



MP3 is the biggest thing on the Internet at the moment, and even though its future looks murky, there's still a rapidly increasing number of manufacturers producing portable players to take your downloads on the move. **Ronan Macdonald** plugs into eight of the leading contenders

Unfinished Symphony

Group test: MP3 players

Originally MP3 was totally software based – you downloaded the music and then played it using a freeware application on your PC – but it was brought to the high street last year by Diamond and its Rio MP3 player. Storing MP3s in 32MB of on-board RAM (upgradable with a memory card to 64MB) and containing no moving parts, it was certainly an exciting development for the audio industry and was quickly followed by a host of other devices. Thus far public reaction has been fairly muted, with only one per cent of the UK population owning a player and the format facing possibly insurmountable competition. Nonetheless, these diminutive personal stereos have great battery life and a lack of moving parts on their side, so should you be buying?

Invented in 1987 by a German research company in collaboration with the University of Erlangen, MP3 (or MPEG Layer 3, to give it its full title) uses perceptive encoding techniques to reduce audio files in size by a factor of 12 while retaining very nearly CD quality – perfect for distribution via the Internet. Over ten years later, the format – or at least what the format implies – has become a

genuinely serious concern for the music industry. Now the second most popular search string on the Web takes you to an ever increasing number of 'on-line' record labels from where you can download endless amounts of music by unsigned artists, and Internet extensions of traditional labels where you can sample established acts before buying their CDs in the usual way. The fear is that without the swift introduction of some sort of digital 'watermarking' to counter such effortless piracy, downloadable music will kill the entire distribution side of the record business. MP3 has no such security measures and, while briefly it looked like it might actually take on the majors, it now looks like the labels are going to do away with the format by cooperating with emerging secure standards, one of which is WMA.

The success of MP3 hasn't escaped Microsoft's withering gaze. The controversial digital audio compression standard that has been getting so much press recently may well be hurtling towards redundancy, for WMA (Windows Media Audio), the audio codec behind WMF (Windows Media Format), is here, and early reports suggest that it's alarmingly superior. But that's another story.

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Exotic styling for an extraordinary player. Pricey, though.

£220



MPGENIE

CYBERCOMP

www.mpgenie.com

Requirements P100, Win95/98, parallel port Tested on PIII 600, 256MB RAM

Despite being the first on the scene, the Rio holds its own on the MP3 catwalk.

£135



RIO 300

DIAMOND

www.diamondmm.com

Requirements P90, Win95/98, parallel port Tested on PIII 600 with 256MB RAM

Great sound and a well thought-out machine

■ PRICE £220 ■ EX VAT £187 ■ SUPPLIER Micron e-nnovations ■ PHONE 01753 570 800

Cybercomp's offering is certainly one of the odder looking players in the group but, thankfully, functionality doesn't seem to have been sacrificed in the name of quirky design. The box contains the player, a cable for connecting the player to a PC, a CD containing Cybercomp's file transfer software and a load of third party applications (most importantly, MusicMatch JukeBox for encoding MP3s), a battery, headphones, a leather belt-holster, a pair of MP3 CDs and an AC adaptor. Surprisingly, this last item is the only one of its kind here – all the other players are battery powered only.

64MB of on-board memory gives the MPGenie a big advantage over its lower capacity rivals. You could get an hour of 128Kbit sounds or two hours at 64Kbit on to it as standard, and double that with the addition of a 64Mb flash memory card. While the transfer software included is simple to use and rather well designed, the hardware side is let down by the fact that the connection cable ties up the parallel port. The parallel port has to be configured and addressed in the motherboard's CMOS setup before it will work with the player. Once this is done, though, the speed at which the MPGenie uploads and downloads MP3 files is remarkable. In our test, six tracks totaling 32Mb in size went across in a stunning 59 seconds.

