

Box of delights

You don't have to spend a fortune to buy a good-quality hi-fi. We pick six Best Buy micro systems that cost less than £500

Sales of micro systems are growing faster than those of any other type of hi-fi and it isn't hard to see why they're so popular. They're neat and tidy to look at, don't take up much space and you don't have to worry about choosing a separate amp, tuner, CD and speakers – they all come neatly packaged together. Most systems are pretty simple to set up and get going, too – and you've usually got only one remote control to master.

Buying a micro system doesn't mean sacrificing quality for convenience – the best performers in our tests can give a budget separates system (which will cost

you around £450) a run for its money. Here we've tested 23 new systems at prices ranging from £100 to £550.

Our six Best Buys all cost more than £299 but price doesn't guarantee quality, as two of the most expensive models on test – the Hitachi AX-M140 and the Tivoli Model DAB RadioWorks – turned in disappointing performances and are at or near the bottom of our rankings.

Bargain hunters should look out for the Sony CMT-CPZ1. At £170 online, it costs an impressive £129 less than our cheapest Best Buys and it was only just behind them in performance.

Buying a micro system doesn't mean sacrificing quality for convenience

Jargon buster

How to tell a DAB from a USB

■ **MP3/WMA** These are two sorts of compressed music file. The idea of compressing is that it cuts the file size by discarding some of the digital data. The file will take up less storage space and can be sent more easily over the internet. However, this will reduce quality.

■ **USB** A USB socket can be used to link your micro hi-fi to an MP3 player to transfer music tracks.

■ **MEMORY STICK** This type of memory card can plug into other devices such as MP3 players.

■ **SD MEMORY CARD** A card used by portable devices such as MP3 players or digital cameras.

■ **DAB** Digital audio broadcast picks up digital radio stations.

How we test



We tested the ability of each system using a wide range of music

handling a thorough workout and Faithless's 'Insomnia' checks a hi-fi's ability to reproduce multi-layered dance music without distortion. We also listen to each system through a pair of Best Buy speakers to see whether this improves the sound.

Testing blindfold

We mask out brand names to prevent bias and test some products twice to ensure consistent marking. Our experts are music students, retailers, concert goers and broadcasters. We don't use musicians or recording engineers, who are likely to be 'tuned' to their own equipment.

Feel-good factor

We load CDs, adjust controls and tune the radio to see how easy each system is to use.

Tracking tests

We listen to a variety of tracks on each system. A classical orchestral piece tests the stereo quality, a soprano vocal (Emma Kirkby) examines the higher frequencies and a jazz tune by Jacques Loussier highlights the entire range from deep bass to the high frequencies of cymbals. 'Sledgehammer' by Peter Gabriel gives the bass

What you should look for

TUNER

All the systems have an FM radio tuner. Most also come with MW and more than half have a DAB tuner, giving you many more stations

SPEAKERS

All the systems came supplied with speakers but you can often get better sound quality by adding new ones. The speakers on some models cannot be upgraded

CASSETTE DECK

It may be old technology but a few still come with this. However, those on test weren't very impressive

DVD PLAYER

You can connect the DVD player to your TV with a Scart socket (right) to watch films – it works as a CD player, too

DIGITAL RECORDER

Some models have a USB port to connect to an MP3 recorder to play/record music. The Hitachi AX-M140 (20) 40GB hard drive stores 9,000 MP3 tracks





74% Denon D-M35DAB £380

This is the best micro hi-fi we have tested this year. The CD player sounded great on everything from pop songs like Faithless's 'Insomnia' to vocals by soprano Emma Kirkby. Results were even better when we listened through our Best Buy speakers (JBL Northridge E30BE, about £200 online if you want to upgrade your system later).

There is a conventional FM/MW radio with an RDS system which shows the station you are listening to, plus a DAB tuner which gives you lots more stations.

The instructions are a bit daunting, though, and the speaker cables are awkward to hook up. It's available from Comet and John Lewis.

WE LIKE The radio tuner picks up weak stations well and has a good clear display (below).

Cheapest stores Comet, John Lewis
Size 10x21x33cm **Tuner** FM, MW, DAB
RDS Yes **DVD** No **Digital out** Optical
Cassette Optional



The Denon D-M35DAB is the best micro hi-fi we have tested this year



72% Denon D-M33 £300

You can see that this Denon is from the same stable as the M35DAB (above). It's £80 cheaper but lacks some of the M35's features – notably its excellent DAB radio. The CD player is just as good as the one on its more expensive cousin, though. Our listening panel rated this system a good all-rounder, praising its sound quality on classical, jazz and pop tracks. However, the D-M33 is no easier to put together than its cousin and it has small control buttons (right).

