

How we test



We test how MP3 and MP4 players stand up to bumps

Durability

We place each player in a rotating drum so that it falls 50cm about 20 times while going through a playlist of nearly 100 songs. After 450 turns of the drum, we rate how well the player has continued to play music while being bumped about. This is particularly challenging for hard-disk models, which have to continually access the hard drive. Worst on test was the Mpio HD400.

Damage to hearing

People who constantly listen to personal music players risk damaging their hearing. We check the maximum volume to test for possible damage caused by listening at a high level for more than an hour a day. All models tested exceeded the average limit set by the Health and Safety Executive. Maximum volumes varied from 87 to more than 100dB. All the one-star players in our tests reached more than 99dB, the level that can damage hearing. Worst on test was the iAudio U3 MP4 player at 113dB.

Headphones

Which should you choose?

Almost all our MP3 and MP4 players (p44) would benefit from Best Buy headphones. These include: over-ear: Beyerdynamic DTX900 (£59), Bose Triport (£120); on-ear: Grado SR60 (£79), Sennheiser PX 100 (£30).

On the move

Our ten-page special looks at the best new machines for listening to music or watching video while you're out and about



Imagine being able to download music free (and legally) from the internet. A website called SpiralFrog, which launches in the US next month, offers users the chance to do exactly that.

Music companies such as Vivendi Universal, which includes artists such as Elton John and Girls Aloud, have already agreed that their music catalogue will be put on the site, which will be paid for by advertising.

There is no news on when UK customers will get access, but in the meantime you can use paid-for sites such as *Computing Which?* favourites iTunes (www.itunes.co.uk) and Napster (www.napster.co.uk). You won't be short of choice. There are more than 25 million music tracks available online –

Our Best Buy MP3 players have the best sound quality and are the easiest to use

more than you could listen to in two lifetimes, with more added every day.

MP3 players aren't just for music. You can also listen to talking books, walking tours and gallery guides or download free podcasts (check your favourite radio station or the BBC website).

We have chosen our Best Buy MP3 players based on which have the best sound quality and are the easiest to use, including the software to organise your music. It is often possible to upgrade the software (also known as firmware) that comes supplied with the machine. You can go to the manufacturer's website to download the latest version for free.

Newer versions let you listen to more file formats, or fix problems from earlier software releases.

What you should look for

CONNECTIONS

Few players come with a docking station, but it's a handy extra. When you sit your player in it, your PC links with the player and updates your music

ACCESSORIES SUPPLIED

Some players come with a belt clip, neck strap or arm band, which are helpful for carrying the player on the go and especially if you are exercising

REMOTE CONTROL

Remote controls on headphone cables are rare but allow you to use the player without taking it out of your pocket

CLOCK

Many players have a clock and alarm – so that's one thing less to pack when you go on holiday



iPod: from icon to also-ran

Why the style leader is now in the chasing pack

Apple's iPod is the most famous MP3 player and an icon of our times. Once it was a Best Buy for its great sound quality and ease of use, with its ingenious scroll wheel. But it's no longer a trailblazer. Other players match its performance and better its mediocre battery life of 17 hours a charge. The iAudio X5L runs for 30 hours, the Archos AV 700 for 41 hours. The iAudio X5L plays videos on a single charge for longer than the iPod can play music. While the iPod battery life is now below average for its memory size, the Nano is still average in this area, which means that, combined with its other qualities, it remains a Best Buy. Apple has revamped its MP3 range, with an all-new Shuffle, new Nanos and iPods with bigger memories and brighter screens. We're testing these.

1 1GB OR LESS

68% iAudio G3

£88/116/155

This is easy to use with a joystick you can work with one hand. Supplied software is good, too.

WHICH?
BEST BUY

WE LIKE It has an FM radio you can record from and you can make voice recordings.

Available Online Memory type Solid state Memory sizes 512MB/1GB/2GB Compatible formats MP3, WMA, Ogg, WAV Uploading 100MB 51sec Radio Yes Photos No Batteries Standard and rechargeable Running time 33hr Charging time n/a



2 1GB OR LESS

66% iAudio 5

£78/69/119

It's easy to find and move between all the basic functions.

Battery life could be better, at 15 hours on a single standard AA battery.

WE LIKE You choose the screen colour from the player's set-up menu.

Available Online Memory type Solid state Memory sizes 256MB/512MB/1GB Compatible formats MP3, WMA, Ogg Uploading 100MB 47sec Radio Yes Photos No Batteries Standard and rechargeable Running time 15hr Charging time n/a

WHICH?
BEST BUY

4 1GB OR LESS

64% iRiver T20

£80/110 T20FM £75/92

The buttons are a good size, but hard to distinguish between when the player is in your pocket. Reading from the small screen is fine and you can adjust how long the backlight is on.

Available at Comet and Woolworths.

WORTH KNOWING Available with or without an FM radio.

Cheapest stores Comet, Woolworths Memory type Solid state Memory sizes 512MB/1GB/2GB Compatible formats MP3, WMA, Ogg, WAV Uploading 100MB 53sec Radio Yes Photos No Batteries Rechargeable Running time 16hr Charging time 2hr

WHICH?
BEST BUY

21 AROUND 5GB

65% Apple iPod Nano

£99/129/169

The Nano has the same easy-to-operate scroll wheel as its big brother, the iPod, making it a breeze to navigate through songs and albums. Battery life is 15 hours. Available widely.

WE LIKE It matches the iPod's great sound quality.

Cheapest stores Argos, Currys, Comet and John Lewis Memory type Solid state Memory sizes 1GB/2GB/4GB Compatible formats MP3, M4A, M4P, Apple lossless, WAV, Audible Uploading 100MB 27sec Radio No Photos Yes Batteries Rechargeable Running time 15hr Charging time 3hr

WHICH?
BEST BUY

The Creative Zen Micro Photo is available in ten colours, so you won't struggle to find one that suits you

3 1GB OR LESS

66% iRiver T10

£72/107

One of the heavier solid-state Best Buys. Solid-state models use a memory card to store music. It's harder to use than some other smaller players tested.

WE LIKE Brilliant battery life; you can listen for two days non-stop.