The MPGenie's display is well designed, easy to read and eminently effective. As well as giving track information, power levels, play mode and EQ information, it also sports a progress bar along the bottom that works as a visual guide to where you are in each track – a genuinely useful touch. Sonically, too, the news is good; 'CD quality' in this case can be taken almost literally. The five EQ modes (Classic, Jazz, Rock, Dance and Ballad) and bass and treble controls help to add colour and life to what is already a great sound, and the 3D sound function, while in no way '3D', acts as a sort of loudness control, enhancing the bass tremendously and brightening up the top end. It sounds, in a word, superb.

The only problem we had with the MPGenie was that it crashed a couple of times during testing.

PC Plus

VERDICT

CYBERCOMP MPGENIE

For Great sound. Well thought-out display

Against Looks strange. Ours crashed. Expensive

Range of features.....	8
Ease of use.....	8
Documentation.....	8
Performance.....	9
Value for money.....	6

9/10

Transfers files quickly and has a good sound

■ PRICE £135 ■ EX VAT £115 ■ SUPPLIER Diamond ■ PHONE 01189 444 400

Diamond's Rio 300 was the first hardware MP3 player in the world, so you could say it's a classic. Finished in matt black and grey, it's a fairly good looking machine, although it has the plastic, overly lightweight feel that seems to be common to every player here. The package includes a PC connection cable, a parallel port adaptor, a set of in-ear headphones and two CDs – one containing the necessary software and another with a variety of sample MP3s from various Web site sources. As for the player itself, it comes with an unremarkable 32MB of memory – enough to hold about 30 minutes of 'CD quality' music or 60 minutes of near-CD quality. There is a slot for a flash memory card, though, so it's possible to double this to a rather more impressive one/two hours. As well as the transport, play mode and volume controls on the front of the unit, there are three buttons on top to access the explanatory menus, roll through EQ modes and play a 5-10 second snippet of each track in turn. It's all standard stuff and, as such, is represented perfectly adequately on the easy-to-read LCD display.

The encoding (or ripping) of CD tracks to MP3 files is taken care of by MusicMatch's ubiquitous JukeBox software, which does the job perfectly adequately. This is a staple application for CD ripping and in use is both straightforward and effective. And, thankfully, getting the music on to the player is just as easy. The PC end of the connection cable plugs into the parallel port via a junction adaptor, so it doesn't tie the port up, enabling uninterrupted access to printers and other connected hardware. Transfer speeds from PC to player are good, with 32Mb crossing from one to the other in three minutes and ten seconds.

In terms of audio quality, the Rio 300 is in fine voice. There are four EQ modes – Normal, Classic, Jazz and Rock – and all of them move the sound in the right ways. Best of the lot is Rock, which gives a sizeable boost to an already quite powerful sound.

All in all, then, the Rio 300 is still a serious contender despite its age. It doesn't have anything special in the way of features, but the noises it makes are good enough to make that acceptable.

PC Plus

VERDICT

DIAMOND RIO 300

For Good sound. Transfers files quickly

Against Lacking in extras

Range of features.....	4
Ease of use.....	8
Documentation.....	8
Performance.....	8
Value for money.....	7

7/10

PC Plus

Bizarre looks and no LCD on the main unit make LG's offering a bit of an oddball.

£130



LG MF-PD330

www.lge.co.kr

Requirements 486 with 16MB RAM, Win95/98, parallel port Tested on PIII 600 with 256MB RAM

Small and amusingly shaped, the MP-100 looks best with the lilac backlight on.

£129



MERIT MP-100

www.maycomcoltd.com

Requirements P166 with 32MB RAM, Win95/98/NT 4.0, parallel port Tested on PIII 600, 256MB RAM

A decent performance but could have done with more settings

PRICE £130 ■ EX VAT £111 ■ SUPPLIER LG ■ PHONE 0870 607 5544

To look at, LG's MP3 player is fairly unassuming apart from the bizarre blue detail overhanging the top of the unit in a slightly irritating fashion. A case of design for design's sake, perhaps?

