



# Cinema sound in a box

We've tested all-in-one home-cinema kits so you can reproduce cinema-style sound at home

When you go to the cinema to see the latest action film, you expect to feel like you're in the thick of the action. Speakers placed around the cinema help create this experience. These speakers also use sophisticated digital sound processing to create the surround-sound effect. A home-cinema system tries to re-create this experience in your living room.

If you just want to enjoy surround sound when you watch films at home, the cheapest and simplest option is to buy an all-in-one home-cinema kit. If you want more flexibility, so you can integrate the system with your stereo, you can select home-cinema separates. See our test results for these on p48.

The main elements of any surround-sound system are the speakers and the amplifier. When bought as a kit, a DVD player is often included. We've tested a selection of kits with and without DVD players. In addition to the kit, you'll also need a television or projector and a couple of spare mains sockets.

Your next decision is the number of speakers you need in your kit. The most common choice is five speakers and a subwoofer – called a 5.1 system – but you can opt for fewer speakers. With fewer speakers you compromise on surround-sound effect but they'll take up less room. See 'Jargon buster', p46, for more details.

**If you just want to experience surround sound, the simplest option is an all-in-one kit**



## 71% Denon DHT-1356XP £250

This is the only Best Buy kit without a DVD player. The surround effect is excellent, making you feel as if you are really there. Stereo sound is not as good, sounding a little flat, but surround sound is better. The subwoofer (see 'Facts & scores', p46) pumps out strong and definite sound. This Denon kit has lots of slots for connections, so you can connect your hi-fi to it. It isn't the easiest system to set up partly because no menu is displayed on the TV. You have to do

this on the screen of the unit itself. This kit is available online.

**WE LIKE** The large, well laid-out remote control. The buttons are in different colours and shapes which makes it easy to use. Essential buttons for your DVD player are luminous, so you can find them in the dark.

**Available Online only** Compatible disc formats n/a Time to start playing audio CDs/DVDs n/a Tuner presets 56 Speaker dimensions Front & rear 8x19x11cm, centre 27x9x11cm, subwoofer 21x36x38cm Speaker cables Front 3m, rear 10m



## How we test

**Sound quality is key for a home-cinema system. We test three aspects of the systems' sound capabilities**

### Stereo sound

We listen to rock and pop tracks from Michael Jackson to ZZ Top, and classical and orchestral music by Bruckner and Handel to check which systems deliver good stereo sound. In total we try the systems with 23 pieces

of music. Pink Floyd's 'Another Brick in the Wall' is a stern test for all the systems.

### Surround quality

Next we step up the testing to see how the systems handle surround sound by watching clips



from films including *The Matrix* and *Jumanji*, as well as live concert footage. We're looking for all the elements to work well – bass from the subwoofer (see picture above), treble, voices – and for none to be overpowering or unduly weak.

### Surround effect

Finally we use the same film clips from the test for surround-sound quality to assess the surround-sound effect. We listen carefully for sound effects coming from different parts of the room to see whether the sound is realistic and you feel as if you are in the middle of the action.

## MEMBER BENEFIT

## Great savings on home-cinema systems



Hughes Direct is offering Which? members up to 15 per cent off the high-street price shown here for our two Best Buy Denon systems. Offer valid until 31 August 2006. See p71 for details.

**70% Yamaha DVX-S250 £370**

This is the best kit with a DVD player. Stereo sound is good, voices sound warm and there is strong bass. Surround sound and picture quality are no slouch either. The amplifier, tuner and DVD player are all contained in a small flat silver unit, but it has a noisy fan, which is on often and for long periods. This kit is one of the more power-hungry systems in use, although not in standby. It is let down slightly by a complicated remote

control. It's available online. **WORTH KNOWING** This kit has an effective automatic set up (see 'Facts & scores', p48). You put its mic in the seat where the main viewer will sit, and the system sets itself up in a few minutes.