Available Online Memory type Solid state Memory sizes 512MB/1GB Compatible formats MP3, WMA, Ogg Uploading 100MB 49sec Radio Yes Photos No Batteries Standard and rechargeable Running time 48hr Charging time n/a

WHICH?
BEST BUY

22 AROUND 5GB

64% Creative Zen Micro Photo

£150

You can store details of your contacts on the player and synchronise it with Microsoft Outlook. For the style-conscious, there's a choice of ten colours, so you shouldn't struggle to find one to suit you.

Available at John Lewis.

WE FOUND This model is one of the few on test that has both a radio and photo features.

Cheapest store John Lewis Memory type Hard disk Memory sizes 8GB Compatible formats MP3, WMA, WAV Uploading 100MB 21sec Radio Yes Photos Yes Batteries Rechargeable Running time 16hr Charging time 4hr

WHICH?
BEST BUY

23 AROUND 5GB

64% Philips HDD1620/00

£155

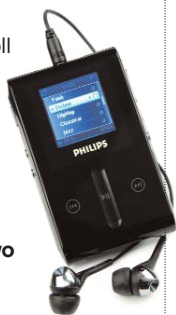
Touch-sensitive controls and a scroll bar make the Philips easy to use.

The battery life is 17 hours a charge. Like the Nano, it lacks a radio.

Available at Comet

WE LIKE It takes just two hours to charge.

Cheapest store Comet Memory type Hard disk Memory size 6GB Compatible formats MP3, WMA, WAV Uploading 100MB 28sec Radio No Photos Yes Batteries Rechargeable Running time 17hr Charging time 2hr

WHICH?
BEST BUY

25 10GB OR MORE

67% iRiver H10

£200

This aluminium player comes with a belt clip. It's available in four colours.

Battery life could be better, at 15 hours per charge, but charging is quick – just two hours.

WE FOUND It's possible to view your photos but the small screen has low resolution so quality isn't brilliant.

Available Online Memory type Hard disk Memory sizes 20GB Compatible formats MP3, WMA, WAV Uploading 100MB 18sec Radio Yes Photos Yes Batteries Rechargeable Running time 15hr Charging time 2hr

WHICH?
BEST BUY

26 10GB OR MORE

65% Creative Zen Sleek Photo

£220

This plays many major formats. Using the top volume over long periods could damage hearing.

Available at Woolworths.

WE FOUND The screen is smaller than on some 20GB rivals but viewing photos is easy.

Cheapest store Woolworths Memory type Hard disk Memory sizes 20GB Compatible formats MP3, WMA, WAV Uploading 100MB 16sec Radio Yes Photos Yes Batteries Rechargeable Running time 18hr Charging time 2hr

WHICH?
BEST BUY



Insider information

Our MP3 player expert Sandie Mattioli gives you the lowdown on a new release from Microsoft which is set to challenge the iPod's dominance

Apple dominates the portable music player market, with iPods, Nanos and Shuffles making up more than half of the digital music players sold worldwide. But how long will the dominance last?

Microsoft is developing a portable player under the name Zune to take on Apple's iPod. It will be released in the US in time for Christmas. Rivals to Apple's hugely successful music player are of course nothing new, but few have the clout to match a Microsoft-backed player.

Microsoft has said that Zune will have a 30GB hard drive, a three-inch colour screen and a radio, and will come in three

colours – black, white and brown. It will also have Wi-Fi which will let the player connect wirelessly to the internet, allowing users to download music/video directly to it. The wireless capability will also mean nearby users can share music and photos without a PC.

Following a deal between Microsoft and music company EMI, the Zune player will come preloaded with music videos. And Microsoft is preparing to launch a music store to go with the player called Zune Marketplace, where you can buy songs individually or sign up to a subscription service.

The player will be made by Toshiba, and the team behind the Xbox is working on it, but it remains to be seen whether Microsoft can create a player with the same level of cachet that Apple has with the iPod.



Facts & scores

Here are some interesting snippets that we uncovered during our testing

Online music

This iRiver is the only player in this batch compatible with Napster to Go, which uses a special type of WMA with DRM file format.

Hold function

This Ministry of Sound player lacks a hold function. Setting such a function ensures that you don't click any buttons by mistake.

Universal player

The Apple model is compatible with the most music formats of machines on test: MP3, M4A, M4P, Apple lossless, WAV and Audible talking books.

Headphones

These Philips models have plug-style headphones that pop inside your ear. They're not comfortable for everyone, so before buying, try out a pair to ensure they suit the shape of your ear.

| MODEL | |
|--------------|---|
| 1GB OR LESS | |
| 1 | iAUDIO G3 |
| 2 | iAUDIO 5 |
| 3 | iRIVER T10 |
| 4 | iRIVER T20/T20FM |
| 5 | MPIO FY700 |
| 6 | SAMSUNG YP-F2 |
| 7 | SAMSUNG YP-U1 |
| 8 | SAMSUNG YP-U2 |
| 9 | MAXFIELD G-Flash Metal |
| 10 | SANDISK Sansa c140 |
| 11 | SONY NWE002 |
| 12 | MAXFIELD Max-Joy |
| 13 | MOBIBLU B153 |
| 14 | PANASONIC SV-SD300 |
| 15 | TRANSCEND T.sonic 520 |
| 16 | MINISTRY OF SOUND MOSMP083 |
| 17 | GOODMANS GMP313 |
| 18 | MINISTRY OF SOUND MOSMP067 |
| 19 | MPMAN MP-F62 |
| 20 | MINISTRY OF SOUND MOSMP076 |
| AROUND 5GB | |
| 21 | APPLE iPod Nano |
| 22 | CREATIVE Zen Micro Photo^c |
| 23 | PHILIPS HDD1620/00^c |
| 24 | SAMSUNG YP-Z5 |
| 10GB OR MORE | |
| 25 | iRIVER H10^c |
| 26 | CREATIVE Zen Sleek Photo^c |
| 27 | PHILIPS HDD6320^c |

^a The price for the T20. The T20FM is £75 online (512MB)

Which should you choose?

Best for children

MAXFIELD MAX-JOY £100 ONLINE Aimed specifically at children, the Maxfield (12) has large on-ear headphones and low maximum volume so they won't damage hearing.

Best for battery life

MOBIBLU B153 £99 (1GB)/£129 (2GB) We listened to an astounding 154 hours of music on the Mobiblu (13) with the rechargeable batteries. Its closest rival managed only 48 hours.