As well as the player, the enticingly named MF-PD330 package comprises two 16MB flash memory cards, a pair of headphones, a remote control, two AAA batteries, a plastic carrying pouch, a parallel cable and the MP3 Explorer software needed to move the files around. There's no encoding software included, which is a bit odd, but there's plenty on the Net for free, so it's more of a lazy omission than a hindrance.

The MF-PD330 has no on-board memory; instead, it has two memory card slots which can be filled with the included (and, it must again be said, insufficient) 32MB and later upgraded to a maximum of 64MB. Apart from the flexibility of being able to swap different sized cards around as you see fit, this system offers no real advantages or disadvantages over using on-board memory.

The LCD display and the majority of buttons for the MF-PD330 are built into the remote control rather than the unit itself, so losing it would definitely be a bad idea – unless you weren't bothered about having functionality beyond stop, play, track advance and retreat, and volume. On the one hand, it seems a bit risky having such fundamental features built into the remote control, but on the other hand, at least this player actually has a remote control, which isn't something any of the others can lay claim to.

File transfer speed is rather lacking in this case, with our 32MB of tunes taking a sluggish six minutes to make it from PC to player.

The quality of audio output from this player is not bad. There's a button marked 'X-Live' on the remote that boosts all the necessary frequencies to beef up the sound considerably. However, there are no controllable EQ variables involved – it's either on or off. We would have liked to see at least a couple more settings.

With its decent sonic performance this isn't a bad player, but it's done no favours by the lack of EQ settings.

PC Plus

VERDICT

LG MF-PD330

For Good sound. Remote control
Against Slow MP3 transfer. Not
enough EQ settings

Range of features.....	6
Ease of use.....	7
Documentation.....	5
Performance.....	7
Value for money.....	7

6/10

The smallest and lightest player, plus a solid performer

PRICE £129 ■ EX VAT £110 ■ SUPPLIER PC World ■ PHONE 0990 500 049

Maycom's Merit MP-100 claims the prize for being the smallest player here and, at 55g, it's also the lightest. It has a compact feel that few of the others share, let down only by the soft rubber buttons on the front.

The MP-100 doesn't have any on-board memory – just a slot in the bottom in which to place the 32Mb flash memory card that come with it. A 64Mb card is available though, so this can be doubled.

Uniquely, there's no PC connection socket on the player itself. Instead, a separate card reader is included which draws power from a PS/2 keyboard socket and transfers data via the parallel port, blocking it off from the printer. It's a bit of a bizarre solution, presumably arrived at in order to keep the size of the player down, but it is perfectly effective in action. The reader appears as an additional drive in Explorer after installation of its drivers, and transfer from PC to card is fast – 32MB taking just two minutes. We did have some problems with the drivers, resulting in a couple of fairly bad crashes, but that could have been down to a conflict on our test PC. Encoding the MP3s in the first place, incidentally, is done with the included MusicMatch software.

As well as playing MP3s, the MP-100 is also a simple FM radio with a three-channel memory. Although this is a laudable inclusion, it's MP3 playback that really matters here, and on that front Maycom's machine is not all that it could have been. Five-step bass and treble controls make for the only sonic enhancement on offer, and neither are particularly effective. There's also no shuttle control (only track advance), but at least all four standard play mode options are present (Repeat track/all, Random and A-B).

Thanks to the limited range of the EQ controls, the MP-100 takes you tantalisingly close to a world of powerful bass and scintillating top end, but sadly falls just short of the mark. The sound certainly isn't bad – it just could have been much better.

The MP-100 is a solid performer with size on its side. The audio quality smacks of unrealised potential but, at the end of the day, it does everything it should and even chucks a radio into the bargain.

PC Plus

VERDICT

MERIT MP-100

For Great design. FM radio
Against Fussy installation. Not
enough EQ options

Range of features.....	6
Ease of use.....	8
Documentation.....	6
Performance.....	7
Value for money.....	8

7/10



The D'Music is solidly built and good looking. Still as plasticky as the rest, though.