**Available Online only Compatible disc formats** DVD-R, DVD-R double layer playback, DVD+R, DVD-RW (video mode only), DVD+RW, CD-R, CD-RW, MP3-CD, MP3-DVD, Jpeg, Video-CD **Time to start playing audio CDs/DVDs** 30/18 seconds **Tuner presets** 40 **Speaker dimensions** Front 25x107x25cm, rear 8x23x8cm, centre 30x8x8cm, subwoofer 24x42x39cm **Speaker cables** Front 4m, rear 15m

**WHICH?**  
**BEST**  
**BUY**

This Yamaha is the best kit with a DVD player. Stereo sound is good and there is strong bass

**67% Denon DHT-500 SD £500**

This is an excellent product. The satellite speakers and subwoofer work well together delivering a pleasing, natural sound, albeit slightly thin and lacking in bass. The surround-sound effect is well distributed, too. You can add more speakers to upgrade it to a 7.1 system (see 'Jargon buster', p46) for about £220. The picture quality offers good contrast and depth of field – only very rapid motion unsettles the picture. This kit is simple to set up via fairly

logical on-screen menus and has a decent remote, but labels on some buttons are small. It's sold at Comet, John Lewis and Woolworths. **WORTH KNOWING** The RDS tuner is one of the best we've tested. It's very good at pulling in weak stations and is immune to unwanted noise.

**Cheapest store** John Lewis **Compatible disc formats** DVD-R, DVD+R, DVD-RW (video mode only), DVD+RW, CD-R, CD-RW, MP3-CD, MP3-DVD, WMA (unprotected only), Jpeg, Video-CD **Time to start playing audio CDs/DVDs** 12/10 seconds **Tuner presets** AM 30, FM 30 **Speaker dimensions** Front & rear 7x21x17cm, centre 21x7x15cm, subwoofer 21x32x36cm **Speaker cables** Front 3m, rear 10m

**WHICH?**  
**BEST**  
**BUY**

## What you should look for

**SPEAKERS**

Often the speakers are the weakest part of a kit. Those with this Goodmans GHC 57 FM Pro (20) perform badly

**DVD PLAYER**

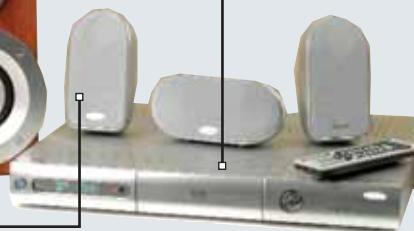
All the DVD players delivered good picture quality, but if you already have a DVD player, consider a kit without one, such as the Best Buy Denon DHT-1356XP (1)

**WIRELESS KITS**

You can buy a transmitter to operate speakers wirelessly for some kits. With others, you need completely different speakers. The Pioneer DCS-535 (13) comes with wireless rear speakers

**CABLES**

All the systems come with set lengths of cable for the speakers, except the Jamo A102HCS10 (16), which comes with 35m of cable that you cut as needed





## 67% Sony DAV-DZ500S £450

Both classical and pop music sound good with this kit and it handles movie sound well. The DVD player offers great picture quality. Pictures have good colour balance and are accurate with lots of detail, even in complicated scenes when a lot is going on. There is no digital input so you can't upgrade the DVD player or add a Sky set-top box. Both the set-up menu and remote control

WHICH?  
BEST  
BUY

are logical and easy to navigate. It's one of the least power-hungry systems on test and frugal in standby, too. It's available at Currys. **WE LIKE Coloured cables make it a doddle to set up.**

**Cheapest store** Currys **Compatible disc formats** DVD-R, DVD-R double layer playback, DVD+R, DVD-RW, DVD+RW, CD-R, CD-RW, SACD, MP3-CD, Jpeg, Video-CD, DivX **Time to start playing audio CDs/DVDs** 11/20 seconds **Tuner presets** AM 10, FM 20 **Speaker dimensions** Front & rear 27x54x27cm, centre 30x8x12cm, subwoofer 18x39x39cm **Speaker cables** Front 5m, rear 15m

## 65% Panasonic SC-HT530 £171

This kit matches more expensive Best Buy kits for sound quality and surround-sound effect. It can't be turned up as loud as some of the other kits we've tested, although it should be sufficient for most living rooms. The amplifier comes with an in-built RDS tuner and DVD player. The AM and FM tuner has 15 presets for each band to store your favourite stations. The DVD player works well and picture quality is good. This kit is fairly easy to set up and use, too. The power amplifiers for all the speakers are in the subwoofer cabinet so you plug the cables into this rather than having a spaghetti of wires going into the



main unit. It is available online. **BEST FOR** If you're looking for an introduction to home cinema for not much outlay, this is the kit for you.