An optional cassette deck is available (as it is with the M35). It's available from Comet and Currys.

WE LIKE It scored as well as the Bose and is £150 cheaper.

Cheapest stores Comet and Currys **Size** 10x21x33cm **Tuner** FM, MW **RDS** Yes **DVD** No **Digital out** Optical **Cassette** Optional



72% Bose Wave Music System £450

This one-box system has its speakers built in, making it the easiest Best Buy to set up. It is also the easiest to use, thanks to its large, clear display and simple CD loading system (below right). There are no controls on the unit itself – everything is done with the handy little remote (just make sure you don't lose it).

With built-in speakers, the stereo effect is limited, but on the evidence of our tests this shouldn't put you off. The Bose produced impressive bass levels on the jazz and pop tracks by

Jacques Loussier and Peter Gabriel used in our listening tests. The radio tuner is a good one, too. It's available online and from independents.

GOOD FOR The Bose is a technophobe's dream.

Available Online and independents **Size** 10x37x26cm **Tuner** FM, MW **RDS** Yes
DVD No **Digital out** None **Cassette** No



72% Teac Reference 300MKII £499

The Teac Reference is the most expensive Best Buy but is also the most flexible. The CD player, tuner and amplifier are all separate so can either be placed side by side or stacked and you can also buy the system without speakers if you prefer to choose your own. The CD player sounded good on pop tracks with plenty of bass but was less impressive on jazz tunes.

Once set up, the system's pretty easy to use, with good-sized rotary controls

and a large volume control. The remote (right) is a bit cluttered.

The Teac is available from John Lewis. **WATCH OUT** There is a lot of cabling and you'll need to plug in two mains leads.

Cheapest store John Lewis **Size** 29x22x34cm **Tuner** FM, MW, DAB
RDS Yes **DVD** No **Digital out** Optical
Cassette Optional





69% Yamaha CRX-M170 £299

If you're looking for a good-value hi-fi with a DAB radio, this is the one to choose. Its CD player did well in our tests, particularly on pop tracks such as Peter Gabriel's 'Sledgehammer'. Our listening panel's only criticisms came when listening to classical music, with violins sounding a bit thin and scratchy. The radio tuner also did well in our tests.

The Yamaha is easy to set up and get going and we found it simple to use. The display shows large, bright text and we particularly liked the multi-function rotary

control on the front panel (below) that can be used to change tracks, adjust sound tone and tune the radio.

The Yamaha CRX-M170 is available from John Lewis.

WE LIKE The Yamaha's front-panel controls are easy to use.

Cheapest store John Lewis **Size** 11x21x36cm **Tuner** FM, MW, DAB **RDS** Yes **DVD** No **Digital out** Optical **Cassette** No



WHICH?
BEST
BUY

If you're looking for a good-value system with DAB radio, the Yamaha is the one to choose



68% JVC EX-P1 £299

This JVC is the only Best Buy that includes a DVD player (which also plays CDs and DVD-Audio discs).

The DVD section, which you connect to your TV via a Scart lead, works well and CD sound quality is good, though it was better on pop vocals than on classical tracks.

The JVC's speakers are well suited to its CD player. Sound quality didn't improve when we tried it with our Best Buy speakers.

The system is pretty easy to use so don't be put off by the remote control (below), which looks complicated and has lots of closely spaced buttons.

The JVC is available from John Lewis.

WE LIKE The DVD player is a useful extra if you are buying this for a bedroom with a TV.

Cheapest store John Lewis **Size** 10x24x29cm **Tuner** FM, MW, RDS Yes **DVD** Yes **Digital out** Optical **Cassette** No



WHICH?
BEST
BUY

Budget Buy

SONY CMT-CPZ1 £170

This Sony (8) wasn't quite good enough to be a Best Buy but if you're looking for a cheap choice, for a teenager's bedroom perhaps, it's worth considering.

It has a CD player, FM/MW tuner and, unusually, a cassette deck, all housed in a single, grey metallic main unit that looks quite techy with lots of front-panel buttons. The speakers have a more traditional finish.

Our listening panel liked the sound from the CD player, and the cassette deck was one of the better models on test. The radio tuner is excellent.

The cassette deck can record from CD or tuner – CDs are loaded into a slot (like a car CD player). The system is generally easy to use but the number of small front-panel buttons looks a bit daunting to start with.