Best for quick charging

SONY NWE002 £60 Thirty minutes gives the Sony (11) a full charge of 26 hours, or you can charge it in smaller bursts: five minutes' charging lasts an hour or two.

Best for talking books

SANDISK SANSa c140 £38 The Sansa (10) is compatible with Audible talking books. You'll find more than 30,000 titles at the American site www.audible.com, although they cost £13 each (less if you're a member).



USING THE TABLES

We tested as many MP3 and MP4 player new releases as possible. The more

stars the better.

Specification

Price For Best Buys we give the cheapest

widely available price.

Online prices in *italics*.

Weight This includes batteries. **Mac** Which models work with



| SPECIFICATION | | | | | | | | | WHICH? TEST PERFORMANCE | | | | | SCORE % |
|---------------------|-----------------------|------------|-----------------|-----|----------|----------------|----------------------------|----------------------|--|------------|--------------------|------------------|----------------|---------|
| PRICE (£) | MEMORY SIZES | WEIGHT (g) | SIZE HXWxD (cm) | MAC | FM RADIO | VIEWING PHOTOS | BATTERY | | SOUND QUALITY WITH SUPPLIED HEADPHONES | DURABILITY | USING THE SOFTWARE | USING THE PLAYER | HEARING SAFETY | |
| | | | | | | | RUNNING TIME: MUSIC (hour) | CHARGING TIME (hour) | | | | | | |
| | | | | | | | | | | | | | | |
| 88/116/155 | 512MB/1GB/2GB | 36 | 7x5x2 | | ✓ | | 33 | n/a | ★★★★★ | ★★★★ | ★★★★★ | ★★★★★ | ★★★★ | 68 |
| 78/69/119 | 256MB/512MB/1GB | 47 | 4x8x2 | | ✓ | | 15 | n/a | ★★★★ | ★★★★★ | ★★★★★ | ★★★★★ | ★★★★ | 66 |
| 72/107 | 512MB/1GB | 71 | 4x9x3 | | ✓ | | 48 | n/a | ★★★★ | ★★★★★ | ★★★★ | ★★★★ | ★★★★★ | 66 |
| 80/110 ^a | 512MB/1GB | 28 | 3x6x2 | | ✓ | | 16 | 2 | ★★★★★ | ★★★★★ | ★★★★★ | ★★★★ | ★★★★ | 64 |
| 80 | 1GB | 40 | 9x3x1 | ✓ | ✓ | | 23 | n/a | ★★★★★ | ★★★★★ | ★ | ★★★★ | ★★★★ | 62 |
| 60/60/99 | 512MB/1GB/2GB | 21 | 3x5x1 | | | | 12 | 2 | ★★★★ | ★★★★★ | ★★★★★ | ★★★★ | ★★ | 62 |
| 70/48/84 | 512MB/1GB/2GB | 31 | 3x9x1 | | | | 13 | 2 | ★★★★★ | ★★★★★ | ★★★★★ | ★★★★★ | ★★★★ | 62 |
| 50/70/100 | 512MB/1GB/2GB | 29 | 3x9x1 | | | | 14 | 2 | ★★★★★ | ★★★★★ | ★★★★★ | ★★★★★ | ★★★★ | 62 |
| 110 | 1GB | 43 | 9x3x2 | ✓ | | | 17 | n/a | ★★★★★ | ★★★★★ | ★★ | ★★★★ | ★★★★ | 61 |
| 38 | 1GB | 46 | 3x8x2 | | | ✓ | 18 | n/a | ★★★★ | ★★★★★ | ★ | ★★★★ | ★★★★★ | 60 |
| 60 ^b | 512MB | 23 | 3x8x2 | | | | 26 | 1 | ★★★★★ | ★★★★★ | ★★★★★ | ★★★★ | ★★★★ | 60 |
| 100 | 256MB | 58 | 8x6x3 | ✓ | | | 18 | n/a | ★★★★ | ★★★★★ | ★ | ★★★★ | ★★★★★ | 58 |
| 99/129 | 1GB/2GB | 64 | 5x7x2 | ✓ | | ✓ | 154 | 4 | ★★★★ | ★★★★★ | ★ | ★★★★★ | ★★★★ | 58 |
| 78 | none | 46 | 4x9x1 | | | | 22 | 3 | ★★★★ | ★★★★★ | ★★★★ | ★★★★ | ★★★★★ | 55 |
| 44/57 | 512MB/1GB | 37 | 7x3x2 | ✓ | | ✓ | 11 | n/a | ★★★★ | ★★★★★ | ★ | ★★★★ | ★★ | 54 |
| 40/45/65/90 | 128MB/256MB/512MB/1GB | 29 | 3x8x2 | | | | 11 | 1 | ★★★★ | ★★★★★ | ★ | ★★★★ | ★ | 53 |
| 22/25/40 | 128MB/256MB/512MB | 36 | 4x8x2 | | | | 12 | n/a | ★★★★ | ★★★★★ | ★ | ★★★★ | ★★★★★ | 51 |
| 60 | 256MB | 39 | 3x7x3 | | ✓ | | 20 | n/a | ★★★★ | ★★★★★ | ★ | ★★ | ★★★★★ | 51 |
| 27/35/50/70 | 256MB/512MB/1GB/2GB | 36 | 3x8x1 | | | | 9 | 5 | ★★★★ | ★★★★★ | ★ | ★★★★ | ★★★★★ | 47 |
| 39/35 | 128MB/256MB | 29 | 3x9x2 | ✓ | | | 12 | n/a | ★★★★ | ★★★★★ | ★★★★★ | ★★ | ★★★★★ | 46 |
| | | | | | | | | | | | | | | |
| 99/129/169 | 1GB/2GB/4GB | 43 | 9x4x1 | ✓ | | ✓ | 15 | 3 | ★★★★★ | ★★★★★ | ★★★★★ | ★★★★★ | ★★★★★ | 65 |
| 150 | 8GB | 115 | 8x5x2 | | ✓ | ✓ | 16 | 4 | ★★★★★ | ★★★★★ | ★★★★★ | ★★★★★ | ★★ | 64 |
| 155 | 6GB | 87 | 9x5x2 | | | ✓ | 17 | 2 | ★★★★★ | ★★★★★ | ★★★★ | ★★★★★ | ★★★★★ | 64 |
| 68/78/115 | 1GB/2GB/4GB | 56 | 9x4x1 | | | ✓ | 35 | 4 | ★★★★★ | ★★★★★ | ★★★★★ | ★★★★ | ★★★★ | 62 |
| | | | | | | | | | | | | | | |
| 200 | 20GB | 162 | 10x6x2 | | ✓ | ✓ | 15 | 2 | ★★★★★ | ★★★★★ | ★★★★ | ★★★★★ | ★★★★ | 67 |
| 220 | 20GB | 155 | 10x6x2 | | ✓ | ✓ | 18 | 2 | ★★★★★ | ★★★★★ | ★★★★★ | ★★★★★ | ★ | 65 |
| 199 | 30GB | 154 | 10x6x2 | | | ✓ | 17 | 4 | ★★★★ | ★★★★★ | ★★★★★ | ★★★★★ | ★★★★ | 60 |