**Available Online only** **Compatible disc formats** DVD-R, DVD-RW, DVD+R, DVD+RW, Jpeg, CD-R, CD-RW, DVD Audio, MP3-CD, WMA (unprotected), Video-CD **Time to start playing audio CDs/DVDs** 14/10 seconds **Tuner presets** AM 15, FM 15 **Speaker dimensions** Front & rear 9x20x10cm, centre 32x9x10cm, subwoofer 20x37x49cm **Speaker cables** Front 4m, rear 8m



## Facts & scores

### The inside information on home cinema kits

#### Picture quality

Picture quality from the Yamaha DVX-S250 DVD player is good, as it is for all the systems we've tested. We found that differences between the picture quality of the kits are minimal, although there are differences in slow motion.

#### Sound quality

There are big differences between the kits when it comes to sound. We listened to 552 pieces of music and watched 192 film clips to judge stereo and surround sound, so we can tell you that this Sony DAV-DZ500S is one of the best at both.

#### Subwoofer

More than half the kits have an active subwoofer – that is, the subwoofer has its own amplifier. For some kits, like the Panasonic SC-HT530, this keeps cables away from the unit under the TV because satellite speaker cables can run from the subwoofer.

KITS		SPECIFI	
		PRICE (£)	DVD
1	DENON DHT-1356XP	250	
2	YAMAHA DVX-S250	370	✓
3	DENON DHT-500 SD	500	✓
4	SONY DAV-DZ500S	450	✓
5	PANASONIC SC-HT530	171	✓
6	SONY DAV-DZ300	180	✓
7	PANASONIC SC-HT520	160	✓
8	PIONEER DCS-333	200	✓
9	DENON S-101	850	✓
10	YAMAHA AVX-S30/DVD-S30	495	✓
11	JVC TH-S55	230	✓
12	PHILIPS HTS 3500S	180	✓
13	PIONEER DCS-535	275	✓
14	SONY DAV-DZ700FW	480	✓
15	JVC TH-S11	149	✓
16	JAMO A102HCS10	315	✓
17	TEAC MC-DV250	300	✓
18	GOODMANS GHC 4200 Pro	200	
19	MINISTRY OF SOUND MOSDV131	190	✓
20	GOODMANS GHC 57 FM Pro	77	
21	BOSE 3-2-1 Series II Media Center	1,250	✓

#### USING THE TABLE

We tested all-in-one cinema systems, mostly costing £500 or less from big brands and specialist manufacturers, as well as a couple of separate systems. For separates, we paired amplifiers and

speakers and give a total test score for how the two work together as a system (see table, p49). The more stars the better.

#### Specification

**Price** For Best Buys we give the cheapest widely available high-

## Jargon buster – do you know the

### An explanation of the different combinations of speaker that can be

**5.1** Most kits on test are 5.1 systems, meaning they have five surround speakers plus a bass speaker, known as a subwoofer. You position the five satellite speakers around your chosen room – two speakers at the rear to project sound

from behind and three to the front (one to the left of the TV, one to the right and one in the centre as close as possible to the TV). The rear speakers handle much of the higher frequencies, which give the impression that sound is coming from