SCORE 64%



Don't Buys

Whatever the price tag, it's the sound of the system that counts

The most important thing about a hi-fi system is the tone and clarity of the sound it delivers. Three of our 23 systems sounded way below par – the Teac MC-DX10MKII, Panasonic SC-EN29 and Tivoli Model DAB RadioWorks. The Teac (21) and Panasonic (22) are small budget systems with price tags of less than £160, but the Tivoli (23), which got the lowest score in our test, costs £435 online – only three systems cost more. You can replace



the Panasonic speakers but this doesn't improve matters much, so the problems are with the main unit. The Teac and Tivoli are not designed to work with other speakers.

We found three systems below par. From the top: Tivoli Model DAB RadioWorks, Teac MC-DX10MKII and Panasonic SA-EN29



How to buy

Try to find a shop with a proper listening room

■ FAVOURITE CDS

In an ideal world you should always aim to listen to a hi-fi system before you buy it. Unfortunately, many of the large electrical stores that sell such systems don't have proper listening facilities. You'll probably get a quick blast from a display model sitting on a shelf in a noisy room and that's about it.

However, many independent hi-fi shops stock our Best Buys and many will have proper listening rooms where you can relax in ideal conditions. Take along your favourite CDs and put the systems through their

paces. You may not get the cheapest price but you'll know whether you like the sound before parting with your cash. We hope our advice helps your buying decision. Remember, though, that in the end it's what sounds good to you that matters most.



Let your ears be the judge

Insider information

Our hi-fi expert Dave Holes gives advice on upgrading your micro system's speakers

Our tests showed that the speakers supplied with a micro hi-fi are often the weakest part of the system and that you can improve sound quality if you upgrade them. In addition to trying each system with the supplied speakers, where possible we also try them with some Best Buy speakers from a previous project (JBL Northridge E30BE, around £200 online). If we can hear any definite improvement, it shows the main unit is capable of better



sound than the speakers it is sold with can deliver. The Best Buy Denons, for example, would sound even better with a speaker upgrade. Not all systems can be upgraded – the Bose Wave Music System has built-in speakers that can't be replaced. We've also come across systems whose amplifiers have been adjusted to compensate for the shortcomings of their own speakers. Adding new speakers here would produce a very odd sound.

Which should you choose?

Best for radio

DENON D-M35DAB £380 This Denon (1) has a very good radio system that picked up weak stations and cut out interference well in our tests. There are two tuners – a conventional FM/MW one with the RDS system which shows the station name in the display, plus a good-quality DAB tuner that will give you access to a huge range of extra stations.



Best for DVD

JVC EX-P1 £299 This JVC (6) is the pick of the systems that have a built-in DVD player. If you hook it up to your TV set using a Scart lead, you can play back movies on screen with the hi-fi system providing the sound. It will play back -R/-RW and +R/+RW format discs recorded on DVD recorders as well as commercial DVD discs. It also plays CDs and discs with recorded MP3 files, too.



Easiest to use

BOSE WAVE MUSIC SYSTEM £450 This Bose (2) was impressively easy to use. It's a one-box system that's simple to set up, with excellent instructions. It has a large, clear display but there are no front-panel controls at all – everything is done with the remote. This is small so keep it somewhere safe. The radio tuner was excellent, too, and passed all our tests with aplomb. CD loading is pleasingly straightforward, into a slot, just like a car player.



Best for MP3 users

TEAC REFERENCE 255 £350 The Teac (7) is a decent all-round system even if it doesn't quite make it as a Best Buy. This is a good choice if you have an MP3 player that you use on the move and want to buy a micro hi-fi you can link up to it. You do this using a USB socket on the front that allows MP3 files to be played back through its speakers, either direct from an MP3 player or a memory stick. You can also record tracks from your hi-fi on to your MP3 player using this socket, though sound quality is rather poor.



Contacts

Bose
0800 085 9021
www.bose.co.uk

Denon
01753 688495
www.denon.co.uk

Hitachi
01628 643000
www.hitachi.co.uk

JVC
0870 3305000
www.jvc.co.uk
Ministry of Sound
0870 0105676
www.ministryofsound.com/audio

Panasonic
08705 357357

www.panasonic.co.uk www.sony.co.uk

Philips
0845 6010354
www.philips.co.uk

Pure
01923 277488
www.pure.com

Sony
08705 111999

TEAC
0845 1302511
www.teac.co.uk
Tivoli 01702 601 410
www.ruark.co.uk

Yamaha
01923 233166
www.yamaha-uk.com

MEMBER BENEFIT

Members' helpline

01992 822800/0845 307 4000

For one-to-one phone support on queries about Which?, advice on consumer issues, and on-the-spot Best Buy information, contact our members' helpline.