£129



PINE D'MUSIC ●

SM-320V

www.pine-dmusic.com

Requirements 486 with 16MB RAM, Win95/98, parallel port Tested on PIII 600 with 256MB RAM

'Minimalism' is one word that springs to mind with the jazPiper. And 'oval' is the other one.

£125



RFC ● JAZPIPER

www.jazpiper.co.uk

Requirements P90 with 16MB RAM, Win95/98, parallel port Tested on PIII 600 with 256MB RAM

Excellent sound, a well thought out design, and EQ modes

■ PRICE £129 ■ EX VAT £110 ■ SUPPLIER Pine ■ PHONE 01908 218 812

The D'Music SM-320V boasts 32MB of internal memory and a memory card option to increase this to 64MB. The design of the unit is well thought out and the matt black finish looks and feels good. PC connection is made via the parallel port and a simple cable (so unplug the printer first), and both MusicMatch JukeBox or Xing's AudioCatalyst are included as a decent pair of MP3 encoders.

This player's bonus extra is that it works as a voice recorder as well – simply press record and speak into the in-built microphone. However, the quality of audio when playing back voice messages is very low indeed because of the extreme compression used and the miniscule microphone.

The included file transfer software is nothing out of the ordinary, with a simple drag and drop interface used to move MP3s and voice files backwards and forwards. The parallel port requires configuring in CMOS setup and the speed of transfer is disappointing: 32MB taking six minutes to download on to the player. A few bugs seem to have been overlooked, too, and there were numerous occasions during our test where the PC lost contact with the player mid-transfer. Very puzzling and very frustrating.

Fortunately, the D'Music's playback software compensates for the headache of erratic file transfer. With four EQ modes available (Pop, Classic, Jazz and Ex-bass), there's enough versatility to cater for a broad base of musical styles, and tracks can be played back repeatedly, at random or as an A-B clip. Even with the EQ setting on Flat, the default sound of the player is rich and confident with good instrument separation and notably bright top end. Bring in that Ex-bass setting, though, and the low-end boost is fantastic, while the Classic setting widens the soundstage and brings the mid-range out to the front nicely.

Although the D'Music can be a bit irksome getting the music on to it in the first place, this could have been down to a driver conflict on our test machine and certainly isn't a terminal problem. Anyway, the results were well worth the effort.

PC Plus

VERDICT

PINE D'MUSIC SM-320V

For Excellent sound and EQ.

Voice recorder

Against Buggy software.

Slow transfer

Range of features.....7

Ease of use.....5

Documentation.....7

Performance.....9

Value for money.....7

8/10

An easy-to-use model with good software included

■ PRICE £125 ■ EX VAT £106 ■ SUPPLIER Elex ■ PHONE 020 8842 3777

The most striking thing about the jazPiper is its oval display window and minimalist fascia, but the brushed metal effect and lightweight feel don't stand out as unusual among this lot. It's a 32MB model, upgradeable – you'll be astonished to hear – to 64MB. The package includes headphones, a connection cable and a software CD containing jazPiper Desk and Jet-Audio – the latter being a very good multi-format playback and encoding application that could happily replace every media player on anyone's PC. jazPiper Desk is a file-browsing transfer program like most of the others that impresses with its very clear layout and simple design. Having unplugged our printer (you'd think we'd have just given up plugging it back in each time by now, wouldn't you?), set the parallel port to ECP mode in CMOS and plugged in the cable, the transfer time for 32MB in our test was a middling three minutes and fifteen seconds.

The jazPiper features voice recording and, intriguingly, a 250-number telephone book. Phone numbers can either be input by hand or imported from the Windows address book, and then edited using jazDesk. The display is worthy of a quick mention too, as it reads well and gives a lot of information at any one time. And of course, it's oval.

Three EQ modes are built-in – Pop, Rock and Classic – and, therein, lies a problem. With the EQ off, the player sounds terrible, utterly lacking in every way. In Pop mode, the sound becomes brighter and tinnier. Rock mode swings the other way and muffles everything so badly that you think you're underwater, so it falls to Classic to save the DSP from a total panning. Which it does, suddenly giving up a bold if slightly topky sound. Effectively, the jazPiper only has one EQ mode but it is quite a good one.

