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Epson HD PJ
Marantz SR6011
Philips Atmos
soundbar
Q Acoustics M3
Philips 43in TV
REL flagship
subwoofer

SONY'S 4K TV MAGIC

High-end 55in XE93 is spellbinding with Ultra HD Blu-rays

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king takes
on your TV

Quad

S-1 speakers
sound sweet
in surround

PLUS!
Doctor Strange
has the cure for
3D Blu-ray
fans

FILM & TV

- ARRIVAL 4K
- KING KONG
VS GODZILLA
- MOANA ■ ALLIED
- BILLY LYNN...



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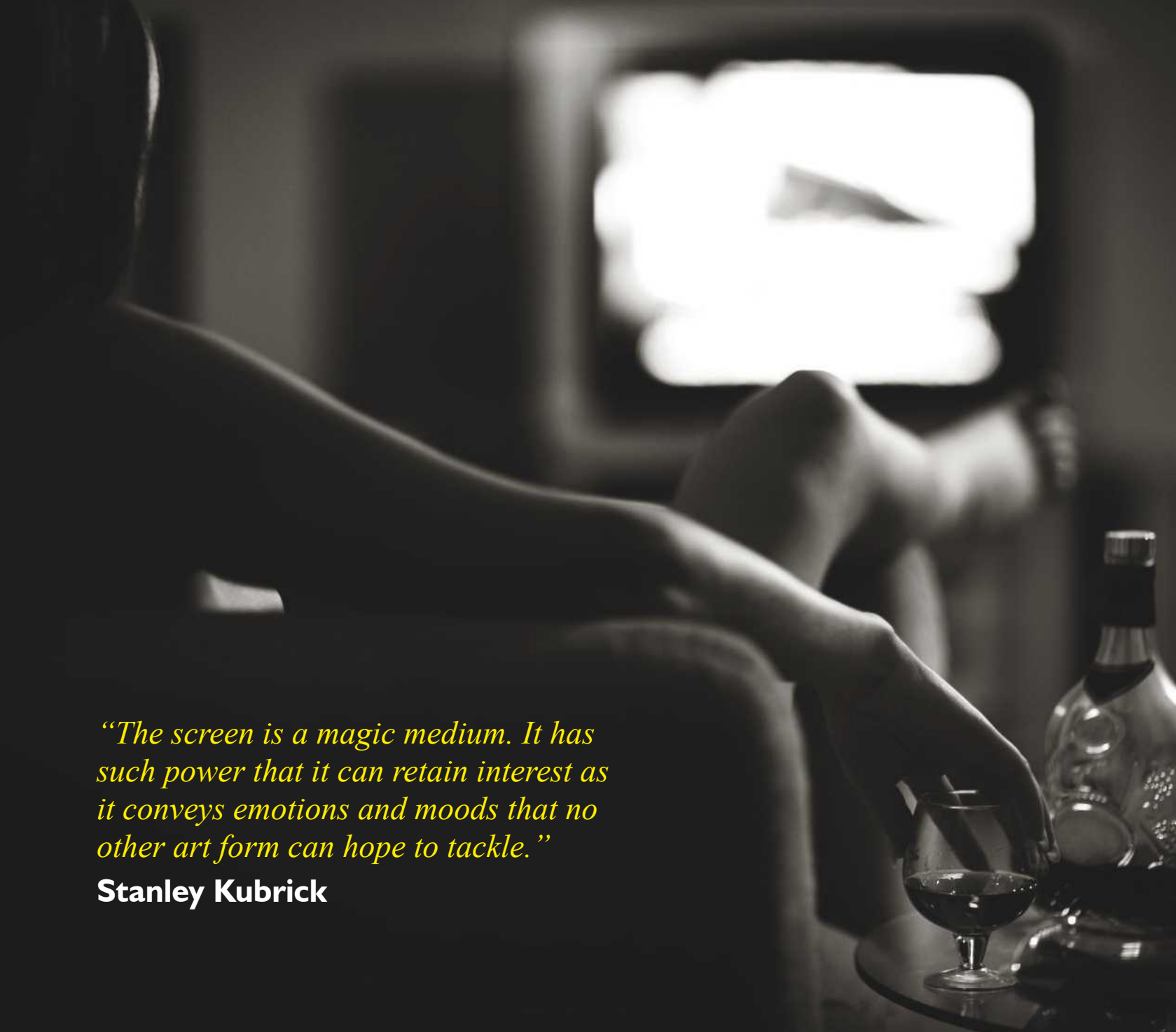
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Stanley Kubrick

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Welcome

I'm willing to bet that you own the original *Star Wars* trilogy on Blu-ray. Perhaps the prequels, too. **You may even dress up as a Wookiee on the weekend.** And who'd blame you? George Lucas'



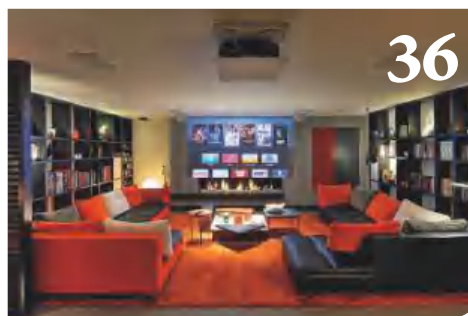
thrilling sci-fi saga pretty much marks the birth of our current era of popcorn-munching cinema. Hard to believe, then, that first movie *A New Hope* celebrates its fortieth birthday this year – see p24 where we trawl through its varied home media history.

Star Wars is, of course, famous for its audio mix and Lucas' drive to break new ground with movie sound. And in this issue we're taking a look at other sonic innovations, from Philips' first Dolby Atmos-enabled soundbar and REL's astonishing new No.25 subwoofer, to BT Sport's 3D audio broadcasts and the sublime soundtrack that accompanies Denis Villeneuve's thoughtful alien flick *Arrival* on Ultra HD Blu-ray. Like the sound of that? Read on.

Mark Craven
Editor



MENU



CONTRIBUTORS



John Archer:
The UK's most experienced TV tester cut his teeth as an early HCC staffer



Jon Thompson:
Film producer and post-production expert delves deep into Hollywood and AV



Steve May:
HCC's former Editor-in-Chief is one of the UK's most respected AV journo



Martin Pipe:
Technical expert Martin is renowned throughout the home cinema industry



Richard Stevenson:
Industry veteran and former Editor of UK CE trade journal ERT



Adrian Justins:
Made his name as the editor of *What Video & TV* and *What Home Cinema*

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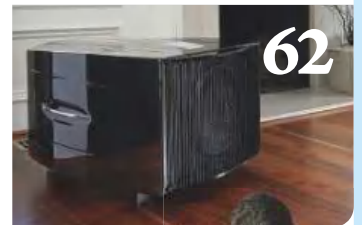
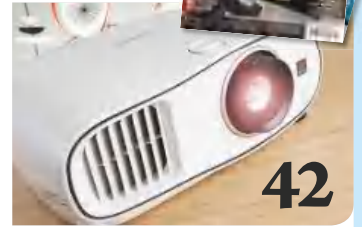
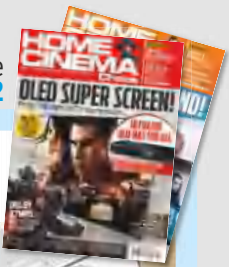
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DYNAUDIO

BULLETIN

→ **News Highlights** **PIONEER** Entry-level AVR receives a digital radio upgrade **SONOS** Streaming specialist's debut soundbase **CORNFLAKE** Inside the ultimate home theatre **BOWERS & WILKINS** DB Series subwoofers will blow you away **NEWS X10** The hottest news stories in bite-sized chunks **ROGUE ONE** *Star Wars* spin-off blasts off on Blu-ray & MORE!

BenQ pushes the pixels

BenQ X12000 → www.benq.co.uk



Ben Q's new X12000 Ultra HD DLP projector may not support HDR, but still has plenty of other tech tricks up its sleeve. In addition to its 4K Texas Instruments DMD, it uses a 2,200 Lumens LED light engine (rated at 20,000 hours) and claims a colour performance that hits the DCI-P3 standard. Installation of this £6,300 beamer is aided by vertical and horizontal lens shift, a 1.5x optical zoom allowing for a throw ratio of 1.36-2.03:1, and HDCP 2.2 support on one of its HDMI inputs.

HCC ONLINE...

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Pioneer's DAB hand

Pioneer VSX-531D → www.pioneer.co.uk

Pioneer has launched an updated version of last year's VSX-531 AV receiver. For the most part the new VSX-531D is identical to its entry-level predecessor, offering 4K/60p passthrough alongside HDCP 2.2 copy protection, Bluetooth streaming and MCACC room tuning, plus the promise of 5 x 130W amplification. Yet the 'D' in the model name refers to the fact that the receiver now supports DAB and DAB+radio – ideal for BBC 6 Music fans – and the £350 ticket will appeal to budget system builders.



In-wall Atmos solution



SpeakerCraft has launched the world's first Dolby Atmos-enabled in-wall speaker. Dubbed the ATX100, the model's dual 2.5in Kevlar-reinforced midbass drivers and 0.75in titanium dome tweeter fire upwards at an angle to project height info off your ceiling. In addition to the standalone ATX100, SpeakerCraft has also launched the ATS500 and ATS200 systems, which marry the module with its AIM LCR Series 2 speakers behind a single grille for a neat install. www.speakercraft.com

Soundbar concepts unveiled



Panasonic is adding two new models to its 2017 portfolio of TV audio boosters. The SC-HTB488 (pictured) is a traditional 2.1-channel soundbar system that includes a wireless sub and promises a combined power output of 200W. The SC-SB1 Sound Bar Concept is also a 2.1 system, but the subwoofer is integrated into the main unit, which measures a compact 43cm wide. Both soundbars feature Bluetooth and HDMI connectivity. Pricing is TBA. www.panasonic.co.uk

And the award goes to...

Sonos enlists Oscar-winners to tune its new Playbase sound system



Wireless audio market leader Sonos sought the help of top Hollywood audio engineers during the development of its £700 Playbase TV speaker.

One such was John Taylor, the sound mixer whose work on *The Revenant* was Oscar nominated. 'We wanted to get his feedback on the product,' Sonos Sound Experience Engineer Greg McAllister told *HCC*. 'By the time we left, he was totally happy about how his movie sounded on our speaker.'

Oscar-winner Chris Jenkins (*Mad Max: Fury Road*) has also been involved in the tuning process. 'He's had a lot of impact on the Playbase. Going to these kind of people gives us valuable feedback on how we can improve things,' says McAllister.

The first new addition to the Sonos hardware lineup since 2015, the three-channel Playbase boasts an LCR nine-driver array (comprising six midrange, plus three tweeters), along with a newly developed 5.25in woofer, allied to an S-port for enhanced bass. Sonos says it actually developed 50 different versions of the S-port during the design process.

'It's not in competition with the Playbar, it's an alternative,' notes McAllister. 'We found that most of those who buy a Playbar don't wall-mount them,



Greg McAllister: 'It's a difficult product to get right. We think hopefully the Playbase will redefine that market'

they just place them on furniture. We wanted to create something that was more seamless.' Like the Playbar, the Playbase connects

to a TV using optical only – there's no HDMI.

HCC had an early demo of the system, and was impressed with its stereo separation and thumping heft. As with the Playbar, users can incorporate the Playbase into a full 5.1 setup, by adding the Sonos Sub subwoofer and Play:1 for rears.

At the heart of the Playbase is a Dolby decoder, which downmixes multichannel 5.1. All drivers are kept in play, even for stereo material. However, there's no DTS support.

The Playbase has been in development for three-and-a-half years, reveals McAllister. 'It's a difficult product to get right,' he admits. 'We think hopefully this will redefine that market. It's not just a matter of developing hardware, it's about getting the software right, the DSP tuning. We've had units for quite a while, but we've been fine-tuning it, getting it better.'

Playlist...

Team *HCC* spins up its disc picks of the month

The Wolverine: Extended Cut (BD)

Watching *Logan* on the bigscreen left us in the mood for even more wild Wolverine action. Enter the longer and (much) bloodier Blu-ray edit of his previous solo outing.



Close Encounters of the Third Kind (BD)



Spielberg's 1977 sci-fi masterpiece is the perfect Blu-ray companion to *Arrival* (see p96).

What We Become (DVD)



This Danish zombie film basically distills the entire first season of *Fear the Walking Dead* into just 78 minutes and does it brilliantly.

No Second Chance (DVD)



France's love affair with suspense writer Harlan Corben (see 2006's *Tell No One*) continues with this gripping six-part TV thriller.

Ballers: The Complete Second Season (BD)



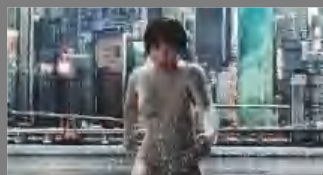
A technically terrific HD release is yet another reason to seek out this enjoyable comedy-drama on BD.

At the 'plex...

Heading out to see a flick?
Catch these this month

Power Rangers

March 24: Those 'Mighty Morphin' teen heroes are making the jump from TV to cinemas once again with this gritty bigscreen reboot. Joining the colour-coordinated martial artists this time around are Elizabeth Banks as Rita Repulsa and Bryan Cranston as Zordon.

Ghost in the Shell

March 31: Hollywood's live-action update sees Scarlett Johansson take over the role of The Major and – if nothing else – the trailers make it clear that this is going to be a gobsmackingly gorgeous piece of sci-fi cinema.

The Fate of the Furious

April 14: The eighth entry in the box office-storming *Fast & Furious* franchise finds the team torn apart as Vin Diesel's Dom goes rogue. The Rock, Kurt Russell and Jason Statham return; Charlize Theron plays the new baddie.

Netflix HDR goes mobile

LG G6 smartphone to be first to support new, improved streams

Netflix will roll out HDR streaming on mobile devices later this year, according to CEO Reed Hastings. Speaking at the recent Mobile World Congress (MWC) in Barcelona, the company chief said the first hardware to support the content will be LG's new G6 handset.

Netflix has been offering HDR versions of some of its shows to TV owners since last Summer, beginning with historical drama *Marco Polo* and expanding the portfolio with films like *The Ridiculous Six*. Yet the streaming king is now adding mobile to its arsenal, a development made possible by employing a more data-efficient codec. This allows for HDR material to be streamed over the lower-quality internet connections provided by mobile networks.

Netflix previously announced it had been conducting codec trials in December, comparing Google's open-source VP9 to H.264/AVC, and reported that 'VP9-Mobile streams... can deliver an average of 36 per cent bitrate savings.'

LG's G6 Android smartphone also debuted at MWC. Mirroring the specification prowess of the company's high-end TVs, the flagship handset, with a 5.7in, 2,880 x 1,440 screen, will be compatible with both HDR 10 and Dolby Vision streams. Other Android phones compatible with Netflix's mobile HDR service will follow.

HDR viewing on handheld displays seems like a smart move, as improving image contrast has noticeable impact at small screen sizes, even without improved pixel resolution. However, there's likely to be a corresponding drag on a phone's battery life...

Bagging Scorsese and De Niro

In other Netflix news, the company is flexing its movie muscles and has reportedly snapped up global distribution rights for the forthcoming Martin Scorsese flick *The Irishman* for an undisclosed – but sure to be high – fee. The movie, currently in pre-production, will see Hollywood legends Robert De Niro, Al Pacino and a coaxed-out-of-retirement Joe Pesci starring in a decades-spanning crime drama based upon the confessions of an Irish-American hitman who claims to have killed Jimmy Hoffa.



Before long, you could be watching Netflix Originals in HDR on your phone



Onkyo debuts 5.1 Atmos amp

Entry-level AVR claims to emulate a 5.1.2-channel 3D soundfield

Onkyo's new TX-NR474 AVR may only offer five channels of power, but that isn't going to get in the way of it offering users a more fully-rounded object-based audio experience.

Priced at just £430, the TX-NR474 is certified to play Dolby Atmos soundtracks in 3.1.2-channel speaker layout (LCR and two height speakers). Furthermore, enabled by an upcoming firmware update, the amp employs Dolby's Surround Enhancer tech to create a virtual soundfield that emulates the 5.1.2-channel Dolby Atmos experience delivered by comparable 7.1-channel models, without the need for rear speakers.

Still, if you prefer a 'true' 7.1 system then there's always Onkyo's new £500 TX-NR575E AVR.

Both models boast 135W-per-channel power and support Dolby Vision, HDR 10, BT.2020 and 4K/60p passthrough via HDCP 2.2-compliant HDMI 2.0a terminals, plus FireConnect wireless multiroom audio distribution and support for audio streaming services. uk.onkyo.com

Dolby Atmos 3.1.2 configuration allows TX-NR474 owners to swap out the rear speakers for height channels



"JAW-ON-THE-FLOOR STUFF"



Tight room-shaking bass or rampant house-wobbling bass? It's your ULTRA choice...

“

...the SB16 Ultra remains a brilliant subwoofer that's fast, controlled and can sniff out genuine sub bass moments in your BD collection. The PB16 Ultra meanwhile is built for those whose rooms can handle its fear-inducing SPLs... ”

Mark Craven HCC March 2017



SB16 Ultra



PB16 Ultra

karma

k a r m a - a v . c o . u k

Extras...

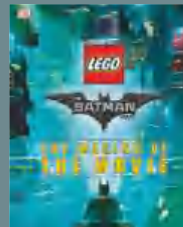
Small items that could make a big impression...

The Kaiju Film



While some may see them as little more than giant monsters that stomp cities to rubble, Jason Barr's fascinating critical study sets out to show that there's much more to King Kong, Godzilla and their *kaiju* kin. From their origins in folklore to the way the films deal with themes as diverse as militarism, capitalism and colonialism, this superb book will leave you viewing the genre in a whole new light.

LEGO Batman: The Making of The Movie



Kicking off with a quick 12-page overview of the entire production process, this £17

hardback then devotes the remainder of its 200 lavishly illustrated pages to exploring the design of the film's locations, characters and vehicles. Not the complete behind-the-scenes story then, but still a good buy for LEGO Batman fans.

Guardians of the Galaxy: The Ultimate Guide...



Anybody who has picked up any of DK's previous Marvel Comics 'Ultimate Guides' will know just what to expect from this £18 tome devoted to the cosmic outlaws. However, the obscurity of the characters and their comic book adventures makes this in-depth guide far more rewarding than similar efforts for the likes of Spider-Man and the Avengers.

Cornflake bowls us over

Custom installer invites *HCC* to experience the ultimate home theatre

There's a big difference between having a home cinema and putting a cinema in a home. That's the message from specialist AV installers Cornflake.

And to prove a point, they've created the Cornflake Cinema, a premium theatrical experience for the home. All you need is a decent-sized room and £250,000 (it's okay, that includes labour).

HCC was invited along for the grand unveiling and can confirm that what you get is every bit a rival for commercial cinemas. Of course, Cornflake's previous cinema proposition was no flea pit, but this is in another league. 'We knew we had to evolve,' Cornflake director Gary Lewis told *HCC*. 'With 3D audio and 4K Ultra HD, our clients expect more.'

The ten-seater has been constructed in a 3.6m x 5.7m room, and adopts the same design and acoustic principles as a commercial theatre. Rather than formal cinema seats, regular sofas have been used. 'People like to relax,' concedes Lewis.

West coast invasion

The hardware choices are interesting. Californian audio outfit Meyer Sound isn't a familiar home entertainment brand, but its active loudspeakers are commonly used in studios and exhibition environments. Cornflake deploys them throughout.

The room utilises a 9.2.4 Dolby Atmos layout. Ten HMS-5 speakers are hidden in the walls and ceiling, with two X-800C subwoofers at each end of the room, plus three Acheron Designer speakers at the front. As is the usual practice in the world of bespoke home cinemas, none are visible.

Side-mounted HMS-5s are angled in the wall cavity, which resulted in the walls being brought forward by around 50mm from their original position. 'It doesn't feel like we've lost space, because the soundfield is so large,' claims Lewis.

The screen, by DT Screens, is nearly the full-width of the room, and features multiway masking that comes in from both the top and



Gary Lewis: 'We knew we had to evolve. With 3D audio and 4K Ultra HD, our clients expect more'

bottom of the picture. 'We use bespoke motors,' DT Screens director Neil Davison, told *HCC*. 'They're the quietest you can buy, around 30dB. We might even be able to get them quieter...'

Feeding the Meyer Sound active loudspeakers is a Trinnov Altitude32 processor.

Cornflake's projector of choice for its new demonstration space is the native 4K, laser-powered JVC DLA-Z1. This uses a 100mm extra-wide diameter lens, complemented by five dispersion lenses, to deliver UHD sharpness to the edge of the screen. The JVC is capable of deep blacks and vibrant hues. To showcase this, and the Atmos sound system, *Lucy* on Ultra HD Blu-ray was spun on a Panasonic DMP-UB900 UHD disc player. It was good enough to have me scoping out bank loans.

Big differences

Behind acoustically-transparent wall fabric, the cinema also features custom-made insulation panels, to combat reverberation, reflection and resonance. Developed by CATS Packs (Cinema Acoustic Treatment System), the panels are just 50mm deep, and feature a mixture of hard and soft surfaces. Even the ceiling is treated.

'It's incredible how big a difference that makes,' believes Davison. 'Acoustically, a small residential cinema is completely different to a commercial cinema, so we came up with new modelling software to solve the problem. What always happens in home cinemas is you get a thick carpet and a plaster ceiling, which is really bad for acoustics. It's a high-frequency absorber with a reflector on the ceiling. We would always suggest a full ceiling treatment, coupled to a hardwood floor with partial covering – a rug. This balances out the reverb. It's important not to overly deaden the room...'



This could be yours, providing you have a spare £250,000...



This month's top 10 news stories in handy, bite-sized chunks...



1 MusicCast adds voice control
Yamaha will be adding support for Amazon Alexa voice control to its MusicCast multiroom platform. The update will happen via a firmware tweak set for release this Autumn, and covers more than 40 products from the MusicCast lineup, including AV receivers, soundbars and streaming speakers. An Alexa 'skill' that adds support for MusicCast commands will be released at the same time.

2 Freeview Play hits milestone
Freeview claims that sales of Freeview Play TVs and set-top boxes have now surpassed one million. Citing data from research firm GfK, the company also reckons that Freeview Play sets account for 34 per cent of all HD TVs sold in the UK.

3 Audio acquisitions, Part 1
North American audio company Sound United has acquired the D+M Group. The deal (the terms of which have not been disclosed) sees Sound United add Denon, HEOS by Denon, Marantz and Boston Acoustics to a portfolio of audio brands that already includes Polk Audio, Definitive Technology and Polk BOOM. Kevin Duffy, CEO of Sound United, will serve as CEO of the combined company, while D+M Group CEO Jim Caudill will continue to serve as an advisor.

4 Audio acquisitions, Part 2
Control4 Corporation has completed the purchase of US audio brand Triad Speakers, Inc. for \$9.6m in cash. The Triad brand name will continue, while 'nearly the entire Triad team' will be joining Control4 and will still operate out of Triad's existing facility in Oregon.

5 Bright future for Netflix
Netflix is hunting for an experienced studio head to lead its nascent film division after making the decision to ramp up feature film production. Following its production deal with Adam Sandler for four films, Netflix now wants to take on Hollywood blockbusters with flicks like its upcoming \$90m fantasy epic *Bright*, which reunites Will Smith with *Suicide Squad* director David Ayer.

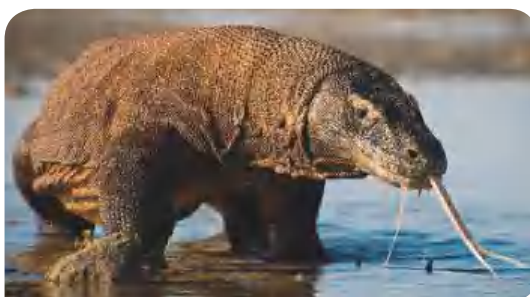
6 Pirate sites demoted
The British Phonographic Industry, Motion Picture Association and Alliance for IP have launched an initiative aimed at reducing the availability of pirated content accessible online. The industry bodies are collaborating with Google and Bing on a voluntary code of practice that will see links to dodgy download and streaming sites demoted on their search engines.

7 MQA signs up UMG
Music technology company MQA and Universal Music Group have entered into a multi-year agreement that will encode the latter's extensive catalogue of master recordings in the MQA hi-res audio format. 'We've very pleased to be working with Universal... [Its] timeless catalogue and impressive artist roster will fuel music streaming services worldwide,' gushed Mike Jbara, CEO of MQA.

8 Legal battle
New Zealand's High Court has ruled that self-styled 'internet freedom fighter' Kim Dotcom and three of his colleagues can be extradited to the US. The founder of pirate site Megaupload, Dotcom faces 13 criminal charges, with US prosecutors claiming that the site cost copyright holders more than \$500m.

9 4K Apple TV box incoming?
Rumours are rife that Apple will launch another updated version of its TV box later this year. If the leaks are indeed true, the fifth-generation device (codenamed J105) will be capable of streaming 4K and HDR content and is currently undergoing tests.

10 Natural history series makes 4K history
Planet Earth II has become the first natural history TV series to be released on 4K Blu-ray. 'The picture quality is astonishing. For the first time viewers can experience at home the picture quality viewed in the edit suite,' claims Lesley Johnson, Operations Director UK for BBC Worldwide. Look out for our review of the *Planet Earth II* UHD Blu-ray in the next issue of *HCC*.



Premiere...

What's happening in the world of TV and films...

Hellboy left in limbo



Despite getting nearly 133,000 fans to show support for a third and final *Hellboy* film via an 'informal' 24-hour Twitter poll back in January, director Guillermo del Toro recently returned with an update – and his message wasn't what fans wanted to hear... 'Spoke w all parties. Must report that 100% the sequel will not happen. And that is to be the final thing about it.'

Raiding The Raid

The A-Team director Joe Carnahan has been tapped to direct the US remake of modern martial arts epic *The Raid*. However, he's been quick to point out that his film will not be a remake, but a 're-imagining of the same scenario.' *So Dredd*, then?

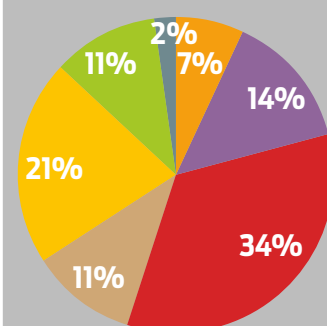
Bat's entertainment

It's all-change in the world of DC superhero movies. Ben Affleck has dropped out of directing the next *Batman* solo film, with Matt Reeves taking over. Meanwhile, Mel Gibson is being considered to direct the *Suicide Squad* sequel!

We asked...

Which is your favourite Star Wars movie?

Any of the Prequels
ANH ■ TESB ■ ROTJ ■ TFA ■ RO
■ I don't like any of them



Results from www.homecinemachoice.com
Go online for more polling action

Spin-up this spin-off on BD

Rogue One: A Star Wars Story → Walt Disney → DVD/Blu-ray/3D Blu-ray

Star Wars prequel *Rogue One* is blasting its way onto DVD, Blu-ray and 3D Blu-ray in the UK on April 10. Confirmed Blu-ray extras are eleven behind-the-scenes featurettes covering the origin of the film, the lead characters, recreating two classic *Star Wars* characters in CG, hidden Easter Eggs and what the future holds for the franchise. But even more interesting is what isn't included – such as any of the much-discussed deleted scenes. Could a more elaborate release follow later in the year?



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Face to Face

Topics of discussion on the *HCC* Facebook page

On new Atmos fave *Deepwater Horizon*...



Watched this last night. Very good, but I don't have Atmos... yet!
Steve Old

Just set up my speaker array in 9.2 with my new Pioneer SC-LX901 AV receiver. This should be a good first test!
Robi Lee

Disaster movie is correct. Awesome sound, terrible movie – some phoned-in lame performances in it.
Dean Gregory

Reference Dolby Atmos disc for me now!
Ian Briggs

What you're watching on your home cinema...



The Magnificent Seven tonight and *Close Encounters of the Third Kind* to follow. No trip

to see *Logan* at the cinema as the wife didn't want to watch it – I must remind her that I sat through *Bridget Jones's Baby*.
Mark Jones

As we lost Bill Paxton, this weekend's films will be *Twister*, *Apollo 13* and *Aliens*. But also remember him for *Titanic*, *The Terminator*, *Edge of Tomorrow*, *True Lies*, *Weird Science* and *Predator 2* to name but a few. R.I.P Bill.
Chris Sayles

Hacksaw Ridge 4K, *Nocturnal Animals* and *Billy Lynn's Long Halftime Walk* 4K.
Ian Cooper

Starcrash, *The Bird with the Crystal Plumage*, *King of New York*, *The Sentinel* and *Amuck*.
Alan Hoare



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Back of the 'net

Trailers, technology and more to check out on the web



Pack a broolly

Out in cinemas in October, new VFX-heavy sci-fi disaster flick *Geostorm* certainly looks likely to give your subwoofer a good thrashing when it eventually lands on Blu-ray. The trailer is essentially a series of scenes of mega-destruction. Gerard Butler is on hand to somehow save the day.
youtu.be/II_Yau69onQ



Denon gives us a peek

The HEOS AVR was one of the most intriguing products showcased at Denon's preview show last Summer, but it had all gone a bit quiet until this teaser vid surfaced in early March. This compact power pusher promises to rip the wires out of your home cinema setup. Surely it'll launch soon...
youtu.be/qY0d8pt7DuY



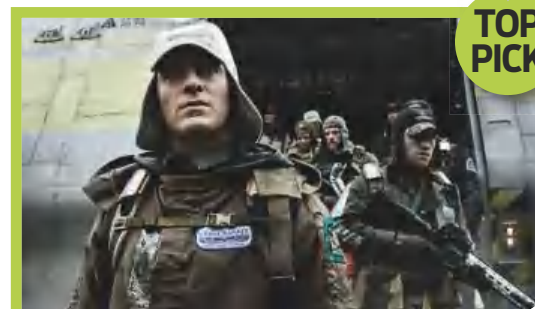
The astromech droid speaks!

Film-centric YouTube jokers Auralnauts have answered the eternal question of 'what is R2-D2 actually saying?' Well, sort of. This 13-minute video culls footage from *A New Hope* and gives voice to the blue-and-white bot. Want to hear him bickering with C-3PO? Childish, but funny.
goo.gl/dnse4b



Arrow awards

Blu-ray label Arrow has polled its own fans to compile its Best of 2016 awards, revealed in this short video. Accolades are handed out for categories including Best Art, Favourite Extra and Favourite Restoration. It goes without saying that quirky cult horror flicks feature quite prominently.
youtu.be/qullLiZ4aeWY



TOP PICK

Great Scott!

Ridley Scott's *Prometheus* sequel/*Alien* prequel, *Alien: Covenant* is readying to rampage through UK multiplexes from May 19, and 20th Century Fox has outed an official trailer to get your adrenalin flowing. 'The path to paradise begins in hell,' runs the tag-line. We can't wait to be scared silly.
youtu.be/svnAD0TApb8



Sanus loves Sonos

Launch of the Sonos Playbase (p12) was quickly followed by TV mount specialist Sanus pushing buyers towards its WSTV1-B2 swivelling stand. Allowing angling of a TV to target off-axis viewers, it's also height-adjustable so can accommodate the Playbase (or other 'bar) below your screen.
vimeo.com/207244747

B&W's power pack

Bowers & Wilkins DB Series → www.bowers-wilkins.co.uk



Bowers & Wilkins claims to have produced its most powerful active sub to date with the three-strong DB Series. The flagship DB1D (£3,750) marries dual-opposed 12in drivers to an epic 2,000W of power, while more compact DB2D (£2,850) and DB3D (£1,950) models scale things back to 1,000W and feature dual 10in and 8in drivers respectively. The trio all employ Aerofoil cones (borrowed from B&W's 800 Series Diamond speakers) and a new digital preamp with advanced EQ skills.

Sound & Vision: Bristol Show 2017

Dolby Atmos, £100,000 headphones, half-size floorstanders and more catch **Ed Selley's** eye

Late February is one of the key dates in the UK AV calendar, with the Marriot Hotel in Bristol playing host to the Sound & Vision show, a weekend tech expo giving audiophiles and film fans a chance to get acquainted with new hardware, experience mind-blowing systems, and snaffle bargains from on-site retailers.

2017 marked the show's 30th anniversary, but there was no special flavour to proceedings; it was very much business as usual. This meant big and small brands from the hi-fi and AV worlds clamouring for the attention of punters, albeit with a predominant focus on hi-fi – there were certainly more turntables than flatscreen TVs, and some projector corps that were present last year were no-shows this time around. That said, for the home cinema buff there were delights to savour, which we report on here, plus some other bits and pieces that caught our eye.