and £92 online (1GB) ^b Sony NWE003 (1GB) is £80, NWE003F (with FM radio) £90 and NWE005 (2GB) £100 on the high street ^c These have a hard-disk memory. All others are solid state – they record on to a memory card

Apple computers (all those on test work with PCs). **Battery running time:** music Battery life with the type

(rechargeable or standard) supplied. **Charging time** n/a means battery supplied is not rechargeable.

Test performance
Watching video (MP4 players, p44) Considers the ease of loading video, compatible video

formats, the quality of the display, viewing the screen indoors and out, ease of use and the battery life.

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%**

Moving pictures

MP4 players let you watch video on the move. But how good is the picture quality and where can you get content from?

The main selling point of MP4 players compared with MP3s is that they play video. Their abilities do vary, though, with some good enough to watch only video clips while you can comfortably watch full-length films on others.

Unlike portable DVD players (see p48), MP4 players use computer files so are generally smaller and more portable. DVD players can only be as small as the size of a DVD disc. However, the screen on an MP4 may be less suitable for long periods of viewing. The Archos AV700 has a big screen (16x9cm), but players with screens of a couple of square centimetres don't do well on test – as they're too small to be able to watch video properly.

Although many MP4 players and portable DVD models can play music, MP4s will often have more features, such as a radio, and even a microphone, a clock and an alarm.

You can watch everything from video clips to full films, but where can you get content from? Apple's iTunes is one of the few music download sites that also sells video content. Apple, which already controls more than 75 per cent of the music-download industry, recently announced the launch of a movie store in the US.

Rumours suggested that the company was in negotiation with most of Hollywood's big studios to make feature films available to download from iTunes. However, as *Which?* went to press, the only confirmed name was Disney films.

There are UK sites, such as Lovefilm, which sell films via download but no news as to when UK shoppers will be able to buy films from iTunes.

To give you an idea of how many films you can store, a 20GB MP4 player would be able to hold up to 180 hours of video footage.



Facts & scores

We take a view on some of the best and worst aspects of the players

Sharing a film

This MPMan has two headphone jacks and comes with two sets of headphones so a couple can enjoy a film together.

Watching video

This iAudio boasts the best battery life when watching video at 18 hours but it also takes the longest to charge, at six hours.

A heavy load

This Archos is the heaviest player on test by a long way. The large screen is ideal if you want to watch a lot of video, but it isn't very portable.

Recording video

This iAudio and the Archos AV700 models are the best of the few machines that can record video, including from the TV.

| MODEL | PRICE (£) |
|---|----------------|
| 1GB OR LESS | |
| 1 iRIVER U10 | 89/147 |
| 2 iAUDIO U3 | 119/134/157 |
| 3 SAMSUNG YP-T8 | 90/115/150/140 |
| 4 SANDISK Sansa e250 | 84/116/142 |
| 5 iNOVIX IPocket | 65 |
| 6 MPMAN MPSC255 | 50 |
| 7 MPMAN MPSC155 | 80/110 |
| 8 TOMAHAWK SH101 | 59 |
| AROUND 5GB | |
| 9 MPIO HD400^a | 179 |
| 10 MOBIBLU DHH-200^a | 149 |
| 10GB OR MORE | |
| 11 ARCHOS Gmini 500^a | 242 |
| 12 iAUDIO X5^a | 199/226/299 |
| 13 iAUDIO X5L^a | 229/239 |
| 14 ARCHOS AV 700^a | 430/550 |
| 15 CREATIVE Zen Vision:M^a | 220 |
| 16 SAMSUNG YH-J70^a | 157/168 |
| 17 ARCHOS Gmini 402^a | 230/300 |
| 18 iAUDIO A2^a | 285/357 |

^a These have a hard-disk memory. All others are solid state, which

MEMBER BENEFIT

Win a Best Buy MP3 and portable DVD Player

Become the envy of your friends by winning an iRiver H10 (20GB) MP3 player and a Toshiba SD-P2800SE portable DVD player.

TO ENTER, SIMPLY ANSWER THE FOLLOWING QUESTION

How many digital music tracks are currently available online?
(a) 15 million (b) 25 million (c) 35 million



Worth
£440

To enter our Best Buy competition online, go to www.which.co.uk/bestbuycompetition or send your entry on a postcard to 'Best Buy November 06', *Which?*, PO Box 44, Hertford X, SG14 1SH. Include your name, address and postcode, daytime phone number and *Which?*

membership number (found on your *Which?* membership card as your user name).