This is a well featured player that loses out on performance points thanks to its blatant lack of signal processing power. It's easy-to-use, the software is all good (Jet-Audio being a fantastic idea on Elex's part) and it's not a bad price on its own terms. This is one of the oldest designs here and, unlike the Rio, in this case it shows in the poor quality of the DSP.

PC Plus

VERDICT

RFC JAZPIPER

For Good features. Nice software

Against Only one decent sound

Range of features.....8

Ease of use.....8

Documentation.....6

Performance.....5

Value for money.....5

5/10



After finally noticing there was no slot for a MiniDisc, we realised the Yepp' YP-E64 has actually an MP3 player.

£199



SAMSUNG ●

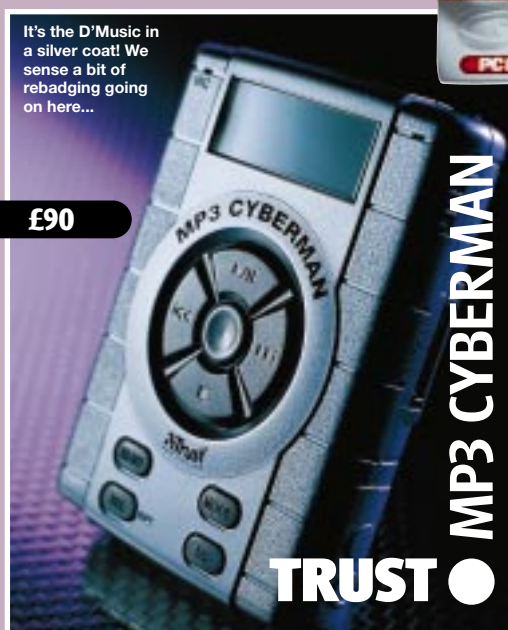
YEPP' YP-E64

www.pine-yepp.co.kr

Requirements P133, Win95/98/NT 4.0, parallel port Tested on PIII 600 with 256MB RAM

It's the D'Music in a silver coat! We sense a bit of rebadging going on here...

£90



TRUST ●

MP3 CYBERMAN

www.trust.com

Requirements P100 with 16MB RAM, Win95/98, parallel port Tested on PIII 600, 256MB RAM

A very impressive machine with good performance

■ PRICE £199 ■ EX VAT £169 ■ SUPPLIER PC World ■ PHONE 0990 500 049

Looking more like a MiniDisc portable than an MP3 player, the design sensibility of Samsung's Yepp' YP-E64 is coldly stylish. The box contains a parallel cable, headphones, batteries and a CD containing Yepp' Explorer for file transfer, RealJukeBox for encoding and a selection of MP files from MP3.com and emusic.com. There are two units available – one with 32MB of RAM and one with 64MB. Our review model was the 64MB version, which can be upgraded to 128MB with a memory card.

Since, as with all of these players bar one, the Yepp' YP-E64 ties up the PC's parallel port when connected, Samsung has thoughtfully released a USB converter. This does cost extra, but as well as giving you back your printer, it also gives slightly faster download times, which is always a good thing. In our six-track, 32MB test, it managed three minutes via the parallel port, which isn't too bad.

The Yepp' YP-E64 isn't let down by its feature list, either. As well as voice recording, it sports a telephone book that works in the same way as that with jazPiper. Voice recording uses 64Kbps compression to squeeze a massive four hours of monophonic, low quality mumbblings into the machine at a time.

With six EQ modes, the Yepp' YP-E64 promises great things, aurally speaking. Actually, it's really three modes – Jazz, Rock and Classic – but each has a '3D' incarnation as well, which sort of pulls the bassier instruments round to the sides of the stereo image a bit and pushes the higher sounds towards the centre. Strange. In action the player is very convincing, with the bass powering along nicely and the mid and high frequencies cutting through more than convincingly. The EQ settings cover a good range of possibilities, and while the 3D modes aren't hugely spatial, they do offer a viable trio of additional viable setups.