ACOUSTIC ENERGY

Acoustic Energy publicly demonstrated its latest AE1 for the first time, and in a major change to the iconic design, which the company has been producing for thirty years in varying forms, the new model is an active speaker priced at £1,000 for a stereo pair. Each cabinet contains a 200W class AB amp to push its aluminium midbass driver and soft dome tweeter, and you get a choice between XLR and phono connections to lace it up. The impressive demonstration – like most at Sound and Vision –



Arcam used KEF speakers and multiple power amps for its Dolby Atmos demo

was in two-channel, but Acoustic Energy confirmed that single units will be available, meaning these speakers could make for an interesting multichannel option connected to a standalone processor.



ARCAM

How to following the crowd-pleasing success of last year's Dolby Atmos cinema room demonstration using KEF Reference speakers matched to Arcam power amps and processing, fine-tuned by Dirac EQ? By revisiting the concept but with some new elements in play. For 2017, Arcam assembled its very own 18in subwoofers – custom-made models that you won't be seeing on sale anywhere soon – and called upon its new AV860 processor to send precision sonics around the speaker array. The brand claimed over 6,000W of Class G power was on tap; included in the front-of-house kit rack was the Arcam P429 power amp, a £1,600 four-channel model designed to be the perfect partner to a seven-channel Arcam AVR (enabling 7.2.4) in an Atmos/DTS:X setup. Demos, aided by a Sony 4K projector and using mountaineering thriller *Everest*, were immersive (if a little short-lived) and once again the brand scooped the 'Best Home Cinema Room' award from industry body Clarity.

B&W's room featured a pair of DB3D subwoofers in a home cinema setup





BOWERS & WILKINS

In its lower ground-floor room, Bowers & Wilkins was flying the flag for home cinema audio, and pulled out all the stops for this year's demonstration. An 800 Series multichannel system of 800 D3 fronts, HTM1 D3 centre and 802 D3 rears was being put through its paces on the end of a Rotel processor and power amplifiers. The 800 D3 is a potent speaker in its own right – as well you might expect for £22,000 a pair – but underpinned by a pair of monstrous DB3D subwoofers (see p17), the performance was superb. What was interesting was how effectively the subs integrated with the front speakers for music playback, as well as a very visceral demonstration of the bombing raid in *Unbroken*.

FOCAL

More high-end fabulousness came in the form of the limited edition Tournaire version of Focal's Utopia headphones. These take the supremely tasty Focal flagship model and add 18-karat gold on the earpieces and a smattering of diamonds to give them a bit more visual flair. The price, if you have to ask, is a whisker under £100,000. Most pairs have apparently already found buyers. Lucky them.

MISSION

At the more affordable end of the market, Mission announced a £110 LX-C centre speaker to allow its LX Series speakers to be used in multichannel setups. This is undoubtedly good news because the performance of the LX models is exceptional – and a pair of £160 LX2s were demonstrating this ability in Mission's room.

The LX Series represents Mission going back to basics with a number of classic design features employed, such as the soft dome tweeter positioned underneath the midrange driver of the standmount speakers. The well-finished cabinets have been

Mission's affordable LX Series now includes a centre channel model

Focal's £100,000 limited edition headphones. Look but don't touch...



computer modelled to work out optimum bracing points, and are available in black, white and walnut to match most décors. We look forward to getting our hands on a set.

MONITOR AUDIO

A second outing at the Bristol Show for Monitor Audio's flagship Platinum II speaker line, and again the UK marque was hosting appointment-only demos, meaning show-goers had to book a slot online in advance. Those who were on the ball got to choose between listening to either a 5.1 array (showcasing the £8,000-a-pair PL300s on front left/right duty – there are even more expensive floorstanders in the lineup), or in a stereo config with Roksan electronics.

NEAT ACOUSTICS

Conventional wisdom dictates that floorstanding speakers are relatively large so they can raise the drivers to near ear-level. Neat Acoustics has a reputation for taking rules as advisory rather than gospel, though, and was demonstrating the IOTA Alpha, one of the most curious-looking floorstanding speakers you'll ever see. Based upon the compact IOTA standmount, the Alpha uses the same ribbon tweeter and midrange driver, and then adds a downward-firing 5.25in woofer to fill out the low end. The speaker tilts its visible drivers back at an angle; necessary because the Alpha stands just 45cm tall and otherwise the drivers wouldn't be pointing anywhere near your ears. By rights, something like this should not work at all but the in-room performance of these little speakers is



The IOTA Alpha (left) hides a down-firing bass driver



Orbitsound's new-look One (P70) soundbar speaker

extraordinary, with many visitors assuming the sound generated was from the much larger and more expensive pair of SX5 floorstanders nearby. Easy to accommodate floorstanders? That could be just what home cinephiles are crying out for.

ORBITSOUND

Equally innovative was the all-new £300 One (P70) from Orbitsound. This has been designed to combine the function of a soundbar and wireless speaker (the unit offers optical, 3.5mm and Bluetooth connections) in a single cabinet. As usual with the company, proprietary airSOUND signal processing is present to avoid the problem of there being a definite 'sweet spot' when listening, and the One (P70) can be used in various orientations courtesy of its switchable logo/display. Front and side-firing drivers are joined by a 5.25in woofer; Orbitsound says that the P70 (One) gives a full-range performance without the need for a dedicated sub. Deliveries are due to start around now and while black is the only finish available initially, there'll be lighter options featuring wood panelling in due course.

PMC

For this year's show, PMC was strictly in stereo mode but the company was also taking the opportunity to announce a new distribution arrangement with German manufacturer AVM. The latter is a high-end electronics brand with a speciality in all-in-one systems. Its very sophisticated units feature CD playback, UPnP streaming, Tidal and Qobuz support all powered by bespoke amplification, and support a selection of external inputs controlled by a dedicated app. Casework is also finished to an exceptional standard. Prices start at £3,500 for the 'entry-level' unit and rise to over £10,000 for the flagship models. Demonstrations in conjunction with a pair of PMC twenty5.21 standmounts suggest the systems have the audio chops to satisfy hi-fi enthusiasts seeking a convenient solution.

PRO-JECT

As the vinyl boom shows little sign of slowing down, turntables are now exploiting evolutionary niches. Exhibit A is Pro-Ject's £380 VTE-BT, a turntable

designed to operate vertically to save space, using a spring-loaded arm and clamp to keep vinyl in place. The deck can then send the signal via Bluetooth to a suitable receiver, meaning that it doesn't need to be near the rest of your kit. Not only does it work, it also sounds pretty good, too.

Q ACOUSTICS

Having taken on all comers under £1,000 and secured plenty of awards in the process, Q Acoustics has turned its loudspeaker attention to new price points. The Concept 500s will cost a considerable £3,600-per-pair when they hit retailers but the cutaways on display at the Bristol Show will have convinced potential buyers that they're serious speakers. Using a triple-layer version of the 'Gelcore' cabinets first seen in the original Concept models, then further stiffened by additional bracing, the idea is a cabinet that is totally inert and acoustically invisible. The brand claims enormous reductions in distortion and noise has in turn required every aspect of the drivers and crossovers to be revised to take advantage. This is breaking new ground for Q Acoustics but based on the demos here, the competition should be worried.

REGA

Most have the space for a more conventional deck than Project's up-ended model, and they're targeted by Rega, which was showing off a new red finish for its much-loved and exceptionally pretty Planar 2 and Planar 3 turntables – black and white versions remain available for the timid. Also on show was the new £500 Ania moving coil cartridge, partnered with the new Fono MC phono stage.

SONY

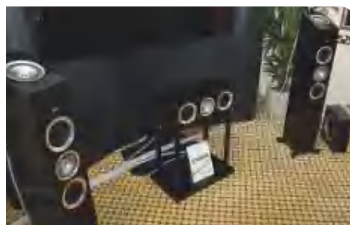
As a break from the turntables, DACs and stereo speakers that dominated the show, Sony provided 4K HDR demonstrations via its UBP-X800 Ultra HD Blu-ray player, into an LED LCD TV – there was no sign of its A1 OLED, alas. Also being shown to punters for the first time was the 7.2-channel STR-DN1080 receiver (see p32). Connected to a full set of KEF speakers, including the company's upward-firing R50 Atmos modules, the experience was deeply rewarding for what counts as a relatively sanely-priced system. While there was a large selection of Sony 4K disc titles on display in the room, the decision had been taken to go 'off brand' with a showing of *Deepwater Horizon*. Queue screeching metal and hair-frazzling fireballs aplenty.

SVS

Following our exclusive review last issue, SVS's SB16-Ultra subwoofer made its UK debut in the third-floor suite of distributor Karma-AV – the larger ported PB16-Ultra didn't make the journey down as, we're told, it would have 'destroyed' the room. Joining the sub in a multichannel setup were Prime speakers from SVS, including Elevation Atmos models, processing from Onkyo and a Vivitek projector. Demo material came from dedicated test discs from DTS and Dolby, plus classic monster smasher *Super 8*.



Rega's P3 – now available in a go-faster red finish



Sony teamed up with KEF for its Dolby Atmos/AVR demonstration



Pro-Ject has a turntable for the space-strapped music fan



musicCast

Wireless Music System



YSP-5600



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'This one, a long time have I watched'



In 1977, *Star Wars* ripped through cinemas and changed the movie world forever. To celebrate its 40th anniversary, **Martin Dew** looks at its home cinema history, fan-dividing Special Editions and aborted 3D re-release



Darth Vader:
throwing his
weight around
for forty years



A LONG TIME ago in a galaxy far, far away... No, hang on, we couldn't possibly start like that. But it was actually an eye-watering 40 years ago that what would become the most successful film franchise of all time entered public consciousness. *Star Wars*, now commonly referred to as *Episode IV: A New Hope* – to fit in with an ever-burgeoning series of feature-length instalments to flesh out a corresponding expanding universe – would single-handedly not only change our cinema-going habits, but shift our perception of how film itself, as an art form, was defined. If *Jaws*, back in July of 1975, set the benchmark for numbers of cinemagoers queuing round the block on sultry Summer afternoons (or Winter evenings, actually, as its UK launch-date was Boxing Day), then the release of George Lucas' galactic romp on 25th May, 1977 was about to blow the shark out of the water, and go on to amass a cool \$775m in worldwide box office receipts in the process.

The Summer blockbuster had been born, but if you had somehow missed this gigantic event at your local picture house, then you would have plenty of opportunities in the ensuing years to see the film (and its sequels) at home, and contribute even more to the Lucasfilm coffers. It's hard to find anyone now who has not had at least one *Star Wars* videotape or silver disc in their cinema room and, as we'll see, it could have arrived in any one of a myriad of forms and formats.

When the Force awoke

Although George Lucas had originally conceived of a space fantasy movie as far back as 1971, based in part on his self-declared love of Saturday morning TV serial adventures like *Flash Gordon*, it wasn't until January 1973 that he sat down to write for 'eight hours a day, five days a week' until March 1976, when shooting of the film began. During that time, which followed completion of *American Graffiti* (1973), and with much thrashing about of ideas, he developed and wrote a total of four contrasting scripts. From these, he honed a final draft in which, he told *American Cinematographer*, '...all the influences are working together.'

In addition to his storywriting, another Lucas skill was his ability to identify and assemble an accomplished creative team. Three names stand out. Ralph McQuarrie, a former technical illustrator >

A little piece of the Empire

How Martin Dew landed a role in a *Star Wars* sequel...

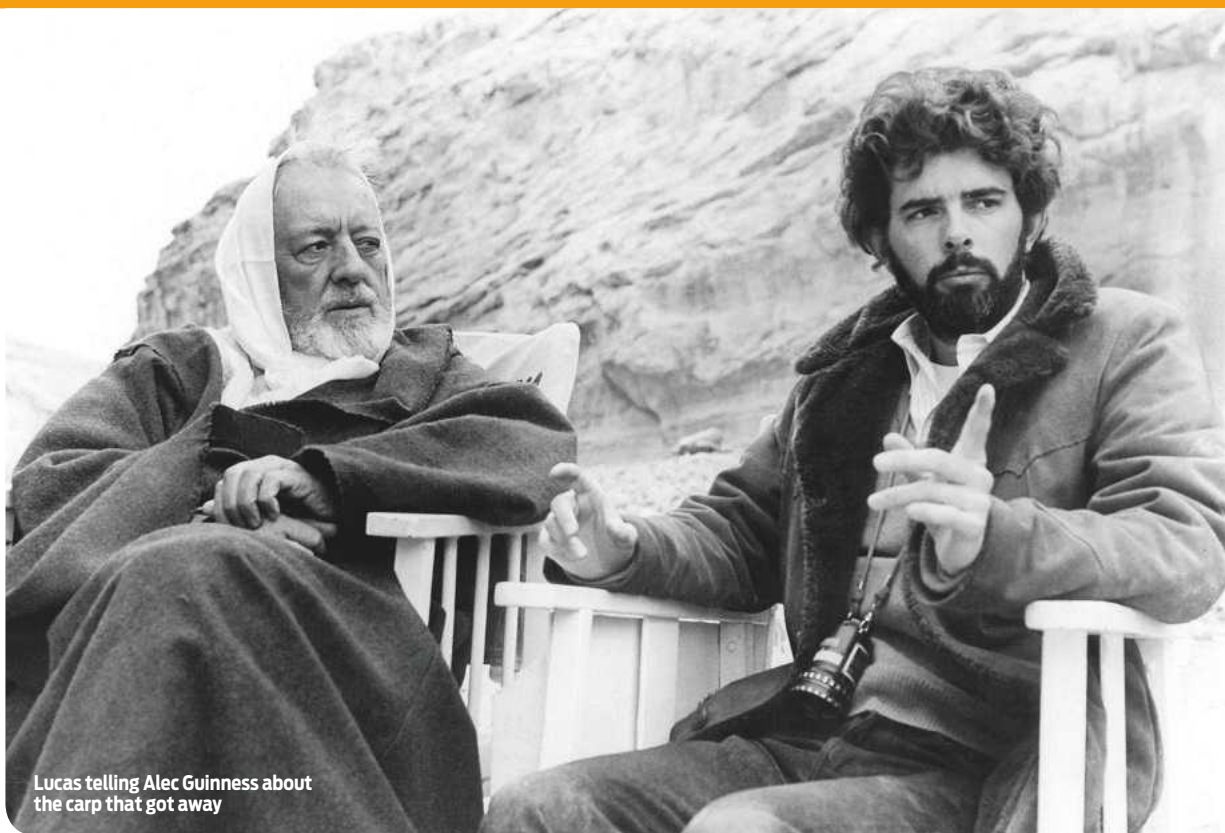


Back in 1996, while I was working in marketing for THX at Lucasfilm in California, Skywalker Ranch was buzzing with activity. Not only had the company announced a trilogy of *Star Wars* prequels, work had begun on remastering the original trilogy for theatrical release, as what would become known as the *Special Editions*.

While the editing team had a huge task on its hands, dredging up old negative and inter-positive prints from the archives, FX house ILM was charged with cleaning up certain visual effects shots, and the producers decided to add a few scenes to the films that budget and other constraints had originally prohibited.

Having previously trained as an actor in the 1980s, I decided to contact the in-house casting director at Lucasfilm to ask if I might audition for a role in *Episode I* [you could have ended up as Jar Jar Binks – Ed]. A couple of weeks later, I was told that employees would not be allowed to appear in the new trilogy, but I could audition for a four-second Beshpin Guard reaction shot to be inserted in *The Empire Strikes Back: Special Edition*.

It turned out that this was to be the only shot of actors added to the film (few changes were made to the second instalment overall). I got the gig – a green-screen shoot in San Rafael with two actors was scheduled soon after – but without, sadly, an onscreen credit because I was not a member of Screen Actors Guild at the time. Still, seeing as Daniel Craig jumped at the chance to be a Stormtrooper in *The Force Awakens*, I consider myself in good company!



Lucas telling Alec Guinness about the carp that got away

for Boeing, was charged with production visualization for *Star Wars*, delivering ideas for characters, scenery and props, in both sketch form and in full production paintings. His now famous 'used future' aesthetic applied a dirty, gritty, lived-in look to Lucas' galaxy and spacecraft. Meanwhile, John Williams' grand symphonic Holstian score lent an old-fashioned dynamic to the narrative – by grounding the audience with accessible music, Lucas could fulfil his desire to counter the fantastical settings of the film. Finally, sound designer Ben Burtt created the film's legendary mix, by painstakingly and ingeniously recording and combining real-world cues to generate other-worldly sound effects.

'Sound is 50 per cent of the movie-going experience,' reckoned George Lucas. He was about to prove that with *Star Wars*. 35mm prints were distributed with one of the first 4-channel Dolby Stereo soundtracks, and several premium cinemas received 70mm prints with 6-track magnetic sound. Fans who saw the movie in the cinema in 1977 still argue that the arrival of the Star Destroyer after the opening text crawl from 'behind' the audience is the most powerful and innovative opening to a movie ever.

Although it might seem like all the necessary ingredients for sure-fire success were present, not everyone agreed, and nerves were jangling come May, 1977. Studio 20th Century Fox had already

gladly handed over character licensing rights to Lucasfilm Ltd., believing they were distributing nothing more than an average B-picture. And some of Lucas' industry friends whom he invited over for early screenings, sans music and effects, weren't convinced either. At one such showing, with Steven Spielberg, Martin Scorsese and Brian de Palma, the latter allegedly threw his arms up in the air telling the director that the opening crawl was 'gibberish.' He subsequently helped Lucas rewrite it.

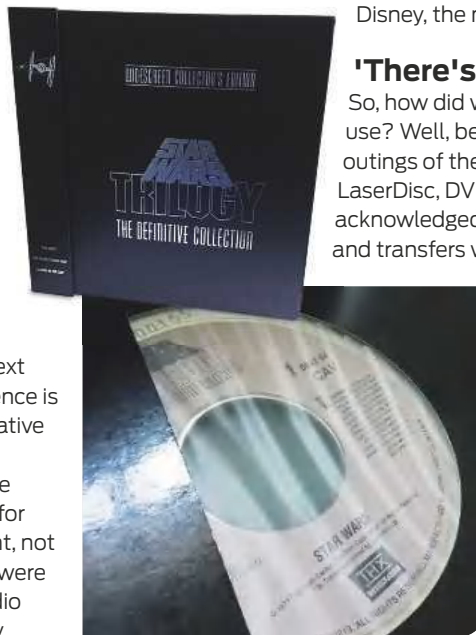
On the day of release, all bets were off, but the rest is history. *Star Wars* would become arguably the most iconic film of all time, followed by praiseworthy sequels *The Empire Strikes Back* (1980) and *Return of the Jedi* (1983). Both those titles hit big at the box office, and 40 years later, courtesy of new franchise entries released by Disney, the money keeps rolling in.

'There's always a bigger fish'

So, how did we buy these films for home use? Well, before sifting through landmark outings of the *Star Wars* films on VHS, LaserDisc, DVD and Blu-ray, it should be acknowledged that the same film versions and transfers were repackaged many times

during the intervening years between those major releases. We'll also omit any of the live-action or animated spin-off titles, such as the *Ewok Adventures* and *The Clone Wars*. In other words, we'll stick to the main *Star Wars* timeline, Episodes I–VII.

The Definitive Collection LaserDisc trilogy release [1993] has proved not quite so definitive



Star Wars first hit store shelves in May of 1982 on VHS, Betamax, LaserDisc and CED Video Disc. Released by CBS/Fox, it was followed by *The Empire Strikes Back* (November 1984) and *Return of the Jedi* (February 1986) in the same four formats, and all with two-channel stereo sound. After various VHS and LaserDisc box and sleeve art changes (including 'Special Widescreen' versions in 1989 and 1992), it wasn't until the release of the striking *Star Wars Trilogy: The Definitive Collection* on NTSC CAV LaserDisc in 1993 that fans could get a taste of a fastidiously remastered rendition of the first three films. Housed in a handsome black box, with a brochure and copy of the hardback book *The Creative Impulse*, the nine widescreen discs included a seemingly boundless list of bonus materials. Unfortunately, many customers reported that the discs suffered from 'laser rot', an oxidation process caused by contaminants within the disc itself, and some collectors have suggested that it was the chemicals in the ink from the accompanying book which caused the deterioration. Perceptive fans also complain of missing shots and interrupted conversations in these versions.

Individual CLV (longer play) widescreen versions of this same set of remasters appeared with new artwork in 1995, and were available on both PAL and NTSC. Like *The Definitive Collection*, this release included Dolby Surround 4-channel audio, but not Dolby Digital 5.1 just yet. With attractively designed, yet pared-down sleeve artwork known as the 'Faces Set', these reissues only included bonus materials in the form of an interview with film critic Leonard Maltin.

It wasn't until August 1997, and following its corresponding theatrical release, that the rejigged *Star Wars Trilogy Special Edition* made its way onto VHS and LaserDisc, as standalone titles, and in optional widescreen or pan-and-scan boxsets. The LaserDiscs were the first versions of the original trilogy to include the 5.1 Dolby Digital AC-3 codec. Home cinephiles rejoiced.

Star Wars: Episode I – The Phantom Menace arrived on VHS in April 2000, while the original *Special Edition Trilogy* was repackaged in the same year on VHS and LaserDisc to include the new episode numbering (IV–VI) and subtitles. These boxsets and individual titles would comprise the last releases of the original trilogy on both formats.

In the following years, *Episode I, II* and *III* launched on DVD with comprehensive bonus features and Dolby 5.1 Surround EX audio, while THX Digitally Mastered versions of the *Special Editions* (IV, V and VI) were released for the first time as a boxset on DVD in 2004, with DD 5.1 EX audio and the inclusion of a separately packaged bonus disc. And now we get into a period of release, release, release...

Perhaps one of the most interesting re-issues for *Star Wars* fans is the 2006 *Star Wars Trilogy: Limited Edition* series. These amounted to the first time anyone could buy the first three films, individually and unaltered from their theatrical releases, on DVD, drawn from the 1993 LaserDisc masters. These versions were included as a second bonus disc to complement the *Special Edition* platter

It was Bring Your Son to Work Day at Cloud City



First sequel *The Empire Strikes Back* took the franchise in a darker direction

in each package. The defining gold trim on the box art is the key indicator if you're thinking of rummaging around on the internet for copies.

The last time the unaltered trilogy was available on DVD was inside the 2008 *Star Wars Trilogy* and *Star Wars Prequel Trilogy* boxsets. Despite muted promises in recent years from Lucasfilm and Disney, there is still no sign of these non-*Special Edition* versions appearing on Blu-ray. Very recent rumours have been shot down by news that at an 'Animation Restoration at Walt Disney Studios' presentation at Ohio State University, Disney's restoration and preservation guru, Theo Gluck, told attendees that the original 1977 negative of *Star Wars* no longer exists in its complete form, and would have to be reassembled. Still, never say never.

Most collectors will doubtless have a copy of the 2011 *The Complete Saga* Blu-ray collection, presented in 6.1 DTS-HD MA (with bonus materials), and as individual prequel trilogy or original trilogy boxsets (minus bonus materials). *The Complete Saga* was then repackaged in 2015 as a boxset and as individual steelbook issues.

Star Wars Episode VII: The Force Awakens (also 2015) is available now on DVD and Blu-ray, but with the latter going for a DTS-HD Master Audio 7.1 soundtrack, and no Dolby Atmos mix. Nor has an Ultra HD Blu-ray release been confirmed.

'The negotiations were short...'

Perhaps the most anticipated film of all time was *Star Wars: Episode I – The Phantom Menace* (1999). While audiences cheered the familiar opening crawl at first showings in cinemas across the globe, there was a creeping realisation among die-hard fans during the film's first hour that it was not quite what they'd hoped for. While Andrew O'Hagan of *The Telegraph* called the film 'daring and beautiful', Peter Bradshaw of *The Guardian* wrote, 'I found myself looking at my watch, with my eyelids very heavy.' The general consensus was that the film's impressive production design and visual

R2-D2 and C-3PO have appeared in every *Star Wars* movie to date



A new hope for audio...

THX

During production of *Star Wars* in 1976 George Lucas apparently felt there were few resources or service companies in the film industry that could provide the sophisticated special effects or sound post-production facilities to do justice to his new venture. Consequently, he created his own effects house, Industrial Light and Magic, and later, film audio recording and mixing facility, Skywalker Sound.

Yet Lucas also felt that the quality of theatrical presentation in US cinemas was lacking, with many theatres only able to reproduce mono sound, and others often sporting small screens in 'shoebox' auditoriums. The solution? To develop a quality control and licensing programme, known as THX. Before the release of *Return of the Jedi*, Lucas consulted audio expert Tomlinson Holman, who came up with a set of criteria pertaining to how film mixing rooms and cinemas should be built and serviced, in order to maintain a consistent workflow and presentation standard throughout.

The THX name was derived from Lucas' first feature film *THX 1138* (1970), and conveniently acted as an acronym for the 'Tom Holman eXperiment'. Projectionists in THX-certified cinemas would splice the spectacular THX-branded trailers onto prints to let the audience know they were sitting in a special viewing and listening environment.

Eventually, THX extended into quality assurance for AV gear and software, including VHS tapes, LaserDiscs and DVDs. Studios also employed THX to remaster titles for optimal quality. THX-certified discs typically include the Optimizer setup aid, now also available as an app.

effects outweighed the story, and that much of the dialogue was wooden at best. Armchair critics asked why children would be even remotely interested in intergalactic trade embargoes. *Episode II* fared not much better, and even though *Revenge of the Sith* (2005) made some strides to improving the mood and excitement of this new trilogy, many felt it was too late.

Perhaps it was the lukewarm reaction to the films that gave Lucas the impetus to sell Lucasfilm and its *Star Wars* and *Indiana Jones* properties for \$4bn to Disney in October, 2012. The studio certainly seemed qualified for the role, with its history of character licensing, children's entertainment, and legacy of collaborating with Lucasfilm on theme park attractions. With a mandate to maximize the value of the global franchise, it was agreed that the new management under president Kathleen Kennedy would accelerate the production of new films in the *Star Wars* franchise.

Would Lucas be involved? No. Were fans excited? Yes. And the results have thus far been stellar, with *Star Wars Episode VII: The Force Awakens* and 2016's inventive spin-off *Rogue One: A Star Wars Story* already tallying over \$3bn at the box office, without a patois-speaking Gungan in sight.

'It's a trap!'

As a result of this new deal, and a clear statement by Disney that it would be 'rebooting the franchise',

the company decided to shelve the idea of re-releasing all original six films in 3D in cinemas, something that may or not have been cool, depending on your point of view.

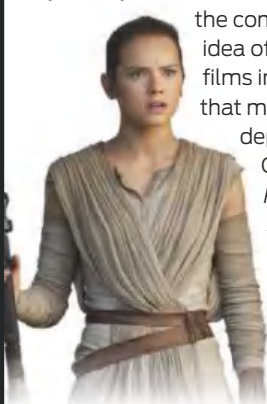
Only the first entry – *The Phantom Menace* – received a 3D update in 2012, and didn't exactly set the box office alight (and to date has had no 3D BD release). Hardly surprising, considering its low-standing amongst the

kind of Force fanatics who might be prepared to shell out for a second-helping. Perhaps the 3D schedule would have been better received if it had kicked off with *Episode IV*, but even then criticism of Lucasfilm as a company happy to treat *Star Wars* fans as cash cows would surely have arisen, as it had for decades.

The issue isn't black and white though. Fans have insisted that they were being duped into parting with ever more of their hard-earned moolah for ever more versions of the films, both in the cinema and at home. But the company always contested that it was providing more of what fans wanted. If it didn't release more versions, it surmised, then fans would accuse it of holding back. Nevertheless, true to form, Disney has continued with the controversial multiple version practice by releasing a Blu-ray disc of *The Force Awakens* in April last year, followed by a bonus-rich multi-disc 3D release in November, just in time for Christmas, and including a sought-after commentary track by director J. J. Abrams.

The other bugbear for *Star Wars* hedz is the apparent ever-moving goalposts of what constitutes a 'finished' *Star Wars* film. Lucas said of the *Special Edition Trilogy*: 'There will only be one [version of the films]. And it won't be what I would call a rough cut, it'll be the final cut.' To be fair, he has always asserted that there's no reason why a film cannot continue to evolve over time, and hasn't been shy about tinkering – there's a vast number of reported subtle and not-so-subtle audio, CGI and narrative changes to the *Star Wars* canon, spanning 35mm and 70mm film prints, DVD releases, and even IMAX presentations. The most talked-about, of course, remains the sequence in *A New Hope* where Greedo now fires a pre-emptive shot at Han Solo in the Mos Eisley Cantina scene.

So, clearly, the saga continues, both on- and off-screen – *Star Wars* is a franchise that fans love, and some love to hate. But no collection is complete without *Episode IV* in it somewhere, be it in its original form on DVD or LaserDisc, or reimagined on Blu-ray with new VFX and lossless sonics. And, after 40 years, it might one day surface in 4K... ■



The Force Awakens: the franchise came back with a bang in 2015





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Danny Phillips, Home Cinema Choice, June 2016



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Sony brings HDR to Full HD TV

The Big S aims to surprise in 2017. In addition to launching its first OLED screen, it's slapping HDR on everything and planning a welcome return to home cinema. **Steve May** reports from its annual product showcase

MANY THINK OF HDR as the sole preserve of 4K UHD TVs, but Sony has other ideas, and has unveiled a range of 1080p screens compatible with HDR 10.

The new sets were revealed at the brand's recent UK product expo. Sony thinks there will be a huge demand for low-cost HDR tellies, following the addition of HDR support to both the PlayStation 4 and its higher-spec sibling, the PS4 Pro.

Consequently, UK buyers are getting a choice of no fewer than four Full HD HDR sets, starting at just 32in. Based on our early preview, we'll wager the star of this particular line will be the WE75 (available at 43in and 49in). This boasts a cool aluminium bezel, and uses a wide colour gamut Triluminos panel.

Ranged beneath it are WE66 (49in and 40in), WE61 (32in only) and RE45 (40in, with no internet connectivity) models. While Sony refused to be drawn on the peak brightness of these Full HD HDR flatscreens, you can be sure they're some way off the brand's premium UHD models. Still, gamers in particular may flock to them – and that titchy 32-incher could be a huge seller.

In addition to souped-up gaming, the company says its 1080p HDR sets will also offer HDR from Netflix, but not Ultra HD Blu-ray because the TVs don't support HDCP 2.2. And Sony hasn't yet made a decision on whether to offer an HLG (Hybrid Log-Gamma) update for this HDR 1080p fleet.

A spring in Sony's step...

Sony's Spring showcase is a must-attend event because it offers the first real opportunity to get up close and personal with some mouth-watering new products. While much of the hardware on display is still pre-production, often hand-built samples with AV tuning a work in progress, it sets the scene for the year to come. And based on this year's spread, Sony clearly has some intriguing kit lined up.

Arguably the most eagerly anticipated

new TV from the brand is the A1 UHD OLED model. First seen at CES, this combines 4K HDR performance with Acoustic Surface technology, which cleverly uses the screen itself as a loudspeaker. The screen is excited by a pair of stereo actuators bonded onto the rear panel (giving an output of 2 x 20W), supported by a 10W bass driver in the lean-back stand.

'This isn't new technology. We used it on our first glass speaker a couple of years ago,' explains Sony's Technical Marketing Manager Gavin McCarron. 'What is new, though, is the ability to create stereo sound using a single sheet of glass, vibrating it differently on one side to the other. That's the part under patent pending.'

A simple animation was used to demonstrate sound panning back and forth across the screen – and, yes, it really does work. Indeed, in full sonic flight, the A1 sounds darn impressive, and more involving than many sets using a conventional down-firing speaker array. Previous experience tells us that actuators on glass can sound a bit shrill, and there were aspects of that during the demo, but with the additional woofer in play, the audio was certainly fulsome (and no, the pixels don't vibrate when the volume is cranked up).

This inventive sonic technology has also helped Sony achieve what it calls a One Slate design for the A1. 'This kind of minimalist design, with no visible stand and no visible speakers, is not easy to achieve,' adds McCarron, with some understatement. Sony has even made the Sony logo virtually disappear.

The A1's lean-back stand has an 8kg counterbalance which is removed when wall hanging. The set is designed to have a six-degree



The STR-DN1080 and UBP-X800: two new Sony AV arrivals

How much is that 4K TV in the window?

The first wave of Sony's 2017 screens priced up

Sony's first wave of new 4K LED TVs (the A1 OLED remains TBA) now have price tags attached. Obviously, early pricing is highly volatile and these tickets should only be taken as a ballpark indicator as to what you may expect to pay.

