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# UPGRADING YOUR SYSTEM? GIVE IT SOME DEEP THOUGHT

Give your home cinema or hi-fi a serious bass boost with a subwoofer

## 1 B&W PV1D

£1200

**The PV1D** is the successor to B&W's manifold Award-winning PV1. The 'D' denotes a digital upgrade that lets you fine-tune the sub with a wide range of EQ options via the OLED screen.

A 400W class D amp powers the twin 20cm cone drivers, and their opposed, in phase arrangement reduces cabinet resonance and floor vibrations for greater precision.

In use it's deeply impressive: watch the train wreck from *Super 8*, and the PV1D maintains control at crashing volumes, while delivering ample detail, punch and attack. Precision is paramount, and you really feel the big wallops.

This really is the subwoofer to beat here.

### Rating ★★★★★

**FOR** Excellent precision and agility; lots of punch; delivers deep bass; cool and unique design

**AGAINST** Nothing

**VERDICT** A brilliant sub that delivers the best precision and agility, the PV1D is a great addition to your system

## 2 Jamo D600

£1300

**The ideal sub** needs to produce excellent bass, of course, but it also has to be good looking and discrete. On the cosmetics side, the THX Ultra 2-certified D600, with its battleship-grey finish and 38cm driver, is neither - but we're willing to overlook this in light of its abilities.

It's fast and accurate, and capable of truly sofa-shuddering bass: spin the Blu-ray of JJ Abrams' *Star Trek* reboot, and you're met with a barrage of authoritative bangs and crashes. You don't so much hear the effects as feel them, too - the mark of a truly great sub.

If you want cinema-level bass quality in your living room, the D600 will not disappoint.

### Rating ★★★★★

**FOR** Superbly deep bass; oodles of authority; agile and open-sounding delivery

**AGAINST** Very plain looking

**VERDICT** For exciting, cinema-quality bass, the D600 is a brilliant sub that's well worth its rather hefty price

## 3 Monitor Audio Apex AW-12

£950

**Monitor Audio** has always taken care over the design of its products, and the elegant AW-12 is no exception. The metallic high-gloss black enclosure is sealed, with internal bracing, while the heavy lifting is done by a 30.5cm ceramic-coated aluminium/magnesium forward-firing driver, powered by a 500W class-D amp.

Get the bangs and crashes going and there's lots of punch and attack here, along with decent detail. There's a rich character that can make the AW-12 sound a bit tubby compared with the razor-sharp PV1D, but this never grates.

The AW-12 is definitely no case of style over substance - there's real ability behind the looks.

### Rating ★★★★★☆

**FOR** Gorgeous design; plenty of punch; rich, warm presentation

**AGAINST** Could do with a bit more detail and speed

**VERDICT** It's hard to resist such a beautiful looking sub, and you'll be rewarded with plenty of punchy bass

## 4 REL T-Zero

£350

Measuring less than a cubic foot and weighing just 6.8kg, this petite sub has a 16.5cm down-firing long-throw driver that's powered by a 100W class D amp.

For its size, there's quite a hefty sound coming through - and it goes very loud very easily. At lower volumes, the bass is controlled, has good rhythm, and is decently defined, but when you turn it up to neighbour-baiting volumes, it starts to go a bit woolly, losing definition and edge.

For those who want a tiny sub, the T-Zero will be an attractive option. But keep in mind that it doesn't go as deep as you might want.

### Rating ★★★★★☆

**FOR** Nicely finished; dynamic; plenty of input options

**AGAINST** Size limits how deep it can go

**VERDICT** If it's a small, discreet subwoofer you're looking for, then the REL will suit all your needs - but remember that rivals can go much deeper

## 5 Tannoy TS2.12

£550

**The TS2.12** is the biggest sub in Tannoy's new TS2 range, and it's a lively and appealing unit.

A 500W class D amp drives the twin side-firing 30.5cm drivers, one of which is a passive radiator. This not only increases cone surface area, but also balances out cabinet vibration.

It has decent timing and definition, but doesn't quite deliver the attack or precision available from some rivals. That said, though, it's more than willing to shake the foundations if you crank up the volume.

The TS2.12 performs well with both music and movies, and at this comparatively affordable price, it's an attractive buy.

### Rating ★★★★★☆

**FOR** Well-built; dynamic; reasonably priced

**AGAINST** Could do with more attack and precision

**VERDICT** It might not be the most aggressive-sounding sub, but the Tannoy is attractively priced, is nicely constructed and has decent sonic qualities

## 6 Velodyne EQ-Max 12

£825

**With a 225W** class D amp powering its forward-firing 30.5cm driver, the sound coming out of the Velodyne is powerful enough to fill even very large rooms without losing control. The downward-firing port and sturdy cabinet (propped on rubber feet) ensure that there is minimal port noise affecting the output, too, leaving notes clean and deep.