The Yepp' YP-E64 is a very impressive machine. In fact, there's really nothing to fault here in terms of the unit itself: the transfer times are good, the sound is everything it should be, and the phone book makes for a vaguely useful extra. The price, however, is high – not the highest here, but a clear second.

PC Plus

VERDICT

SAMSUNG YEPP' YP-E64

For Excellent performance all round.

Good features

Against A bit pricey

Range of features.....8

Ease of use.....8

Documentation.....7

Performance.....9

Value for money.....6

8/10

Astonishing performance from such a cheap machine

■ PRICE £90 ■ EX VAT £76 ■ SUPPLIER Ashima ■ PHONE 0800 328 0261

Notice anything at all odd about Trust's MP3 CyberMan? That's right – it's exactly the same as the D'Music model. The only differences between the two, apart from colour, are in the badging of both, the fact that you only get MusicMatch JukeBox and extremely minimal documentation with the CyberMan, and the carrying pouch that comes with the D'Music.

So how did that happen? We can only assume that Pine and Trust have both bought their players in from a third party manufacturer and marketed them against each other. And as you may have also noticed, should it turn out that both players also function and perform identically, the CyberMan beats the D'Music on price by a very significant £40. If the D'Music had another 32MB of memory, this would make sense, but they both have 32MB expandable up to 64MB.

Having configured the parallel port in CMOS setup and installed the software, it immediately becomes apparent that there really are no differences whatsoever between the two units. The CyberManager application is exactly the same as Pine's transfer software, even down to the bugs – we had the same problems with uploading and downloading files that were present in the D'Music. It'll also come as no surprise, then, to learn that the transfer rate clocked in at a predictable six minutes for 32MB.

By the time we got round to listening to some music, we knew what to expect – and we weren't disappointed. With the Ex-bass EQ setting on, the sound is thick and realistic: guitars sound splendidly bright, drums burst through with aplomb and the bass is nothing short of magnificent. It's quite astonishing that such top drawer performance can come from a machine costing only £90.

Clearly there's no choice between the D'Music and Trust's comfortably priced marvel. Quite what Pine can do about this remains to be seen but, for now, the CyberMan can proudly claim to be the cheapest MP3 player around. And the fact that it performs so admirably as well makes this package excellent news. A deserving winner of a Value Award.

PC Plus

VERDICT

TRUST MP3 CYBERMAN

For Excellent sound. Voice recorder.

Stunning price

Against Buggy software. Slow transfer

Range of features.....7

Ease of use.....5

Documentation.....3

Performance.....9

Value for money.....10

9/10



PC PLUS PRODUCT FACTS

Manufacturer	Cybercomp	Diamond	LG	Merit	Pine	RFC	Samsung	Trust
Model	Mpgenie	Rio 300	MF-PD330	MP-100	D'Music SM-320V	jazPipe	Yepp' YP-E64	CyberMan
Price inc VAT	£220	£135	£130	£129	£129	£125	£199	£90
Price ex VAT	£187	£115	£111	£110	£110	£106	£169	£76
Supplier	Micron e-innovations	Diamond Multimedia	LG	PC World	Pine	Elex Business Systems Ltd	PC World	Ashima
Phone Number	01753 570 800	01189 444 400	0870 607 5544	0990 500 049	01908 218 812	020 8842 3777	0990 500 049	0800 328 0261
Memory	64MB internal	32MB internal	32MB cards included	32MB cards included	32MB	32MB	64MB	32MB
Maximum memory	128MB	64MB	64MB	64MB	64MB	64MB	128MB	64MB
Size	51x80x1788mm	89.9x63.5x12.7mm	71x95x19mm	52x88x23mm	63x85x175mm	66x90x18mm	65x87x172mm	87x63x19mm
Weight (without battery)	60g	70g	60g	55g	65g	74g	75g	65g
Connection	Parallel port	Parallel port	Parallel port	Serial port (card reader)	Parallel port	Parallel port	Parallel port, USB (optional)	Parallel port
Battery	AA (1)	AA (1)	AAA (2)	AAA (2)	AAA (2)	AAA (2)	AAA (2)	AAA (2)
EQ modes	5 plus bass, treble	4	1	Bass and treble	4	3	3 plus 3 '3D'	4
Extra features	3D sound, power adaptor	None	Remote control	Card reader, FM radio	Ex-bass, voice recorder	Voice recorder, phone book	Voice recorder, phone book	Ex-bass, voice recorder
Transfer speed (32MB minutes)	0:59	3:10	6:04	2:07	6:02	3:15	3:02	6:08
Additional software	MusicMatch JukeBox	MusicMatch JukeBox	None	MusicMatch JukeBox	MusicMatch Jukebox, King AudioCatalyst	Jet-Audio	RealJukeBox	MusicMatch JukeBox
Score	9	7	6	7	8	5	8	9 