75in XE94:	£5,500
65in XE93:	£3,200
55in XE93:	£2,400
65in XE90:	£2,500
55in XE90:	£1,700
55in XE80:	£1,200



lean back, so you're going to need trendy low AV furniture if you want to table-mount it.

X marks the spot again

The A1 and those HDR HD models aren't the only highlights in Sony's 2017 TV range. Sitting between them are the new XE93 and XE90 series.

The former features a revised version of the brand's innovative Slim Backlight Drive, now with a Plus suffix. LED backlights are no longer positioned on each side, but are mounted top and bottom. The Backlight Drive still uses twin light guide blades to create a local dimming effect, but Sony has effectively doubled the number of zones in a bid to make the approach more effective. And, of course, using more LEDs means it can achieve a higher brightness output, which is a key facet of HDR.

The XE93s are available with 65in and 55in screens, and could be the model of choice for canny buyers, particularly as, like Sony's A1 OLED stablemate, they will support Dolby Vision HDR via a firmware update later this year. A tick in the box for format watchers. See page 46 for our review of the KD-55XE9305.

As well as that HDR trick, other goodies on the XE93s and A1 come via Sony's top-rated X1 Extreme picture processor. This slick slice of silicon features three key technologies which seem to have a pronounced impact on image quality: object-based HDR Remastering, which improves the precision of SDR upscaling for contrast and colour by treating onscreen objects individually; Dual Database processing, which features noise reduction and super resolution processing to enable the set to tell the difference between detail and noise before it applies enhancement; and Super Bit Mapping 4K HDR, the latest version of SBM which removes colour banding from lower bitrate content such as that offered by streaming services.

The other eye-catching TV to be unveiled at Sony's show was the XE90, available in 49in, 55in, 65in and 75in screen sizes. This is the first ever full range of 4K direct LED screens from the brand. Such backlighting creates a more consistent and contrasty black level performance, which – after a first viewing – really helps enhance the XE90s colour performance. Sony didn't reveal how many LED zones the set employs, but the overall look was extremely impressive.

For more affordable UHD, Sony offers the XE85 (in 55in, 65in and 75in sizes) and the XE80 (43in, 49in and 55in). Both feature a new X1 HDR imaging engine and a sliding scale of HDR peak luminance. The X1 HDR processor borrows a number of features from the X1 Extreme, including Super Bitmapping and HDR remastering.

Interestingly, all Sony UHD screens from the XE85 upwards are 100Hz native panels, which should translate to better motion performance. However,

The HT-ST5000 hides upfiring Dolby Atmos modules in its top panel



Lights, volume, party...



Sony is building on the success it's enjoyed with 'urban' sound systems – huge boom boxes with integrated flashing LED lighting – by introducing a selection of smaller Bluetooth models that offer similar kinetic fun.

Four new wireless speakers have been added to its Extra Bass line. All have a water-resistant design and long (24-hour) battery life. Both the SRS-XB30 (£150) and SRS-XB40 (£200) feature an LED perimeter line light, as well as strobe and speaker illumination, while the XB20 (£100) has a single line light. The £60 entry-level XB10 is an ultra-compact Bluetooth portable with a silicon strap. Sony suggests it can be hung from a bicycle, or the inside of a tent.

Most users will make do with just one Extra Bass speaker to beef up a house party, but up to ten can be connected together using Sony's Wireless Party Chain feature. Alternatively, two can be paired for light-fuelled stereo playback. The speakers land in April.

none of the new 2017 models are 3D compatible. Sony has joined with other major brands in dropping support for stereoscopic playback. Send your angry letters to its Tokyo HQ.

There will be Hybrid Log-Gamma firmware upgrades for all 2017 4K Android screens, and their 2016 equivalents, as and when the format becomes a broadcast reality.

AV toys to play with

At its trade preview, Sony confirmed a £400 price point for its eagerly awaited 4K UHD Blu-ray player, the UBP-X800. Closely modelled on last year's excellent UHP-H1 regular BD player, the deck should attract the attention of both video fans and audiophiles, as it's very much a high-res audio player too. The machine has been tuned by Sony audio gurus Takashi Kanai and Eric Kingdon.

The UBP-X800 was used as a source for some impressive demonstrations of incoming Sony home cinema hardware. The most interesting is undoubtedly the high-end HT-ST5000, a Dolby Atmos-enabled soundbar so big you'll need a stand as broad as Vin Diesel's shoulders to accommodate it.

Although based around a traditional soundbar-plus-subwoofer form, it's designated as 7.1.2 system courtesy of an array of front-firing drivers and built-in upfiring height speakers for ceiling-reflected sonics. During a brief showcase with *Mad Mad: Fury Road*, it sounded suitably exciting and large in scale. The HT-ST5000 will hit stores later this year, priced at £1,500. It will go up against Yamaha's YSP-5600 and Samsung's HW-K950 in the Atmos soundbar arena.

Sony is also promising a return to the UK AV receiver market, with the 4K/HDR-ready STR-DN1080 (we think it missed a trick with the model number, DN2160 would have seemed more appropriate). This seven-channel Dolby Atmos model ushers in a host of features, including a Phantom Surround rear-back channel. It was demo'd in a 5.1.2 configuration, with in-ceiling height channels. While not yet ready for prime time ('the final tuning will be done around March') it still managed to immerse. It should hit the market at a competitive £650 ■

"astonishing sound and visuals"

says the homeowner of this 4K home cinema/
gaming room with Dolby Atmos 7.2.4



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IMAX's pods will be a 'social space' where your friends can watch you flail around in a VR headset



POD LIFE



Get ready for your own lightsaber battle with Stormtroopers and other virtual reality experiences at IMAX VR centres, writes **Jamie Carter**



The StarVR headset and HTC's Vive (right) are both being used by IMAX in the first stages of its VR centres

YOU'VE SEEN THE film, now be in it. That's the thinking behind plans by IMAX to construct self-contained virtual reality (VR) zones within its cinemas that film-goers can experience directly after watching a movie.

VR, it seems, has found a new home away from home. Revealed at January's CES exhibition in Las Vegas, IMAX has unveiled plans to open three IMAX VR Experience Centres in North America, and one each in China, Japan and the UK during 2017. In fact, the first IMAX VR centre has already opened – January saw IMAX VR pods entered by film-lovers at the IMAX at The Grove, Los Angeles.

Welcome to location-based VR, then, where you can sample the delights of the immersive technology without making a £2,000 investment in a headset and a high-performance computer. The highest profile VR experience so far is *Star Wars: Trials on Tatooine*, a post-*Return of the Jedi* adventure created by Lucasfilm's new ILMxLAB, which lets

you wield a lightsaber on the desert world, repair the Millennium Falcon, and defend R2-D2 from pesky stormtroopers.

Other VR experiences at the first-ever IMAX VR centre include flying and fighting over Paris (*Eagle Flight*), playing an assassin (*John Wick Chronicles*) and going on a bobsleigh ride across snowy mountains complete with a D-Box dynamic seat (*Rabbids VR Ride*). And you can forget the old-school classification system of U, PG and 15; in this new era of VR, IMAX is using warnings such as 'physically active', 'extreme heights' and 'casual experience'.

Seats out, headsets in

Like The Grove, the other IMAX VR facilities coming in 2017 will have one of their traditional theatres transformed, with cinema seats ripped out and replaced by between 10 and 14 VR pods.

The UK's first pilot IMAX VR centre was originally intended for the Odeon multiplex at the Printworks in Manchester, but the location has now been changed to London.

'There are a few locations under consideration right now,' revealed Rob Lister, IMAX Chief Business Development Officer, when I spoke to him at CES. 'But it will be an Odeon multiplex.'

Each VR experience – some single-player, some head-to-head multiplayer – takes place in one of the IMAX VR Experience pods. 'Our pods are all 10x10ft and they convert either into a single player or multiplayer pod,' says Lister. 'They're a sleek-looking space where you can have a VR experience, and they're social – your friends can inhabit the space and watch you in VR.' IMAX has used Gensler, designers for Tesla and Apple stores, to give the pods an instantly recognisable IMAX 'look'.

The pods are all fitted with over-the-ear sound, room-tracking technology, and controllers capable of haptic feedback. If you thought embracing the very small screen – albeit with a 360-degree experience – was a surprise move for large-format film company and theatre-owner IMAX, think again; this is all about the kind of full immersion IMAX strives for. 'For us to go into a new era of immersive content is a natural fit,' explains Lister. 'The reason we're focused on VR is because it fits into what we already do well.'

There's also a rather obvious gap in the market for VR. 'It's an opportune time to get into destination-based VR, and part of the reason is that VR as a consumer proposition is a huge investment,' says Lister. Although consumer-grade VR headsets such as the Sony PlayStation VR, Oculus Rift and HTC Vive are already on sale, for now they're very expensive. They're also fairly unpopular; Statista reports that only seven million VR headsets were sold globally last year, and over half of those were the relatively basic and underpowered phone-based Samsung Gear VR headset. Moreover, compelling VR experiences are confined to games and novelty video clips. For avid film buffs and home cinema owners, VR has little to offer.

'The content that comes with the headsets is a work in progress, which is why sales have been modest, and in the short-term, location-based VR is the best bet,' believes Lister. 'We want IMAX to be the destination for anyone who wants to have the best VR experience.'

That IMAX is very much in a pilot period is obvious from the fact that, for now, the IMAX VR offering – *Star Wars* aside – is largely about gaming. That's what the VR community has focused on initially, but Lister thinks there's a lot more to come from the world of film.

'Content is our priority,' states Lister, so much so that IMAX has put together a fund of \$50m to finance the production of 25 brand-new VR 'content experiences', with each planned to be from 7-12 minutes long. No doubt with fabulous production qualities, they'll show exclusively in IMAX VR theatres for a set period before being available elsewhere. Much like the current movie release model, then.

Lister is tight-lipped on the exact content and the directors that are involved, but IMAX-associated productions planned for 2017 might give us a clue. Writer-director Christopher Nolan's *Dunkirk* – out in July – is a partial IMAX production that was filmed on the site of the actual events, while *Star Wars: The Last Jedi* has also been partially shot in the IMAX format. IMAX cameras are also regularly used by the likes of Michael Bay, Anthony and Joe Russo, and Zack Snyder.



Architecture bigwig Gensler has been involved in the design of the VR centres

Owning the experience

IMAX, of course, is famous for its quality control, so it's no surprise that it intends to eventually create its own VR gear. 'We want to build an end-to-end solution where we're involved in capture, content, delivery, installation and maintenance, because that's what we've done in cinema, and we have all the teams in place,' says Lister. Part of that roadmap is the development, with the help of Google, of a cinema-grade VR camera to enable film directors to create 3D, 360-degree experiences.

For now, the equipment, the content and the headsets being used by IMAX is all third-party, piecemeal, and experimental. 'During this pilot period we're going to be testing and experimenting with headsets, content, pricing and consumer preferences until we have it right before we can roll it out on a global scale,' explains Lister.

The IMAX VR centre will at first use the HTC Vive headset – which Lister rates as the top-performing headset for Hollywood-style VR film experiences – alongside the lesser known StarVR headset from Starbreeze Studios.

Although not a household name, the StarVR headset has a huge advantage in that it has a much wider peripheral field of view. While the HTC Vive offers a 110-degree playing field, StarVR achieves 210 degrees for a more life-like experience. For large-format hero IMAX, it seems well-suited. 'StarVR is almost IMAX-like,' says Lister. 'It's in an early stage of development, but ultimately we could end up going with that.' He adds, however, that the company is 'agnostic' when it comes to technology, 'as long as it's first-class, premium and IMAX-consistent.'

Of course, if field of view is likely to be a big differentiator among the various waves of VR headsets that will be developed over the next decade, so too will be resolution. For now, the HTC Vive boasts 2,160 x 1,200 pixels and the StarVR 2,560 x 1,440 pixels, so presently nowhere near the detail levels of 4K. Expect IMAX to push for more pixels as its new venture develops. And remember to practice your Jedi skills for the next time you head out to the cinema... ■

John Wick and Star Wars: two film franchises trawled for IMAX VR content



A room with AV secrets

This twin-display media playpen keeps all signs of its audio-visual prowess hidden when not required



KIT CHECKLIST

DENON: AVR-X4520 receiver; DBT-3313UD universal Blu-ray player
REGA: Saturn-R CD player
APPLE: Apple TV; iPad Air
WISDOM: 2 x P48 planar magnetic speakers; SC-1 system controller with Audyssey Pro; 3 x SA-3 three-channel power amplifiers
TOTEM ACOUSTIC: 2 x Tribe I on-wall speakers; 4 x TAW 8 in-ceiling speakers; 2 x in-wall dual 8in subwoofers
KEF: 2 x Ci200.3QT electronic controlled ceiling speakers
AUDIPACK: Projector lift
EPSON: Full HD LCD projector
SAMSUNG: 48JU7000 4K TV



NOT EVERYONE HAS the space, or the desire, for a dedicated home cinema room where watching movies takes precedent over everything else. In this case a multi-purpose 'media room' is in order, where everyday living and high-performance AV entertainment live side by side.

That's certainly the aim of this slick room designed and fitted by Dutch install corp De Opera Domotica, for an owner who wanted somewhere to enjoy bigscreen images and surround sound, but also a living space fit for the grandchildren to play in.

The room hides its AV secrets well. All speakers are housed in-wall or in-ceiling, including the dual 8in Totem Acoustic subwoofers. The array runs to 9.2, with power amplifiers from Wisdom Audio joining forces with a Denon AVR-X4520. Motorised KEF in-ceiling models (Ci200.3QTs) descend from their hidey hole when called for, thanks to in-built IR.

Projection is delivered straight onto a purpose-finished wall from an Epson PJ that lurks in the ceiling. For more casual viewing, a Samsung 4K TV resides in a side-slung AV cupboard.

Control, meanwhile, is state-of-the-art. Crestron integration not only kickstarts the PJ and dims the lights, but takes charge of blinds, underfloor heating, air-conditioning and even the fireplace. Hot stuff! ■

A. Angle of attack

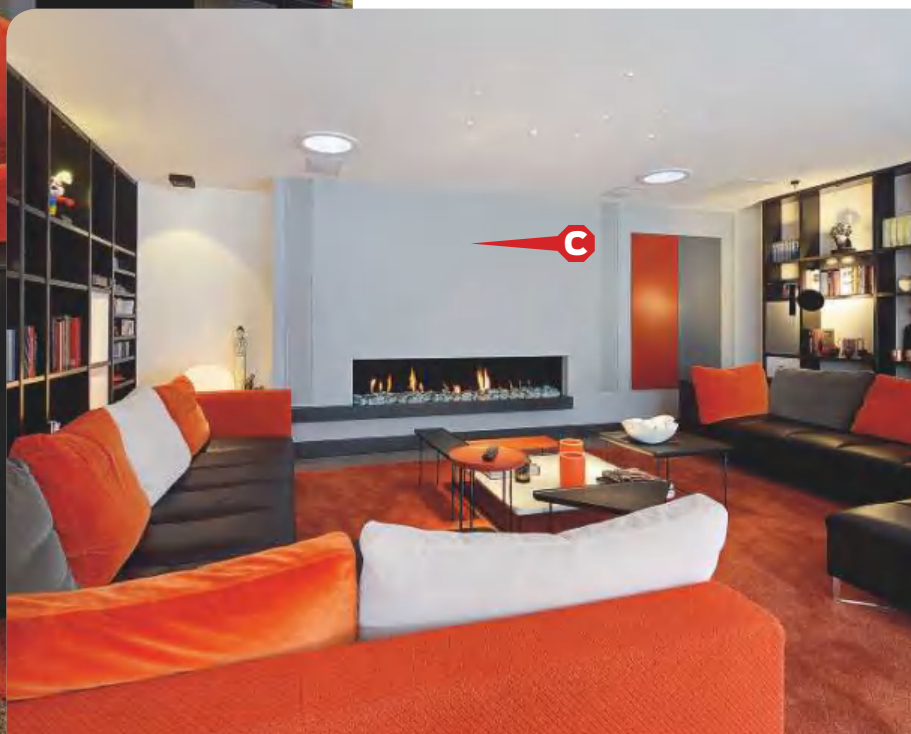
Fire up the projector and the motorised KEF in-ceiling speakers point downwards, targeting their output towards the seating array and creating a phantom centre channel

B. Now you see me...

Largescreen HD images are cast straight onto the wall – the surface was plastered flat and painted with high-contrast projection paint

C. ...now you don't

With AV gear out of sight, the room becomes a relaxing living space





D. Second helping

Pull back cupboard doors to reveal a 48in Samsung 4K TV for everyday viewing, plus access to system electronics – sources, AVR and power amps are all neatly stashed above and below the display

E. Bass in disguise

A pair of Totem Acoustic dual 8in in-wall subwoofers are integrated into the room's extensive wall-shelving, and disappear from view once their grilles are fitted

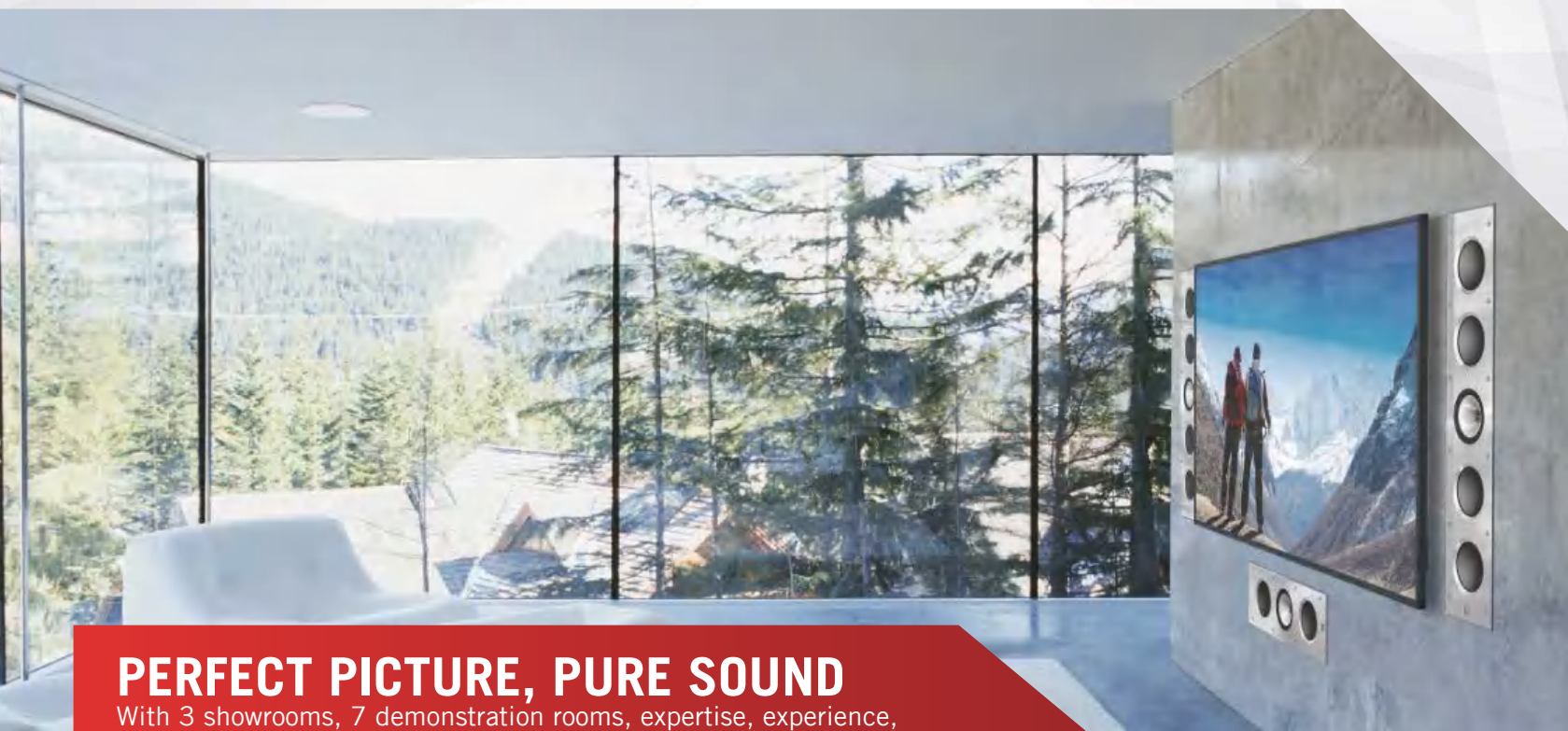
F. Come on down!

The Epson projector is mounted to a motorised Audipack lift

G. Magnetic attraction

Wisdom Audio's P48 speakers use the brand's MTM planar magnetic driver array for mid/treble, plus a quartet of bass drivers. Above them sit Totem Acoustic front height speakers





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Quad S-1s aim high

Featuring ribbon tweeter technology, Quad's S Series promises sweet-sounding high-frequencies to tease detail from your Blu-ray movies. We give them an audition in 5.0 guise on p52.



HCC RATINGS KEY...

Outstanding	★★★★★
Above average	★★★★☆
Acceptable	★★★☆☆
Disappointing	★★☆☆☆
Dire	★☆☆☆☆

All prices quoted are approximate and may have changed



This evolution of Epson's home cinema mainstay is an absolute corker, enthuses **Steve May**

When 1080p is all you need

The EH-TW6700 is the newest iteration in what has proved a long-running and popular line of home cinema projectors from top LCD purveyor Epson. It combines a manageable form factor with bullet-proof setup and high-quality 1080p imagery. But given the growing hubbub surrounding 4K Ultra HD and High Dynamic Range technologies, does it still make sense to invest in Full HD theatre?

While the EH-TW6700 may just about be compact enough for impromptu coffee table use, it's really intended for permanent installation in a home cinema or media room. This long-throw projector can cast a 100in screen from anywhere between 2.95m and 4.8m. If you want to project ad-hoc, there's an onboard sound system rated at 2 x 10W; stereo speakers are positioned to the rear.

Some will recognise this as a refresh of last year's EH-TW6600, albeit with higher brightness (up 500 Lumens) and slightly better contrast. Epson quotes an impressive (Colour) light output of 3,000 Lumens and a dynamic contrast ratio of 70,000:1.

The projector has two siblings in the Epson stable: the £1,600 EH-TW6700W, which adds a wireless HDMI transmitter, and the step-up £1,700 EH-TW6800, which improves contrast again to 120,000:1. The more expensive TW6800 also has a 12V trigger, which infuriatingly is missing from this model (a point to bear in mind if you want to sync it with an electric screen).

Curves in all the right places

This model uses the same chassis as its predecessor, measuring 410mm wide and 304mm deep. It looks suitably swish in its gloss white livery, and has rounded edges indicative of contemporary styling.

The lens is offset to the right, with hot air vented front left. Two rotary dials, for lens shifting on the horizontal and vertical, are positioned above. Zoom (1.6x) and focusing are done manually.

Rear-facing connectivity includes a pair of HDMI ports with MHL support for smartphone hookup, plus VGA PC and USB. There's also an audio line out, which facilitates direct connection to a sound system, perhaps for gaming or sports event viewing. Obviously, in a home theatre setup, this won't be used at all. The EH-TW6700 warrants

partnering with a full-blown multichannel sound system. For most home cinemas, you'll just need to run an HDMI from the output on your AV receiver.

The supplied remote is the familiar large Epson doofer, with backlit controls. It's a handful, but easy to master.

When it comes to lamp life, Epson says you can expect 5,000 hours in Eco mode, which roughly translates to around a movie a night for seven years before you need to contemplate a lamp change. But don't necessarily expect it to last that long.

That 1.6x zoom guarantees a good-sized image in even moderate rooms, and those lens shift options are generous. Add vertical (+/-60 per cent) and horizontal (+/-24 per cent) keystone correction, and anyone should be able to frame an image to their screen in no time (and yes, this projector warrants a screen, not a basic white wall).

There's nothing particularly radical beneath the lid. This 3LCD PJ employs familiar 0.61in (D10) panels. It also supports active shutter 3D, but no glasses are supplied in the box. The 4K uprezzing and HDR playback of more expensive Epson models are off the menu here. But that doesn't stop picture quality looking consistently cinematic.

Ready to roll

The EH-TW6700 has eye-candy appeal straight from the box. There's an Auto mode (in addition to Dynamic, Bright Cinema, Natural and Cinema presets) that removes control over image parameters, but the onscreen results are well judged with no excessive edge enhancement. It will serve most sources well. If you want to tweak, the other presets open up access to the usual adjustments. These include brightness, contrast, colour saturation and sharpness tools, along with adjustable gamma and colour management. A sub menu offers noise reduction and Super Resolution detail enhancement.

AV INFO

PRODUCT:
Mid-range Full HD LCD projector

POSITION:
Below Epson's '4K enhancement' / HDR models

PEERS:
Optoma HD50;
BenQ W1080ST+

1. The EH-TW6700 makes a stab at living room appeal

2. The remote handles most functions, but not focus and zoom





SPECIFICATIONS

3D: Yes. Active 3D (no glasses supplied) **4K:** No. 1,920 x 1,080 resolution **HDR:** No
CONNECTIONS: 2 x HDMI inputs (v1.4); VGA; PC D-Sub; 3.5mm audio output
BRIGHTNESS (CLAIMED): 3,000 Lumens **CONTRAST (CLAIMED):** 70,000:1 **ZOOM:** x1.6
DIMENSIONS: 410(w) x 304(d) x 157(h)mm **WEIGHT:** 6.9kg

FEATURES: 3LCD projector; horizontal and vertical lens shift; horizontal and vertical keystone correction; built-in 2x10W audio; USB input; lamp life rated at 3,500hrs (5,000hrs in Eco mode); fan noise 24dB in Eco; Auto, Dynamic, Bright Cinema, Natural and Cinema presets; throw ratio of 1.32-2.15:1; image interpolation modes

PARTNER WITH



PANASONIC DMP-UB700: Give the Epson projector Full HD Blu-rays to twirl via Panasonic's latest deck. In addition to streaming/media playing skills, it also happens to spin Ultra HD platters, making its £330 price tag an eye-opener.

3

The lemony colour cast on Dynamic is pretty horrible; Bright Cinema is generally more effective when you need additional luminosity, although I still wouldn't advocate the EH-TW6700's use in high ambient lighting conditions, as colour vibrancy and contrast fall away quickly.

Significantly there's no dedicated Game mode here. Given that a slight lag impaired my already woeful abilities at *Overwatch*, I suspect serious gamers will not be particularly impressed.

Nuanced and natural

With movies, the EH-TW6700 presents a wonderfully sharp picture, full of detail and texture. There's a rewarding sense of nuance and naturalness to its images.

It doesn't deliver the genuinely deep black that many will crave, but its inherent brightness keeps things

'The EH-TW6700 feels easily worthy of its price tag, offering filmic images that are beguiling to look at'

pleasingly dynamic. Colour fidelity is excellent, with rich hues (particularly blues and oranges) really adding zing. And unlike single-chip DLP projectors, there's no colour fringing rainbow effect to distract.

Contrast is acceptable in a light-controlled viewing environment. The model's Auto Iris feature can be left off or run in Normal/High Speed modes. Epson has made some major strides when it comes to executing effective auto iris control, and you'll need to listen carefully if you want to hear the iris blades moving. You may still see tell-tale fluctuations in brightness, but they're not screamingly obvious.

It's possible to nudge contrast yet still hold onto shadow detail without undue crushing, resulting in a crowd-pleasingly punchy picture.

The Epson has some powerful image interpolation on hand. There are Low, Normal and High settings, or you can deactivate it completely. Without frame interpolation, motion detail is a tad limited. This really doesn't change in Low, though, and the projector stutters when panning

horizontally. Normal and High modes significantly improve clarity. Panning becomes smooth and sharp. The downside is that motion artefacts start to become noticeable. So my recommendation would be to use the Normal setting for regular TV content and sports. However, for movies, and big-budget TV series, I'd probably advocate leaving interpolation off, purely because it delivers the most film-like of images.

The unnecessary *Point Break* remake (Blu-ray) offers dramatic vistas which the Epson revels in; the opening mountain top trail-bike ride is full of travel-show impact. Sun flares dazzle courtesy of its potent brightness, and there's pleasing filmic grain.

During the *Injustice: Gods Among Us*-styled vision sequence in *Batman v Superman: Dawn of Justice* (Blu-ray) the sandy, gritty texture of the picture is fittingly apocalyptic. It's a dramatic contrast to the near-dark, rain-sodden slugfest between the protagonists which follows. Both sequences look great on this projector.

Compelling argument

Given that you need to pay significantly more to get a 4K image (be it native or pixel-shifted), and that HDR on a projector remains a far more subtle enhancement than you'll see on a flatscreen, the argument for a big-value 1080p PJ clearly remains compelling.

And the Epson EH-TW6700 is a case in point. The absence of a 12V trigger and its struggle to really impress with inky blacks have to be taken into account, but it still feels worthy of its price tag, offering images that are beguiling to look at. It's a laudable evolution of a tried-and-trusted home cinema design and can be considered a suitable partner for Blu-ray players, HD media streamers and set-top boxes. For an upmarket home cinema experience that doesn't break the bank, it's highly recommended ■

3. The HDMI inputs are v1.4 only – 4K/HDR is not an option here

HCC VERDICT



Epson EH-TW6700

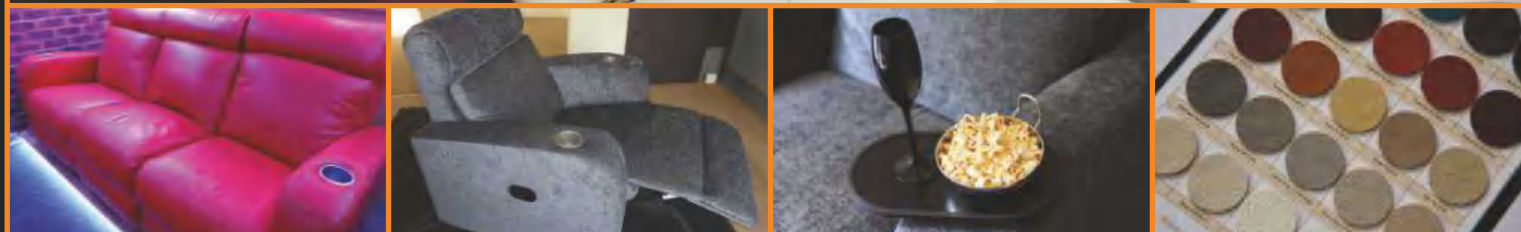
→ £1,300 → www.epson.co.uk

WE SAY: This low-cost home cinema projector delivers filmic images rich in detail and colour, and represents a compelling reason to still buy into 1080p home theatre.

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HDR's bright spark

John Archer finds Sony making strides in terms of processing skill and dynamic punch with the 55XE9305, but still has reservations about using edge LED tech on such a high-price set

THE FIRST TRUE 2017 TV to come our way, Sony's 55in KD-55XE9305 underlines what 2016 already made us suspect: we're now embroiled in a nit race. The arrival of HDR has introduced a new emphasis on brightness that the 55XE9305 goes all out to address, delivering almost 50 per cent more brightness than its 2016 predecessor, the 55XD9305.

Impressive though this achievement may sound, 2016 also showed us the difficulties LCD TVs can have crafting HDR-friendly levels of brightness without introducing other picture problems. Just adding loads more luminance isn't enough in itself to win our hearts.

Aesthetic update

The 55XE9305 generates a strong – if back-straining – first impression. It has heavyweight build quality and attractively minimalistic design. I prefer the subtle matt gold tint of its stand and patterned rear panel to the silver of its forbear, and the lengths it goes to to hide cables away, via runs hidden in the stand, is seriously impressive.

As discussed on p32, the picture engine is built on two key foundations: the same powerful X1 Extreme processing system (with its improved noise handling and upscaling

talents, plus future support for Dolby Vision and HLG HDR) introduced in Sony's ZD9 TVs a few months back; and a refined version of Sony's ground-breaking Slim Backlight Drive, which deploys two LCD 'light guide' plates illuminated by separate edge LED arrays to deliver localised control. The number of separate lighting zones versus the technology's 2016 debut has been increased.

As with all current high-end Sony TVs, the 55XE9305's smart features are provided by Google's Android TV platform. This showcases hundreds of apps that are about as much use in a TV environment as a shot glass in a brewery, and the pressures of running Android TV continue to cause sluggishness in the TV's setup and control menus. At least, though, the set provides 4K and HDR-capable versions of Amazon Video and Netflix out of the box, as well as integrating the YouView platform to provide copious catch-up telly.