Entries received by 28 November 2006 will be entered into the competition. Usual rules apply – go to www.which.co.uk/bestbuycompetition to see a full set of rules or see *Which?*, July 2006, p49.



| SPECIFICATION | | | | | | | | WHICH? TEST PERFORMANCE | | | | | | SCORE % |
|-------------------|------------|-----------------|-----|----------|----------------------------|----------------------|----------------------------|--|------------|--------------------|------------------|----------------|----------------|---------|
| MEMORY SIZES | WEIGHT (g) | SIZE HXWxD (cm) | MAC | FM RADIO | BATTERY | | | SOUND QUALITY WITH SUPPLIED HEADPHONES | DURABILITY | USING THE SOFTWARE | USING THE PLAYER | HEARING SAFETY | WATCHING VIDEO | |
| | | | | | RUNNING TIME: MUSIC (hour) | CHARGING TIME (hour) | RUNNING TIME: VIDEO (hour) | | | | | | | |
| | | | | | | | | | | | | | | |
| 1GB/2GB | 69 | 4x7x2 | | ✓ | 28 | 3 | 5 | ★★★★★ | ★★★★★★ | ★★★★★ | ★★★★★ | ★★★★ | ★★★★ | 72 |
| 512MB/1GB/2GB | 37 | 7x3x2 | ✓ | ✓ | 18 | 3 | 8 | ★★★★★ | ★★★★★★ | ★★★★★ | ★★★★★ | ★ | ★★ | 69 |
| 512MB/1GB/2GB/4GB | 55 | 8x4x2 | | ✓ | 17 | 3 | 7 | ★★★★ | ★★★★★★ | ★★★★★ | ★★★★★ | ★★ | ★★ | 69 |
| 2MB/4MB/6GB | 73 | 9x4x1 | | | 21 | 1 | 4 | ★★★★ | ★★★★★ | ★ | ★★★★★ | ★★★★★★ | ★★ | 62 |
| 1GB | 39 | 9x4x1 | ✓ | ✓ | 8 | 3 | 0 | ★★★★ | ★★★★ | ★ | ★★ | ★★★★ | ★ | 47 |
| 256MB | 107 | 6x9x2 | | | 9 | 4 | 7 | ★★★★ | ★★★★★ | ★★ | ★★ | ★★★★ | ★★ | 47 |
| 1MB/2GB | 37 | 8x4x1 | | | 9 | 2 | 5 | ★★★★ | ★★★★★★ | ★ | ★★ | ★★★★★ | ★ | 46 |
| 2GB | 35 | 7x4x2 | ✓ | ✓ | 6 | 2 | 2 | ★★ | ★★★★★★ | ★ | ★★ | ★★★★★ | ★ | 45 |
| | | | | | | | | | | | | | | |
| 8GB | 114 | 9x5x2 | ✓ | ✓ | 18 | 3 | 3 | ★★★★ | ★★ | ★ | ★★★★ | ★★★★★★ | ★★ | 63 |
| 8GB | 87 | 9x5x2 | ✓ | ✓ | 13 | 2 | 6 | ★★★★ | ★★★★★★ | ★ | ★★★★ | ★★ | ★★ | 58 |
| | | | | | | | | | | | | | | |
| 240GB | 59 | 12x8x2 | ✓ | | 16 | 2 | 5 | ★★★★ | ★★★★★ | ★★★★★ | ★★★★★★ | ★★★★★ | ★★★★★ | 68 |
| 20GB/30GB/60GB | 151 | 10x6x2 | ✓ | ✓ | 13 | 2 | 8 | ★★★★★ | ★★★★★★ | ★★★★★ | ★★★★★ | ★★ | ★★★★ | 68 |
| 20GB/30GB | 186 | 10x6x3 | ✓ | ✓ | 30 | 6 | 18 | ★★★★★ | ★★★★★ | ★★★★ | ★★★★★ | ★ | ★★★★ | 68 |
| 40GB/100GB | 600 | 11x21x2 | ✓ | | 41 | 4 | 5 | ★★★★ | ★★★★★ | ★★★★★ | ★★★★★ | ★★★★ | ★★★★★ | 66 |
| 30GB | 160 | 11x6x2 | | ✓ | 18 | 2 | 5 | ★★★★ | ★★★★★ | ★★★★★ | ★★★★★ | ★★★★ | ★★★★★ | 66 |
| 20,30GB | 133 | 10x6x2 | | ✓ | 9 | 3 | 5 | ★★★★ | ★★★★★★ | ★★★★★ | ★★★★★ | ★★★★★★ | ★★ | 66 |
| 20GB/30GB | 158 | 6x10x2 | ✓ | | 12 | 3 | 5 | ★★★★ | ★★★★★★ | ★★★★★ | ★★★★★★ | ★★★★ | ★★★★ | 65 |
| 20GB/30GB | 310 | 8x13x2 | | | 16 | 6 | 8 | ★★★★★ | ★★★★★★ | ★★★★★ | ★★★★★ | ★ | ★ | 63 |

means they record on to a memory card

For notes to using the table, see p42

1 1GB OR LESS

72% iRiver U10

£89/147

WHICH?
BEST BUY

This isn't the easiest player to set up but it is easy to use and all the basic functions are to hand. **WE FOUND** Running time is impressive at 28 hours but this plummets to five when watching video.

Available Online Memory type Solid state Memory sizes 1GB/2GB Compatible music formats MP3, WMA, Ogg Compatible video formats Uses own format Uploading 100MB 1min 5sec Radio Yes Photos Yes Batteries Rechargeable Running time Music 28hr, video 5hr Charging time 3hr



The iAudio U3 is the size of a chewing gum packet, so it's not great for watching video

2 1GB OR LESS

69% iAudio U3

£119/134/157

The U3 is the size of a chewing gum packet, so it's portable but unfortunately not great for watching video. **WE FOUND** It fared well in our durability test so will take the odd knock in its stride.

Available Online Memory type Solid state Memory sizes 512MB/1GB/2GB Compatible music formats MP3, WMA, Ogg, Flac, WAV Compatible video formats Uses own format Uploading 100MB 48 sec Radio Yes Photos Yes Batteries Rechargeable Running time Music 18hr, video 8hr Charging time 3hr



WHICH?
BEST BUY

3 1GB OR LESS

69% Samsung YP-T8

£90/115/150/140

With the look of a miniature phone handset but with fewer buttons, this is one of the heavier solid-state players. **WE FOUND** Battery life is OK at 17 hours but drops to less than half that if watching videos.

Available Online Memory type Solid state Memory sizes 512MB/1GB/2GB/4GB Compatible music formats MP3, WMA, Ogg, WAV Compatible video formats DivX 5 with MP3, Xvid, MPEG2, WMV Uploading 100MB 14sec Radio Yes Photos Yes Batteries Rechargeable Running time Music 17hr, video 7hr Charging time 3hr



WHICH?
BEST BUY

11 10GB OR MORE

68% Archos Gmini 500 £242

WHICH? BEST BUY

This is heavy, so not the most portable player, but it's worth the compromise if you intend to watch a lot of video. It has a video output that lets you watch movies and make slide shows on your TV.