There's plenty of agility and punch here, combined with great dynamics. It could do with a touch more detail, but the EQ-Max aims to be enjoyable rather than clinical.

User-friendly and serving up a cheerful sound with plenty of authority, it's worth every penny.

### Rating ★★★★★☆

**FOR** Lots of deep bass; bags of punch; user friendly

**AGAINST** Some may want a little more precision; not the most stylish sub we've seen

**VERDICT** Powerful and agile with heaps of rhythm, the Velodyne continues to be a hugely enjoyable sub



1

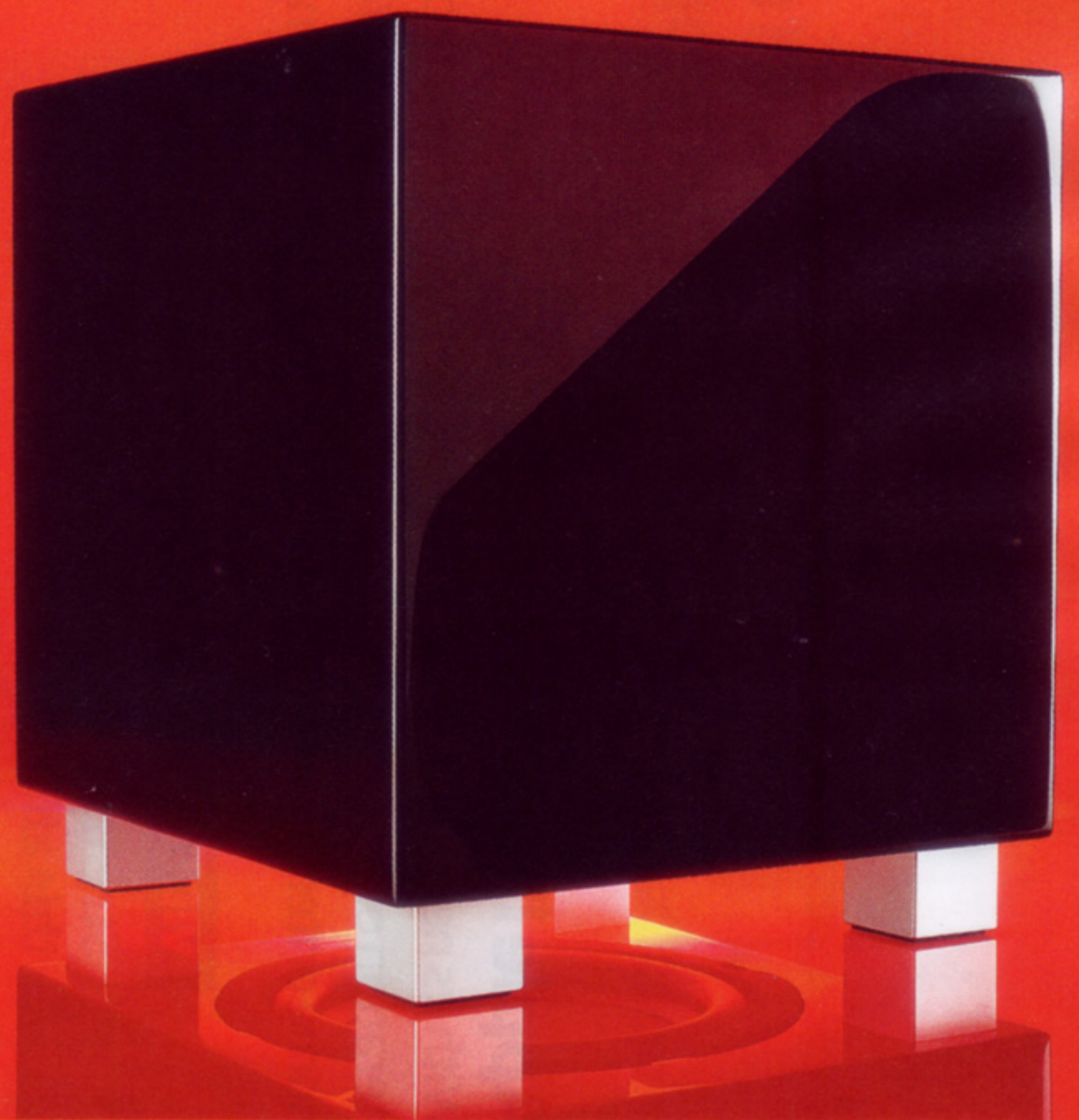
**TOP TIP**  
Bass isn't as directional as treble, but positioning is still important. Place the sub near the front, between the speakers if possible, for the optimum sound.