The 55XE9305 doesn't offer any 3D support. It does, though, enjoy a native 4K resolution and support for HDR, while Sony's Triluminos system provides caters for the wide colour gamut technology found on Ultra HD Blu-rays.

As I would have expected, the huge brightness range of the panel has a dramatic impact on its pictures compared

AV INFO

PRODUCT:
55in 4K TV with HDR and Android TV

POSITION:
Three rungs down Sony's TV ladder, behind the ZD9 and upcoming A1 OLED

PEERS:
Samsung UE55KS9000;
Panasonic TX-58DX902

with its XD9305 predecessor. Like my colleague Steve May, I'm still rocking *Batman vs Superman* on Ultra HD Blu-ray for demo purposes. HDR highlights here, such as the boldly presented peak white and colour elements during the stylised murder of Bruce Wayne's parents, look spectacularly intense and punchy, buoyed by some impressively deep black levels.

The 55XE9305 is capable of delivering lots of shading subtlety and detail in all but the most ferociously bright HDR parts of the picture. As Wayne is 'visited' by The Flash, surrounded by flashes and streaks of electrical discharge, you can clearly see individual energy forks in the glowing aura around him, rather than the indistinct white haze presented by lesser HDR TVs. In fact, the 55XE9305 even outperforms Sony's ZD9 in this respect, despite that set actually being even brighter.

Improvements over last year's model aren't solely limited to more brightness. Colours appear both more vibrant and intense, but also more natural – Sony's latest Triluminos system has cranked up the subtlety. And the extra brightness enables the TV to deliver colours with more sheer 'volume'.

To underline just how impressive the 55XE9305's colour and brightness performance is, it outperforms even Samsung's 2016 KS9500 flagship TV in these key areas while watching HDR.

Native 4K images are phenomenally detailed. The stunning fur, feather and flower detail on show in the *Planet Earth II* Ultra HD Blu-ray is delivered with dazzling precision and zero noise, bringing the animals right into your living room in a way mere Full HD cannot. Having mentioned HD, though, I'll add that if you only have the regular Blu-ray of *Planet Earth II* the Sony scales it well – arguably unprecedentedly well.

Mesmerised by HDR

There are times when this TV's blend of sharpness, HDR-selling brightness, colour intensity and, to some extent, strong contrast equate to a mesmerising performance. But it's not quite hats off to Sony, as at other times a couple of cracks unfortunately show through.

First and worst, bright HDR objects against dark backdrops appear with a fairly noticeable grey mist around them that spreads a good few inches beyond the object's boundaries.

The Slim Backlight Drive produces more local light control than mainstream edge LED TVs, which tend to

SPECIFICATIONS

3D: No **4K:** Yes, 3,840 x 2,160 **HDR:** Yes, HDR 10 (plus Dolby Vision and HLG to come via firmware update) **TUNER:** Yes, Freeview HD (with YouView catchup) **CONNECTIONS:** 4 x HDMI inputs; 3 x USB; RF input; Ethernet; headphone jack; optical digital audio output **SOUND:** 50W **BRIGHTNESS (CLAIMED):** N/A **CONTRAST RATIO (CLAIMED):** N/A **DIMENSIONS (OFF STAND):** 1,232(w) x 715(h) x 40(d)mm **WEIGHT (OFF STAND):** 28.6kg

FEATURES: Built-in Wi-Fi; Android TV smarts; 4K/HDR Amazon and Netflix; USB multimedia playback; multimedia playback via DLNA; X1 Extreme processor with HDR Remaster; Slim Backlight Drive+ technology; Triluminos colour system

PARTNER WITH



SONY UBP-X800: The debut 4K Blu-ray player from Sony will land soon, priced at £400. Format support includes streamed hi-res audio and SACD and DVD-Audio platters. Oddly, though, Dolby Vision remains off the spec sheet.

leave full-height bars of light around such objects. The clouding around bright HDR objects is also less distracting than it was with the XD9305 series, and disappears almost entirely when watching standard dynamic range pictures (even if you give them a boost via the TV's brilliant HDR Remaster processor). But the clouding is still present enough to remind me why I think direct LED lighting, where lights sit behind the screen, is always going to be the best LCD solution for HDR viewing.

The clouding's obviousness is also impacted by the 55XE9305's second problem: a limited viewing angle. Watch from as little as 30 degrees – maybe even slightly less – and light blooming becomes more noticeable in addition to contrast starting to reduce.

Things get back on track with the 55XE9305's audio performance. The speaker array of the former model has been replaced by a much more powerful, open-sounding system that's particularly effective at generating a genuine wall of sound that expands far beyond the TV's physical borders. Detail levels are high, too, and dialogue always sounds clean. Greater bass emphasis would have been nice, but overall this is a solid effort.

Thrills and backlight spills

In many ways Sony has done a great job with the 55XE9305. It improves on its predecessor in every way, not just in terms of outright AV performance but in design, too. It delivers some of the most gloriously aggressive HDR images you'll witness, so is suited to those invested in UHD Blu-ray. Yet the HDR thrills lead to some seemingly inevitable backlight issues.

I suspect many AV fans will find these an acceptable price to pay for all that the TV does right. Especially if they're happy to minimise the problem by always watching TV with a healthy level of ambient lighting ■

1. Sony's Slim Backlight Drive gets a v2 makeover in the 55XE9305

2. The TV offers hidden inputs and integrated cable management



HCC VERDICT



Sony KD-55XE9305

→ £2,400 → www.sony.co.uk

WE SAY: Some distracting clouding issues notwithstanding, the 55XE9305 is one of the most dazzling demonstrators of HDR's potential we've seen to date.

Dolby Atmos without all the hassle is the mission statement of the SkyQuake soundbar. Does it succeed? **Danny Phillips** reports

Will Philips have its rivals quaking?

KOOKY KIDS

Miss Peregrine opens her home to peculiar 4K children, p107



AV INFO

PRODUCT:
Soundbar/sub combi
delivering 5.1.2 Dolby
Atmos audio

POSITION:
Leading the way
in Philips' 2017
soundbar stable

PEERS:
Samsung HW-K950;
Yamaha YSP-5600

1. A wireless
connection links 'bar
and subwoofer

2. By reflecting sound
from your ceiling, the
SkyQuake aims for a
vertical soundstage

With a name that sounds more like a Roland Emmerich movie than a soundbar, Philips' SkyQuake promises spectacular things. Its moniker alludes to the built-in Dolby Atmos height speakers, which hope to deliver immersive 3D audio without the complexity and clutter of a real Atmos system.

The SkyQuake – or B8 as it was previously known and may still be referred to by some retailers – is a handsome-looking soundbar. Its 52mm-high and 1.05m-wide bodywork should sit well alongside most largescreen TVs – it's the perfect size for my 55in Samsung.

Styled in a classy grey finish with gentle curves and metal speaker mesh, it really looks the part without drawing undue attention. Glinting diamond-cut top buttons add a touch of glamour, with cloth side panels giving another nod to the wallet-busting price. An LED text display shines through the front grille, imparting crucial status info. Build quality is commensurate with the ticket – this is weighty and beautifully bolted together.

Around the track

Inside the cabinet, ten racetrack drivers and eight soft-dome tweeters team up with the outboard subwoofer to deliver 5.1.2 sound. The Atmos channels get two upfiring racetrack drivers and three tweeters each, which aim their output at your ceiling to reflect down and evoke a sense of sound coming from up high.

The dedicated centre channel gets two drivers, with its own amplifier and processing for clear speech reproduction. Meanwhile the fronts and surrounds get one driver each, with the remaining tweeters used for the surround channels.

Sensibly Philips has included two HDMI inputs and an ARC output, allowing you to switch between hi-def sources. However, as HDMI v1.4 ports they can only passthrough 4K at 30fps, and there's no support for HDR or HDCP 2.2

– a major blow for owners of UHD Blu-ray players and next-gen set-top boxes.

ARC allows you to pipe sound from your TV's tuner or video apps to the Philips, but it's scant consolation for the opportunities missed elsewhere.

The HDMI's are joined by optical and coaxial inputs, a 3.5mm analogue input and a USB jack that lets you play MP3 files from memory sticks. A right-angle adapter in the box makes the USB stick face downwards

when the soundbar is mounted on the wall. Similarly, all of the sockets are located in a recess so it can sit flush.

As for wireless connectivity, there's aptX Bluetooth with NFC but no Wi-Fi, ruling out multiroom music streaming from NAS drives or Spotify (unless you stream it from your phone via Bluetooth). With network streaming pretty much standard on most high-price rivals, it puts the £900 SkyQuake at a disadvantage.

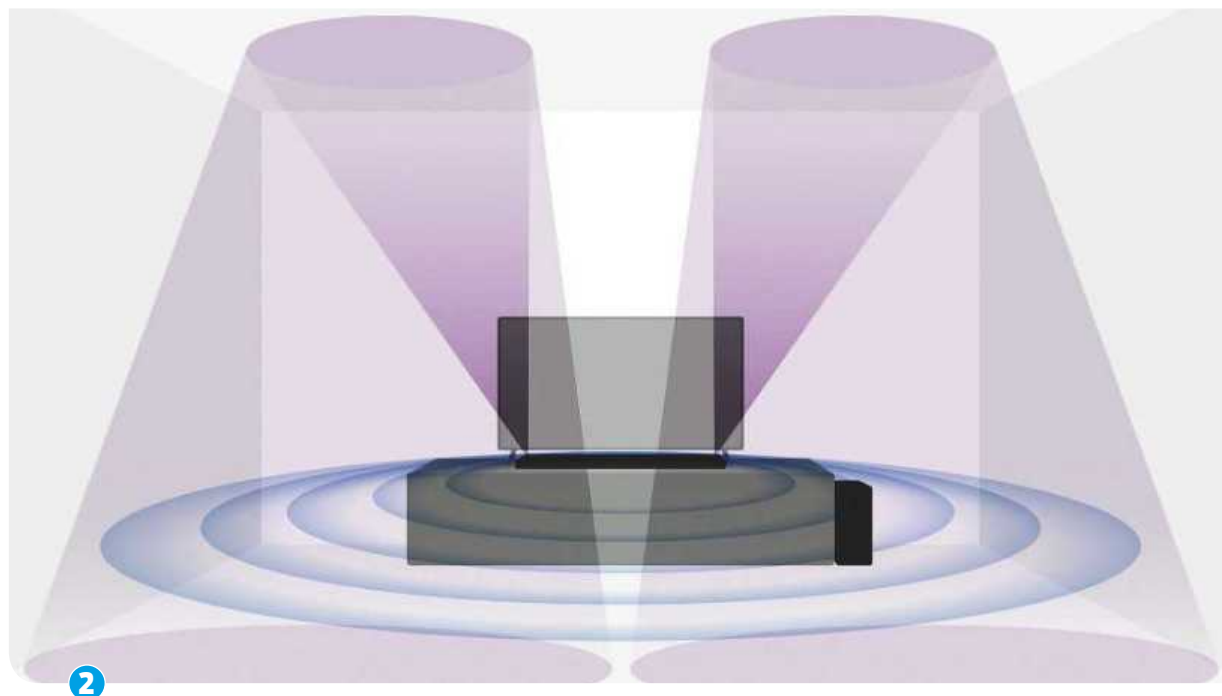
Turning to the subwoofer, it's an unusually attractive affair with a brush-effect finish and a tall cabinet. This low-footprint design, combined with the wireless connection, makes it easy to place and easy on the eye. Inside is an 8in downfiring woofer and a 220W amp.

As well as Dolby Atmos, the SkyQuake supports Dolby TrueHD and DTS 5.1, the latter not supported by Samsung's Atmos soundbars, which only decode stereo. It's not DTS-HD Master Audio, but certainly a step in the right direction.

Dolby Surround Upmixer processing aims to create an Atmos-like soundstage from stereo, 5.1 and 7.1 material, while Philips' own Ambisound provides a virtual surround effect.

There are Music, Movie and Voice modes and a Smart setting that picks the appropriate settings.

The SkyQuake is easy to use thanks to an ergonomic remote that sports well-labelled rubber buttons, including dedicated controls for bass, treble and height speaker volume. The absence of smartphone control and multiroom streaming makes the Philips a hell of a lot easier to set up than much of the competition.





SPECIFICATIONS

DRIVE UNITS: 10 x racetrack midrange drivers; 8 x soft dome tweeters
AMPLIFICATION (CLAIMED): 400W **CONNECTIONS:** 2 x HDMI v1.4 inputs; HDMI v1.4 output (ARC); optical input; coaxial input; 3.5mm input; USB port **DOLBY TRUEHD/DTS-HD MA:** Yes/No **SEPARATE SUB:** Yes, 220W, 1 x 8in woofer **REMOTE CONTROL:** Yes
DIMENSIONS: 1,058(w) x 52(h) x 120(d)mm (soundbar) **WEIGHT:** 12.08kg

FEATURES: DTS decoding; Dolby Surround Upmixer; Bluetooth with aptX and NFC; Dolby Atmos; Ambisound; Smart Sound; Movie, Music and Voice modes; treble and bass controls; audio sync; auto volume leveller; 4K passthrough (30fps); MP3 playback via USB

PARTNER WITH



PHILIPS 55POS901F: The debut OLED TV from the European screen king, this 55in set makes a fine impression. Excellent black/near black levels are joined by crisp 4K details and dynamic HDR highlights. Get one for around £2,800.

3

Above and Beyond

I fired up *Star Trek Beyond* on Blu-ray and was generally impressed by the SkyQuake's volume and scale. The subwoofer deftly recreates the powerful thrum of the Enterprise's thrusters as it departs Yorktown and lets out a beefy rumble as Krall's bees rip the ship to pieces.

It could do with being a bit tighter and never hits the subterranean bass frequencies that get your chest shuddering, but in general it does a good job as the beating heart of the SkyQuake system.

Meanwhile the soundbar mucks in with crisp, lively effects, fizzing lasers into the room with gusto and keeping dialogue clear amid the chaos.

So far so good, but as an Atmos system the SkyQuake is a disappointment. Through a full-fat Atmos setup, Krall's attack on the Enterprise is a stunning whirlwind of zooming metal objects that pass overhead and across the back of the room. It should feel like they're swarming all around you. Here, the effect is unconvincing. All I got was a vague sense of height in the space above the TV, plus added width at the sides of the screen. I never got the sense that objects were moving above me. It's an amorphous soundstage, with little in the way of placement or directionality.

Mad Max: Fury Road (Blu-ray) reveals much of the same – heard in countless demo rooms across the globe, the voices in Max's head emerge from above and behind the listener, but with Philips' SkyQuake they all emanate from around the front soundstage.

The Atmos effect is clearer with custom-made content like the *Leaf* clip on Dolby's demo disc, with clearer vertical lift and well-defined movement, but its reach is still rather limited.

Admittedly it worked better in another room with lower ceilings (Philips recommendation is a rather narrow 2.8m-3m), but still struggled to recreate the immersive quality of a discrete Atmos speaker array, or the Samsung HW-K950 soundbar and its dedicated surround speakers.

HCC VERDICT



Philips Fidelio SkyQuake

→ £900 → www.philips.co.uk

WE SAY: This is a stylish, space-saving Atmos soundbar let down by unconvincing height effects, harsh treble and a lack of crucial features.

Unconvincing Atmos isn't the SkyQuake's only weakness, though. Playing *Captain America: Civil War* up loud reveals harsh treble and shouty midrange as our heroes go toe-to-toe with Bucky, which gets fatiguing after a while. You can fiddle about with the tone controls and presets but nothing can gloss over the lack of refinement and insight in the Philips' sound.

As a result, music playback isn't the involving, evocative experience it should be for the money, certainly not when compared with the polished musicality of the likes of DALI's Kubik One or Cabasse's Stream Bar [see HCC #269]. It's a perfectly enjoyable listen, with decent clarity and plenty of punch from the sub, but audiophiles need not apply.

Perhaps these flaws and omissions would have been more acceptable if the SkyQuake had been a few hundred quid cheaper, but at this price it's hard to recommend against other Atmos soundbars available. Both Samsung's HW-K950 and Yamaha's (admittedly a bit pricier) YSP-5600 do a better job with Atmos material, sound better across the board and throw in more features to boot.

The Philips isn't all bad – its design is lovely, movies have plenty of drive and scale, and it decodes 5.1 DTS soundtracks – but ultimately the lack of Wi-Fi streaming, harsh treble and old-school HDMI spec make this more of a Skyfall than a SkyQuake ■



4

3. Philips' cutaway graphic reveals the Atmos upfiring drivers

4. The soundbar features dual HDMI (v1.4) inputs



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NORDOST
MAKING THE CONNECTION

Ed Selley auditions a UK speaker pack that delivers smooth sonics from handsome cabinets

Ribbons make the cut for Quad

AV INFO

PRODUCT:

Standmount multichannel speaker array

POSITION:

Below the ESL electrostatic range and flagship Z Series ribbon tweeter line

PEERS:

DALI Fazon 3; Monitor Audio Bronze

1. Get the S Series in black oak or mahogany and save a few quid



The image that many audiophiles will have of Quad is of electrostatic speakers and valve amplifiers – areas where the company continues to prosper to this day. Yet it has been making more conventional speakers for some years, and has an eye on home cinema, too.

Its S Series, which launched last year, is a six-model lineup – five speakers aimed at its go-to hi-fi market, bolstered by a centre enclosure. The range takes some key Quad design features and mixes in some new ones.

Throughout the S Series you'll find Kevlar-woven midbass drivers that combine light weight and high levels

of strength. In the larger floorstanding models (the £1,200p/p S-4 and £1,500p/p S-5s) these are joined by auxiliary bass radiators on the rear of the cabinet, passive drivers used to extend the low-end response. On the rather smaller S-1 model that's auditioned here for front and surround duties, the midbass unit is a compact 4in, and tethered to a single rear bass port.

Happily, in terms of integration, this is the same driver used in the S-C centre speaker.

Where the range breaks new ground is the fitment of a ribbon tweeter. Well, sort of breaks new ground. When you've been around as long as Quad, most ideas will have been tried before. Way back in 1949, the company built a speaker called the Corner Ribbon that made use of a

>



ribbon tweeter, but such transducers have been largely absent from the company's products. So what is a ribbon tweeter and what are the advantages?

Instead of a dome that resonates to produce high-frequency energy, a ribbon tweeter comprises an incredibly thin sheet of metal suspended in a magnetic field at its edges. This provides a considerably greater radiating area than a dome, but at the same time cuts the mass of the driver down to almost nothing. This means that a ribbon can theoretically produce more treble energy with almost no inertia, as there's almost no weight to drive. This allows ribbons to generate tremendously high frequencies without any signs of strain.

There are some downsides, however. Ribbons are expensive to produce and must be assembled to a very high tolerance. They are also relatively fragile. Unlike a conventional dome, once a ribbon has been driven beyond its design limits, it fails immediately rather than progressively. Of course, with Quad now part of the larger International Audio Group (IAG), along with brands including Wharfedale, Mission and Audiolab, we can probably assume that the tolerances are there, and the company has also taken steps to beef up the ribbon used in the S Series. It's made from a sandwich of materials that, we're told, increases its resilience, and is completely immersed in the magnetic field so all energy is applied evenly to the ribbon itself.

Driven by design

The speakers that contain these drivers are good-looking, if a little unusual. As the S-1 is relatively small at 29cm tall, the front panel is dominated by the ribbon, which has much the same frontal area as the midbass driver. The result is that the S-1 looks a little tall and top-heavy. In my mind I kept expecting it to topple over.

The S-C centre is more typical in appearance but still looks a bit odd with that prominent ribbon sandwiched between its pair of drivers.

'Detail retrieval, balance, smooth delivery, strong dialogue and a speedy low-end are the order of the day'

The build quality of all five speakers is good and everything feels impressively solid. Binding posts are reasonably big and chunky. The top-and-bottom curve on the cabinets adds a touch of class.

In black oak and mahogany wood finishes the standmount speakers sell for £500-per-pair, and the centre model costs the same on its own. Opt for the gloss-white version photographed here, or a piano black lacquer, and pricing goes up to £600p/p, and £600 for the centre. Therefore our review system sells for a suggested £1,800, but you can save £300 by going for a standard finish. Money aside, I think gloss-white might be the best option for the S Series, as it sets off the black detailing of the drivers oh-so nicely.

Quad doesn't produce a subwoofer in the S Series range and apart from the one included in its L-lite Plus 5.1 system, you won't find another in the company's inventory. Sister brand Wharfedale has a few in its lineup, however, and the general characteristics of this particular quintet, with



usable output from all five speakers down to 60Hz (albeit with more roll-off from the centre speaker), mean it shouldn't be too hard to find a suitable bass bin for them. In this case, I've used my regular BK Electronics P300SB DF, which has gelled admirably and – finished as it is in white – even looks pretty similar.

An 84dB sensitivity rating for the S-1s means they're best partnered with an amp with a fair bit of muscle;

I wouldn't expect any AVR around the £1,000 mark to come a cropper. For placement, Quad naturally recommends giving their bass ports a little breathing room – at least 20cm from your wall.

My dear Watson...

Pretty much out of the box, the S Series seemed determined to show that the ribbon tweeter is not simply a marketing gimmick. While they were still doing some running-in prior to critical listening taking place, I happened to watch *Elementary* on Sky Living. I like this programme a great deal and – heretical I know – prefer it in some ways to the BBC's *Sherlock* effort. It is, however, a mumblefest of the first order and has frequently required me to wind speakers up surprisingly high to get a good hold on dialogue. Via a sumptuous mid-range/HF performance, the Quads managed to extract every single word without needing me to touch the volume control once. The omens, then, are pretty good.

So it proves to be. In honour of the departed Bill Paxton, I selected my BD of *Apollo 13* [*I'd have gone for Predator 2 – Ed*] and really got to grips with what the S Series can do.

These are not speakers that set out to grab your attention by being showy or artificial. Bass boom or over-sharpened HF aren't on the agenda. Rather, every last fragment of a soundtrack arrives without embellishment or omission. The iconic 'Houston, we have a problem' sequence is beautifully handled with the alarms, bangs and groans all being crafted into an immersive and believably claustrophobic performance.

Dialogue is then worked beautifully into this soundfield via the S-C centre. It's not artificially distinct, but equally never consumed and lost amidst the mêlée.

In the quieter and more reflective scenes in the icy LEM, the Quads excel at creating a space around the astronauts, filling it with tiny, clear details.

There are times when this calm and refined accuracy can leave the S Series sounding a little less bravura than some rivals; the minigun sequence in *Dredd* (Blu-ray) has exceptional space and placement to it but doesn't have the bite that it has possessed with some other speakers that have passed through my viewing room. So if you absolutely must be pinned to your seat by a wall of furious sound, the Quads might not be your first choice.

This isn't necessarily a negative mark, though. Being easy on the ear pays dividends if you plan to use them a lot – as an everyday speaker system, the S Series makes more and more sense. Connected to an AVR with a similarly refined air, such as my Yamaha RX-A2040, they'll produce a performance that is entirely unfatiguing. Some speakers have you nudging the volume down to give your lug-holes – and brain – a break. Not these.

Not all of this refinement is down to the ribbon tweeters, either. Both the S-1 and the S-C crossover to their midbass drivers in the vicinity of 3kHz, giving these more conventional units plenty to do. The crossover itself isn't perceptible, as you'd expect, and the midbass drivers are no less adept at extracting detail and thrilling with their sense of tonality and scale. The extension down to 60Hz ensures each speaker has a bit of weight to its performance that helps them sound convincing. In the climatic sequences of *Mad Max: Fury Road* (Blu-ray) this means that the engines from vehicles being slung about in the rear channels sound like the wildly impractical V8s they are, rather than ride-on lawnmowers.

SPECIFICATIONS

S-1

DRIVE UNITS: 1 x 4in Kevlar weave midbass driver; 1 x 12mm x 45mm 'True Ribbon' tweeter **ENCLOSURE:** Rear-ported **FREQUENCY RESPONSE (CLAIMED):** 58Hz-20kHz **SENSITIVITY (CLAIMED):** 84dB **POWER HANDLING (CLAIMED):** 150W **DIMENSIONS:** 156(w) x 285(h) x 240(d)mm **WEIGHT:** 5.2kg

S-C

DRIVE UNITS: 2 x 4in Kevlar weave midbass drivers; 1 x 12mm x 45mm 'True Ribbon' tweeter **ENCLOSURE:** Twin rear-ported **FREQUENCY RESPONSE (CLAIMED):** 65Hz-20kHz **SENSITIVITY (CLAIMED):** 86dB **POWER HANDLING (CLAIMED):** 150W **DIMENSIONS:** 400(w) x 165(h) x 200(d)mm **WEIGHT:** 6.3kg

PARTNER WITH



ATACAMA SL1000i: The S-1s aren't the smallest of standmount speakers, but Atacama's metre-high stand has the top-plate real estate to accommodate them. Price is £200-per-pair approx, which includes gel pads to keep the speaker rock-steady.

Like many speakers that are chiefly designed to be used for stereo music replay, the Quad S-1s can come across as a little directional. With three speakers on the front and the S-C having pretty good dispersal, this is not too much of an issue, but I found the surround channels prone to beaming information at you, and not always handing over as seamlessly as you might like to the front speakers. This is more a lament at the passing of the dedicated rear speaker as anything else – and you'll struggle to find many dipole/bipole models looking as neat and tidy as these.

And the Quads are seriously good with music. The S-1 previously scooped the Standmount Speaker of the Year award in our sister title *Hi-Fi Choice*, and I can see (or hear) why. Listening to a 16-bit/44.1kHz download of Public Service Broadcasting's *The Race for Space*, the S-1 goes just about deep enough to be used without a subwoofer, and sounds lively, layered and enjoyable. The speed and lack of inertia from the ribbon tweeters combines with the equally agile performance from the midbass drivers to delicious effect.

S is for smooth

The Quad S Series goes a long way to being the ideal all-round speaker package. Yes, they lack searing impact with turbo-charged movie mixes and you'll need to rustle up your own subwoofer, which creates another buying choice to agonise over, but for a reasonable outlay you get a well finished, attractive set of speakers that are easy to accommodate and easy to listen to. Detail retrieval, balance, smooth delivery, strong dialogue and a speedy low-end are the order of the day, and buyers can sleep safe at night knowing they're sorted for when it comes to music night ■

2. All the speakers feature chunky dual binding posts

3. Quad's ribbon tweeter is employed across the range

HCC VERDICT



Quad S Series 5.0

→ £1,800 → www.quad-hi-fi.co.uk

WE SAY: An enjoyable set of speakers with film and music. Refined, smooth and excellent with dialogue, but not the last word in excitement. Impressive build quality.



Slim, slick sonics

Danny Phillips adores the styling of Q Acoustics' latest soundbar, and laps up its crystal-clear audio. But he still can't shake the memory of its bigger, bolder brother

Q ACOUSTICS' MOTORWAY-THEMED soundbar range continues with the M3, a slimmer and more affordable follow-up to the M4, which was previously reviewed in *HCC* #238 and winner of our Soundbar of the Year award, and is actually still on sale three years later.

Like all of Q Acoustics' products, the M3 arrives with a firm emphasis on build quality and performance over – in this instance – niceties like phone apps and multiroom streaming, currently the Big Things of the soundbar world. It does, however, freshen up the spec with a couple of new features.

The M3's most significant upgrade, however, is its design. If the M4 was De Niro at the end of *Raging Bull*, the M3 is *Cape Fear*'s Max Cady – toned up and slimmed down. Its cabinet is sleeker than its bulky sibling and therefore takes up less space on your TV stand. With 20mm shaved off the M4's height, it's less likely to obstruct your TV's remote sensor, too.

Styled in black with an angled front grille, the M3 is a good-looking soundbar, far smarter than some of the sub £300 competition. Its sturdy construction has the air of a more expensive product, particularly the heavy-duty metal stand that doubles as a wall-mounting bracket.

Clutterphobes will love the M3's self-contained design, which relies on a built-in down-firing bass driver for deep impacts as opposed to an external subwoofer. The stand leaves a gap for the woofer to shift air.

Operating the soundbar is a bit basic. There's a cluster of controls on its top panel and a Bluetooth pairing button squiggled around the back below them. The rest of its user options are accessed using the

credit-card style remote and its column of clumsy, unresponsive buttons.

There's no display integrated into the soundbar's chassis, just an LED surrounding the power button that changes colour when you switch inputs and blinks when you change volume. The top-mounted position makes it a bit hard to see from your sofa. Front-panel positioning would have made more sense, but would have hindered the bar's minimalist aesthetic.

The M4 ignored HDMI completely but the M3 adds a single ARC output (and bundles a 2m HDMI cable in the box) allowing you to pipe sound over a single cable and control volume using your TV's remote. HDMI is joined by optical, 3.5mm and analogue phono inputs, with a USB port provided for firmware updates, but not media file playback.

Like the M4, the M3 uses dual Balanced Mode Radiator drivers, known for their wide dispersion characteristics, and a 4in x 6in woofer. With BMR drivers onboard, the M3 should be less fussy about positioning and all but eliminate the notion of a sweet spot.

Setting the scene

Joining apt-X Bluetooth and NFC device pairing on the specification sheet is a range of EQ settings that optimise the sound for different scenarios – in-furniture, on-furniture or on-the-wall – which can be selected using a switch on the back.

The in-furniture setting offers the flattest response and is therefore the best 'all-round' option for those who frequently flick between movies and music. But movie fans

AV INFO

PRODUCT:
Stereo soundbar
with Bluetooth and
HDMI ARC

POSITION:
Below the M4 in
Q Acoustics'
pecking order

PEERS:
LG SH6;
Bose Solo 5



SPECIFICATIONS

DRIVE UNITS: 2 x 2.25in x 2.25in Balanced Mode Radiators; 1 x 4in x 6in dual voice coil woofer **AMPLIFICATION (CLAIMED):** Not given **CONNECTIONS:** HDMI ARC; optical digital audio input; analogue phono input; 3.5mm minijack input; USB port (service only) **DOLBY TRUEHD/DTS-HD MA:** No/No **SEPARATE SUBWOOFER:** No. **REMOTE CONTROL:** Yes. **DIMENSIONS:** 1,000(w) x 70(h) x 125(d)mm **WEIGHT:** 4.0kg

FEATURES: Bluetooth 4.0 with aptX; NFC pairing; MovieEQ setting; in-furniture, on-furniture and on-wall switchable EQ settings; Intelligent Pre Amplifier; 340Hz crossover; 24-bit/48kHz DAC; wall-mountable via integrated stand (template provided); bundled HDMI cable

PARTNER WITH



CAPTAIN AMERICA: CIVIL WAR:

This superhero-packed sequel is not only a more enjoyable flick than preceding Marvel entry *Avengers: Age of Ultron*, it packs a better soundmix, too – albeit DTS-HD flavoured rather than Atmos.

are catered for by the MovieEQ adjustment, which boosts bass to give blockbusters extra punch.

With 'in-furniture' selected and MovieEQ off, I settled down in front of *Captain America: Civil War* (Blu-ray) and revelled in the M3's clarity. Detail pours from the speakers as the Avengers chase Rumlow's goons through Lagos; machinery and machine-gun fire have a crisp top-end click, while the disease lab's shattering windows sound crystal-clear. This open, detailed sound draws you into the scene.

There's an ease and effortlessness about the M3's audio. There are no spiky edges or overbearing frequencies, just a well-balanced, full-bodied sound. But it's not too laid back either. The brutal fist fights that pepper the movie have attack and impact.

'The M3 nails the brief of sounding much more refined, authoritative and clear than a typical TV's speaker array'

You want scale? That's on offer, too. The BMR drivers generate a sizeable soundstage, while the bass driver lends impressive weight to the explosion at the UN complex. The boom is big and well controlled, and doesn't outstay its welcome.

Thud, thud, thud...

Bass is well-handled, with good agility in the rhythmic soundtrack that underpins the Lagos chase and a subtle thud behind every punch and gunshot.

That said, even with MovieEQ activated the M3 doesn't quite deliver the thunderous, neighbour-bothering bass of an external subwoofer, or even the fuller tones of Q Acoustics' M4 for that matter. This soundbar's big brother manages an even more potent sound for only £30 more, although you'll need to make room for its bulkier cabinet.

The soundstage is well organised. It doesn't get flustered or congested when there's lots of going on in

a soundmix and remains composed when you push the volume high, save for a little overexcitement in the midrange. Voices are textured and come through with terrific authority.

One thing the M3 doesn't do, however, is envelop you in sound. Effects spread beyond the edges of the screen, but the action is very much confined to the front of the room. If you want convincing surround sound try one of Yamaha's digital sound projectors with associated beam driver technology, or perhaps set your sights on an authentic 5.1 setup.