TECHNICAL BRIEFING

How MP3 works

MPEG compression reduces audio files to a 12th of their original size

The whole point of MP3 – and various other digital audio formats, including WMA and MiniDisc – is to make the file as small as possible while still keeping as much of the original quality as possible. But, as the futility of trying to Zip .wav files proves, this is a very complex business. MPEG compression (the algorithm used for MP3) reduces audio files while still retaining a semblance of 16-bit, CD quality. It does this using a technique called 'perceptive encoding' which takes out everything that the human ear doesn't respond to – up to an astonishing 90 per cent of what you get from a CD. For this reason, the technique is referred to as 'lossy' compression.

For day-to-day listening – particularly on the move with all the background noise that that implies – the results are very impressive. The fact is, though, that while we can't hear 90 per cent of the frequencies, the audiophile would claim that the interaction between those frequencies and the ones we can hear is also lost, which can have a profound effect on music and lead to artifacts – 'errors' in the sound that can grate somewhat.

Even the 64MB units can only store an hour of highest quality music, and flash memory cards aren't cheap. The next generation of players (which are due to hit the market shortly) use laptop hard drives to store immense amounts of music.

USEFUL WEB ADDRESSES

MP3 on the Web

It all started on the Internet, and now there are MP3 sites springing up everywhere...

● www.mp3.com

The most famous site of all, sporting everything from interviews with well-known artists to children's music. The controversy over its Beam-It system, where you can have your own CD collection added to your account, should be over by the time you read this.

● www.peoplesound.com

Peoplesound's clever search engine, enabling you to build up a list of stylistic 'tastes', is one of its main selling points, along with its professional A&R department and generally high quality unsigned acts.

● www.vitaminic.com

More unsigned bands, again generally of pretty good quality. A password-protected section is reserved for registered bands, where they can change their details, edit their personal Web space and upload tracks.

● www.riffage.com

Founded by Ken Wirt, the marketing brains behind Diamond's Rio player, Riffage lets you rate your favourite bands on the site, build your own playlists and take advantage of another good search engine.



PC Plus Verdict

So will you be plugging into digital music? We reveal the best MP3 player for you:

BUYING ADVICE

How to choose

It all boils down to two things – and possibly two players

As important as features undoubtedly are, the two things that really count are sonic ability and memory. While telephone books are all very well, they're not really worth swinging in favour of one player over another for. Voice recording is more useful, but again unlikely to be the clincher for most buyers. Fast transfer times are nice to have, but given that none of these machines takes longer than six minutes to download 32MB, this isn't hugely worth reflecting in our scores. The build quality of all these players is not impressive, but future MP3 players are set to address this. Presently, for a sizable sum of money you end up with a very light and plastic piece of hardware. Drop any of these at your peril.

