to upload and download files from your computer's hard drive.

Available Online only Type of player Hard disk Memory sizes 20GB Compatible formats MP3, WMA, WAV Uploading 100MB 18sec Batteries supplied Rechargeable Running time 15hr Radio Yes Photos Yes



How to buy music

Restrictions and rights on music download services and software

■ RESTRICTED USE

To deter illegal copying, most online music stores sell files that have restrictions on their use, known as Digital Rights Management or DRM. **■ KNOW YOUR LIMIT** DRM may include how many devices you can play the music on, how many times you can 'burn' it to CD or even how many times you can play a track.

For example, if you buy a song from iTunes for 79p, you can listen to it on five PCs, burn it to unlimited CDs and copy it to unlimited portable players.

However, if you buy the same song (for the same price as iTunes) from Tesco, you can listen to it on just one

PC, burn it to just three CDs and copy it to just three players.

■ ONLINE MUSIC SOURCES

In its test last year, *Computing Which?* found that the best were Panasonic Music Stream (www.panasonicmusicstream.com), iTunes (www.itunes.co.uk) and Napster (www.napster.co.uk).

On both iTunes and Napster you'll have to download software to see the music on offer.

■ SUBSCRIPTION SERVICES With these services, such as Napster-to-Go, you pay a subscription and download as much music (and videos) as you want. You can access the music for as long as you continue to subscribe.



Facts & scores

The inside track on MP3 players – and their users

Music phones

The Sony Ericsson W800i is a Best Buy phone (see p60); its music player is good but not quite good enough to be a Best Buy MP3 player. The Motorola ROKR, despite the hype and links to iTunes, is a letdown as a music player.

MP3 enthusiasts

Research has revealed, probably not surprisingly, that teenagers make up a disproportionately large group of iTunes users. Rather less predictably, iTunes users are 2.2 times more likely to own a Volkswagen than the average internet user. And iTunes users are most likely to drink cider in the pub.

MODEL	PRICE (£)	WEIGHT (g)
MUSIC PHONES		
19 SONY ERICSSON W800i	220	99
20 MOTOROLA ROKR E1	170	108
10GB OR MORE		
21 iAUDIO X5L	230/254/280	186
22 ARCHOS AV700	320/365	600
23 iAUDIO X5	209/239/286	151
24 iRIVER H10	160	162
25 SAMSUNG YH-J70	180/270	133
26 ARCHOS Gmini 402	220	158
27 CREATIVE Zen Sleek Photo	220	155
28 SONY NW-A3000	200	180
29 ACER MP-330	143	139

USING THE TABLE

We tested MP3 players of various sizes of memory from leading brands and smaller manufacturers, including high-profile new releases.

Specification

Price For Best Buys we give the cheapest widely available high-street price for each memory size. Prices for other models are a guide. Online prices are in *italics*. **Weight** With

25 10GB OR MORE

67% Samsung YH-J70 £180/£270

This little black and silver player is about the same size and shape as an iPod. It features an FM radio, which you can record from as well as listen to, and it has a colour display so you can view photos or watch video, although the screen is a bit small. It's quick to load music on to the player. But battery life with the rechargeables supplied is a letdown – just nine hours of playing per charge.

EASY TO USE The supplied software is good and the player is easy to use – you navigate with a series of buttons.

Cheapest store Dixons/Curry.digital **Type of player** Hard disk **Memory sizes** 20GB/30GB **Compatible formats** MP3, WMA, Ogg, WAV **Uploading 100MB** 22sec **Batteries supplied** Rechargeable **Running time** 9hr **Radio** Yes **Photos** Yes

WHICH?
BEST BUY

26 10GB OR MORE

66% Archos Gmini 402 £220

Another player that's as much a video player as a music player. You can connect it to a TV to watch movies and view photos as a slide show. At just 12 hours per charge, battery life's not great, and it lacks a radio.

Sound is OK but much better with Best Buy headphones. Works with Macs, too.

WE LIKE One of the easiest players to use: you hold it flat like a gaming device and use buttons on either side of the colour screen.

Cheapest store Online **Type of player** Hard disk **Memory sizes** 20GB **Compatible formats** MP3, WMA, WAV **Uploading 100MB** 8sec **Batteries supplied** Rechargeable **Running time** 12hr **Radio** No **Photos** Yes

WHICH?
BEST BUY

		MEMORY		FEATURES				BATTERY		WHICH? TEST PERFORMANCE				SCORE %
SIZE (cm)	MACINTOSH	TYPE	MEMORY SIZES AVAILABLE	FM RADIO	RADIO RECORD	MICROPHONE	VIEWING PHOTOS	TYPE	RUNNING TIME (hr)	SUPPLIED HEADPHONES	BEST BUY HEADPHONES	SOFTWARE	EASE OF USE	
10x5x2		solid state	512MB	✓		✓	✓	rechargeable	19	★★★★	★★★★★	★★★★	★★★★★	61
11x5x2	✓	solid state	512MB				✓	rechargeable	16	★★★★	★★★★	★★★★★	★★★★	53
10x6x3	✓	hard disk	20GB/30GB/60GB	✓	✓	✓	✓	rechargeable	30	★★★★★	★★★★★	★★★★	★★★★★	68
11x21x2	✓	hard disk	40GB/100GB				✓	rechargeable	41	★★★★	★★★★★	★★★★★	★★★★★	67
10x6x2	✓	hard disk	20GB/30GB/60GB	✓	✓	✓	✓	rechargeable	13	★★★★★	★★★★★	★★★★★	★★★★★	67
10x6x2		hard disk	20GB	✓	✓	✓	✓	rechargeable	15	★★★★★	★★★★★	★★★★	★★★★★	67
10x6x2		hard disk	20GB/30GB	✓	✓	✓	✓	rechargeable	9	★★★★	★★★★★	★★★★★	★★★★★	67
6x10x2	✓	hard disk	20GB			✓	✓	rechargeable	12	★★★★	★★★★★	★★★★★	★★★★★	66
10x6x2		hard disk	20GB	✓	✓	✓	✓	rechargeable	18	★★★★	★★★★★	★★★★★	★★★★★	64
10x7x2		hard disk	20GB					rechargeable	25	★★★★	★★★★★	★★★★	★★★★★	64
10x7x2	✓	hard disk	20GB			✓		rechargeable	4	★★★★	★★★★★	★	★★★★★	62

batteries. **Macintosh** Works with Apple computers. (All the players work with PCs.)

Memory

Sizes 20GB stores about 340 hours of music; 1GB

stores about 17 hours.

Radio record Can record from its built-in FM radio.

Microphone Can be used as a dictation-recorder.

Battery

Running time Supplied

battery life (standard or rechargeable).

Which? test performance

Supplied/Best Buy headphones Rating is for quality of sound.

Score

Ignores price and is based on:

Sound quality 30%
Convenience 30%
Battery 15%
Features and functionality 10%
Use on the move 10%
Durability 5%

WHICH? EXTRA
 Find 15 more MP3 players online at www.which.co.uk/mp3s