The absence of an encompassing soundstage won't matter – for most people – with TV shows, which sound great through the M3. Dialogue is clear and articulate, while theme tunes take on unexpected gravitas thanks to the subwoofer's added depth. The M3 nails the brief of sounding much more refined, authoritative and clear than a typical TV's in-built speaker array.

The soundbar is also an excellent music player, and not just by the standards of its product category. With its outstanding clarity, easy-going tone and agile bass, it's not hard to imagine using it as a day-to-day hi-fi system, albeit without the benefits of hi-res streaming. Songs are packed with detail and high-tempo tracks zip along with infectious drive and energy.

The £30 question

Although Q Acoustics' M3 doesn't quite live up to its illustrious predecessor, its sophisticated sound, smart, premium design and smattering of features make it easy to recommend. The asking price is unlikely to deter buyers. Yet the question remains: are you that much in need of HDMI ARC, a slimmer enclosure and a £30 saving to ignore its more impressive sibling? ■

1. The stand provides space for the M3's down-firing bass driver to breathe

HCC VERDICT



Q Acoustics M3

→ £300 → www.qacoustics.co.uk

WE SAY: It may fall short of the standards set by the majestic M4, but the M3's slimmer design and smooth, powerful sound make it an impressive soundbar at a great price.

AV INFO

PRODUCT:
9.2-channel
AV receiver

POSITION:
Midrange 3D audio
model

PEERS:
Onkyo TX-RZ800;
Denon
AVR-X4300H;
Pioneer SC-LX89

1. Marantz's remote control is designed not to confuse

2. The SR6011's front flap hides inputs and control buttons

HEOS is absent, but **Danny Phillips** finds much to like in this home cinema upgrade

Tried and trusted AVR

This revamp of last year's superb SR6010 AV receiver ups the power channel count from seven to nine and throws in some new features, but essentially Marantz sticks to the formula that made its predecessor such a success. Available for £900 (or even less), it nestles between the SR7011 and entry-level SR5011.

Support for both Dolby Atmos and DTS:X is great news given the growing number of titles on the market, while audio perfectionists will welcome the addition of a new Audyssey App that it's said will offer an unprecedented level of control over calibration. Unfortunately, though, the app – which will cost €20 – has yet to surface.

The SR6011 stays true to Marantz's design principles, bearing the brand's usual AVR hallmarks. This means you get a porthole display, curved fascia panels and a brushed aluminium finish. It's an elegant amp with its own unique take on how a big black box should look.

Big? Yes. The SR6011 is not compact. Unashamedly chunky, it'll take up plenty of space in your AV rack. There's a silver-gold finish available to match your other kit.

On the front are classic volume and input dials, while the rest of the controls are hidden under a flap at the bottom. Here you'll find an HDMI input, the first of eight in total, plus AV inputs, a USB port for iPods and USB sticks, a headphone output and port for the calibration microphone.

Unlike the SR7011, there's no full-size LED display under here and no ring of light around the porthole either, a couple of obvious price-cutting measures. If you need detailed status info, check the onscreen menus.

On the back are seven more HDMI inputs and two outputs, one of which can be used to send video and audio to a second zone. All eight HDMI's support 4K/60p, HDR and HDCP 2.2, meeting the requirements for UHD Blu-ray passthrough.

There are loads of other sockets, too, including digital audio inputs, 7.1-channel analogue inputs (handy for old-school player owners), 11.2 pre-outs (for those with separate power amp setups) and dual subwoofer outputs. On the network and custom install side, you'll find Ethernet, RS-232, remote control, trigger and IR ports, plus terminals for the radio and Bluetooth/Wi-Fi antennas.

The Marantz's eleven pairs of binding posts can be assigned for use in various ways, including 7.1.2 Atmos or 9.1 systems, bi-amping speakers or sending audio to a second zone. The processor will also output an 11-channel signal for 7.1.4 arrays.

'But can I watch *Great British Railway Journeys* with 3D audio?' you may ask. The answer, thankfully, is yes. The SR6011's Dolby Surround and DTS Neural:X upmixing creates 3D sound from conventional Dolby or DTS-encoded content, whether it's stereo, 5.1 or 7.1. It's worth noting that there's no Auro-3D support path – for that, again, you'll need to upgrade to the SR7011.

Power-wise, Marantz claims a riotous output of 185W per channel, although that's into 6 ohm loads with a single channel driven – the 8 ohm/two-channel figure of 110W will be more indicative of its real-world power. Expect even less, obviously, with nine-channel playback.

On the video side the SR6011 converts SD and HD sources to 4K resolution and boasts ISF certification, with Day and Night presets to store settings. A new feature is support for Crestron Connected and Control4 SDDP (Simple Device Detection Protocol) for easy integration with home automation equipment.

Move up for multiroom

There is a big HEOS-shaped hole in the SR6011's feature list. This receiver won't play ball with the stablemate multiroom streaming system, denying you access to its Tidal, Deezer, Napster and SoundCloud streaming – a surprising omission at this price. If multiroom is a must, you'll need to look at – have a guess – the SR7011.

All is not lost though. There's Spotify Connect, built-in 'net radio, AirPlay and Bluetooth, plus you can stream music from NAS drives and PCs over Ethernet or Wi-Fi. The Marantz handles





hi-res FLAC and WAV up to 192kHz/24-bit, ALAC up to 96kHz/24-bit and DSD up to 5.6MHz.

Setup is ridiculously easy for such a complex machine. Marantz's excellent Setup Assistant guides you through wiring, connections and network setup before delving into the Audyssey MultEQ XT32 auto calibration system, which assesses optimum speaker distances, levels, polarity and subwoofer crossover values, via the supplied microphone. Up to eight positions in the room can be measured.

Friendly onscreen menus, swift navigation and neat remote with glow-in-the-dark buttons make operation a doddle. Tech-savvy users can use the AVR Remote app instead, which makes it easy to configure sound modes and speakers. A landscape-orientated tablet version lets you create playlists on the fly and browse your library while the 'now playing' screen is displayed.

In use, the SR6011 has Marantz's usual sonic calling cards – refinement, spine-tingling detail and controlled power. With Atmos or DTS:X material, these qualities make the 3D soundstage all the more convincing.

Hooked up to Definitive Technology's brilliant BP9000 speaker system in a 5.1.2 arrangement, the Marantz revels in *Mission Impossible: Rogue Nation*'s thrilling Atmos mix. Tom Cruise's pre-credits shenanigans atop an aeroplane are accompanied by waves of whirring, roaring engine noises that fill my room from top to bottom. The disc's use of Atmos height effects is actually quite subtle, but when called for the Marantz directs objects with precision.

For a clearer demonstration of its 3D audio talents, switch to *Crimson Peak*'s DTS:X soundtrack. The way it guides effects around the cavernous expanses of Allerdale Hall, and tracks the movement of water through pipes, is captivating. Subtle whispers, creaks and groans seep from every speaker, rendered with pin-sharp clarity.

And the SR6011 does the basics brilliantly. *The Force Awakens*' DTS-HD Master Audio track is masterfully handled – as Rey and Finn evade Tie Fighters on Jakku, the barrage of explosions, blasters and screaming engines are powerful and well organised. The Millennium Falcon moves across the large soundstage quickly and smoothly.

Scale isn't a problem. Deep bass melds well with the solid midrange, making Star Destroyers seem suitably big and imposing. Top-end delivery is crisp and attacking but consistently smooth, even at loud volumes. Effects and voices are interlaced with fine textures that most budget amps struggle to tease out, and there's a constant sense that the SR6011 isn't exhausting its power reserves.

SPECIFICATIONS

DOLBY ATMOS: Yes **DTS:X:** Yes **THX:** No **POWER OUTPUT (CLAIMED):** 9 x 185W **HDMI:** 8 x inputs; 2 x outputs (2.0a/HDCP 2.2) **AV INPUTS:** 2 x component video; 4 x composite video; 4 x digital audio (2 x optical; 2 x coaxial); 6 x stereo analogue audio **ANALOGUE MULTICHANNEL INPUT:** Yes. 7.1-channel **MULTICHANNEL OUTPUT:** Yes. 11.2 **MULTIROOM:** Yes. Zone 2 **VIDEO UPSCALING:** Yes. To 4K/60p **DIMENSIONS:** 440(w) x 161(h) x 398(h)mm **WEIGHT:** 12.7kg

FEATURES: Wi-Fi and Bluetooth; AirPlay; Spotify Connect; DLNA; vTuner 'net radio; Audyssey MultEQ XT32 audio calibration; Audyssey App support; Dolby Surround & DTS Neural:X; hi-res music playback (DSD 5.6MHz, FLAC 192kHz/24-bit, ALAC 96kHz/24-bit, AIFF, WAV 192kHz/24-bit); MP3, WMA, AAC playback; ISF-certified; Android/iOS remote app; Pure Direct; Setup Assistant; 2 x subwoofer outputs

PARTNER WITH



MARANTZ UD7007: Marantz is taking its time putting together a 4K spinner, meaning this legacy universal BD player is still its current top dog. Pair it with the SR6011 in Pure Direct mode for unfettered hi-fi-style music playback. £430.

We've said it before but we'll say it again – Dolby Surround and DTS Neural:X do a surprisingly good job of turning regular soundtracks into 3D audio. Scenes with lots of ambient noise, like rain or swirling wind, are particularly impressive, generating a believable ceiling of sound. It's worth giving these modes a go with your fave 'flat' discs.

I can't fault the SR6011's dialogue reproduction either, which cuts cleanly through busy action scenes.

So, is this receiver worth your money? Absolutely. Its sweet performance is backed up by classy design, easy setup and an impressive feature list. That said, it's a pity that Marantz didn't add HEOS multiroom support at this level – there's no ignoring the fact that the higher-spec SR7011 (or Denon's AVR-X4300H) looks the better bet, even with the £200ish price increase. That's something to consider ■

HCC VERDICT



Marantz SR6011

→ £900 → www.marantz.co.uk

WE SAY: Marantz's 9-channel Atmos receiver delivers a dazzling performance for the money, but fans of multiroom music streaming will be disappointed.

3



3. Nine-channel power + 11-channel processing = connections overload!



YOU'RE ONE CONNECTION AWAY FROM AWARD-WINNING TV SOUND



- Sits under or in front of TV, transforming sound with powerful 2.1 stereo and surround performance
 - Enjoy wireless music from all your devices via aptX Bluetooth
 - Great bass: no subwoofer required
 - Voice mode for super-clear dialogue
 - Easy, single-cable install
 - Includes learning remote
 - Available in white, silver & black*
- *DM100 silver & black only



DM55



DM75 Glass



DM100



Available now at [John Lewis](#) [richersounds](#) [amazon.co.uk](#)



Richard Stevenson finds space for REL's hulking, celebratory flagship subwoofer

Bass taken to the limit

Commemorating 25 years of REL sub-bass systems in some style, the company's new No.25 is a very special subwoofer and mad as a box of frogs. A really, really big box of frogs, too. Weighing in at a whopping 76kg, its width is close to 75cm, it's over 80cm deep including connectors poking out and it stands 54cm tall. And even if you have a large room to house it, you'll need a big wallet as well. The price? A cool £6,500.

REL could have probably gone taller with its cabinet design to give the No.25's 15in carbon cone bass driver some more breathing space, had it not been for the REL Reference Line Array concept. That is two sets of three No.25s (so six in total) stacked on top of each other in a stereo pair. Sadly, Reference Line Arrays are only available to responsible adults, so the company only gave me one No.25 to play with.

REL's irrepressible owner, John Hunter, came supplied with our No.25 to give it a proper introduction. John took over the brand a few years ago from the equally passionate and equally slightly eccentric Richard Lord.

Like some of Richard's flagship designs, such as the epic REL Studio, there really is nothing else quite like the No.25, and this beast of a sub-bass system is John's own subwoofering *magnum opus*. It's a back-to-the-drawing-board design built upon two years of R&D and a development budget that must have had the brand's accountants twitching nervously. They might be happier now, though, as I'm told the No.25 has been getting more orders internationally in Reference Line Array configuration than as a single sub.

Aiming for accuracy

At its heart is the desire to make the No.25 the world's best sub-bass system. Not necessarily the loudest or the fattest or the deepest, but the most accurate and realistic. The No.25, Hunter explains, is designed to produce bass as fast and as precise as possible, to best replicate real-life low-frequency sounds in music and movies.

'Getting the frequency at high SPL is easy,' says the REL man. 'We also wanted to deliver the critical first transient and the subtle decay pattern at the back end of each sound. It had to be very fast. To replicate a gunshot you need to gain +20dB instantly.'

That is tricky to achieve with a traditional large, heavy driver as you have to overcome the cone's inertia – both accelerating the weight forward and then changing direction and pulling it back. 'You cannae change the laws of physics, Captain,' as any Trekker will tell you. REL's idea was to circumnavigate them instead by creating one of the world's lightest 15in bass cones, crafted from woven carbon fibre and layered to create a stiff, uniform and balanced structure. And the voice coil is much smaller and lighter than those typically found in large subwoofer designs, with REL developing a new coil winding process to allow an incredibly small gap between coil and magnet. The result is a 15in driver with a 4in throw and a cone that weighs less than those found in the company's 10in drivers of just two years ago.

Hunter and his team say they could not find a suitable Class D amp with the required speed, accuracy and high-current ability for the No.25's driver. So REL partnered with an electronics manufacturer to design one for the task. The final outcome is a bespoke 1,000W (RMS) amp with an ultra-high-current power supply.

The filter network was next up for attention. REL's crossovers and ability to hookup a sub to the speaker terminals of a main stereo amplifier are well known, so this was simply a case of cherry-picking the very best components for the new flagship. To the filter network the engineers added a parametric EQ system. This is capable of adjusting two frequencies of your choice by +/- 6dB in 1/3rd octave increments. Yet there's no automation or measurement system, so this is sound-tuning of the old school – by ear.

And then there is the cabinet. While my own Velodyne DD18+ has looks to scare small children, the No.25 simply eats them whole. Its cord-fronted grille brings to mind jail bars restraining the driver and white LED display, while

AV INFO

PRODUCT:
High-end 15in,
1,000W subwoofer

POSITION:
REL's 25th
anniversary product
– top of the range

PEERS:
Velodyne DD18+;
Paradigm SUB2

1. The No.25 replaces the Gibraltar series as REL's range-topper



2

the sumptuous 12-layer gloss black lacquer and chunky aluminium REL logo on top shout high-end design.

Yet the cabinet's real magic is below the surface. Traditional methods of bending MDF into a curve include steaming the board and scoring the surface. Both of these processes undermine the integrity of the fibre bonds and, says REL, create a softer-sounding enclosure. So the No.25 cabinet is made from high-quality 30mm MDF (sourced from Australia) and bombarded with RF energy for three hours. This temporarily softens the bonds, allowing it to be shaped into the No.25's reflection-cancelling curves. As the material cools, the bonds regain their integrity. The panels are then braced with hardwood spars, positioned to break up some common mode resonances as well as provide further stiffening. The finishing interior touch is the type of wadding used inside the cabinet, a fibrous cotton material that's also employed for high-end building insulation and, er, denim jeans.

The No.25 package is finished off with a high- and low-level connection suite (REL suggests running both

simultaneously), subtle down-firing LEDs to give it a floaty look and a truly bonkers remote control. More *objet d'art* than typical plastic stick, you are only likely to use the remote for setup and then never again. Makes a cracking high-end paper weight, though.

Glossing over the box the size of a transit van and the physical requirement of hefting the beast into place (I should get danger money for these reviews...), Hunter arrived a couple of days later to do the setup. This is the same REL-approved setup procedure as No.25 buyers can expect from their approved retailer, so there are no special privileges here. Two hours of playing tones and tunes, adjusting placement of the sub and main speakers, and tweaking the subtle parametric EQ, and the job was done.

The unit caters for wireless transmission via REL's optional LongBow system, but this wasn't used.

Underwater AV

Starting with a classic, I went straight for submarine high-tension thriller *U-571* (Blu-ray). If I had a pound for

3



4



every time I have heard the depth charge scene I could probably afford a No.25, but I have never heard the explosions portrayed anything like how they emerged from this woofer. Here, they are dynamically explosive rather than just a huge room-filling boom. It's so much more realistic, and I speak with some authority having been scuba diving when Indonesian locals decided to go fishing nearby with dynamite.

'REL's No.25 is about creating a credible, believable low-frequency experience at any level, with movies and music'

By a country mile the No.25 produces the fastest, tightest bass I have ever heard in my cinema room. This might not be what you would expect from such a sizable driver – we tend to think of smaller woofers having the edge in terms of speed. Yet each percussive event is so eye-wateringly taut it has sharp edges.

There is plenty of power and weight, of course, but if the Velodyne DD18+ has sledgehammer bass then the No.25 is a log-splitting maul; same depth and grunt just with more cutting-edge attack.

A re-watching of *John Wick* (Blu-ray) in anticipation of heading out to see the sequel further underpins the REL's abilities for realism. Gunshots in the underground night club have astonishing, tangible impact, while the crunch of car-crashes seems all the more wince-worthy and extreme. It's a sensation that you feel as much as hear and not just in a gizzard-churning high-SPL sort of way. The REL No.25 is all about creating a credible, believable low-frequency experience at any level.

This effect is highlighted on *Deadpool* (Blu-ray) when our lead character turns and talks directly to the audience. The dialogue is engineered with a subtle shift in timbre that pulls the voice out of the open scene and into a more confined space with you. The REL helps my speaker surround sound system properly nail the technique. The conversation snaps seamlessly away from ambience and action of the movie, into your room and back out again, and it's really obvious. Turn off the sub and you

SPECIFICATIONS

DRIVE UNITS: 1 x 15in woven carbon fibre driver with 4in throw
ENCLOSURE: (Massive) sealed cabinet **FREQUENCY RESPONSE (CLAIMED):** Down to 14Hz (-6dB) **ON BOARD POWER:** 1,000W RMS **REMOTE CONTROL:** Yes. Bespoke item
DIMENSIONS: 737(w) x 540(h) x 762(d)mm **WEIGHT:** 76kg

CONNECTIONS: High-level (Neutrik Speakon) stereo input; low-level stereo phono input; LFE input; LFE XLR input; high-level stereo output; LFE output; LFE XLR output; SMA for wireless antenna (optional LongBow system)

PARTNER WITH



B&W 803 D3: Give this serious sub some serious floorstanding speakers to team up with – the REL's insightful low-frequencies should marry well with the attacking impact of B&W's diamond-vapour tweeters. Pricing is £12,500 for a pair.

are hard-pressed to hear the effect, let alone experience what the director and sound team intended.

If you are keen on listening to music through your cinema array, the REL performs admirably in this regard, too. While integrating a subwoofer into a two-channel system can be tricky, the No.25's filter network makes it simple and the effect is sublime. A fulsome bass output enhances the entire frequency spectrum of music, not just the LF, and the No.25 is no exception. It adds body, warmth and plenty of that greater sense of realism to even female vocal pieces, while managing to further open up the imaging and soundstage.

Birdy's eponymous first album (CD) was subtly enhanced and sounded bigger and more spacious with the No.25 dialled in, its high-level connection attached to my amp's speaker terminals. Stick on the likes of house maestro Deadmau5 and you won't be disappointed either... although I was struggling to keep plates on the shelves in the adjacent kitchen.

A minor whine

I only really have one negative comment about the No.25, beyond the typical 'it's big and it's heavy,' and that's that the front-facing LED display causes a faint whine through the driver. Apparently the company wanted white LEDs rather than a more garish blue, and this is an unavoidable side-effect of the display unit specified. The display only comes on when an adjustment is being made and switches off after a few seconds, so it's not a big issue but it is a bit 'odd' at this price.

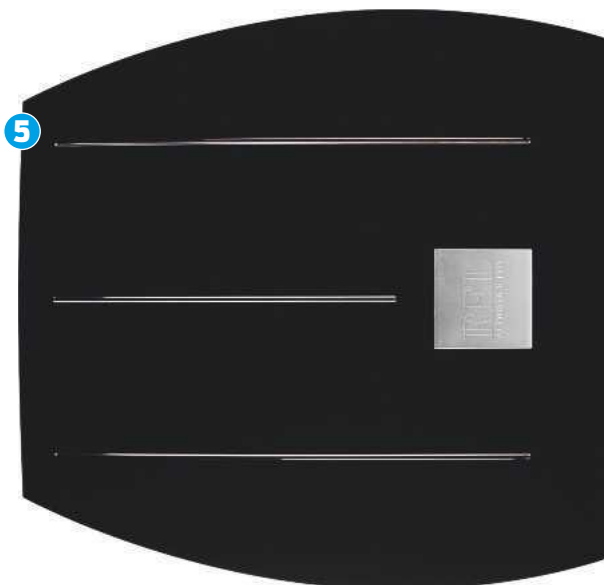
Speaking of price by way of conclusion, I am frankly stunned the No.25 doesn't actually cost more. If I'd been told that it was going to retail at £10,000 given all the R&D that has gone into it, the size, the finish and the outstanding performance, I would have still thought that represented good value. As it is, £6,500 gets you one of the very best residential subwoofers you can buy at any price ■

2. Use those side-mounted handles to help position this 76kg subwoofer!

3. The new 15in driver is REL's lightest design yet

4. XLR inputs are provided for compatible processors

5. The curved cabinet aids reduction in internal reflections



HCC VERDICT



REL No.25

→ £6,500 → www.rel.net

WE SAY: A truly sublime subwoofer that delivers unsurpassed speed and ultra-realistic LF effects. Switch to hi-fi and its accurate bass gives music incredible passion and scale.

Opening the gate

This 'wireless bridge' from networking specialist Devolo might suit those looking to set up a media room in attic or garage, suggests **Martin Pipe**



IN THE PAST, we've extolled the virtues of powerline networking, where data is basically superimposed on your mains wiring by a couple of boxes that plug into convenient wall sockets. One's near your broadband router, while the other is located where remote network coverage is required. Now Devolo is offering a cutting-edge alternative in the former of this wireless bridge.

The two boxes that comprise the Gigagate starter kit still have to be plugged into the mains, but for power only. Data is instead sent and received over a high-speed point-to-point Wi-Fi link – up to 300m range, it's claimed –

on the relatively quiet 5GHz band. And by high-speed we mean up to 2Gbps. This is achieved via 4x4 MIMO (multiple-in, multiple-out) 'Wave 2' radio technology bought in from Californian Wi-Fi specialist Quantenna Communications. It allows four simultaneous

802.11ac connections, sharing the overall load, to be made. AES encryption is employed to ensure security.

Both units are stylish columns with LED status indicators and slide-out feet that allow them to be positioned vertically as well as horizontally. The router-end device, the base station, has a single Gigabit Ethernet port that under most circumstances would go to your router. The satellite, which is placed where connectivity is required, has an integrated hub that sports no fewer than five Ethernet ports for your various devices. One of them is Gigabit Ethernet, while the others are 100Mbps.

You would use the first for devices where the highest-possible speed is essential – a PC, console or NAS, for example.

Wi-Fi as a bonus

As with most Devolo powerline kit, the satellite also has a 300Mbps Wi-Fi access point, complete with WPS functionality, but a lack of meshing means it's independent of any existing coverage provided by your router. So, that's a maximum theoretical total of 1.7Gbps – which should be well within the 2Gbps capability of the Gigagate link. Further

SPECIFICATIONS

CONNECTIONS: Gigabit Ethernet (base); Gigabit Ethernet; 4 x 10/100Mbps Ethernet; single-band (2.4GHz) 802.11a/g/n/ac Wi-Fi (satellite)

DIMENSIONS: 30(w) x 140(d) x 150(h) mm
WEIGHT: 500g

FEATURES: Plug-and-play installation; 2Gbps point-to-point link with AES encryption; 300m claimed range; multiple satellites can be added; 4x4 MIMO technology; status LEDs; WPS support; 300Mbps speed and WPA security for Wi-Fi access point; web configuration/status interface

The Gigagate comprises a base station and a satellite

satellites, to a total of eight, can be added, all using the 2Gbps 'pool'.

Getting the system going is literally plug-and-play – no messy configuration required. Its transparency, as far as your network is concerned, equates to running an extra long cable from your router to a simple Gigabit Ethernet hub, to which your remote devices are attached. That said, the base generates a web page that – amongst other things – provides status info, enables it to be paired with additional satellites and deals with Wi-Fi configuration issues like encryption keys and network name.

It was difficult to fault Gigagate in performance terms – the connection was reliable, no streaming or connection errors being experienced. It worked fine with a Humax streamer, chowing down on SD and HD channels at the other end of the link.

I then tried streaming a NAS-stored movie rip. 33Mbps video was conveyed, free of glitches, to an A.C. Ryan player – even when a Cambridge Audio streamer, connected to one of the satellite's Ethernet ports, was playing a 24-bit audio file. But that shouldn't surprise; the web interface's bridge monitor page reported receive and transmit data rates of 780Mbps and 1073Mbps respectively.

So should you buy Gigagate? Mains networking has now reached an impressive level of development and speed, and is cheaper. Gigagate comes into its own where the desired location is on a different mains phase, and Devolo's says it's also ideal for a 'multimedia corner where multiple devices will be connected by Ethernet cables to achieve the best possible and reliable speed.' I can't disagree with that... ■

AV INFO

PRODUCT: Wireless network bridge

POSITION: Alongside Devolo's existing powerline networking products

PEERS: Netgear Orbi; Ligowave DLB 5-20

HCC VERDICT



Devolo Gigagate

→ £220 → www.devolo.co.uk

WE SAY: Easy to use and set up, with impressive reliability and transfer rates, but mains networking does the job cheaper.

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Denon AVR-X3300
7.2 network receiver

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Budget beauty?

This affordable 4K TV is less impressive with HDR playback than he'd hoped, but **John Archer** still appreciates Philips' efforts to bring the tech to the mass market



PHILIPS IS GETTING properly aggressive with the 43PUS6501. After all, it's a 43in, 4K, high dynamic range-capable TV that can be yours for just £530. You even get a two-sided version of the brand's Ambilight illumination feature.

Eye-catching the TV may be, but it does boast one less promising specification: an IPS type of LCD panel. Tech-watchers will know that these offer wider viewing angles than rival VA panels, but usually find it hard to deliver convincing black levels.

From a design point of view, the 43PUS6501 looks and feels rather plasticky. Connections tick the right boxes, though. There are four HDMI, three USBs and wireless and wired network options. An issue, however,

is that just two of the HDMI support HDR, potentially confusing consumers who very likely don't fully appreciate the finer points of HDMI specification.

Picture processing is unusually potent for a £500-ish TV, while smart features are provided by a combination of Android TV and

Philips' own system. Catch-up TV/VOD provision is hit-and-miss. Hits are BBC iPlayer, Netflix and Amazon Video; misses are ITVHub, All4 and HDR on the Amazon client.

The 43PUS6501's images are, sadly, defined less by their 4K resolution and HDR potential than they are by the contrast performance of its IPS panel. During dark Ultra HD Blu-ray sequences, there's a sense that picture depth and punch is being lost by greyed-over blacks, in addition to noticeable light bleed at the screen's edges and other areas of backlight clouding.

These issues aren't as extreme as they tend to be with IPS TVs that use edge LED lighting; this affordable Philips employs a direct lighting system. But that doesn't alter the fact that some will be disappointed at the black level and stability on offer here.

Mecha impact

Other aspects of performance are pretty good. The rich wide colour palette of the control room in the *Pacific Rim* Ultra HD Blu-ray is more vivid than I was expecting given that the screen only delivers 400 nits of brightness. And there's a passable sense of HDR light 'peaking' with suitable content, although – to be clear – the 43PUS6501 doesn't have enough colour range or brightness to do HDR anything like full justice. But nor do any other TVs that cost similar money.

SPECIFICATIONS

3D: No **4K:** Yes, 3,840 x 2,160 **HDR:** Yes. HDR 10 **TUNER:** Yes. Freeview HD **CONNECTIONS:** 4 x HDMI inputs; 3 x USB; RF input; Ethernet port; optical digital audio output; headphone jack **SOUND (CLAIMED):** 20W **BRIGHTNESS (CLAIMED):** 400 nits **CONTRAST RATIO (CLAIMED):** N/A **DIMENSIONS (OFF STAND):** 968(w) x 573(h) x 77(d)mm **WEIGHT (OFF STAND):** 9.9kg

FEATURES: Built-in Wi-Fi; USB and DLNA multimedia playback; Pixel Precise processing engine; Android TV smart system; two-sided Ambilight

Ambilight here is two-sided – use it to add impact and bias lighting

One extra HDR note is that this flatscreen exhibits severe colour striping with 4K Blu-rays delivered via Panasonic's UB900 deck – presumably caused by this player's default 12-bit output. This problem vanished with all the other 4K disc spinners I tried, though.

Motion is generally blur-free even without any processing active, and you can remove judder effectively using Philips' Natural Motion tool.

The set also outperforms its price point with HD and standard dynamic range sources. Onboard upscaling adds impressive amounts of sharpness and detail, and the backlight suffers with much less inconsistency and greyness when dealing with SDR's subdued brightness levels.

With no 3D playback on offer to assess, the only thing left to cover is the TV's audio. Pleasingly, the set can go louder than most budget rivals without succumbing to distortion, and vocals generally sound clean and convincing. Don't expect a very wide soundstage or much bass, though.

What do you seek?

With its features and some aspects of its performance, the 43PUS6501 gets close to being an exceptional budget TV. In the end, though, an average contrast means that those seeking really involving images might want to try and up their budget. If you're pegged at £500 and can go no larger than 43in, it's worth investigating ■

AV INFO

PRODUCT: 43in 4K/HDR TV with Android UI and a budget price tag

POSITION: Around the middle of Philips' TV range

PEERS: Samsung UE43KS7500; Panasonic TX-40DX700

HCC VERDICT



Philips 43PUS6501

→ £530 → www.philips.co.uk

WE SAY: A healthy feature count and at times strong picture quality (especially with SDR) are undermined here by contrast problems.

The JBL logo is displayed in a white square in the top left corner.

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Sling a rainbow

Full HD and 3D? Check. Decent price tag? Check. Compact form factor? Check. So why isn't **John Archer** completely satisfied with BenQ's budget beamer?



Optical zoom is limited here to 1.1x

THE AFFORDABLE PROJECTOR market is so fiercely competitive these days that it's no longer enough to just be keenly priced; to make a mark you also need to be good. Happily, BenQ's £515 TH530 has what it takes to make that mark. But with caveats.

Projectors costing under £600 tend to be pretty short of setup tools, and this model is no different. In particular, there's no vertical image shifting, and only a tiny amount of optical zoom (1.1x). Just as well, then, that its throw ratio is well suited to a typically-sized living room, delivering, for instance, a 95in image from 3.1m.

Build quality is plasticky, and an unsophisticated lamp cooling system sees alarming amounts of light spilling from its sides. The TH530 also only carries one HDMI

when we've come to expect two, even in the affordable projector arena.

On the upside, its shiny white finish, small form and shapely sculpting mean it'll look reasonably cute on your coffee table.

The TH530 claims an unusually high maximum light output

of 3,200 Lumens – a figure which raises concerns that it's a business or education PJ masquerading as a home entertainment beast. On the other hand, its Full HD-resolution chipset delivers a claimed contrast ratio of 10,000:1, which is higher than the figures usually associated with 'presentation' projectors.

Tweakers will find a fair number of picture aids in the menus, including a basic degree of colour management. Yet the focus is on plug-and-play simplicity rather than permanent install fine-tuning.

Clock at load of this

All concerns over the TH530's home entertainment credentials fade as soon as you clock its effective pictures.

Brightness is engagingly high, but – crucially – accompanied by a handy knack with black levels. Predominantly dark sequences are blighted impressively little by low-contrast greyneess for such a cheap projector (provided you use the projector's SmartEco lamp setting). The night-time sequences in Louise Banks' lakeside home in *Arrival* (Blu-ray) have involving depth, although they're substantially less impressive than those produced by good mid-range PJs. Shots in the alien ship 'communication room' also reveal reasonable amounts of shadow detail, helping to create a convincing sense of space.

SPECIFICATIONS

3D: Yes. Active (no glasses included)

4K: No. 1,920 x 1,080 resolution **HDR:** No

CONNECTIONS: HDMI input; composite video input; D-Sub PC port; S-Video input; mini-jack audio in/out; USB; RS232; IR

BRIGHTNESS (CLAIMED): 3,200 Lumens

CONTRAST (CLAIMED): 10,000:1

DIMENSIONS: 283(w) x 95(h) x 222(d)mm

WEIGHT: 1.96kg

FEATURES: Single-chip DLP projector; built-in 2W audio system; 4,000-6,000hr lamp-life rating depending on lamp setting; 1.1x zoom; BrilliantColour feature

The BenQ also showcases the detailing in the crispest, cleanest Blu-ray discs. This clarity holds up well during camera pans, with minimal interference from judder or blur.