Generally we were impressed with the sounds from all of these players, so it came down to DSP quality and 'feel' in the end. But as for memory, since only two models – the Yepp' and the Mpgenie – come with 64MB, anyone looking for an hour of 'CD quality' rather than half an hour should consider this a two-horse race.

● Ronan MacDonald is the Editor of Computer Music magazine.

BEST PERFORMER

CYBERCOMPMPGENIE

■ PRICE £220 ■ EX VAT £182 ■ SUPPLIER Micron e-nnovations ■ PHONE 01753 570 800 ■ WWW www.mpgenie.com

Although the Yepp' and the Trust/Pine combo were all snapping ferociously at its heels in terms of quality, the MPgenie was our indisputable favourite in the end. Cybercomp's well implemented (and numerous) EQ modes combined with the 3D function make for a very enjoyable set of timbres, and this is the one we'd take to the streets with.

The JazPiper scored lowest on performance because of its uniquely limited practical range. It's definitely the weakest model.



The MPgenie's performance was extremely impressive.

BEST VALUE

TRUSTMP3 CYBERMAN

■ PRICE £90 ■ EX VAT £74 ■ SUPPLIER Ashima ■ PHONE 0800 328 0261 ■ WWW www.trust.com

Tf it was a lot cheaper, the Mpgenie would have walked away with both 'Bests'. But at £220, this is the most expensive model by quite a margin – which explains the sound quality. The Yepp' has an 'interesting' price point, but we think it's too high given that its sound quality is bettered by two of the cheaper players. With all the others hovering around the £125-£130 area, Trust's MP3 Cyberman has to be the best value, particularly with Pine's rebadge costing a bewildering £40 more.



At just £90, the MP3 Cyberman is a worthy winner of a Value Award.

WHICH FORMAT?

MP3 vs CD vs MiniDisc

Digital audio formats come and go, but this quartet demand to be taken seriously...

Compact Disc

Invented in the late 1960s by James T Russell, and launched in a big way in the early 1980s, the CD still shows absolutely no sign of losing its mass market appeal. Nonetheless, in terms of audio quality, it could certainly be better – what must have seemed truly stunning all those years ago is starting to sound rather shoddy today. Like MP3, CD can only be mastered to a maximum of 16-bit resolution, which is considerably less than state of the art and increasingly unacceptable for such an expensive product. Hence, we can eventually expect to see the hardy CD superseded by a number of looming 24-bit alternatives – but that's a long way off yet.

MiniDisc

Huge in Japan but all but dead in America, MiniDisc has been on and off the market since 1992. Storing up to 80 minutes of music on a cased 64mm disc,

the format uses a compression algorithm called ATRAC (Adaptive TRansform Acoustic Coding) which only reduces audio to 1/5 of its original size. Thus the quality, although not quite up there with CD, is unquestionably better than MP3.

WMA

Windows Media Audio is Microsoft's audio codec (COmpression/DECompression) and, given the age of MP3 and the R&D power of Microsoft, it comes as no surprise to learn that it's technologically superior in every way that counts. Whereas an MP3 has to be encoded at 128Kbits per second to achieve the 44.kHz sample rate necessary for CD level performance, a WMA file can be encoded at 64Kbits and still sample at 44.1KHz, thus delivering the same sound quality at half the file size. And, in reality, blind tests have revealed that the vast majority of listeners actually prefer the sound of Microsoft's codec to its

much-hyped rival. Consequently, WMA could well be the first nail in MP3's coffin, as the next generation of multimedia devices gears up to support this impressive format.

MP3

Digital audio technology has moved on an impossibly vast distance since MP3's inception, so it would hardly be a shock to see its legs give out at some point soon. Nonetheless, when DVD Audio finally sees the light of day, thanks to its massive user base, MP3 isn't about to go down without a fight. Ironically, the main reason it's about to take such a hammering may also turn out to be its saviour: it's the perfect medium for piracy, which is why the record industry are backing all it's watermarked and otherwise secure rivals. So, for the home user looking to top up their music collection for free, there may soon be no option other than MP3.