WE FOUND Its removable rechargeable batteries give only 16 hours of battery life.

Available Online Memory type Hard disk Memory sizes 40GB Compatible music formats MP3, WMA, WAV Compatible video formats DivX, Xvid, WMV Uploading 100MB 19sec Radio No Photos Yes Batteries Rechargeable Running time Music 16hr, video 5hr Charging time 2hr



The Archos Gmini 500 has a video output that lets you make slide shows on your TV

14 10GB OR MORE

66% Archos AV700 £430/550

WHICH? BEST BUY

The 40GB version stores up to 10,000 songs, while the huge 100GB version

can store up to 250 films. Available at Argos and John Lewis.

WORTH KNOWING Battery life is great at 41 hours for music but slumps to five hours when watching video.

Cheapest stores Argos, John Lewis Memory type Hard disk Memory sizes 40GB/100GB Compatible music formats MP3, WMA, WAV Compatible video formats DivX 5 with MP3, Xvid Uploading 100MB 12sec Radio No Photos Yes Batteries Rechargeable Running time Music 41hr, video 5hr Charging time 4hr



17 10GB OR MORE

65% Archos Gmini 402 £230/300

The Archos is as much a movie player as a music player. It's one of the easiest models to use: hold it flat and use buttons either side of the screen. Available at Currys.

WHICH? BEST BUY

WORTH KNOWING You can connect it to a TV to watch movies.

Cheapest store Currys Memory type Hard disk Memory sizes 20GB/30GB Compatible music formats MP3, WMA, WAV Compatible video formats DivX 5 with MP3, Xvid Uploading 100MB 8sec Radio No Photos Yes Batteries Rechargeable Running time Music 12hr, video 5hr Charging time 3hr



12 10GB OR MORE

68% iAudio X5 £199/226/299

At 13 hours, battery life could be better when you're listening to music, but it's good when watching video at eight hours a charge.

WORTH KNOWING It supports a range of music formats but not many video formats.

WHICH? BEST BUY

Available Online Memory type Hard disk Memory sizes 20GB/30GB/60GB Compatible music formats MP3, WMA (not DRM), Ogg, Flac, WAV Compatible video formats Uses own format Uploading 100MB 8sec Radio Yes Photos Yes Batteries Rechargeable Running time Music 13hr, video 8hr Charging time 2hr



15 10GB OR MORE

66% Creative Zen Vision:M £220

There's a music and video player, photo display and radio. It also has a video output that lets you watch movies and make slide shows on your TV. This model is available at Comet

WHICH? BEST BUY

WE LIKE It's available in several colours.

Cheapest store Comet Memory type Hard disk Memory sizes 30GB Compatible music formats MP3, WMA, WAV Compatible video formats Uses own format Uploading 100MB 14sec Radio Yes Photos Yes Batteries supplied Rechargeable Running time Music 18hr, video 5hr Charging time 2hr



13 10GB OR MORE

68% iAudio X5L £229/239

It is easy to use and find all the basic functions, but the supplied software could be better. Battery life is an impressive 30 hours, but it takes longer to charge (six hours) than almost all the other players on test.

WE FOUND This has the best running time for watching video.

Available Online Memory type Hard disk Memory sizes 20GB/30GB Compatible music formats MP3, WMA (not DRM), Ogg, Flac, WAV Compatible video formats No common formats Uploading 100MB 14sec Radio Yes Photos Yes Batteries Rechargeable Running time Music 30hr, video 18hr Charging time 6hr



WHICH? BEST BUY

16 10GB OR MORE

66% Samsung YH-J70 £157/168

This is fine for watching video clips but you might not want to watch whole films on the small screen. Battery life is just nine hours per charge when listening to music.

WE FOUND The button controls are easy to use and the supplied software is good.

Available Online Memory type Hard disk Memory sizes 20GB/30GB Compatible music formats MP3, WMA (not DRM), Ogg, WAV Compatible video formats DivX 5 with MP3, Xvid, MPEG2, WMV Uploading 100MB 22sec Radio Yes Photos Yes Batteries Rechargeable Running time Music 9hr, video 5hr Charging time 3hr



WHICH? BEST BUY

Contacts

MP3 & MP4 PLAYERS (p40 & p44)

Apple
0800 039 1010
www.apple.com/uk
Archos 020 7949 0115
www.archos.com
Creative
0800 376 7954
uk.europe.creative.com
Goodmans
0870 873 0080
www.goodmansdigital.co.uk/
iAudio
01274 474884
www.iaudio.com

iNovix
0031 10 282 74 55
www.inovixproducts.com/
iRiver
00 49 1805 474837
www.iriver.com/eu
Maxfield
www.maxfield.de/en
Ministry of Sound
0870 241 7464
www.ministryofsound.com/audio
Mobilblu
www.mobilblu.com
Mpio
0031 23 557 7889
www.mpio.com
Mpman
www.mpmmaneurop.com

Panasonic
0870 010 0076
www.panasonic.co.uk
Philips
0870 900 9070
www.philips.co.uk
Samsung
0870 242 0303
www.samsung.com/uk
Sandisk 020 7365 4193
www.sandisk.com
Sony
0870 511 1999
www.sony.co.uk
Tomahawk
www.advancedmp3players.co.uk
Transcend
01442 265494
www.transcendusa.com

MUSIC PHONES (p47)

Nokia 0870 055 5777
www.nokia.co.uk
Sony Ericsson
0870 523 7237
www.sonyericsson.com

PORTABLE DVD PLAYERS (p48)

Acoustic Solutions
www.acousticsolutions.net
Bush
0870 873 0079
www.albaplc.com
Ferguson
0845 850 0545
www.dixons.co.uk

Goodmans
0870 873 0080
www.goodmansdigital.co.uk
Hitachi
01628 643000
www.hitachi.co.uk
Matsui
0845 850 0545
www.dixons.co.uk
Panasonic
0870 010 0076
www.panasonic.co.uk
Philips 0870 900 9070
www.philips.co.uk
Toshiba
0870 442 4424
www.toshiba.co.uk
Wharfedale
0845 458 0011
www.wharfedale.co.uk

If you want music on call

Could one single device really allow you to make phone calls, take pictures, play music and even organise your life? We have a look at what's available

Tired of heavy pockets full of a phone, music player, personal organiser and your camera? Are you waiting for one device that does everything?