Such sharpness is often accompanied by noise on budget projectors, but not here. Edges don't look forced, and areas of high texture avoid grain or fizzing.

When it comes to colour, the TH530 handles everything from the relatively stark palette of *Arrival* to the stunning natural colours of *Planet Earth II*'s jungles with considerable panache, when its price point is taken into account. Tones have clearly been tuned for video rather than PC playback.

And, handily given the TH530's likely casual user base, it adapts unusually well to use in both total darkness and moderately-lit rooms.

A major drawback here is DLP's rainbow effect. Where bright objects appear against dark backdrops on the TH530 I could clearly see stripes of red, green and blue flitting over the peak image elements. How much you're distracted by this will depend on your personal susceptibility to seeing it, but I've tested enough projectors to know that the amount of rainbowning on show here is higher than average, and a distraction.

The flimsy body work means the projector runs a noisily too, especially if you're using the highest lamp output setting. And the built-in 2W speaker isn't remotely satisfying for either sports event or movie playback.

For those on a budget the TH530 is a fair choice, particularly if your response to rainbowning is muted. Pictures can be considered pretty much as good as it gets at this level. Getting it set up in your room might be tricky, though, by virtue of its limited zoom and shifting options ■

AV INFO

PRODUCT: Affordable single-chip DLP projector

POSITION: One of the most entry-level PJs in BenQ's home range

PEERS: Optoma HD27; Epson EH-TW5350

HCC VERDICT



BenQ TH530

→ £515 → www.benq.co.uk

WE SAY: Aside from some aggressive rainbow effect and meagre setup flexibility, the TH530 is a solid home entertainment performer.

Native **4K** Projectors (4096 x 2160 Pixels)



VPL-VW5000ES

- Laser light source
- 5,000 ANSI lumens
- 20,000 hour lamp life



VPL-VW1100ES

- Dynamic contrast ratio: 1,000,000:1
- 2,000 ANSI lumens
- 3,000 hour lamp life



VPL-VW550ES

- Available in Black or White
- 1,800 ANSI lumens
- 6,000 hour lamp life



VPL-VW320ES

- Available in Black or White
- 1,500 ANSI lumens
- 6,000 hour lamp life

Full HD Projectors (1920 x 1080 Pixels)



VPL-HW65ES

- Available in Black or White
- 1,800 ANSI lumens
- 6,000 hour lamp life



VPL-HW45ES

- Available in Black or White
- 1,800 ANSI lumens
- 6,000 hour lamp life

Premium Bose is a black-tie bar

This swanky soundbar combines sumptuous design with a refined performance, says **Steve May**

THE BOSE SOUNDTOUCH 300 is so ritzy it should come with afternoon tea and triangular sandwiches. Build quality really is excellent, and the design, which sees a tempered black glass panel sitting atop a pretty aluminium grille, is up there with the best around (although that top panel can be reflective of what you're watching on TV). The speaker has genuine heft, too.

It's a fairly big beast, a metre wide and best suited to screens 50in and above. On its base are non-slip rubber pads for a solid installation on a TV stand. Bose sells an optional wall-mount for those that need it.

While the company keeps much of the inner workings of the soundbar under wraps, we at least know it uses the brand's proprietary Phase Guide Array drivers. Amplification and speaker deployment are unspecified.

There's no subwoofer supplied, which might surprise given the £600 asking price. There's a wireless Acoustimass sub available that will work with the SoundTouch 300, but this is, again, £600.

Bose scores points for fitting the 'bar with HDMI in and out, with 4K HDCP 2.2 support.

Other sockets include optical digital audio, Ethernet and microUSB. You can also wirelessly stream over Wi-Fi or Bluetooth, and enjoy Spotify Connect.

To get the SoundTouch 300 sounding its best in your room, there's Bose's ADAPTiQ room calibration system. This is similar to the EQ tools seen on AV receivers, and even features a calibration mic built into a plastic headband, which allows the 'bar to measure for exactly the right listening height.

Connect the soundbar via HDMI over ARC and you'll be up and running in no time. The TV acts as the source, while the other HDMI input can be used for any extra kit that you haven't bothered to lace up through your telly. For TVs without ARC HDMI, you can use the digital optical input – at least theoretically. However, I failed to get the soundbar to do anything via its optical input. I have no idea why, and Bose couldn't troubleshoot the problem. A faulty sample? Maybe, but you've been warned should you want to run the SoundTouch 300 this way.

Hot stuff

Sonically, this soundbar is no slouch, with an impressively wide soundstage.

It's particularly effective

SPECIFICATIONS

DRIVERS: Phase Guide Array drivers

AMPLIFICATION (CLAIMED): Not specified

CONNECTIONS: 2 x HDMI inputs (ARC and HDCP 2.2 compatible); optical digital input; Ethernet; microUSB

DOLBY TRUEHD/DTS-HD MA: Yes/Yes (two-channel downmix)

SEPARATE SUB: No

REMOTE CONTROL: Yes **DIMENSIONS:** 980(w) x 57.1(h) x 108(d)mm

WEIGHT: 4.71kg

FEATURES: ADAPTiQ calibration; Bluetooth with NFC; Wi-Fi; Bose SoundTouch multiroom system compatible

with sports coverage and music. *Creation of Earth* (from *Sun* by Thomas Bergersen), a roiling sea of percussion and choirs, pushes the soundbar's articulation to the limit, but it just about holds together. There's more than enough volume on tap to rock the average living room.

While there's no virtual surround, movie soundtrack presentation (there are onboard decoders for both Dolby Digital and DTS) is rewarding. The background comms chatter and assorted electronica within *NASA Sat Con* (*The Martian*, Blu-ray) is thrown wide enough to lick the edge of my viewing room. Lesser soundbars just don't reach as far.

Bass levels, however, don't get to the depths some will hanker for – the lack of a lower-reaching subwoofer comes into play here. However, there's still solid, pleasing punch to low-frequency details.

For a more authentic home cinema

experience, you

can partner the

'bar with Bose's

Virtually Invisible

300 surround

speakers, priced

at £250 a pair. The

system is also compatible

with the Bose SoundTouch

wireless multiroom system,

where numerous standalone speakers

are on offer.

Overall, this is a decent but not stellar performer. It certainly looks the part, and sounds crisp and expansive. There are plenty of connective options, and – if you're prepared to dig deep – expansion potential for both home cinema and multiroom. Rivals are more affordable, though ■

HCC VERDICT



Bose SoundTouch 300

→ £600 → www.bose.co.uk

WE SAY: There may be quirks when it comes to connectivity, and it's expensive to expand, but this 'bar is as classy as the top is glassy...

The SoundTouch 300 offers HDMI in/out connectivity

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Sony MDR-1000X

You'll have to pry these noise-cancelling headphones from **Steve May**'s cold, dead hands

HIGH-RES AUDIO PLAYBACK, Bluetooth aptX with high-bandwidth LDAC transmission, plus noise-cancelling – Sony's MDR-1000X are not your average run-of-the-mill wireless cans. In fact, they may very well be the best noise-cancelling headphones you can buy.

The design is minimal yet stylish. There are details, but they're understated. The over-ear synthi-leather cups are remarkably comfortable to wear. There's NFC in the left one for simplified pairing.

Neat features abound. I love the Ambient Sound mode, which allows you to instantly hear sounds around you while listening to music: Normal lets in general hubbub, while Voice prioritises chit-chat, be it a



Battery life is around 20 hours

station announcement or barista.

A touch-sensitive panel offers playback control. Holding your hand over it activates a Quick Attention feature. This imports all ambient noise, while turning down the volume of whatever you're listening to. You no longer have to remove your cans when a ticket inspector comes a-calling.

Sony's DSEE HX upscaler makes a decent job of improving the

resolution of low-res sources, while with 24-bit content, the MDR-1000X finds extra detail and nuance. A personal NC Optimizer even calibrates the 'phones for your head, much like an AV receiver might.

Fully charged, the MDR-1000X run for around 20 hours. In emergencies you can hardwire via the 3.5mm jack to carry on listening, although you'll not get noise-cancelling on this mode.

And you'll want it because it's so effective. Whatever your commute, be it Boeing or bus, these 'phones knock intrusive noise back to barely bothersome levels. You're left with a refined and spacious sound performance, sweetly balanced across the frequency range. To wear them is to want them ■

HCC VERDICT



Sony MDR-1000X

→ £360 → www.sony.co.uk

[WWW.CURRYS.CO.UK](http://www.currys.co.uk) / £380

JVC LT-43C862

More pixels isn't the best reason to buy this entry-level Ultra HD TV, suggests **Steve May**

JUST WHAT CAN you expect when you impulse purchase a 4K forty-something? Quite a lot, if this 43in JVC TV is anything to go by. Not only does it stock Ultra HD resolution, it comes with a Freeview Play tuner and connected smart platform – the former combines a roll-back programme guide with

a full complement of catch-up services. Additional apps are limited, but include Netflix with 4K and YouTube.

The set can timeshift TV onto a connected USB hard drive, while the integrated media player is solid, happily playing back my ever-expanding collection of MKVs.

It might not be the thinnest screen in the shop, but at least the feet are polished.

Pictures appear detailed and smooth, with that UHD pixel count bringing a sense of extra info, particularly with text crawls and static images. That said, black level performance is limited – something you should expect given the price – and this hampers your sense of immersion. Nor is

the set HDR compatible. Actually it's a bit on the dim side, thanks in part to its small pixel size. Brightness is quoted at a middle-of-the-road 350 nits.

Most of the image presets allow for adjustment of contrast, brightness and colour levels (set the adjustable contrast to Low, for maximum punch), apart from the Game mode, which is locked down.

The TV uses DTS TruSurround DSP to improve its sound performance, but it's nothing more than serviceable.

Overall, this bargain set does the job for small rooms, with Freeview Play and Netflix keeping usability high. Just don't expect its UHD panel to lead to a dramatic step up in overall quality over a good Full HD display ■



JVC TVs are now exclusive to Curry's/PC World

HCC VERDICT



JVC LT-43C862

→ £380 → www.currys.co.uk

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Digital Copy

A new drama from the BBC has been beset by criticism concerning hard-to-discern dialogue. **Mark Craven** decides that it isn't TV tech that's to blame, if blame is even needed

WITH ITS ALTERNATE history vibe, espionage capers and funky CG makeover of 1940s London, there was no chance of me not settling down to watch the BBC's new drama *SS-GB*. Adapted from Len Deighton's novel, its five-episode run will have concluded by the time you read this (unless you're a subscriber – you get your *HCC* copy early!), but as I write, episode four is yet to air so there'll be no spoilers here. Some may argue that the show has already been spoiled enough by poor-quality audio...

The Beeb was almost certainly hoping for a good reaction from viewers and the media when *SS-GB* debuted on February 19. But what it was faced with was a chorus of 'I can't understand what they're saying.' No sooner had the end credits rolled and we were back in *Jamaica Inn* territory.

There's no two ways about it – some of actor Sam Riley's dialogue is a bit, well, mumbly. Many people don't like this, and I've seen plenty of discussion, across national newspapers and social media, as to where the problem lies. I'm not sure there is a problem, though. More on that later.

One culprit I've seen named and shamed is 'crappy TV speakers.' To me, this is a curious argument. I accept that in the pages of *HCC* we often bemoan poor-quality TV speakers, but this is all relative in comparison to the kind of speaker setup a home cinema fan will have invested in.

If bad TV speakers are really to blame, then it wouldn't only be *SS-GB* that had people cleaning out their ears. We'd be moaning about not being able to hear Gary Lineker on *Match of the Day*, too. Nor would the focus be only on Riley's dialogue, but on the musical score as well.

The more obvious area for criticism is the show's soundmix. Maybe *SS-GB* could do with a nice bump

to the dialogue? Except this wouldn't totally fix the issue either, as it's not just that Riley is talking quietly; he's speaking with a bit of a growly whisper. You can make that louder, but it won't suddenly be like listening to Eliza Doolittle post-election.

Ve haf vays of making you talk

What's really going on here is that Riley, as is his prerogative, is acting. His character appears to smoke about 40 cigs a day, he's discussing top-secret gossip in the midst of a paranoid city, and he's a bit moody because his wife has been killed. It's fairly obvious that this means he's dour, gruff and not prone to projecting his voice like an am-dram Hamlet.

This troublesome acting happens elsewhere, too. Tom Hardy, famously, decided to voice Batman baddie Bane as if he'd just swallowed a bag of gravel. Benicio del Toro gave his *Usual Suspects* character Fenster a bizarre accent and street-slang dialogue. Vincent D'Onofrio played his recent *Magnificent Seven* scalper with a curious high-pitched whine. All help drive the character.

What's the BBC to do? Remove all creative freedom from its thespians and instruct everyone to shout their lines very slowly? I'm worried we may be heading that way. Mumblecore period drama *Jamaica Inn* lost over 1.5m viewers after its first episode; *SS-GB* has apparently shed even more.

The Beeb will surely have to try and stem the flow with future programmes, but perhaps a pre-credit warning, telling people to just listen properly, is in order. After all, as a friend of mine remarked: 'anyone who is complaining on Twitter about not being able to hear dialogue while the show is actually being aired isn't really paying attention in the first place...' ■

*Is mumbled TV dialogue getting you down?
Let us know: email letters@homecinemachoice.com*

Unlike large swathes of the UK population, **Mark Craven** has no qualms about watching TV with subtitles on if he has to





Film Fanatic

Anton van Beek shares his love of movie monsters and wonders why the most famous one of all has been so poorly treated on disc in the UK...

I LOVE MONSTERS. I don't know exactly what it is about them, but ever since childhood I've been irresistibly drawn to big beasties. No doubt it stems from my childhood obsession with dinosaurs, which saw me repeatedly dragging my parents on day-trips to Dinosaur World in Colwyn Bay throughout the early 1980s.

Originally this led to me to nurture the strong belief that I would leave school and become an archaeologist (I was still young enough to think it was all about digging up *Tyrannosaurus rex* skeletons in Montana rather than flint arrowheads in a damp field in Rutland). But as my life began moving in more film-related directions, my dino passion transformed into a love of monsters of all shapes, sizes and origins. From supernatural beasts to extraterrestrial mutants, oversized insects to folkloric fiends, if there's a film about them, I'll happily part with my money to watch it.

Big in Japan

The number one cinematic monster in my pecking order is the *kaiju*. This Japanese word meaning 'strange monster' or 'strange beast' is now used to classify the mammoth movie monsters that regularly rise out of the waters of Tokyo Bay before trampling all over the city itself.

This isn't to say that *kaiju* are exclusive to Japanese cinema. The 1960s saw giant monsters erupt onto the bigscreen from countries as diverse as South Korea (*Yonggary: Monster from the Deep*), Denmark (*Reptilicus*) and even the UK (*Gorgo*). In fact, you could well argue the *kaiju* genre first came into being in the US in 1933 with the release of *King Kong*. Meanwhile, as well as being a showcase for Ray Harryhausen's stop-motion effects, 1953's *The Beast from 20,000 Fathoms* provided producer

Tomoyuki Tanaka with the inspiration to make the following year's *Godzilla*.

Ah yes, *Godzilla*. It is, of course, impossible to discuss the *kaiju* genre without coming back to the unquestioned 'King of the Monsters'. Holding the record for the longest continuously running movie franchise (with a total of 31 films between 1954 and 2016), the Big G is a genuine pop culture icon, and one whose level of recognition outside of his native Japan far exceeds the number of people around the world who have actually seen any of his films. But even if they wanted to, they'd come unstuck, because **the *Godzilla* franchise has been poorly handled in the UK.**

The arrival of Roland Emmerich's dismal US remake in 1998 saw a quick flurry of VHS releases trying to cash-in on the hype, but since then things have almost completely dried up. Apart from the two US reboots, the only other DVDs to see the light of day on these shores have been 1954's *Godzilla*, 1962's *King Kong vs Godzilla* and a collection of three episodes from the 1998 cartoon series. Incredibly, the situation on Blu-ray is even worse.

Across the Atlantic, the franchise has fared better on BD, but the focus has primarily been on the post-1984 films, with a Criterion Collection release of the original being the notable exception. Naturally, the entire franchise is available on hi-def disc in Japan, but those releases don't include English subtitles. And I don't speak Japanese.

What's obviously needed is a boutique Blu-ray label to take the plunge and secure the UK rights to the whole rubber-suit monster franchise and give the movies the hi-def releases they deserve. I've got the shelf space ready and waiting... ■

Which film franchise would you love to see released on Blu-ray? Let us know: email letters@homecinemachoice.com

Anton van Beek loves *kaiju* films so much that he has made an entire town out of empty cardboard boxes so he can pretend to be *Godzilla*...



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In The Mix

With his eyes still recovering from watching a 4K Blu-ray at 60fps, **Jon Thompson** is certain that HFR has a future in video games, but should be kept away from cinemas

JUST WHEN YOU thought it was safe to go back into your cinema room, the topic of higher frame rates (HFR) has reared its ugly head. And when I say ugly, I mean ugly. Nothing I have seen so far has convinced me that HFR is a good thing.

The latest example is *Billy Lynn's Long Halftime Walk*, made by Ang Lee. Due to the fact that his previous film, *Life of Pi*, made more money than *God* at the box office, it appears he was then given *carte blanche* to do whatever he wanted. And what he wanted, seemingly, was to push the high frame rate envelope. Peter Jackson had already dabbled in 48 frames per second 3D with *The Hobbit*, so Lee has gone even further to 120fps 3D.

Of course, the film wasn't released in the UK in its 120fps version and – as far as I know – it was only shown at 120fps 4K at the ArcLight Hollywood's Cinerama Dome in Los Angeles, and the AMC Loews Lincoln Square in New York. It also played in 2K 120fps Dolby Vision in the AMC Village on The Parkway in Dallas.

However, *Billy Lynn's Long Halftime Walk* is now available on Ultra HD Blu-ray in the US (see p106). While UHD BD doesn't support 3D, this platter presents the film at the highest frame rate the format allows: 60fps. This means that **the UHD disc you can get is technically superior to any version shown in UK cinemas**, as well as being cheaper than the cost of an adult ticket for the Odeon Leicester Square cinema.

Having also seen the film presented at its native 120fps, I can definitely say that it 'worked better' at this frame rate than at 60fps. Running at the latter it clearly suffers from the dreaded 'soap opera effect' – a term coined by critics of higher frame rates who believe that it makes everything look like a US soap opera shot on video.

So why did I begrudgingly prefer the 120fps version? It seems we are at the mercy of evolution and millions of years of development. Humans are very sensitive to frame boundaries (the beginning and end of a frame) and somewhere around 27 frames per second it kicks in our fight or flight response, making us hyper-aware. Yet get to where frame rates are so fast that they're less discernible, and it's not such a stressful experience. Experiments have suggested that around 90 to 120fps is the limit of human perception.

Billy Lynn aside, it's currently not movies that are pioneering HFR, it's gaming – and gamers demand it as they complain about the distraction frame boundaries have on their experience. Forget 120fps or even 160fps, it seems 240fps is the new baseline.

Now gaming is one thing, and it's easy to crack up the frame rate as long as you have the GPU horsepower. With motion pictures, on the other hand, it's not so easy. The visual effects people don't have the time to render at 4K, let alone render 4K or even 2K at 120fps – so forget about doubling that. You have to remember some shots in a high-budget film take a month to render at 2K; no one is going to tie up a render farm on one shot for the time (potentially years) to render one shot at 4K at 240 frames. It would be pointless!

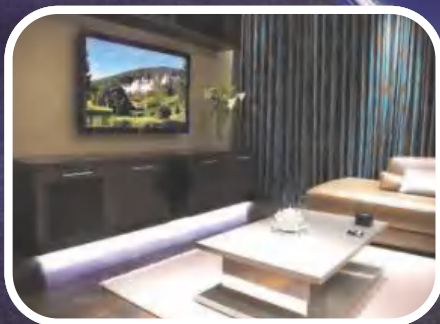
And I don't think cinema audiences are crying out for higher frame rates. What they are bothered about is sound quality followed by the image being too dark. Thankfully, for the time being HFR for movies will be on hiatus until another high-profile director twists a studio's arm to finance a project. James Cameron begins filming four *Avatar* sequels this August... ■

Are higher frame rates the future of film or nauseating nonsense? Let us know: email letters@homecinemachoice.com

When he's not in his screening room, **Jon Thompson** tweets about Hollywood gossip, movie-making and digital mastering at [@johnnyfocal](https://twitter.com/johnnyfocal)



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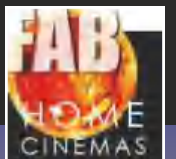
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Feedback

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Stand and deliver

Just read the letter re: AV furniture for large TVs [*HCC #269*]. I bit the bullet about 18 months ago and decided to buy one of the last great Panasonic plasmas at 65in (rather than wait for 4K).

I also had the worry of where to stand this and found this TV stand [pictured right] in Curry's at only £70. Underneath is fine for my centre speaker and games consoles – I have all my other gear in a rack on the other side of the room. I guess there would be ample space on the bottom shelf to have an AV receiver, Blu-ray player, Sky box, etc. So stands do exist for this size, just have a good look around!
Steve Smalley

Mark Craven replies: Thanks for the letter and pic, Steve – that stand is certainly a good size-match for your Panasonic beast! Plenty of room below deck, too, although some people prefer separate shelves to keep things neat and tidy.

New amp, new speakers?

Hi. Thanks very much for taking the time to look at my question and reply [*HCC #270*], it's much appreciated. I was coming to the

same conclusion myself but I just wanted to hear it from the experts too, so 7.1.2 it is.

I did contact Arcam also and they admitted to making a small error in the manual for the AV860 [about correct placement of in-ceiling Dolby Atmos speakers].

I don't have the processor yet – I was just doing some research into the possible upgrade. I'm boosting the audio first and I'm thinking of the Anthem MRX 720 and then using my existing Linn LK85 power amp via the pre-outs on the MRX 720 to run two extra ceiling speakers. The idea being to have one box to cover all my standard music listening and cinema surround, too.

My main front speakers are Ruark Talisman IIs and the centre channel is a Ruark Dialogue



A TV stand fit for a plasma king

One. Do you think the change to the Anthem would justify an upgrade in front speakers? Because I've had these for years now.

Phase two of the upgrade project will be changing my current JVC HD350 projector

Is HDMI 2.1 a worry?

I was repeatedly a victim of early adoption when I bought kit just to see it be outpaced by the development of new standards within half a year of plunking down my money. I was just about to buy an Arcam AV860 processor when the new HDMI 2.1 specs were announced. The Dirac wizardry really had me longing for the Arcam, but it seems to me that with its HDMI 2.0 inputs it is old before it even arrived in the shops. Am I wrong? Or is there a chance that Arcam will offer an upgrade, eventually, like Marantz did? Please do enlighten me...

Patrik Etschmayer, Switzerland

Mark Craven replies: I wouldn't bank on Arcam being able to upgrade the HDMI stage on the AV860 to HDMI 2.1. However, as that standard is designed for 8K (and above) video, it's probably not worth worrying about right now...



Arcam's AV860 features HDMI 2.0a connections

to a 4K model, and installing an Ultra HD Blu-ray player.

I would appreciate advice on the processor/front speaker upgrade if you can!

Richard Stevenson replies: Upgrading speakers when you get a new AVR or processor/amp combi is a bit of a grey area. As you say, you've had the Ruarks for years, so you must like them and how they sound. And, as they still work, replacing them just because you've got a new AVR might seem like a waste of money. And you might not get much resale value from these elderly cabinets.

Your Ruark floorstanders are certainly well-specified models that shouldn't be overwhelmed by the Anthem amp, and you'll no doubt find that Anthem's ARC EQ processing yields soundstage improvements in your setup, so they might sound even better than before.

However, if you're then going to go for an Atmos array, with additional height speakers, aiming for a close timbre match between the base 7.1 layer and the heights might lead you to consider starting over with your speakers, and finding a set that best matches the needs of your room and the Anthem's own sound signature.

At first, though, my advice would be to stick with the Ruarks and see how you get on. You can always make a change further down the line.

We don't complain enough!

Great mag, I've bought every copy. This is my second letter to you – the last being during the early Blu-ray wars, and while we may never have had things better in the home cinema world, the cycles regarding early adopters just keep on going.

Thanks to HCC we all knew that Dolby Vision was likely to make it to mainstream disc media. Although I am still happy with the Panny HDR 10 kit and the discs so far, I keep thinking back to when I bought my now-worthless R1 DVDs from Play USA and how the first DVD players didn't play DTS soundtracks.

We don't complain enough! Without early adopters mainstream Joe would never follow, so why do 'they' keep subjecting their best customers to this practice time after time?

So onto bread-and-butter 4K. I recently left my TV service with Virgin, despite knowing the V6 TiVo box was imminent, as the only 4K content Virgin could offer was Netflix and YouTube – three pieces of kit I have already had this capability. I bought into Sky Q multiroom to get 4K content – fitted on Dec 31 2016, but it was only 2 Mar 2017 when the service was actually stabilised. Virgin is also still charging me for a TV service I no longer have with them two months later. I've complained twice!

★ Star Letter...

4K upscales should be labelled as such!

If a 4K UHD disc is a 2K upscale (i.e. 'fake 4K'), then why isn't it labelled on the spec on the cover? Basically, in this instance, we are buying an upscaled BD. Everything else seems to be on the spec.

When Blu-ray ruled the waves we wouldn't have settled for SD upscaled BDs! This is a similar thing!

Incidentally, for BDs converted from SD then these are clearly labelled as SD Blu-ray and I have a few such discs. *Queen: A Night At The Odeon* is labelled on the back as an 'SD Blu-ray'. It was originally shot by the BBC in 1975.

I feel quite strongly about this and feel we should push the relevant bodies to label the origin of the content/conversion, etc. As not all 4K releases are equal. Why not '4K master', '8K master', '2K conversion', etc? Similar to how CDs were labelled to show their conversion from analogue or digital, 'AAD', 'ADD' and 'DDD'.

I begrudge paying a premium price for basically what could be an upscaled BD which I could do with a Blu-ray disc and upscale to 4K with my TV or player. I'm basically paying extra for the luxury of HDR. *Kevin*

Mark Craven replies: You raise interesting points, Kevin, and are not alone in contacting us about this situation. I agree that it would be useful, not to mention refreshingly honest, for Blu-ray labels to earmark what source has been used for a 4K release – after all, the likes of Sony were previously keen to tell buyers when Blu-rays were being based upon 4K masters. However, the level of general understanding of 4K and HDR is so low that I can't see studios wanting to confuse

customers even more, nor admit that there are different 'flavours' of 4K.

A couple of things. SD Blu-rays are exactly that, standard-def video that just happens to be housed on a Blu-ray disc, with no upscale going on. We've seen them used for concert videos – the accompanying soundtracks typically offered in lossless formats beyond the spec of DVD. And there have been Blu-rays released using upscales of SD masters, typically with no admission, although the BBC has been open about some early *Doctor Who* episodes being presented this way.

A second point: we've learned over the first year of the 4K Blu-ray format that there's no guarantee that a feature based on, say, 2K, 2.8K or 3.4K digital cinematography is going to look noticeably worse than something derived from a genuine 4K source. Mastering and encoding processes have a part to play, and some studios seem to be more on the ball than others. Just because *Everest*, for instance, was apparently mastered at 2K resolution, so has been upscaled for its UHD BD release, doesn't make it a poor visual experience – especially as HDR and wide colour grading come into effect.

Star letter-writer Kevin grabs the acclaimed comedy *Swiss Army Man* on Blu-ray. Starring Paul Dano and Daniel Radcliffe, this gonzo buddy film is available to own on Blu-ray and DVD from April 10, courtesy of Lionsgate UK.



The Wi-Fi connection of the Sky Mini box was iffy upon installation, so the engineer placed a Wi-Fi booster between the Mini and the Q box. This constantly dropped out or froze, a situation which I endured throughout January. It took two engineer visits to fix. During the second one I demanded an Ethernet cable be fitted. It dropped out after five days and refused to work. The reason? The engineer left the boxes still on Wi-Fi. After hours of phone calls, one person at Sky finally gave me the code to get into the engineering menu to turn the Wi-Fi off. It now works great and I'm looking forward to 4K F1 and the rest of the available stuff.

More! Can anybody shed some light on how I can get the VideoPass app for Moto GP

from Dorna onto my DX902 TV reliably without having a laptop and HDMI please? I don't think I could suffer BT and £29/month just for one sport.

Gavin Johnson

Mark Craven replies: Thanks for your whirlwind of a letter (which we've had to trim down a bit, sorry!). You're right – it pays to complain when the service/product you've invested in isn't doing what it's supposed to do. I've lost track of the number of times I've spoken to both my network supplier and my mobile phone operator (what is it with telecommunications companies?) about faults, incorrect bills, complete lack of broadband... and it's only when you start to >

really have a moan that anything seems to get done.

Anyway, early adopters. You've hit the nail on the head again here, Gavin – first-wave buyers are the ones that help new products break ground, so it'd be nice if they were shown more appreciation. The Blu-ray format rollout was, to be honest, a bit of a disaster in this regard. Ultra HD seems to have gone a little better (more software, more affordable hardware) but Dolby Vision might throw a spanner in the works. The situation with 4K HDR TVs is worse. Buy a TV and then hope it will get the necessary firmware updates seems to be the current business model.

With Sky Q I've had headaches regarding dropouts between the Q PVR and the Mini box. When I'm feeling kind I blame this on my router (not a Sky one) and stomach having to do a hard reset and wait for the system to reconnect. Other times I do wonder if improvements could be made by the satcaster. Maybe I should hook up via Ethernet...

MotoGP's VideoPass app... As I'm not a paid up MotoGP member I can't check, but if you're accessing it on a tablet/smartphone have you tried either screen mirroring to your Panasonic TV (assuming it supports it) or using a USB-to-HDMI MHL cable to hook your device to the telly? Another alternative might be to view in a Chrome browser on a

laptop and 'cast' it to your TV, but you'll need to buy a Chromecast adaptor.

A dirty omission

I see your ensemble movie roundup [Collecting, HCC #270] went with Kelly's Heroes rather than *The Dirty Dozen* – presumably you didn't want to choose too many WW2 movies. Yet *The Dirty Dozen*, made in 1967 and starring Lee Marvin, Charles Bronson, Donald Sutherland and Telly Savalas, is an action classic, although poorly treated on Blu-ray. I'd like a definitive edition – this year would be its 50th anniversary – perhaps with the first sequel (*The Dirty Dozen: The Next Mission*) too.

Brian Chester

Anton van Beek replies: *The Dirty Dozen* was on our list but didn't make the cut – we did suggest viewing it as a double-bill with *The Guns of Navarone*, though. The film was released on Blu-ray in the US by Warner in



The Dirty Dozen: not on UK BD yet

2007, with a lossy soundmix and, by all accounts (I've not seen the Blu-ray), unimpressive image quality. It was also out on HD DVD, back in the day.

Right now, perhaps the best hope for seeing the film receive a BD release on these shores may lie with the HMV-exclusive 'Premium Collection' lineup, which has already seen UK debuts for a number of other Warner Bros. catalogue titles that were previously only

available on the format overseas (such as *Logan's Run*, *The Adventures of Robin Hood* and the original *King Kong*).

Sadly, Warner's general unwillingness to sub-licence its films also rules out the chances of a more comprehensive release from one of the UK's indie Blu-ray labels ■

Contact us...

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WIN! Great Blu-rays up for grabs...

Just email your answer to Competitions@homecinemachoice.com to be in with a chance to win



Allied

This World War 2 thriller starring Brad Pitt and Marion Cotillard is available to own now on Digital, followed by 4K Ultra HD Blu-ray, BD and DVD on April 3.

To celebrate we've joined forces with Universal Pictures Home Entertainment and have five *Allied* Blu-rays to give away.

Question:

Allied director Robert Zemeckis helmed which of these iconic film trilogies?

Answer:

A) Back to the Future B) The Godfather C) The Lord of the Rings

Email your answer with 'Allied' as the subject heading – and don't forget to include your postal address!



Arrival

The award-winning sci-fi sensation is available to own now on Digital, DVD, Blu-ray and Zavvi-exclusive Blu-ray Steelbook courtesy of Entertainment One Ltd.

To be in with a chance of winning one of three *Arrival* Blu-rays, all you have to do is answer the following question correctly...