Mon-Fri 8.30am-8pm; Sat and bank holidays 9am-1pm. Please give your Which? membership number and daytime phone number. Calls may be monitored or recorded for training. All correspondence to: Which? Ltd, PO Box 44, Hertford X SG14 1SH. You can also fax 020 7770 7485 or email which@which.co.uk

When micro means big

Never mind the height of your system – just feel the width

Hi-fi systems are classified by their width alone, with micros coming in at about 30cm. Oddly, height doesn't come into the equation, so you can find yourself in a shop looking at a micro system that reaches up to your waist. The Ministry of Sound MOSTS072, which we tested (18), takes this to extremes. It is more than a metre tall with skinny cylindrical speakers to match. The main unit can sit on a pedestal or be mounted horizontally – labelling is slanted diagonally to allow for both options. This was the only hi-fi on test that had a multi-disc CD player and its sound was reasonable. But the radio tuner is poor and it was the trickiest to use in our trial, so it is worth buying only if you really can't resist its unusual appearance.



Facts & scores

Soundbites we captured while testing our micro music systems

For MP3 lovers

The Teac Reference255 and Hitachi AX-M140 both have USB sockets on the front that allow MP3 or WMA files to be played from (or recorded to) a separate MP3 player or memory stick.

Record radio

The Pure DMX-50 features a DAB radio with a memory buffer, so that radio programmes can be paused and rewind. It also has a slot for an SD memory card so you can record (and play back) DAB radio recordings.

For teenagers

The Ministry of Sound MOSTS072 (see left) has four separate, vertically mounted CD players stacked one on top of the other and a microphone input for karaoke. It would look good in a child's bedroom but perhaps not in the living room.

Hard drive

The Hitachi AX-M140 has a built-in 40GB hard disk which can record CDs and also play/record MP3 and WMA files. The Hitachi's sound quality was disappointing but the huge storage capacity is a great advantage if you want to store thousands of MP3 tracks.

MODEL	SPECIFICATION		TUNER WAVEBANDS	REMOTES
	PRICE (£)	SIZE (cm) (HXWXD)		
1 DENON D-M35DAB	380	10x21x33	FM, MW, DAB	1
2 BOSE Wave Music System	450	10x37x26	FM, MW	1
3 DENON D-M33	300	10x21x33	FM, MW	1
4 TEAC Reference 300MKII	499	29x22x34	FM, MW, DAB	1
5 YAMAHA CRX-M170	299	11x21x36	FM, MW, DAB	1
6 JVC EX-P1	299	10x24x29	FM, MW	1
7 TEAC Reference 255 ^c	350	11x22x36	FM, MW, DAB	1
8 SONY CMT-CPZ1	170	24x18x29	FM, MW	1
9 YAMAHA E600MK2	350	22x22x40	FM, MW	2
10 YAMAHA RDX-E700	275	22x12x30	FM, MW	1
11 PHILIPS MCD708	200	17x24x27	FM, MW	1
12 SONY CMT-NEZ7 DAB	150	24x17x27	FM, MW, DAB	1
13 PURE DTM-300	170	28x44x16	FM, DAB	1
14 PURE DMX-50	182	24x17x29	FM, DAB	1
15 PANASONIC SC-PM91D	200	25x18x41	FM, MW	1
16 JVC UX-HB4	130	23x15x30	FM, MW, DAB	1
17 PHILIPS MCB240/25	149	25x28x17	FM, DAB	1
18 MINISTRY OF SOUND MOSTS072 ^d	160	110x30x31	FM, MW	1
19 MINISTRY OF SOUND MOSMC130	100	16x21x33	FM, DAB	1
20 HITACHI AX-M140 ^{c,e}	550	26x28x32	FM, DAB	1
21 TEAC MC-DX10MKII	159	16x22x9	FM, MW	1
22 PANASONIC SC-EN29	150	22x24x17	FM, MW, DAB	1
23 TIVOLI Model DAB RadioWorks	435	23x22x19	FM, MW, DAB	1

a Available as an option but not tested b Not possible (or not practical) to connect different speakers to

USING THE TABLE

We tested new micro hi-fi systems costing between £100 and £550 from some of the leading brands. The more stars the better.

Specification

Price For Best Buys we give the widest available high-street price. Prices for other models are intended as a guide. Online prices are in *italics*.

Features

RDS This is the Radio data system that works with analogue FM radio. RDS

shows the name of the radio station you are listening to. Some models also have the facility to switch to traffic reports on other stations.