Mobile phones purporting to compete with dedicated MP3 players are already here. And playing music isn't the only string to their bow; you can also view photos, watch video, play games and take photos. Our usual mobile phones test includes a test of the music player. We have,

however, also put a few phones (shown here) through the same full test as music players, to see how they compare. The Nokia N91 and Sony Ericsson models are good music players but don't match our MP3 player Best Buys (p40). We can't make them Best Buys but we give details below. The new generation Sony Walkman phones (W700i and W300i) are Best Buy phones. See next month's mobile phones report.

MEMBER BENEFIT

FREE website access

For more information about personal entertainment products, including results for 43 more MP3 players and five more MP4 players, go to www.which.co.uk

| | MODEL | SPECIFICATION | | SCORE % | |
|---|---------------------|---------------|--------------------|---------|--------------|
| | | PRICE (£) | NETWORKS, CONTRACT | PHONE | MUSIC PLAYER |
| 1 | NOKIA N91 | 365 | Vodafone, O2 | 60 | 63 |
| 2 | SONY ERICSSON W810i | 270 | Orange | 69 | 62 |
| 3 | SONY ERICSSON W900i | 390 | Vodafone | 62 | 62 |
| 4 | NOKIA 3250 | n/a | O2 | 66 | 43 |

USING THE TABLE

We tested models as phones and music players.

Specification

Price The lowest pre-pay handset price we found at the time of going to press (the Nokia 3250 is not available on pre-pay). All

phones are free on a monthly contract.

Score

This ignores price and is based on:

| | |
|-----------------|-------|
| Phone | |
| Use for calling | 35% |
| Battery | 17.5% |
| Ergonomics | 17.5% |

| | |
|--------------------|-----|
| Texting | 10% |
| Camera and display | 10% |
| Games and extras | 10% |

Music player

| | |
|------------------------|-----|
| Sound quality | 30% |
| Ease of use | 30% |
| Battery | 15% |
| Features/functionality | 10% |
| Use on the move | 10% |
| Durability | 5% |

63% Nokia N91

£365

When used as a music player, the sound quality of the Nokia N1 with the supplied headphones is good.

It's easy to load music on to it compared with other phones, but uploading 100MB of music takes nearly two minutes

– this is a long time compared with a dedicated MP3 player but better than other music phones.

The Nokia N91's 4GB memory dwarfs the offerings from other music phones but you won't be able to add more memory to this.

WE LIKE It's compatible with more music formats (MP3, AAC, AAC+ and WMA) than the other phones on test.



The 4GB memory of the Nokia N91 dwarfs that of other mobiles but you can't add more

62% Sony Ericsson

W810i £270

Both Sony Ericsson Walkman phones are good music players, nearly matching the Nokia. Sound quality with the supplied headphones is decent for both phones, but slightly better on the W810i.

Both of these models have better battery life than the Nokia, but you will find that it does take longer to load music on to them. It's compatible with MP3 and AAC+ music formats.

WORTH KNOWING You can add memory to this model with an MS Duo memory card. The 810i comes with 256MB compared with 4GB for the Nokia.



62% Sony Ericsson

W900i £390

This model is quite similar to the W810i, left. It also has reasonable sound quality through the headphones that come with it, though the Nokia's is better. It is also not quite as good as the W810i's. The sound is improved by using Best Buy headphones. Both Sony Ericssons have better battery life than the Nokia but it takes longer to load music on to them. It's compatible with MP3, AAC and AAC+ music formats.

WORTH KNOWING Like the W810i, you can add memory with an MS Duo memory card. The 900i comes with 512MB compared with the Nokia's 4GB.



How we test

Much of our testing of portable DVD players goes into checking picture and sound quality

Picture quality

We use a special test disc to see how the players cope with fast-action pictures such as car chases or explosions, compared with a high-quality TV. A panel of experienced viewers also rates the picture quality watching scenes from *Mars Attacks!* and *Terminator 2*. They give more than 180 ratings while assessing picture resolution and how accurate the colours look.

Sounds good?

We check the quality of stereo and movie sound. Our experts take more than 100 measurements on whether everything from whispering voices to helicopters sound real. Our testers also assess films and audio CDs on the players, listening for good, well-distributed sound with no unwanted background noise.

Sound quality with the headphones supplied is variable but all players sound excellent with Best Buy headphones. The exception is the Wharfedale player, which is not as good as the other models on test.

MEMBER BENEFIT

Two issues for £3

Computing Which?, the UK's only completely independent computing magazine, offers impartial, jargon-free advice on everything from basics, through to product reviews and step-by-step guides. Call us on **0800 252 100** to try two issues for only £3.



Ideal for a long train journey

Picture quality is what really sets our Best Buy portable DVD players apart from the other models on test

A portable DVD player, particularly one with a carrying bag, such as our Toshiba Best Buy, could be just the thing for a train journey. A player with a kit that lets you mount it in the car, such as the Panasonic DVDLS91 or Wharfedale WDP-1210, might do the trick if you are taking the children on a long drive and want to keep them occupied. All the players are supplied with adaptors so that you can use them in your car.

Picture quality distinguishes our Best Buys from the rest of the players on test, but what to watch? You can rent films from your local video shop or borrow them from the library. You can also use online movie rental services.

Some portable players come with a kit that lets you mount them in the car

There are lots to choose from and monthly fees range from £10 to £15, depending on how many films you want to rent at once.

Most sites will offer you a free trial so you could try several before handing over any money.

All the sites are easy to use, but there are big differences in the range of films that they have.

A previous *Computing Which?* favourite, www.screenselect.co.uk, has recently joined with www.lovefilm.com, as has www.movechoices.com.

Another site that *Computing Which?* rated highly for the number of films that it has, is www.DVDs365.co.uk.