Question:

Arrival actor Jeremy Renner plays which of the Avengers in the Marvel Cinematic Universe?

Answer:

A) Captain America B) Black Widow C) Hawkeye

Email your answer with 'Arrival' as the subject heading – and don't forget to include your postal address!



The Chamber

This claustrophobic survival thriller follows the crew of a small submersible craft who find themselves trapped underwater.

The Chamber is out now on Digital, DVD and Blu-ray, courtesy of StudioCanal. To mark the film's release we've got five *The Chamber* Blu-rays up for grabs.

Question:

James Dean Bradfield, composer of *The Chamber's* score, heads up which band?

Answer:

A) Manic Street Preachers B) Feeder C) Super Furry Animals

Email your answer with 'Chamber' as the subject heading – and don't forget to include your postal address!

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Steve's room as it looked when we visited in 2014



Certified: AV-Holic!

Revisited

HCC reader **Steve Clark** reopens the door to his vintage-themed home cinema room to reveal some new hardware additions and refreshed aesthetics. Although he's still on the hunt for an original '50s-era Coca-Cola machine...

THIS SMART-LOOKING MOVIE room first featured in these pages in 2014 [*HCC* #236]. Owned by Milton Keynes-based Steve – a one-time LaserDisc retailer and self-confessed bargain-hunter – it resides in a former spare bedroom and originally took two years to come together.

The design of the space has always been – and remains – an important factor for our AV-Holic. Before settling on the red/gold colour scheme, Steve experimented with three different approaches. 'I wanted a room with some atmosphere, rather than simply looking like a room with just a projector and a screen.'

Adding to the traditional cinema aesthetic are a host of neat touches, from an original BBFC certification sign to the seven-strong

seating arrangement, grabbed for less than £400 from a second-hand seller.

However, like any home cinema setup, this room doesn't exist in stasis. Steve has made a few changes, and has other potential developments on the roadmap.

What's in your kitlist?

My AV receiver is a Pioneer VSX-923. This drives a 7.3 speaker array, with KEF K Series models for the front speakers, Mission Series 7 models for the rear/surround channels and a Totem Dream Catcher centre speaker. For the subwoofers I have two KEF PSW2000s, and a new (albeit second-hand) addition, an M&K V75 MkII.

My Epson EH-TW8200 projector (imported) is also new. This fires at my

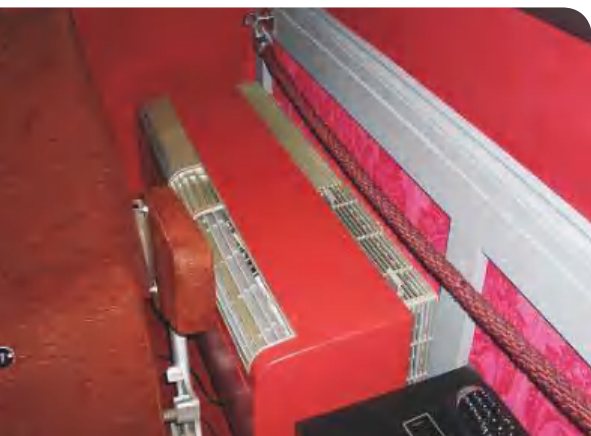
hand-made 120in fixed-frame screen. Sources include an Oppo BDP-93EU Blu-ray player, and control is via a Harmony One remote.

So you've upgraded your projector – when did you decide to make the change?

I switched the projector last year from my previous Epson EH-TW5910 mainly to achieve better blacks and more contrasty pictures, particularly with 3D as I'm a big fan. It's a fab projector and a definite improvement. I've also incorporated a Darbee Darblet, which I believe has really made for a much better movie experience – all my friends just love it.

Any plans to install Atmos?

Later this year I'm looking to change my



allegiance from Pioneer and get a Denon AVR-X6300. And with that 11-channel model I'm intending to beef up my speaker system for Dolby Atmos playback.

How about a player upgrade?

I'm currently using an Oppo BDP-93 which is still very good. However, I'm still contemplating to change to either an Oppo UDP-203 or the Panasonic DMP-UB900 – both are brilliant Ultra HD players but I may wait for prices to drop. Then I can think about upgrading my projector all over again!

What impact has adding an extra subwoofer bought to the system's sound?

I just felt I wanted a more visceral experience from the lower frequencies than I was getting from the previous setup. The two KEFs are now situated under the back seats (previously

there was only one there) and the main 12in M&K model sits at the front below the centre speaker. With the scene in *War Horse* – still a favourite demo disc – when the cannons are set off it's all-encompassing!

The room still has that cool retro feel – and you've added some new touches...

Yes. I fitted an air-conditioning unit a while ago to make the room a much more comfortable environment to be in. It's surprising how hot it used to get when we had a full-house of movie watchers.

Another little extra has been to add cinema-style curtains. These are operated by the Logitech Harmony One remote (as are the lighting and the air-conditioning), and open up just as the ads/trailers start on a Blu-ray. They are the same type as the original old ABC ones used in cinemas



Clockwise from top left: Steve has added air-conditioning to keep the room cool when he has a full house; fizzy pop is always on hand; this M&K V75 MkII subwoofer is a new addition to beef up the room's low-end performance; an imported Epson EH-TW8200 projector has ramped up black levels and contrast



All seven seats were bought for £400, second-hand



in the '50s and '60s – I really think it's important to impress the audience with that retro feel.

I've also managed to get my hands on an original US illuminated lobby poster box, which I rewired to British electrics and use to house *War Horse* artwork.

The last time you were in *HCC* you were hunting for a vintage Coca-Cola machine – have you had any luck finding one?

I've been trying to put my hands on an original '50s or '60s wall-mounted Coke vending machine for ages but they appear only to be available in the States. So I'm still looking!

How often do you use the cinema room?

We seem to use my cinema more and more

with friends. It seems they just love the feel, smell (from the original cinema seats!) and the overall experience.

After all I feel there's no real point in having a dedicated home cinema setup if it has no real originality.

Lastly, what are your current favourite demo discs?

Recently, all our friends loved watching the new *Star Trek Beyond* on 3D Blu-ray. I think this is a massive improvement from the last couple of series entries in terms of picture contrast and clarity in the surround sound.

I'm looking forward to seeing the new *Star Wars* movie later this year, and then screening it in my room. I think that's what it's all about – sharing your experience and excitement of your own cinema with all your friends and family ■



Top left: regular demo disc *War Horse* is now celebrated by this illuminated wall poster

Top: Our AV-Holic uses a Harmony One remote to control the room's AV, plus lighting and motorised projector screen curtains

Above: The two Pioneer Blu-ray players have been replaced by an Oppo BDP-93EU

Share your system in the mag!

If you want to be in *HCC*, you'll need to send us some hi-res images of your cinema room. Here are a few tips for great-looking pictures:

- 1. Go big.** Set your camera to take images at the largest possible size, and at the highest resolution. Don't worry about cropping or resizing – we will make them print-ready.
- 2. Get in focus.** Make sure your photos are as sharp and clear as possible. If you have one, use a tripod, or place your camera on a flat, steady surface and take pictures on a delay. The sharper they are, the bigger we can print them.
- 3. Let some light in.** While we tend to watch

- movies in the dark, our cinema systems look their best when they are lit. If you can shoot with natural daylight, do so. If your room doesn't get a lot of light (a garage conversion, for instance) then switch on whatever lights are fitted. Avoid using flash wherever possible.
- 4. Be thorough.** Send photos of as much of the room as possible. Images of both the front and back of the room, the kit rack, speakers, seating, disc shelf, movie poster art... The more the merrier.

- 5. Don't be shy.** Send a picture of yourself!
- 6. Show us more.** Got pictures of your room before it was a cinema? Or snaps of work being done? We love to see these, too.

Email your selection of images to letters@homecinemachoice.com with the subject heading 'AV-Holic'. Provide us with some information about your setup – including a full kit list – and we'll then be in touch.



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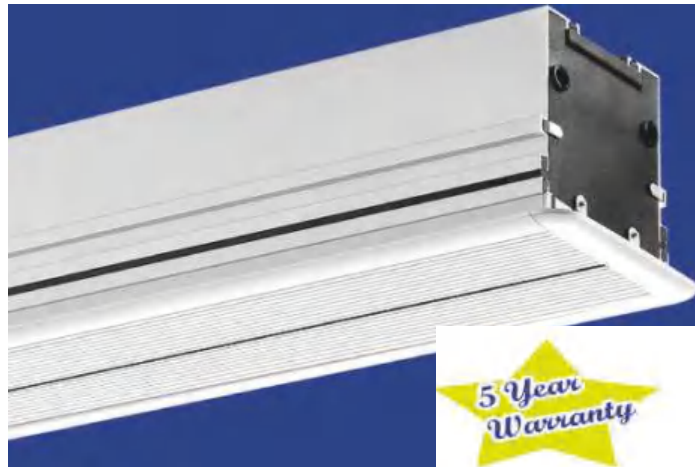
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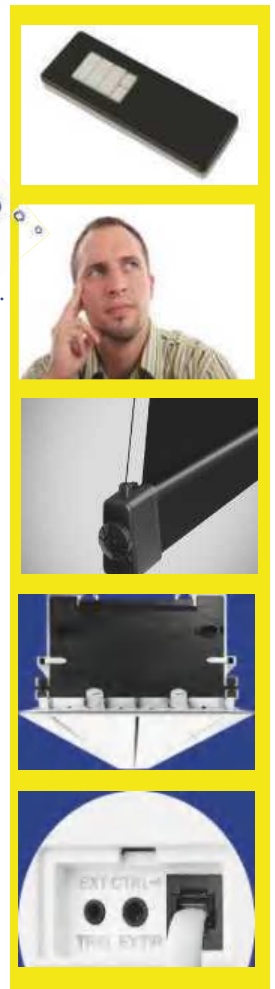
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Closer encounters

Arrival → Entertainment One → Region B BD

Director Denis Villeneuve sets out to put the science back into science-fiction with this award-winning 'first contact' thriller. Find out if *Arrival* really lives up to the hype as we put the Blu-ray release under the microscope on p96...

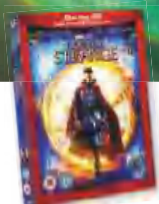
HCC RATINGS KEY...

Outstanding	★★★★★
Above average	★★★★☆
Acceptable	★★★☆☆
Disappointing	★★☆☆☆
Dire	★☆☆☆☆

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'Izzy-wizzy let's get busy...'



Marvel's magical mystery tour

A trip to the weirder side of the MCU reaps big rewards for fans of stereoscopic home cinema



→ DOCTOR STRANGE 3D

Having established the rules of its shared cinematic universe, Marvel Studios now sets about shaking it up by introducing magic to the mix with the tale of a crippled neurosurgeon (Benedict Cumberbatch) who finds salvation in the mystic arts. While the actual story is nothing particularly new, the excellent cast and novel dressing (sparkling magical sigils and kaleidoscoping cityscapes) makes it feel fresh. It's also nice to see a comic book movie where the hero outsmarts the villain rather than simply beating them into a pulp.

Picture: Following a rather drab and gloomy opening scene, the 3D incarnation of *Doctor Strange* quickly proves it has some serious stereoscopic skills. As the action in the prologue shifts to the streets of London the MVC-encoded image's impeccable clarity and tangible depth puts you right at the heart of the twisting architectural forms.

From then on this 1080p 3D image doesn't really put a foot wrong, maintaining a convincing sense of volumetric space (with a few fun instances of boundary-popping negative parallax thrown in for good measure). While brightness takes a slight dip, colour reproduction remains surprisingly strong at all times.

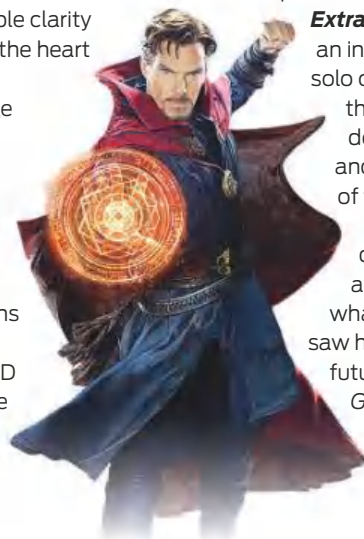
Unlike the accompanying 2.40:1 2D presentation (which is itself up to the high standard fans have come to

expect from Marvel/Disney), the framing of the 3D version alternates between 2.40:1 and 1.78:1. While some may find the constant shifting back and forth a bit of a distraction, there's no denying that the fuller-framer shots add an extra sense of scale to the film's already pretty epic visuals.

Audio: As it's a Disney title, there's no surprise that the *Doctor Strange* Blu-ray lacks the Dolby Atmos soundtrack that accompanied the film on its theatrical run; it compensates with a detailed and dynamic DTS-HD MA 7.1 mix. Positional cues are precise and plentiful, panning and flitting around the soundstage with slick fluidity (witness the shifting position of the Ancient One's voice during Strange's out-of-body experience in Chapter 5). LFE notes hit deep and contribute to a largescale sonic experience.

Extras: Director Scott Derrickson provides an intro to the film and an illuminating solo commentary. Further details about the cast, costume and production design, fight training, visual effects and score can be found in a collection of five behind-the-scenes featurettes.

Rounding out the package are five deleted/extended scenes, a gag reel, a comedy short updating fans as to what Thor has been up to since we last saw him, and a promo featurette teasing future Marvel movies (*Guardians of the Galaxy Vol. 2*, *Thor: Ragnarok*, *Black Panther* and *Avengers: Infinity War*).



HCC VERDICT

Doctor Strange 3D

→ Walt Disney → All-region BD
→ £28

WE SAY: Marvel is no stranger to Blu-ray success and this latest 3D outing is yet another heroic release.

Movie: ★★★★★

Picture: ★★★★★

Audio: ★★★★★

Extras: ★★★★★

OVERALL: ★★★★★

A Street Cat Named Bob

Sony Pictures → All-region BD
£25



Having already told a tale of human-canine friendship with the 1989 cop comedy *Turner & Hooch*, director Roger

Spottiswoode gets to do the same for cats. Based on the bestselling book of the same name, this amiable drama recounts the true story of a homeless London busker with a drug habit whose unlikely salvation arrives in the form of a stray ginger tomcat. As well as pleasing 2.40:1 1080p imagery, this Blu-ray benefits from a playful DTS-HD MA 5.1 mix that has plenty of fun with the cat's POV shots. A half-hour *Making of...* is the only extra.



Storks

Warner Bros. → All-region BD
£25



It may have flown under the radar on its cinema release, but this animated comedy is well worth a look on

Blu-ray. *Storks* finds its avian cast having given up on delivering babies and now handling packages for an online retailer instead – at least that's the plan before a mishap accidentally restarts the whole baby business. Packed with goofy gags for the kids and canny corporate humour for their parents, *Storks* is a cartoon that will have no trouble entertaining viewers of all ages. This BD boasts vivid 1080p imagery, DTS-HD MA sonics in 7.1 flavour and a fun assortment of bonus bits.



The Love Witch

Icon [FrightFest Presents]
Region B BD → £18



A feminist fable wrapped up in the trappings and retro style of early 1970s horror cinema, *The Love Witch* follows Elaine (Samantha Robinson), a young woman whose search for true

love with the help of potent 'sex magic' leaves a trail of dead menfolk in her wake. Written and directed by Anna Biller (who also counts editing, set design and costume making among her many credits), *The Love Witch* is both an enjoyable homage to genre cinema of a bygone age and a rewarding celebration of femininity. With its sumptuous HD visuals and engaging extras, it's also the 'FrightFest Presents' label's best disc to date.



From Inglourious to glamorous

Brad Pitt is yet again hunting Nazis in this throwback to the Golden Age of Hollywood

→ ALLIED

While operating undercover in Casablanca at the height of World War 2, intelligence officer Max Vatan (Brad Pitt) falls in love with Marianne Beausejour (Marion Cotillard), the French resistance fighter masquerading as his wife. Following the completion of the mission, Max returns to London with Marianne at his side and the two marry for real. His happiness is short-lived though, when he's informed that Marianne is suspected of being a German spy and that, if proven, he must be the one to kill her.

Allied is very much an old-fashioned film that looks back to the star-studded romantic-dramas of Hollywood's Golden Age, albeit put together with an \$85m budget. The thing is, it wears its influences so blatantly (star-crossed lovers encountering each other in *Casablanca* during WW2, anyone?) that it can't help but remind you of the far superior films it is waxing nostalgic for.

Get past that, however, and *Allied* has plenty that works in its favour. The two leads share a palpable on-screen chemistry and director Robert Zemeckis brings a gorgeous dash of glamour and elegance to the film. And while the story itself is a little thin, writer Steven (Taboo) Knight flavours it with lots of interesting touches, such as Max's out-and-proud lesbian sister (Lizzy Caplan) and the scene in which Max and Marianne enjoy a picnic in glorious sunshine, only a few hundred feet from the wreckage of a downed German bomber.

They may not make them like they used to, but this proves it's possible to cook up an engaging approximation all the same.

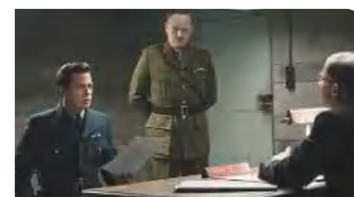


Picture: *Allied* arrives on Blu-ray with a slick AVC encode that gets the most out of the film's glossy digital photography. From start to finish the 2.40:1 1080p image is crisp and colourful, while fine details are expertly resolved. Black levels are also excellent, displaying not even a hint of crush.

An Ultra HD Blu-ray is also available, but was not available for review in time for this issue.

Audio: The film's DTS-HD MA 5.1 mix is more concerned with atmosphere than action, although still capable of delivering an aggressive surround sound experience when needed, as with Chapter 5's sandstorm or Chapter 11's air raid. Dialogue and music are cleanly prioritised.

Extras: Also included on the Blu-ray are 10 behind-the-scenes featurettes, running between five and 10 minutes each. Subjects covered include the origin of the story, production design, costumes, the cast, the director, visual effects and scoring the film.



Spies like us: just who can Brad Pitt's Max trust in this wartime drama?

HCC VERDICT

Allied

→ Paramount/Universal Pictures
→ All-region BD → £25

WE SAY: Stunning Blu-ray visuals add an extra layer of glamour to this old-school drama.

Movie: ★★★★★

Picture: ★★★★★

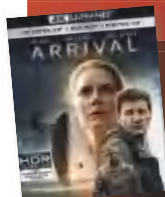
Audio: ★★★★★

Extras: ★★★★★

OVERALL: ★★★★★

Communication breakdown

Denis Villeneuve's complex and thought-provoking sci-fi film is more concerned with words than actions



Import the Ultra HD Blu-ray for a close encounter of the 4K kind...

Since *Arrival* is handled by Paramount in the US, it's already available on Ultra HD Blu-ray over there. And since those discs don't feature regional coding and the accompanying Blu-ray isn't region locked either, you can safely import it to the UK. The only thing that won't work is the package's HD download code.

Arrival's 4K picture quality is... interesting. The filmmakers have apparently had significant input on the way the UHD Blu-ray looks, and the result is an image quite different to the 1080p platter. Though not, perhaps, in a way all AV fans will love.

The 4K transfer looks markedly more stark. Dark areas are noticeably blacker, while light peaks stand

out much more stridently. This is especially blatant when the scientists in a dark 'reception room' try to communicate with aliens in a nearby white room, but it impacts almost every scene to some extent.

An expanded dynamic range is hardly a unique discovery on a 4K BD, but it's exaggerated here by a reluctance to push colours as much as usual. The wide colour gamut support tends to only stand out in very specific circumstances – mostly outdoor scenes.

There are clear thematic reasons for all these HDR and colour decisions that make the 4K Blu-ray overall the more powerful and engaging presentation – provided your TV or projector can handle the disc's challenging benefits. That said, the lack of any significant increase in detail levels versus the 1080p



incarnation and the limited extent of the HDR and colour regrading mean *Arrival* is not the 4K demo disc we'd hoped for.

Note, finally, that the 4K disc offers no soundtrack benefits over the Full HD Blu-ray.



→ ARRIVAL

Following the sudden arrival of a dozen alien spacecraft around the globe, linguistics professor Louise Banks (Amy Adams) is approached by the US military to aid them in translating the alien visitors.

Together with a team of mathematicians and scientists (including physicist Ian Donnelly, played by Jeremy Renner), Louise discovers that the squid-like aliens, dubbed 'heptapods', communicate with complex symbols and starts working on a method of decoding their language. Meanwhile, tensions and paranoia about the aliens' true intentions see world governments isolating themselves from each other, leading to the possibility of a new global conflict.

Directed by rising star Denis (Sicario) Villeneuve, *Arrival* is that rarest of things in this day and age: a genuinely sophisticated and intelligent science-fiction film. For all of the spectacle it unleashes on the screen, at its heart *Arrival* is a film about language and the importance of communication, not just between humans and aliens, but between nations. As such, it feels particularly resonant.

If you're worried that it's over-worthy and dull, you shouldn't be. Over its two-hour run-time it tells a fascinating story, and in purely cinematic terms it manages to make the act of decoding alien symbols every bit as electrifying as the space battles from a more traditional blockbuster. Add to that a stunning emotional punchline that makes you re-evaluate everything you've just seen and you have an A-grade movie.

Based on this, we completely understand why Villeneuve was chosen to direct the upcoming *Blade Runner* sequel. Wonder what he does with it...

Picture: If you've seen Villeneuve's earlier thrillers *Prisoners* and *Enemy*, then you'll already be familiar with the restrained aesthetic the director brings to this science-fiction flick.

Framed at 2.40:1, the Full HD image (based upon a 2K digital intermediate of the 2.8K digital source) has a very muted appearance, where even seemingly



Jeremy Renner is currently filming *Avengers: Infinity War* for Marvel



The design of *Arrival*'s spacecraft was inspired by the 15 Eunomia asteroid

sunny shots of the Montana plains are made to look like a damp afternoon in Cumbria. It's enough to have you checking your display's settings. Similarly, black levels veer towards muddy greys and while this doesn't affect the overall sharpness of the image, it does have a knock-on effect with its ability to accurately render shadow detail.

The exceptions to this deliberate desaturation are the rich, orange hazmat suits the team wear during their trips into the alien craft.

Not the most impactful HD encode you'll ever see, but likely an accurate reflection of the filmmakers' intentions, and one that suits the tone of the movie perfectly.

Audio: Immersive and dynamic, *Arrival*'s award-winning sound design makes constant use of the DTS-HD MA 7.1 soundstage (Paramount hasn't bothered to encode it in either Atmos or DTS:X here) to create a coherent acoustic world, packed to the rafters with all sorts of finely-etched effects.

The whole shebang is underscored by a powerful and resonant low-end that will keep your subwoofer extremely satisfied – Chapter 3, for example, starts with the sound of helicopters, slowly building to fill the entire soundstage. It's a startling indication of the (carefully controlled) power and potency of the track's LF, which will become the hallmark of the sound design as the movie continues.

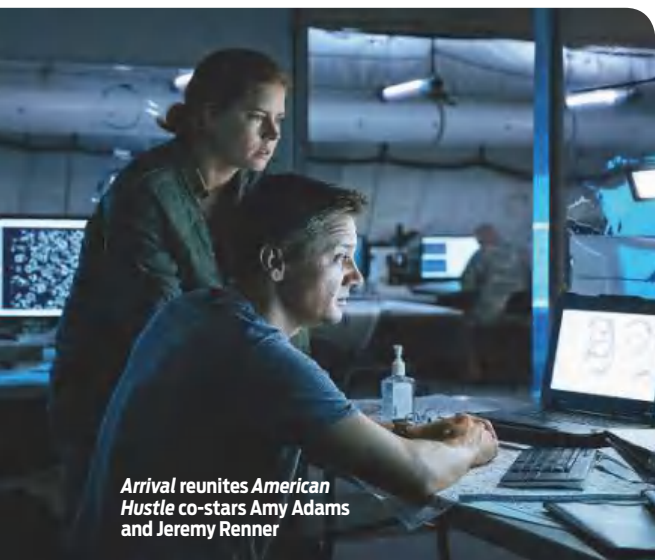
Don't expect the bombastic set-pieces offered by the likes of *War of the Worlds* or *Independence Day*, and you'll be amply rewarded.

Extras: *Arrival*'s Blu-ray serves up a quartet of fascinating behind-the-scenes featurettes...

Xenolinguistics: Understanding Arrival (30 minutes) offers an in-depth overview of the film's production, from inception to completion. *Acoustic Signatures: The Sound Design* (15 minutes) looks at the creation of the film's otherworldly soundscape and the key role it plays in the narrative.

Nonlinear Thinking: The Editorial Process (11 minutes) talks to editor Joe Walker about the way in which *Arrival* was put together and how the concept of editing is particularly relevant to the film. Finally, *Principles of Time, Memory & Language* (15 minutes) looks at *Arrival*'s philosophical and scientific principles.

The US Blu-ray also includes a further featurette about the score, which is curiously absent here. ➤



Arrival reunites *American Hustle* co-stars Amy Adams and Jeremy Renner

HCC VERDICT

Arrival

→ Entertainment One
→ Region B BD → £25

WE SAY: Intentionally drab visuals aside, this is a terrific hi-def release for a sci-fi masterpiece.

Movie: ★★★★★

Picture: ★★★★★

Audio: ★★★★★

Extras: ★★★★★

OVERALL: ★★★★★

Arcade Action

Bigscreen home entertainment isn't just about movies anymore. **Rik Henderson** checks out a videogame vying for time on your home cinema system...



Horizon Zero Dawn

Sony Interactive Entertainment → PS4 → £55

Gaming has long been associated with home cinema – after all, why have a massive screen and superb sound system without testing it with all forms of entertainment? But it is only since the advent of the current generation of consoles that perhaps the visuals truly do your setup justice.

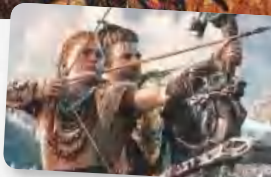
Horizon Zero Dawn is a massive, third-person, open-world RPG, with an intriguing premise and great depth. It combines science fiction and fantasy themes with a rare mastery and takes at least 40 hours to complete if you want to experience all its wonders. Yet for AV enthusiasts its biggest, most jaw-dropping attraction lies in its visual quality. *Horizon Zero Dawn* is, quite simply, the best-looking console game to date. Especially on the PS4 Pro.

You play as Aloy, a flame-haired young woman with a great future in videogames ahead of her – maybe even to Lara Croft levels given this stunning debut. The post-apocalyptic wilderness is what really steals the show, though. The simple, natural landscape is populated with massive, mechanical beasts – and they all look stunning when rendered in 4K and with high dynamic range picture info. Mankind has reverted to more primal, tribal times and the dichotomy between the low- and high-tech inhabitants makes for a fascinating tale and clever visual contrasts.

It also makes for an excellent combat system, as Aloy can fire arrows from a variety of bows, use a hand-crafted spear and wield other rudimentary weapons. And thanks to the sci-fi elements, all of these devices can be upgraded with explosives and other technological advancements.

Your character also has an earpiece she calls 'The Focus', which overlays augmented information onto the world, giving navigation marks or pointing out weak spots in enemies – again setting the game apart from usual fantasy RPG fare. In gameplay terms, the fisticuffs are among the most fluent we've encountered in a Western RPG. Indeed, we've been playing a fair bit of the new *Zelda: Breath of the Wild* of late and there are many similarities. High praise for *Horizon*... certainly.

Sony and developer Guerrilla Games has surely created a new hit franchise with *Horizon Zero Dawn* and (while it is also a must-own for standard PlayStation 4 owners) this is one of the best excuses yet for upgrading to the Pro model.



Cover Girl

Eureka [Masters of Cinema]
Region B BD & R2 DVD → £18



Rita Hayworth is at her sizzling best in this Technicolor musical about a Brooklyn showgirl who hits the big time after winning a modelling competition. While the songs aren't necessarily the best, the staging is incredible – thanks in large part to co-star Gene Kelly taking over the choreography with a young Stanley Donen. Based on a new 4K restoration, this disc's 1.37:1-framed 1080p transfer is ravishing and the LPCM 2.0 dual-mono audio serves the music perfectly. An isolated score, video appreciation by Baz Luhrmann and booklet are the only extras.



Seoul Station

StudioCanal → Region B BD
£23



A companion piece to the hit South Korean zombie flick *Train to Busan* (reviewed last issue), this animated movie follows a group of people based around the titular train station at the start of the outbreak. While an enjoyable ride in its own right, *Seoul Station's* biggest problem is that it never finds the sort of fresh take on the genre that its live-action sibling provided. It's a shame too, because an early focus on the city's homeless and dispossessed hints at something more provocative than what we end up getting. In addition to gore-geous picture and sound quality, this BD also houses a 15-min *Making of...* video.



The Last Detail

Indicator → All-region BD &
R2 DVD → £23



If you've ever had reason to wonder why people rate Jack Nicholson so highly as an actor, then look no further than his brilliantly profane performance as one of the Navy men tasked with escorting a young sailor to prison in Hal Ashby's acclaimed 1973 comedy-drama. While it's unlikely to win any AV awards, the 4K restoration that served as the basis for this Blu-ray does an excellent job of capturing the grubby, rough-hewn look of Ashby's film. Quality extras include interviews, the isolated score and a world-exclusive presentation of the censored 1976 TV edit.





Moana was directed by John Musker and Ron Clements of *The Little Mermaid* and *Aladdin* fame



The emotion of the ocean

Disney's 'toon is a technical triumph and a spirited update of the traditional 'Princess' formula

→ MOANA

2016 was a banner year for Disney. Bookended by brand-new *Star Wars* films, it also saw the Marvel brand go from strength to strength at the box office. It was also the first time since 2002 that its animation arm released two films in the same year. And while it might not hit quite the same highs as its sibling *Zootropolis*, there's no denying that *Moana* is another triumph.

Auli'i Cravalho voices the title character, the strong-willed daughter of a Polynesian chieftain who embarks on a daring journey to save her homeland by returning the mystical heart of the goddess Te Fiti to its rightful home. To do this Moana must first track down Maui (Dwayne 'The Rock' Johnson), the vainglorious demigod who originally stole Te Fiti's heart, and convince him to help her complete her quest.

Moana may focus on a plucky heroine and pack in plenty of empowering musical numbers, but it also has some fun with the usual 'Disney Princess' formula. It doesn't shy away from including plenty of winks at the genre's familiar tropes.

Meanwhile, the striving for authenticity in the film's depiction of

Polynesian culture results in Disney finally moving away from its usual waif-like heroines for a more realistic body type. The Pacific setting also gives the film a unique narrative and visual flavour that help it stand apart from predecessors.

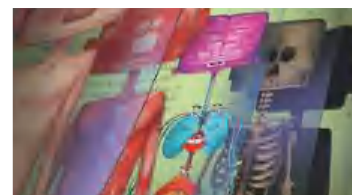
Picture: *Moana* makes a splash on Blu-ray with a pristine 2.40:1 Full HD encode. It's a lushly-coloured, detail-rich extravaganza, with fluid animation and a sense of depth in the image that's remarkable. Couple that with a lack of artefacts and banding and you've a Blu-ray image that will win over even the pickiest videophile. While it's a moot point where Disney is concerned right now, it's nice to imagine what a 4K HDR version would do to improve on this 1080p effort.

Audio: Moana's DTS-HD MA 7.1 audio is not quite as flashy as its visuals, but impresses nonetheless. Use of the surrounds is expansive and convincing, and there's plenty of surprisingly hefty LFE on offer. Likewise, the musical numbers sound wonderful.

Extras: The centrepiece of the disc's bonus features is a half-hour documentary looking at Polynesian culture. Joining it are two animated shorts (*Inner Workings* and *Gone Fishing*); featurettes about costume design and scoring the film; four videos focusing on challenging animation sequences (*Mini-Maui*, *Water*, *Lava* and *Hair*); seven deleted scenes; a deleted song; a guide to some of the film's Easter Eggs; a commentary; and more. >



Inner Workings (below) finds a man's brain and heart fighting for control



HCC VERDICT

Moana

→ Walt Disney → All-region BD
→ £25

WE SAY: Disney does it again with a masterful Blu-ray presentation of another modern animated gem. What's not to love?

Movie: ★★★★★

Picture: ★★★★★

Audio: ★★★★★

Extras: ★★★★★

OVERALL: ★★★★★





Murder on the funny bone

Spanish slasher is an enjoyable ride, but not in the way that its makers intended

→ **PIECES: LIMITED EDITION**

When a young boy's mother freaks out after catching him doing a jigsaw of a naked lady, he responds by hacking Mummy to pieces with an axe. Flash forward several decades and a chainsaw-wielding maniac is slicing his way through the female students at a Boston college. Could these events be linked?