2



3



4



5



6

**TOP TIP**  
To set the volume, turn the sub up, then back it off until you can only just hear it. Then go one more notch. Switch it off and you'll notice the change.

# The world's most desirable kit

# TEMPTATIONS



## Jamo D 600

This **THX-certified** home cinema speaker package is an amazing listen

### Profile

**Price** £4790 ★★★★★

**Design miracle** One of the few THX Ultra 2 speaker systems available to UK buyers, this speaker package promises a cinema-quality listening experience in even large living rooms

**Tempted?** If you love films, then you should be. While it's not cheap, you simply can't get a more thrilling home cinema sound for anywhere near this kind of money

**E**ven by the purposeful standards of most home cinema kit, the Jamo D 600 looks like it means business. With its battleship-grey paint, swathes of matte-black drive units and twin subwoofers, it appears to have more in common with professional studio monitors than more conventional 5.1 systems in its price class, such as the Award-winning B&W CM9 Theatre.

In fairness, once the Jamo's five main speakers have been mounted to your wall (via built-in brackets) and their speaker grilles are fitted, the system becomes altogether more unobtrusive, although you'd have to be in a charitable mood to call it 'stylish'.

Aesthetic considerations apart, the far more important point at hand is that for some, this stupendous speaker package will be the perfect buy. Simply put, we can't think of any rival for its home cinema ability at anywhere near the price.

The D 600's success stems from its distinctive configuration, which reflects the specific design requirements of the stringent performance standards it has been developed to meet. The Jamo is one of only a few THX Ultra 2 speaker systems available to British buyers, and instead of the large floorstanding speakers commonly used in this price class, it employs five bass-restricted main speakers for front and rear effects.

That's not a compromise - at least, not in THX's view - but a positive benefit. The front three speakers are identical D 600 LCR (left, centre, right) designs and, argues THX, that approach goes a long way towards ensuring a properly integrated and cohesive soundfield.

### Distinctive speaker design

The Jamo's D 600 SUR rear speakers, meanwhile, differ only in the way that they disperse sound around the room (they're dipole designs - see our panel, overleaf), and in the fact they sport only one 16.5 bass/midrange driver apiece, rather than the pair of drivers found in their front-speaker partners.

All five speakers are designed to ignore all frequencies below a fairly modest 80Hz. That, argues THX, has two advantages: first, it allows for each main speaker to be manageably small, and so easier to install without undue sonic compromise in most living rooms. And second, it puts the burden of the sonic 'heavy-lifting' on to a subwoofer, usually an easier device to integrate with the acoustic properties of your room, not least because it comes with its own volume control. In our test system, we had not one but two D 600SUB active subwoofers, a configuration THX recommends (but which you may not find essential, depending on the size of the space you're trying to fill with bass). Controlled by their own DSP (Digital Signal Processing) electronics, endowed with 38cm (15in) drive

### In detail - subwoofer

**The D 600 SUB** uses Jamo's Motional Feedback (MFB) technology. Normally, the larger a subwoofer drive unit is, the harder it is to control, especially at moments of maximum excursion (such as an explosion in a film soundtrack). Often, the drive unit will keep moving after the event itself has finished, resulting in a muddy, imprecise sound.

Here, the Jamo's MFB circuitry compares the sonic impulse to be reproduced with the actual movement of the 38cm woofer itself, and then applies equalisation to correct the error before it becomes audible. The result is incredibly clean, powerful, accurate bass, especially for a sub of this size.



What makes it special?

1. Exceptional clarity and detail
2. Astonishing, effortless power
3. Immersive, cohesive sound



The D 600LCR front speakers (shown left) are identical, and use a distinctive layout

## TEMPTATIONS

### Designer's notes

“The arrangement of the midrange and tweeter drivers controls the vertical dispersion of the sound”



• Boye Lippert  
Designer  
Jamo

### In detail

#### Dipole design

Dipole rear speakers have long been a key feature of THX Ultra-series speaker designs. Designed to replicate the indirect sound cues you'd hear in a full-sized cinema, they're specifically designed to avoid localising sound. You place them alongside your listening position, not behind you, and you hear not the direct sounds coming from each speaker, but the soundfield they create.