DVD plays back The type of recordable disc, recorded on another machine, that the player can play back. **Resume** This feature remembers where you stopped watching a film and automatically starts from that point next time you switch it on. For this to work you need to leave the disc in the player and the system on standby. **Digital outputs** For connecting to an external surround-sound

FEATURES											WHICH? TEST PERFORMANCE					SCORE %
ONE MAINS LEAD	HEADPHONE SOCKET	RDS	DVD PLAYER (NO OF DISCS)	DVD PLAYS BACK	RESUME	DIGITAL OUTPUTS	CASSETTE DECK	RECORD TIMER	MP3 PLAYBACK	WMA PLAYBACK	TUNER	CD PLAYER (OWN SPEAKERS)	CD PLAYER (BEST BUY SPEAKERS)	CASSETTE PLAYER	EASE OF USE	
✓	✓	✓				Op	see ^a		✓	✓	★★★★★	★★★	★★★★★		★★★	74
✓	✓	✓							✓		★★★★★	★★★	see ^b		★★★★★	72
✓	✓	✓				Op	see ^a		✓	✓	★★★★★	★★★	★★★★★		★★★★	72
	✓	✓				Op	see ^a				★★★★★	★★★	★★★★★		★★★★	72
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✓	✓	✓	1	-R,+R,-RW,+RW		Op			✓		★★★★★	★★★	★★★★		★★★★	68
✓	✓	✓				Op	see ^a	✓	✓	✓	★★★★★	★★★	★★★★		★★★★	66
✓	✓	✓				Op	✓	✓	✓		★★★★★	★★★	★★★★	★★	★★★★	64
	✓	✓	1	-R,+R,-RW,+RW	✓	Op, Co			✓		★★★★★	★★★	★★★★★		★★	64
✓	✓	✓	1	-R,+R,-RW,+RW	✓	Op			✓	✓	★★★★★	★★★	see ^b		★★	64
✓		✓	1	-R,+R,-RW,+RW	✓	Op, Co			✓	✓	★★★★★	★★★	★★★★		★★	60
✓	✓	✓					✓	✓	✓		★★★★★	★★	★★★★	★	★★★★	58
✓	✓	✓							✓		★★★★★	★★	see ^b		★★	58
✓	✓	✓				Op			✓		★★★★★	★★	★★★★		★★★★	56
✓	✓	✓	5	-R,+R,-RW,+RW,Ram	✓	Op	✓	✓	✓	✓	★★★★★	★	see ^b	★★	★★★★	54
✓	✓	✓					✓	✓	✓		★★★★★	★★	★★★★	★	★★★★	53
✓	✓	✓							✓		★★★★★	★★	★★★★		★★	50
✓	✓										★★	★★★★	★★★★		★	45
✓	✓	✓							✓		★★★★★	★	★★		★★	45
✓	✓	✓	1	-R,+R,-RW,+RW		Op, Co			✓	✓	★★★★★	★	★		★★	44
✓		✓							✓		★★★★	★	see ^b		★★★★	39
✓	✓								✓		★★★★	★	★★		★★	37
	✓										★★★★	★	see ^b		★★	35

these models due to the design of the systems c MP3 Connect d Four-disc CD e Digital recorder

system or digital recorder, for example. Check you have the compatible output type: Co = coaxial; Op = optical. **Record timer** You can set the unit to start/stop recording at certain times – useful if you're interested in recording radio broadcasts. **MP3 playback/WMA playback** Can play back files which have been recorded on to CD by using one of these formats.

Test performance

Tuner Our technical testing of the FM tuner includes

how well it picks up weak radio stations and how good it is at rejecting unwanted interference.

CD player (own speakers)

Our experts' verdict on the sound quality of each system's CD player when using the speakers supplied with that model.

CD player (Best Buy speakers)

Our expert panel's verdict on the sound quality of each system's CD player when we used our Best Buy speakers.

Cassette player Our experts' verdict on cassette

sound quality. This includes both pre-recorded and self-recorded material. Some systems have cassette players built in, while others make them available as optional extras. **Ease of use** This includes how difficult each micro hi-fi system is to set up and to use.

Score

This ignores price and is based on:

Sound quality	50%
Ease of use	20%
Features	15%
Tuner	15%

MEMBER BENEFIT

Great savings on Best Buy micro hi-fis

Hughes Direct is offering *Which?* members more than 15 per cent off the high-street prices shown here (including delivery) for selected Best Buy micro hi-fis featured in this report. See p71 for special-offer details.