CATION		FEATURES				WHICH? TEST PERFORMANCE								SCORE %
TUNER	SPEAKERS	TUNER BANDS	RDS	ACTIVE SUBWOOFER	TUNER	AMPLIFIER	STEREO SOUND	SURROUND EFFECT	SURROUND-SOUND QUALITY	PICTURE	FEATURES AND CONNECTIONS	SETTING UP AND TUNING	OVERALL EASE OF USE	
✓	5.1	FM/AM	✓	✓	★★★★	★★★★	★★★	★★★★★	★★★★	n/a	★★★	★★★★	★★★★	71
✓	5.1	FM/AM	✓	✓	★★★★	★★★★	★★★★	★★★★	★★★★	★★★★	★★★★	★★★★	★★★★	70
✓	5.1	FM/AM	✓		★★★★★	★★★★	★★★	★★★★	★★★★	★★★★	★★★★	★★★★	★★★★	67
✓	5.1	FM/AM	✓		★★★★	★★★★	★★★★	★★★★	★★★★	★★★★	★★★	★★★★	★★★	67
✓	5.1	FM/AM	✓	✓	★★★★	★★★	★★★	★★★★	★★★★	★★★★	★★★★	★★★	★★★	65
✓	5.1	FM/AM	✓		★★★	★★★★★	★★★	★★★★	★★★★	★★★★	★★★★	★★★	★★★	64
✓	5.1	FM/AM	✓	✓	★★★★	★★★★	★★★★	★★★★	★★★★	★★★★	★★★★	★★★	★★★	63
✓	5.1	FM/AM	✓		★★★★	★★★★	★★★	★★★★	★★★	★★★★	★★★★	★★★★	★★★	63
✓	2.1	FM/AM	✓	✓	★★★★	★★★★	★★★	★★	★★	★★★★	★★★★	★★★★	★★★★	62
	2.1			✓	n/a	★★★★	★★★	★★★★	★★★★	★★★★★	★★★	★★★	★★★	61
✓	5.1	FM/AM	✓	✓	★★★	★★★	★★★	★★★	★★★	★★★★	★★★★	★★★	★★★	60
✓	5.1	FM/AM	✓		★★★★★	★★★★	★★★	★★★	★★★	★★★★★	★★★★	★★★	★★★	58
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✓	5.1	FM/AM	✓	✓	★★★	★★★★	★★★★	★★★★	★★★★	★★★★	★★★	★★★	★★★	55
✓	2.1	FM/AM	✓	✓	★★★★	★★★	★★★	★★	★★★	★★★★	★★★	★★	★★★	54
	5.1			✓	n/a	★★	★★★	★★★★	★★★★	n/a	★★	★★★	★★★	49
✓	5.1	FM/AM			★	★★★	★★★	★★★★	★★★★	★★★★	★★★	★★★	★★★	49
✓	5.1	FM/AM			★★★★	★★★	★★	★★★	★★★	n/a	★★	★★	★★★	48
✓	2.1	FM/AM	✓	✓	★★★	★★★	★★★	★★	★★	★★★★	★★	★★	★★★	44

street price as we went to press. Prices for other models are a guide to what you should expect to pay. Online prices are in *italics*. **Speakers** 5.1 systems have six speakers supplied; 2.1 systems have three.

#### Features

**RDS** Short for radio data

system, this displays the radio station name.

**Active subwoofer** The subwoofer's amplifier is built in.

#### Test performance

**Tuner** How well the tuner picks up weak radio station signals and eliminates unwanted signals and

noise. **Amplifier** Strength of power output and ability to filter out unwanted noise.

**Stereo sound** Our expert view of sound quality when used as a stereo system.

**Surround effect** Our expert view of surround-sound effect.

**Surround-sound quality** Our expert view of sound quality in surround-

sound mode. **Picture** Our expert view of DVD picture quality. **Features and connections** Based on the number and quality of system features. **Setting up and tuning** How easy it is to set up the tuner, DVD player and amplifier and to adjust it all. **Overall ease of use** Takes account of clarity

of instructions, ease of use of the remote, and how easy it is to use the system once set up.

#### Score

Ignores price and is based on:  
Performance **50%**  
Ease of use **35%**  
Features & connections **10%**  
Power consumption **5%**

## difference between 2.1, 5.1 and 7.1 speaker systems?

### used with home-cinema systems and why you might use them

around the room, while the subwoofer kicks out the lower bass frequencies.

■ **2.1** A 2.1 system comprises two front speakers and a subwoofer, and attempts to create surround

sound without rear speakers. These systems create a pseudo surround-sound effect with electronic processing, known as Dolby Virtual Surround. 2.1 kits don't give as full a sound. You can see from the table that only one

(Yamaha AVX-S30/DVD-S30) matches our Best Buy 5.1 systems for surround effect. But a 2.1 system does mean less clutter and fewer wires.