#### Lighting up your life

The D 600 SURs use a single 16.5cm bass driver (see right), a pair of 7.6cm midrange units, and a pair of 25mm tweeters. The latter designs use Jamo's 'decoupled' tweeter technology (DTT) which isolates each driver from the cabinet itself, to the benefit of overall clarity.



#### Handed design

Dipole rear speakers are 'handed' to suit left-channel and right-channel applications. That's because each cabinet is arranged with its opposed drive units firing 'out of phase' with the other (so one side is firing while the other is recovering). You must make sure you mount them in the correct orientation to ensure they work optimally.

#### High-quality power supply

The D 600 SURs are three-way designs, with a single 16.5cm bass driver mounted centrally in the enclosure. Jamo says this approach eliminates the bass 'cancellation effect' that usually afflicts dipole rear speakers. The result is surround effects that better match the tonality of the front soundfield.

units and propelled by 600W amplifiers, each D 600SUB is capable of shifting serious amounts of air and, as you'd expect, requires a fair amount of space.

Yet, overkill as it may seem, this speaker/subwoofer configuration is essential if the D 600 is to meet the THX Ultra 2 specification. As such, it has to be capable of replaying your favourite films without clipping or distorting at THX Reference Level (a sustained 85dB with 20dB of headroom) in a room of up to 3000 cubic feet. Translation? Even in our large testing room, the Jamo can replay soundtracks at exactly the same volume level as sound engineers use for cinematic mastering and mixing.

#### Studio-quality sound

Whether that matters to you is simply a question of your priorities. There's no disputing the fact that Reference Level is very, very loud indeed. Even we wouldn't want to listen at that level all the time. But to have the potential to let rip when the mood takes you, safe in the knowledge that whatever you throw at them, your speakers won't just cope, but *thrive*... that, that is the real deal here.

That, and the fact that the Jamos' specific configuration helps ensure a clarity and cleanness of sound that few conventional hi-fi-orientated speakers can rival. The front speakers have their midrange drivers and tweeter arranged in a distinctive vertical array, designed to deliver a 'band' of sound beamed directly at your ears. According to THX, this avoids undesirable first reflections caused by sounds interacting with the floor or ceiling before they reach you.

Whatever the merits of the theory, the fact is that this system's presentation is both freighted with detail and uncannily precise. Vocal nuances are transparent, the subtlest off-camera remarks are crisply relayed and even amid the fire and fury of a dramatic battle scene, you'll hear every soundtrack element you're intended to hear. More than that, and despite their great size, the D 600 SUBs integrate with their LCR and SUR siblings to thrilling effect, placing huge, impossibly muscular thunderclaps of bass into even the wide areas of your room when called upon to do so. Couple all of that to a remarkable cohesiveness, with sounds travelling from speaker to

speaker with no apparent change in tonality or volume, and you've got a surround soundfield in the best, grandest sense, a listening experience that embraces you in the film just as surely as the finest cinemas.

#### Music is more compromised

Can there be a caveat to all this ability? THX itself would strenuously dispute it, but we'd argue that the characteristics that work to the Jamo's advantage with movies also befuddle its timing, leaving you with a sound curiously at odds with the focus it exhibits in multichannel use. So yes, we'd struggle to recommend the D600 as an all-rounder. But for the dedicated home cinema fan, be in no doubt: the D 600 is a stunning buy.

#### Rating ★★★★★

**FOR** Staggering power with effortless scale; wonderful clarity and cohesion; value

**AGAINST** Not nearly so successful in stereo; some might be put off by the plain finish

**VERDICT** Despite its limitations with music, this is a simply wonderful speaker package

#### TECH SPECS

##### D 600 LCR

**Drivers** 2 x 16.5cm bass, 2 x 7.6cm midrange, 1 x 25mm DTT tweeter  
**Frequency response** 80Hz-20kHz  
**Biwireable** No  
**Sensitivity** 89dB/w/m  
**Impedance** 4 ohm  
**Dimensions** 32 x 60 x 17cm (hwd)

##### D 600 SUR

**Drivers** 1 x 16.5cm bass, 2 x 7.6cm midrange, 1 x 25mm DTT tweeter  
**Frequency response** 80Hz-20kHz  
**Biwireable** No  
**Sensitivity** 87dB/w/m  
**Impedance** 4 ohm  
**Dimensions** 26 x 45 x 17cm (hwd)

##### D 600 SUB

**Driver** 38cm, sealed box, forward-firing  
**Power** 600W  
**Response** 20-200Hz  
**Dimensions** 56 x 59 x 50cm