What you should look for

SCREEN ANGLE

You choose the viewing angle for most players by adjusting the screen from 90 to 180 degrees. Some offer more flexibility



BATTERY

Some portable DVD players have the battery integrated in the player, like a laptop. Others have a battery pack that sticks out the back of the player



LISTENING

The loudspeakers on most players are generally poor. Although acceptable for watching a film, they're not good enough for listening to music

HEADPHONES

Several players have two headphone jacks allowing two people to listen without disturbing others. Only the Ferguson LDVD81 (5) has two sets of headphones – some players don't even come with one set



Facts & scores

Here are useful extra points on the players

Memory card

This Toshiba has a memory card slot which lets you view films from the memory card.

Resume

The Panasonic, the Hitachi and Wharfedale players all have a resume feature so if you turn the player off mid-movie it will remember your place on the disc.

71% Toshiba SD-P2800SE £240

This Toshiba has a good clear picture for both movies and still images. Sound quality with the supplied headphones is good but it can be improved slightly with a Best Buy set.

It has the best loudspeaker sound of the models on test. You can hear some whirring noise from the drive, though. It's not the most portable player we've tested, as it is heavy and quite thick when the screen is folded down.

WORTH KNOWING This is the most power-hungry model we tested when plugged into the mains.

Available Online Headphone jacks 2 Resume feature No Car power adaptor Yes Car mounting unit No Compatible file formats CD-Audio, CD-R, CD-RW, DVD-video, DVD-R, DVD-RW, DVD-RW (VR-mode), VCD, MP3, WMA, JPEG-CD, DivX v4.1, DVD-Audio, Mpeg 5.1



WHICH?
BEST BUY

64% Philips PET720 £150



WHICH?
BEST BUY

One of the smallest and most portable players we've tested, it has good picture quality for movies. It is OK for stills, too, but the picture is a little jittery at the top. No headphones are supplied but excellent sound quality is possible with Best Buy headphones. As with most other players on test, the sound quality from the built-in speakers is poor and the drive is quite noisy. The PET720 is easy to use and a remote control is supplied.

This model is available at Argos and Currys.

WE LIKE This player has the best battery life of all the models on test, at five hours 25 minutes.

Cheapest stores Argos, Currys Headphone jacks 2 Resume feature No Car power adaptor Yes Car mounting unit No Compatible file formats CD-Audio, CD-R, DVD-Video, VCD, MP3, WMA, JPEG-CD, Mpeg5.1

Don't Buy

This Matsui (10) struggles to get the basics right; both picture quality and sound quality with the supplied headphones are poor.

It isn't the easiest player to use and several functions are possible only when using the supplied remote control. With such a small device that you sit so near to, it would be better to have more controls on the player itself.

Battery life is one of the shortest of all the models on test and, annoyingly, charging time is longer than playing time.



WHICH?
DON'T BUY

| MODEL | | SPECIFICATION | | | | | | | | WHICH? TEST PERFORMANCE | | | SCORE % | |
|-------|---------------------------|---------------|-----------------|-------------|-------------|------------|-----------------|----------------|------------------------|-------------------------|-----------------|--------------------------------|---------|-------------|
| | | PRICE (£) | SIZE HXWXD (cm) | WEIGHT (kg) | SCREEN SIZE | HEADPHONES | HEADPHONE JACKS | REMOTE CONTROL | BATTERY LIFE (hr, min) | CHARGING TIME (hr,min) | PICTURE QUALITY | SOUND WITH SUPPLIED HEADPHONES | | EASE OF USE |
| 1 | TOSHIBA SD-P2800SE | 240 | 26x18x5 | 1.7 | 9 | ✓ | 2 | ✓ | 4,35 | 3,05 | ★★★★ | ★★★★ | ★★★★ | 71 |
| 2 | PHILIPS PET720 | 150 | 20x19x5 | 1.2 | 7 | | 2 | ✓ | 5,25 | 4,45 | ★★★★ | n/a ^a | ★★★★ | 64 |
| 3 | PANASONIC DVDLS91 | 250 | 24x19x5 | 1.0 | 9 | | 2 | | 2,00 | 2,50 | ★★★ | n/a ^a | ★★★★ | 57 |
| 4 | BUSH PDVD0801 | 150 | 23x22x5 | 1.2 | 8 | ✓ | 2 | ✓ | 4,05 | 4,15 | ★★★ | ★★★ | ★★★ | 54 |
| 5 | FERGUSON LDVD81 | 120 | 20x20x4 | 1.0 | 8 | 2 | 2 | ✓ | 3,00 | 4,20 | ★★★★ | ★★★★ | ★★★★ | 53 |
| 6 | HITACHI PDV313 | 60 | 23x22x5 | 1.4 | 7 | | 2 | ✓ | 3,00 | 2,45 | ★★★ | n/a ^a | ★★★ | 53 |
| 7 | WHARFEDALE WDP-1210 | 150 | 27x24x5 | 1.5 | 10 | ✓ | 2 | ✓ | 3,00 | 4,35 | ★★★ | ★★★ | ★★★ | 51 |
| 8 | GOODMANS GDVD100WLCD | 300 | 28x23x3 | 1.7 | 10 | ✓ | 2 | ✓ | 2,30 | 3,15 | ★★★ | ★★ | ★★★ | 49 |
| 9 | ACOUSTICSOLUTIONS DVD-222 | 65 | 21x18x5 | 1.2 | 7 | ✓ | 1 | ✓ | 3,45 | 4,05 | ★★ | ★★ | ★★★ | 44 |
| 10 | MATSUI MATPL800 | 100 | 21x22x5 | 1.2 | 8 | ✓ | 1 | ✓ | 2,30 | 3,00 | ★★ | ★★ | ★★ | 35 |

a No headphones supplied with the player. With a Best Buy set the sound quality is excellent

USING THE TABLE

We tested all the portable DVD players available when we went shopping and that would still be available when we went to press. The more stars the better.

Specification

Price For Best Buys we give the cheapest widely available price. Online prices are in *italics*. **Weight** Includes batteries. **Screen size** Diagonal measurement

across the screen, in inches.

Headphones A ✓ indicates that one set of headphones is supplied. **Battery life** How long the rechargeable batteries last while watching films. **Charging time** Time to

fully charge the battery.

Test performance

Sound quality with supplied headphones Where a set is provided with the player.

Score

Ignores price and based on:

Picture quality **30%**
Sound quality **25%**
Ease of use **20%**
Features **15%**
Battery **10%**