■ **7.1** A 7.1 system means you can

add an extra amplifier and rear speakers for enhanced surround effects. The Denon DHT-500 SD Best Buy (3) and all the Yamaha amplifiers we tested as separates can take extra speakers. This is for the discerning listener.



# Go your own way

If you don't want to be tied into a home-cinema kit, you can opt for separates, but they're not cheap

Separates are the ideal choice for the home-cinema enthusiast or someone who is prepared to put in the time to get the best from them.

They tend to cost more than a home-cinema kit but let you mix and match different pieces of equipment. For example, if you are fussy about sound you can choose the exact speakers you want. They also give you more options, such as connecting to your hi-fi. But for the money you have to spend, they

certainly don't leave the kits in the dust. The Best Buy Denon DHT-1356XP and Yamaha DVX-S250 kits are as good as our Best Buy separates but are at least £400 cheaper. It also takes more trial and error to get an optimum set-up with a separates system.

If you have lots of other audio and visual equipment in your house and want to add home cinema to it rather than buy a whole new kit, separates are worth considering.



## 70% Yamaha RX-V657 amplifier with Wharfedale Diamond 9 HCP speaker £785

This amplifier and speaker combination produces good sound quality and surround effects but isn't cheap. You get a versatile home-cinema amplifier with outputs to run a 7.1 system. The built-in RDS tuner is up there with the best. This combination delivers decent surround sound with well-distributed sound effects, though no better than the Best Buy kits. Stereo sound is good, although voices can sound dull. It is quite a power-hungry system even in standby, but it is easy to set up with



an excellent trouble-shooting guide.

The amplifier is available at Richer Sounds and online. The speakers are available online.

**GOOD FOR** The back panel sports enough inputs and outputs to hook up just about any other bit of audio equipment you can think of, so if you want, you can link it to your hi-fi system and more.

**Available Online** (Richer Sounds, amplifier only)  
**Compatible disc formats** n/a **Time to start playing audio**  
**CDs/DVDs** n/a **Tuner presets** 40 **Speaker dimensions**  
Front & rear 15x24x18cm, centre 33x12x14, subwoofer  
33x36x40cm **Speaker cables** n/a

The home-cinema sound experience varies, depending on where you sit

## Contacts

**Bose**  
0870 741 4500  
www.bose.co.uk

**Denon**  
01753 680568  
www.denon.co.uk

**Goodmans**  
0870 873 0080  
www.goodmansdigital.co.uk

**Jamo**  
01923 205600  
www.jamo-speakers.com

**JVC**  
0870 3305000  
www.jvc.co.uk

**Ministry of Sound**  
0870 010 5676  
www.ministryofsound.co.uk/audio

**Mission**  
01480 447700  
www.mission.co.uk

**Panasonic**  
08705 357357  
www.panasonic.co.uk

**Philips**  
0870 900 9070  
www.philips.co.uk

**Pioneer**  
01753 789500  
www.pioneer.co.uk

**Sony**  
08705 111 999  
www.sony.co.uk

**Teac**  
0845 1302511  
www.teac.co.uk

**Wharfedale**  
0845 4580011  
www.wharfedale.co.uk

**Yamaha**  
01923 233166  
www.yamaha.co.uk

## Facts & scores

### More on amplifiers and separate speakers

### Picture quality

These Yamaha amplifiers, and the Yamaha kit (2) (p45), have automatic speaker set-up. It gives almost optimum set-up without any effort.

## How to set up and position

### You need to position and set up the speakers carefully

Once you've unpacked your new system, you may find it daunting. There's a fair bit of equipment to set up, and you'll have to spend a couple of hours installing it to get the best from it.

The home-cinema sound experience varies, depending on where you sit. For the best set-up, we'd ideally all have a square living room with the TV located centrally on one wall and the sofa placed centrally on the opposite side.

The front speakers would be either side of the TV, at least a metre away, and the centre speaker below the screen. The rear speakers would be behind the sofa, to the left and right of the main viewer. The best position for the subwoofer is in the middle of the front wall. This is how we set up the kits in our tests.

But few of us have square living rooms. The diagram, right, shows you how you

## MEMBER BENEFIT

## Win a digital camcorder and home-cinema system

Make your holiday come alive with this great sound and vision home-entertainment package. We're offering a Best Buy Denon DHT-500 SD home-cinema system and Best Buy Canon MVX4i digital camcorder

### TO ENTER, SIMPLY ANSWER THE FOLLOWING QUESTION

How many pieces of music do we play on each home-cinema kit to test stereo sound?

- (a) 5      (b) 17      (c) 23

**Worth  
£1,220**



To enter our Best Buy competition online, go to [www.which.co.uk/bestbuycompetition](http://www.which.co.uk/bestbuycompetition) or send your entry on a postcard to 'Best Buy July 06', Which?, PO Box 44, Hertford X, SG14 1SH. Include your name, address and postcode, daytime phone number and Which? membership number (on your Which? membership card as your user name). Entries received by 1 August 2006 will be entered. Our competition is open only to current Which? members.

Only one entry per household. Winners will be informed in writing 15 days after the closing date. To claim a prize you must contact us, and your claim be received by us, by midnight 20 days after. If we do not hear

from you by the deadline we shall select another winner(s). The first winner drawn will win our holiday home-entertainment package worth £1,220. If the model(s) offered are not available, an equivalent will be given. No cash equivalent. Editor's decision is final. Which? reserves the right to feature names, photographs and towns of winners in future promotions.

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SEPARATES	SPEC		WHICH? TEST PERFORMANCE								SCORE %
	PRICE (£)	SPEAKERS	TUNER	AMPLIFIER	STEREO SOUND	SURROUND EFFECT	SURROUND-SOUND QUALITY	FEATURES AND CONNECTIONS	SETTING UP AND TUNING	OVERALL EASE OF USE	
1 <b>YAMAHA RX-V657 amplifier/WHARFEDALE Diamond 9 HCP speakers</b>	785	5.1	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★	70
2 <b>YAMAHA DSP-AX757SE amplifier/YAMAHA NS-P110 speakers</b>	475	5.1	n/a	★★★★★	★★★★★	★★★★★	★★★★★	★★★	★★★★★	★★★★★	68
3 <b>YAMAHA RX-V100D amplifier/MISSION M-Cube speakers</b>	1,100	5.1	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★	65

See p46 for the notes on using the table

### to experience the best sound

can set up a system in a room that isn't the ideal shape and get good results.

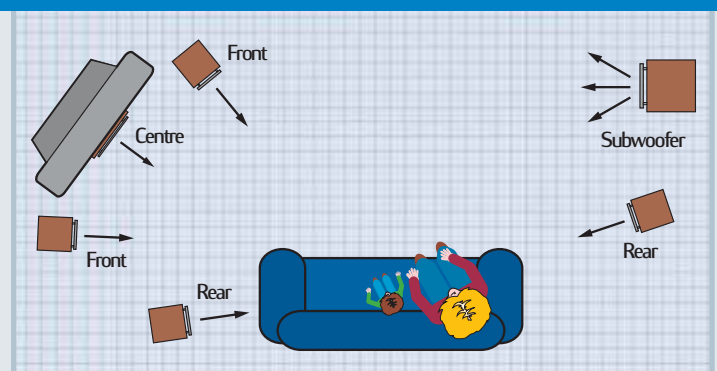
### LOCATING THE SPEAKERS

Put the front speakers to the left and right of the TV, facing the sofa. Place the centre speaker as near to the TV as you can and put the rear speakers in the opposite corners of the room. The subwoofer can go in one of the other corners.

Once you've located the surround speakers and cabled them to the amplifier, program the

system so that it knows how far the speakers are from the viewer using the remote control. This is important for a realistic surround-sound experience because otherwise you'll hear the sound from closer speakers before the sound from the further speakers.

You also need to set the speaker levels so that it sounds as if the speakers are at the same volume. To do this, sit in the main viewing seat and set the system to fire a test tone to each speaker. Adjust the sound levels until they sound



as if they're the same volume.

As every room has its own shape and layout, and other furniture that will affect the sound, you'll need to tinker with the position of the speakers or adjust

the sound delay and volume levels. If you think all this sounds complicated, you might be tempted by the automatic set-up feature on the Best Buy Yamaha DVX-S250 (p45).