This 1982 Spanish splatter flick exhibits the general lack of quality in writing and acting that afflicts plenty of low-budget movies in the genre. In fact, it takes such ineptitude to another level entirely. The good news is that this incoherent homage to the Italian *giallo*, directed by Juan Piquer Simón (of *Supersonic Man*, *Slugs* and *The Rift* infamy), overcomes its many deficits by dint of being so downright enjoyable. From its terrible acting (see <http://bit.ly/2mSk4bv> for the most infamous example) and blatant red herrings, to a random martial arts scene and utterly inexplicable final twist, *Pieces* is one of the most unintentionally hilarious and ludicrously entertaining slashers around.

Picture: Based on a 4K restoration of the original camera negative, *Pieces* Blu-ray looks far better than anybody had any right to expect. Completely free from dirt and scratches, the 1.66:1 1080p imagery is packed with bold colours and finely-etched textures. Grain levels are stable, giving this digital image a film-like authenticity.

Image quality remains consistent across both the 85-minute 'US Version' and 87-minute 'Original Spanish Version' that are included on the disc.

Audio: Both cuts feature a cleaned-up Spanish-language LPCM mono track with Librado Pastor's



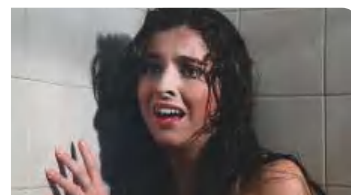
Never pick a fight with a man with a chainsaw

original score. In addition, the 'US Version' has an English-language LPCM mono track with a score made up of library music, as well as a new LPCM 2.0 re-score by musician Umberto (aka Matt Hill).

Extras: As well as its trio of soundtrack options, the 'US Version' is joined by a fan-commentary and a DD 5.1 'audience experience' track recorded at a 2002 screening of the film.

Other bonus goodies in this Limited Edition release are a 15-minute appreciation of the film; interviews with art director Gonzalo Gonzalo, actor Paul Smith, Spanish filmmaker Sergio Balsco (about his friendship with Simón and their unrealised plan for a *Pieces* sequel) and producer Steve Minasian; four image galleries; two trailers; a 36-page booklet; and the soundtrack CD.

Arrow also offers a £60 Deluxe Limited Edition Blu-ray that adds a 180g red vinyl album and replica naked lady jigsaw, limited to just 1,000 copies.



HCC VERDICT

Pieces: Limited Edition

→ Arrow Video → Region B BD & R2 DVD → £30

WE SAY: A far better Blu-ray than this brilliantly bad film deserves. Not that we're complaining...

Movie: ★★★★★

Picture: ★★★★★

Audio: ★★★★★

Extras: ★★★★★

OVERALL: ★★★★★

We Are the Flesh

Arrow Video → Region A/B BD £20



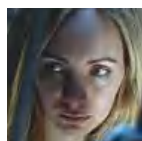
When homeless brother and sister Lucio and Fauna break into the dilapidated home of

47-year-old hermit Mariano, they get more than they bargained for: in exchange for food and shelter they have to join him on a journey of increasingly outrageous behaviour. More art film than horror flick, this extremely graphic Mexican movie is about as challenging as cinema gets, making it very much an acquired taste. The film's 2016 vintage helps it look and sound superb on Blu-ray, and Arrow has loaded the disc with numerous engaging bonus features.



Pet

Signature Entertainment All-region BD → £15



Dominic Monaghan and Ksenia Solo star in this two-handed thriller about a besotted young man who decides to

'save' the object of his obsession from her own worst impulses by kidnapping her and locking her in a cage. The battle of wills that ensues delivers a few twists along the way, but struggles to justify a 94-minute runtime – this would have worked better as either a one-hour TV drama or as part of an anthology film. The Blu-ray is completely devoid of extras, but does at least deliver a strong 2.40:1 1080p encode partnered with an effective DTS-HD MA 5.1 soundtrack.



The Wailing

Kaleidoscope → R2 DVD £13



This alluring South Korean horror-thriller follows a bungling cop as he investigates a series of brutal murders

in a small rural community. Suspecting the involvement of a strange Japanese man who recently moved to the area, things get personal for the cop when his young daughter begins showing signs of the mysterious malaise that precedes the deaths. Denied a Blu-ray on these shores, writer-director Na Hong-jin's lengthy film lands on DVD with a suitably cool anamorphic 2.40:1 transfer. A pair of sub-five-minute promo featurettes make for extremely lacklustre extras.



Multiple Maniacs

Criterion Collection → Region B BD £28



Loaded with sex, violence and even a giant lobster, John Waters' second feature, released in 1970, finds

the cult filmmaker refining the trash aesthetic he would go on to perfect with 1974's *Female Trouble*. Having undergone a 4K restoration, this 1080p presentation of *Multiple Maniacs* looks about as good as you could reasonably expect of a film shot guerilla-style on 16mm cameras for just \$5,000. Worthwhile extras include a typically erudite commentary by Waters, retrospective interviews and a video essay by film scholar Gary Needham.

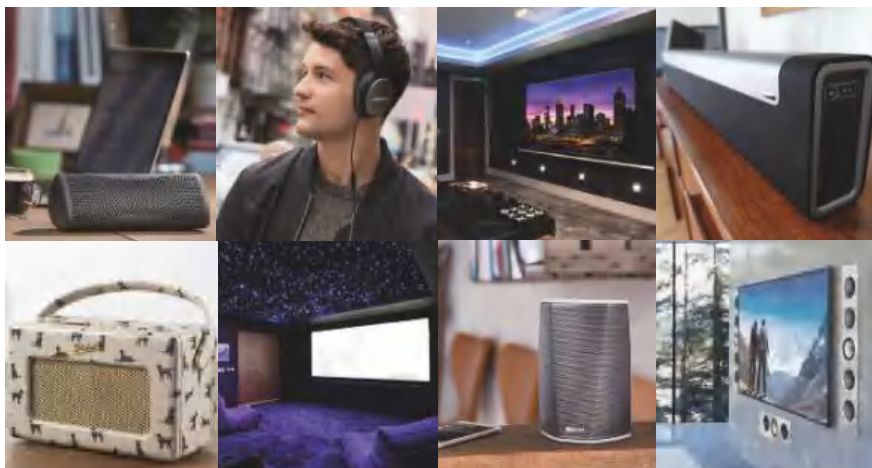




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Maybe exterminating the cleaning lady wasn't these Daleks' best idea...



Lost in time? Not any more

Animation lets fans watch Patrick Troughton's first *Doctor Who* for the first time in 50 years



→ DOCTOR WHO: THE POWER OF THE DALEKS

Arriving on the planet Vulcan in the distant future the freshly regenerated Doctor (Patrick Troughton) finds himself struggling to convince a colony of humans that the Daleks they recovered from an ancient space capsule trapped in a mercury pool are not the benevolent robotic servants the pretend to be, but actually galaxy-conquering alien killers.

Broadcast back in 1966, *The Power of the Daleks* is arguably the most important serial in the entire history of *Doctor Who*. Not only did it have to prove that the series could survive the departure of original leading man William Hartnell, it had to show that audiences were willing to accept the idea of recasting the role of the Doctor with a brand-new actor.

That it succeeded at doing both is evident in the fact that *Doctor Who* is still going strong and remains a fixture of the TV landscape in the UK. It certainly didn't hurt that on top of everything else, it's one of the very best Dalek stories ever told, with their duplicitous behaviour steadily bringing the tension to boiling point across the six episodes, while also proving that there's more to the pesky pepper pots than simply shouting 'Exterminate!' at all and sundry.

This makes it frustrating that none of the episodes remain in the BBC archive

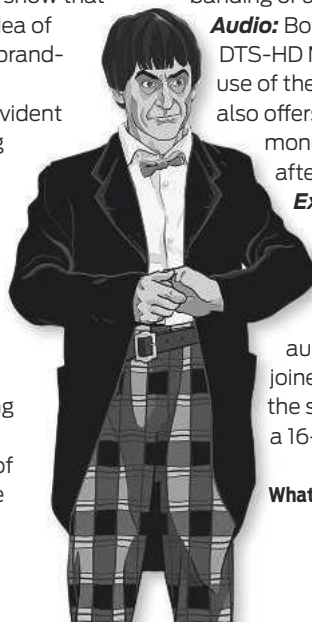
and could well be lost for ever. Thankfully, as with all of the missing stories, an off-air recording of the soundtrack exists alongside 'Telesnaps' (photos taken from a screen for archival purposes). Working from these materials, the BBC has produced an animated reconstruction of the serial, allowing fans to actually watch this superb story for the first time in five decades.

Picture: The steelbook's two Blu-ray platters present viewers with the choice of watching the animated reconstruction in either black-and-white or colour. Whatever your preference, the actual quality of the 1.78:1-framed 1080i50 encodes is extremely high, with sharp edge delineation and no unsightly banding or artefacts.

Audio: Both versions are accompanied by a DTS-HD MA 5.1 remix that makes atmospheric use of the surrounds. The black-and-white serial also offers up a choice of restored Dolby Digital mono and stereo soundtracks for those after a more 'authentic' aural experience.

Extras: The black-and-white version is accompanied by a commentary; test footage; a 22-minute retrospective *Making of...*; surviving film clips; image galleries; and original Dalek audio recordings. The colour version is joined by a 'Telesnap' reconstruction of the serial. The steelbook also comes with a 16-page booklet of production notes.

What other missing story could be animated next?



HCC VERDICT

Doctor Who: The Power of the Daleks

→ BBC Worldwide → All-region BD & R2 DVD → £30

WE SAY: Let's hope that this great release leads to more animated reconstructions of missing stories.

Movie: ★★★★★

Picture: ★★★★★

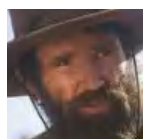
Audio: ★★★★★

Extras: ★★★★★

OVERALL: ★★★★★

The Culpepper Cattle Co.

Signal One → Region B BD
£15

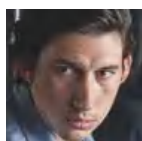


A young farmhand who dreams of becoming a cowboy discovers the harsh truth of the life he aspires to after talking a tough trail boss into letting him join a cattle drive. Highly regarded on its release in 1972, director Dick Richards' revisionist Western has dropped off the radar in the past couple of decades. Thankfully, this Blu-ray is a great way to (re-)discover the film. In addition to an authentically grainy 1.85:1 Full HD transfer and cleaned-up LPCM mono audio, it offers up some excellent supporting material including a new 41-minute interview with Richards.



Paterson

Soda Pictures → Region B BD
£23



Having given his unique take on the vampire film with 2013's *Only Lovers Left Behind*, indie filmmaker Jim Jarmusch returns to more familiar territory with this low-key look at a week in the life of a New Jersey bus driver with a passion for poetry. True to form, *Paterson* is a quietly funny film that eschews typical narrative drama on the whole, instead favouring a simple celebration of the power of love and creativity. Soda Pictures' *Paterson* Blu-ray sports clean 1.85:1 1080p visuals and discreet DTS-HD MA 5.1 audio. Also included are the trailer and a 20-minute chat with leading man Adam Driver.



Bunny Lake is Missing

Indicator → All-region BD &
RO DVD → £23



Otto Preminger's 1965 thriller about a missing child may stumble as it nears its dénouement, but the journey there is so unpredictable and enjoyable that it's easy to overlook any flaws. As we've come to expect, boutique label Indicator has put together another comprehensive Blu-ray package. In addition to a beautifully restored black-and-white 2.35:1 Full HD presentation of the film, you get a commentary track, an LPCM 2.0 isolated score and interviews. Yet our favourite extra is a trailer sung by The Zombies: 'Otto Preminger presents, *Bunny Lake is Missing*, what suspense...'



Apple Tree Yard

Arrow Films → Region B BD
£23



This slow-burning four-part BBC thriller stars Emily Watson as an unhappily-married, middle-aged scientist who begins an affair with a mysterious man (Ben Chaplin) she met at the House of Commons. To say more is to give away the story's twists, but as it starts with Watson's character in police custody and then flashes back to find out what led her there, it's obvious that things don't work out as she hoped. While this Blu-ray can't muster up any bonuses, it proves more than capable of delivering stylish 1.78:1 HD encodes and moody DTS-HD MA 5.1 audio for the series itself.



Childcare is murder for this dad

Classic swordplay series finds a father and son duo cutting a bloody swathe across Japan

→ LONE WOLF AND CUB

Stripped of his role as official executioner after being falsely accused of wishing for the Shogun's death, Ogami Itto (Tomisaburo Wakayama) opts to spend the rest of his life wandering Japan as an assassin for hire, accompanied by his young son Daigoro (Tomikawa Akihiro) in a tooled-up baby cart.

Based on the legendary manga series by Kazuo Koike and Goseki Kojima of the same name, the *Lone Wolf and Cub* series is a must-see for fans of Japanese swordplay action. Across the course of six films (*Sword of Vengeance*, *Baby Cart at the River Styx*, *Baby Cart to Hades*, *Baby Cart in Peril*, *Baby Cart in the Land of Demons* and *White Heaven in Hell*) made between 1972 and 1974, Itto cements his position as one of cinema's biggest bad-asses, leaving countless severed limbs and decapitated heads wherever he goes (always accompanied by gushing fountains of bright-red blood).

Endlessly thrilling and gloriously violent, the *Lone Wolf and Cub* films continue to influence filmmakers around the world (*Road to Perdition* was essentially Itto and Daigoro in gangster guise). Indeed, our only complaint is that the films never provide an ending for the heroes, leaving Itto still pushing his son's cart around the country, his vendetta against the clan responsible for his fall from grace still unresolved.

Picture: Derived from recent 2K restorations, the six films arrive on Blu-ray in pretty good shape. While there are a few source-related anomalies here and there (either the focus puller went missing during the shooting of several sequences in *Baby Cart in Peril* or



substitute material of a lesser quality was used in restoration), the 2.40:1 1080p encodes have been cleaned up nicely, while still retaining a healthily film-like appearance. Colours are also well-resolved, black levels are stable and intricate details are abundant in close-up shots (to the detriment of the make-up).

Audio: The six films all come with LPCM 1.0 mono soundtracks. While there are limits to what they can do, the Japanese dialogue sounds accurate and they really come into their own with the funky scores.

Extras: Each film is accompanied by its trailer, while a bonus disc houses a French documentary, three interviews and a 1939 silent film about the making of a traditional Samurai sword.

The real star, however, is the restored version of *Shogun Assassin*, the 1980 US film that was edited together from the first two *Lone Wolf...* movies and faced the wrath of UK censors back in the day.



Turns out that books about parenting don't have the answers after all...

HCC VERDICT

Lone Wolf and Cub

→ Criterion Collection → Region B BD
→ £88

WE SAY: This handsome HD boxset serves the legendary Japanese swordplay series extremely well.

Movie: ★★★★★

Picture: ★★★★★

Audio: ★★★★★

Extras: ★★★★★

OVERALL: ★★★★★



Still the king of the swingers

Cooper's legendary monster movie is far more than just mere spectacle

→ KING KONG: PREMIUM COLLECTION

In an age of effects-led cinema appearing to prioritise spectacle over emotional involvement, it's a treat to revisit director Merian C. Cooper's classic monster movie; this 1933 fantasy proves it's perfectly possible to give audiences the best of both worlds.

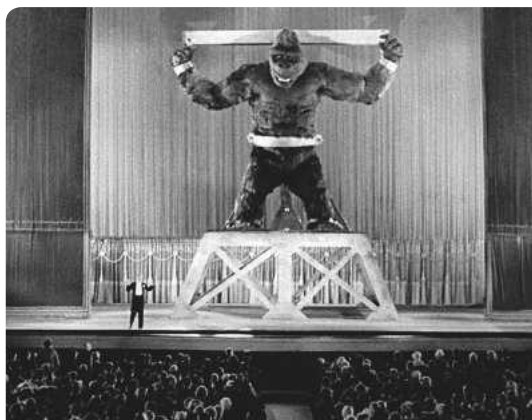
Having been around for the best part of 85 years now, as well as spawning a vast number of remakes, spin-offs and rip-offs, it's seems pointless repeating the film's plot all over again. Suffice to say that this tale of unrequited love between a giant ape (Kong) and a Depression-era gal (Fay Wray) is now the stuff of legend, its many story-beats and set-pieces enshrined in the history of film.

What is worth reiterating is the brilliance of Willis H. O'Brien's stop-motion creations. It's thanks to his artistry that Kong transcends being a mere special effect and delivers a performance full of heart and soul, turning a creature flick into something much more affecting and – ultimately – tragic.

No wonder, then, that Kong remains a pop culture icon, and one that Hollywood keeps brushing off every few years in the hope of recapturing the magic of this original outing.

Picture: A direct port of the 2010 US Blu-ray, this belated UK release sports what is best described as a sympathetic 1080p presentation of its imperfect source material.

Much effort has clearly gone into restoring the film, but there was no way anyone would ever be able to do anything to combat the fluctuating density and grain levels, not to mention the inherent



softness, that affects so many of the model shots. However, this is completely unavoidable and really shouldn't put you off buying this Blu-ray, as the 1.37:1 transfer is still the best we can remember the film ever looking.

Audio: Once again, the Blu-ray does the best it can with the source material. The DTS-HD Master Audio mono soundtrack can seem a bit thin and tinny at times, but also boasts a clarity and a range that is quite remarkable for a film of this vintage.

Extras: Living up to its 'Premium Collection' billing, this Blu-ray offers plenty of bonus goodies. On the disc itself you'll find a commentary from special effects legends Ray Harryhausen and Ken Ralston intercut with archival interviews with Fay Wray and Merian C. Cooper; an engrossing 159-minute *Making of...* documentary; a recreation of the missing 'Spider Pit' sequence; and an hour-long profile of Cooper. The set also includes a handsome 36-page booklet.



King Kong grossed a record-breaking \$90,000 on its 1933 opening weekend

HCC VERDICT

King Kong: Premium Collection

→ Warner Bros. → All-region BD & R2 DVD → £15 (HMV exclusive)

WE SAY: Film fans will go absolutely ape for this terrific Blu-ray package.

Movie: ★★★★★

Picture: ★★★★★

Audio: ★★★★★

Extras: ★★★★★

OVERALL: ★★★★★

King Kong vs Godzilla

Universal Pictures → All-region BD
£11



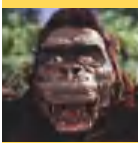
Celebrate as one of the classic Japanese *Godzilla* films is finally released on Blu-ray in the UK, then sadly take down the bunting as the disc itself falls some way short of

the legendary status of the film. Yes, the AV quality is generally adequate, but the major failing here is that the BD only includes the abysmal US re-edit. This adds new scenes designed to help Western audiences, but in the process hacks about the original story so much as to make it borderline incomprehensible. The barebones nature of the disc (no main menu, let alone extras) reinforces the general lack of effort from Universal.



King Kong Escapes

Universal Pictures → All-region BD
£11



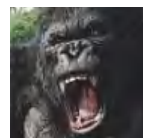
Why settle for just one King Kong when you can have two of them? This 1967 Japanese flick finds the giant ape

ensnared in the evil machinations of Dr. Who (not that one) and having to battle a giant robot ape. More playful than its famous Toho stablemate (left), *King Kong Escapes* is an enjoyably goofy slice of cinema with a charm all of its own. As with *King Kong vs Godzilla*, this budget Blu-ray is barebones and only includes the dubbed US version, but at least re-editing isn't a concern. Despite some imperfections, the 2.35:1 transfer and DTS-HD MA 2.0 mix are both fine.



King Kong: Ultimate Edition

Universal Pictures → All-region BD
£11



This month's monkey madness ends with a deluxe re-release of Peter Jackson's bloated 2005 *King Kong* remake.

The big selling point here is the inclusion of all of the extra features produced for the film's various DVD releases. As such, this exhaustive set partners the original 2009 BD (including superb presentations of both cuts of the movie with optional chat-track and picture-in-picture modes) with a second BD50 platter housing over 12 hours of Production/Post-Production video diaries, deleted scenes, animatics, art galleries, bloopers and documentaries.





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Ang Lee's fast-frame oddity

Higher frame rate turns this unsatisfying drama into a technical triumph. Sort of

→ **BILLY LYNN'S LONG HALFTIME WALK**

With the likes of *Sense and Sensibility*, *Brokeback Mountain* and *Life Of Pi* on his CV, director Ang Lee must have looked like the safest pair of hands for this adaptation of Ben Fountain's acclaimed novel about an Iraq war hero struggling to adjust to life in the US media spotlight.

Somehow, though, things have gone horribly wrong. *Billy Lynn's Long Halftime Walk* isn't just a bad Ang Lee film; it's a bad film full stop. And some of the blame has to be laid at the door of Lee's insistence on filming it in a high frame rate.

The movie screened at 120fps at select theatres, and is presented at 60fps on Ultra HD Blu-ray. The result is that almost every sequence feels artificial and forced due to the extreme clarity. The tech ruthlessly exposes any acting flaws, makes sets look like sets rather than real locations, and seemingly greatly limits Lee's directorial options. Hmm.

Picture: The image quality on this UHD Blu-ray is almost too good. Levels of detail, texture and clarity go beyond anything you've seen before on a home cinema format. It's not just all those extra pixels that create the incredible clarity, either. The 60Hz presentation also plays its part, removing all traces of flickering, blur, judder and inter-frame detail loss.



The film grossed just \$1.7m at the US box office during its release in late 2016

HCC VERDICT

Billy Lynn's Long Halftime Walk

→ Sony Pictures → All-region UHD BD & All-region BD/3D BD → £26 (US Import)

WE SAY: This 4K 60fps experiment results in a great demo disc, but the film itself is a complete bust.

Movie: ★★☆☆☆

Picture: ★★★★★

Audio: ★★★★★

Extras: ★★☆☆☆

OVERALL: ★★☆☆☆

The disc also makes aggressively good use of both HDR and wide colour, serving up an image that's dynamic, colour-rich but also subtle. Essentially the *BLLHW* is the ultimate 4K HDR picture tech demo.

As pointed out earlier, though, the features that make the picture so good also help make actually watching the film a distracting experience. So problematic is the use of HFR here, in fact, that we'd recommend only using the 4K disc as a picture quality demo. To enjoy the film (slightly) more, watch the 24fps Blu-ray instead.

One final oddity is that the (still impressive) 3D 1080p version you get alongside the 2D Blu-ray and UHD Blu-ray only plays in 24p – even though the decision to make *BLLHW* in HFR was chiefly taken to improve its 3D.

Audio: The 4K Blu-ray's Dolby Atmos mix is almost as odd as its video. The extent to which the rear channels are used for introducing ambient effects is inexplicably random, and many of these ambient effects seem strangely canned and unnatural. The track is pretty muted for much of the time too, only really exploding into loud and bass-enriched life during the short and awkward Iraq war scenes.

Extras: A so-so collection of deleted scenes and short *Making of...* featurettes – the best of which highlights the challenges of shooting in HFR.



Tim Burton meets the X-Men

The visionary director unleashes super-powered goths to surprisingly good effect

→ MISS PEREGRINE'S HOME FOR PECULIAR CHILDREN

With its imaginative story, genuinely creepy bad guys, dark humour and fun turns by a watchable cast, it's a shame this Tim Burton fantasy flick went mostly under the radar. Okay, so it feels a touch languid in its first half and too rushed in its second, and there's an over-reliance on CGI during the finale, but it's hard to imagine anyone coming away from *Miss Peregrine's Home...* feeling short-changed. If you've ignored Burton since the dismal *Dark Shadows*, maybe it's time to re-embrace him.

Picture: *Miss Peregrine's Home...* delivers some of the most beautifully crisp and detailed imagery the shiny new world of Ultra HD Blu-ray has given us to date – despite 'only' being filmed at 2.8K and then rendered as a 4K digital intermediate.

The UHD presentation makes outstanding use of high dynamic range and wide colour technologies. There's a luminous, painterly, almost poetic richness to the imagery at *Miss Peregrine's* hostel that you scarcely even pick up on with the 1080p Blu-ray. Meanwhile, the film's night sequences enjoy some of the deepest, richest black levels around, right alongside peak whites and colours that ooze intensity. The expanded colour and light palette also does a sterling job recreating the way Burton uses light effectively to create different moods.

The only issue with the largely immaculate transfer is that CGI elements – almost certainly rendered in HD – look softer than the live action footage, and even a touch cartoon-like at times.

Audio: The 4K Blu-ray bags a Dolby Atmos mix, while the Full HD Blu-ray only gets a DTS-HD 7.1 MA track – and this turns out to be a massive plus point for the UHD version. The film constantly enhances its off-beat atmosphere with clever and imaginative use of effects in surround and height channels, while the hypnotic score also proves particularly effective in Atmos mode.

Extras: Although lacking in imagination, the extra features (all found on the Full HD BD) are extensive. Highlights include an hour-plus feature focused on the casting and creation of the different 'peculiars', and a look at the genesis of the production and locations through the eyes of author Ransom Riggs.

HCC VERDICT

Miss Peregrine's Home for Peculiar Children

→ Twentieth Century Fox → All-region UHD BD & RA/B BD → £34

WE SAY: Burton's best film in ages is also an AV treat on 4K Blu-ray.

Movie: ★★★★★

Picture: ★★★★★

Audio: ★★★★★

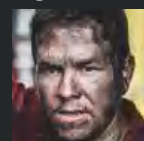
Extras: ★★★★★

OVERALL: ★★★★★



Deepwater Horizon

Lionsgate → All-region UHD BD & Region B BD → £30



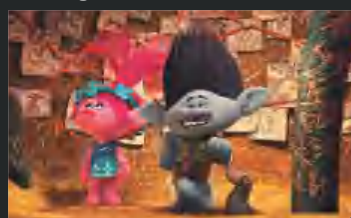
Despite apparently being derived from a 2K master, *Deepwater Horizon's* 4K picture quality

is surprisingly strong. The image looks dense, deep and 'real', palpably beating the Full HD Blu-ray's levels of detail. There's excellent use of HDR and wide colour, too, which makes the drilling rig's working environment feel even more authentic. Adding to the charm of this effective disaster thriller on UHD BD is an outstanding Dolby Atmos soundtrack that packs some of the most extreme bass and potently steered effects around.



Trolls

Twentieth Century Fox → All-region UHD BD & Region B BD → £34

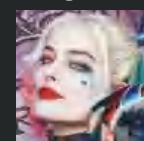


For all its riot of colours, chirpy characters and relentlessly upbeat musical numbers, *Trolls* is a rather dull CG 'toon. At least this 4K outing livens things up a bit. Compared to the 1080p disc, black levels appear deeper, luminous highlights are brighter, and colours look slightly more defined and varied. The application of HDR is hardly groundbreaking in its intensity, though, and the 4K encode actually – and oddly – seems less detailed than the 1080p Blu-ray. At least the UHD platter's Dolby Atmos track delivers a more immersive party atmosphere than the BD's DTS-HD mix.



Suicide Squad

Warner Bros. → All-region UHD BD & All-region BD → £35



Introducing copious characters and back stories, *Suicide Squad* is a bit of a mess, but still enjoyable. Sadly,

the picture on this 4K Blu-ray is a mess too, and not so easy to forgive. In HDR the film's darker scenes become weirdly greyed over and flat, while colours look more unnatural. In fact, although the 4K imagery enjoys more bright peak intensity and slightly more detail, the 1080p Blu-ray actually looks better. The Dolby Atmos mix is much more impressive, if a little to anarchic and lacking in subtlety to be considered one of the format's first-rate endeavours.



Collecting...

The doctor is in...

Now that we've given *Doctor Strange* a thorough check-up on Blu-ray, **Team HCC** is ready to prescribe ten more screen doctors who merit a place in your disc collection

DOCTOR WHO

The time-traveller known only as 'The Doctor' first materialised on UK TV in late 1963. Now he's the star of the world's longest-running sci-fi show, as well as a part of British pop culture on a par with The Beatles.

Get it: Every single extant episode of *Doctor Who* is currently available on DVD in the UK. However, 97 episodes from the show's first six years are still missing from the archives having been wiped by the BBC (although audio recordings do exist).

As well as the one classic serial shot entirely on 16mm film (*Spearhead from Space*), all of the episodes since the 2005 revival are also available on Blu-ray – although the first four series are upscales.

TOP PICK



Being a regenerating time traveller leads to some very weird family get-togethers



DR. NO

If a hero is only as good as his villain, then it was vital that the first James Bond movie found a worthy opponent to go up against Sean Connery's secret agent. With a combination of scientific genius and deadly steel hands, Joseph Wiseman's sinister Dr. No fits the bill. Add in the Dragon Tank and underwater lair and it's easy to see how Dr. No set the template for all the Bond villains that followed.

Get it: Available as a standalone Blu-ray and in the various James Bond BD boxsets.



DOC BROWN

Marty McFly (Michael J. Fox) provides the action in Robert Zemeckis' classic *Back to the Future* trilogy; Doc Brown (Christopher Lloyd) brings the science, his rapid-fire explanations doing a lot to make sure that viewers can keep up with exactly what is going on. And what year it is. The movies wouldn't be the same without him.

Get it: The trilogy package to grab is 2015's 30th Anniversary BD boxset, as this adds some fun additional extras to the already solid 2010 release.



DR. LOOMIS

One of the two main protagonists of the *Halloween* series, Dr. Samuel Loomis is to Michael Myers what Van Helsing was to Dracula. Over the course of five flicks, the obsessive psychiatrist (portrayed with terrifying intensity by the brilliant Donald Pleasence) would repeatedly see his warnings of imminent murder being dismissed by local plod before riding in to save the day when the bodies start piling up.

Get it: Buy the Region A-locked *Halloween: Complete Collection* boxset for the full experience.



DR. ZHIVAGO

Omar Sharif stars as the titular Soviet doctor whose life is turned upside down by war, revolution and Julie Christie's nurse Lara in this grand 1965 widescreen epic directed by David Lean.

Get it: Warner's 45th Anniversary Blu-ray release from 2010 features a sympathetic 5.1 DTS-HD MA soundtrack remix (the film was originally recorded in three-channel stereo), superb restored 1080p visuals, and extras culled from previous versions, including a commentary with Sharif, Lean's widow Sandra and Rod Steiger.



DR. HANNIBAL LECTER

Anthony Hopkins' three-film portrayal of the incarcerated serial-killing psychiatrist with a penchant for chianti is famously creepy, flicking between soft-spoken politeness and murderous intent; Brian Cox's understated turn in *Manhunter* is perhaps even spookier. Chuck in Gaspard Ulliel in prequel *Hannibal Rising* and Mads Mikkelsen in the TV series *Hannibal* and you've got a lot of Lecter to chew through.

Get it: Rights issues mean there's no complete Lecter BD set available, so you're free to pick and choose the titles you want.



BARON FRANKENSTEIN

From Colin Clive to Kenneth Branagh, Sting to Gene Wilder, our screens have been graced by a multitude of portrayals of the infamous mad scientist. Yet it's Peter Cushing's electrifying take on the character in a slew of Hammer Horror films in the '50s, '60s and '70s that are the most memorable, giving Frankenstein a new lease of life as a Byronic anti-hero.

Get it: Only the first, third and last Cushing ...*Frankenstein* flicks are on Blu-ray in the UK, so you'll have to import the other three.



DR. ANTON PHIBES

'Love means never having to say you're ugly' ran the tag line for *The Abominable Dr. Phibes*, the camp-tastic 1971 tale of a disfigured madman (Vincent Price) who plans to kill off the doctors he blames for the death of his wife in a series of spectacular murders based on the 10 plagues of Egypt. An equally nutty sequel found Phibes searching for the hidden 'River of Life' in an attempt to bring his late missus back to life.

Get it: Arrow's *The Complete Dr. Phibes: Limited Edition* Blu-ray boasts vibrant encodes of both films plus plenty of extras.



DR. PEYTON WESTLAKE

Before *Taken*, Liam Neeson flexed his cult hero muscles in Sam Raimi's quirky original superhero tale *Darkman*, playing the scientist-turned-super-strength vigilante with a skin problem and a talent for knocking up synthetic masks. Brilliantly batty, and followed by two less enjoyable straight-to-video sequels.

Get it: You can get the trilogy for around £15 on Region B BD, or just focus on Shout Factory!'s Region A BD release that adds in some new extras. Just don't expect image quality marvels – this 1990 thriller needs a new scan.

DR. 'INDIANA' JONES

Bar fleeting scenes in a college classroom, there's little evidence of Dr Henry 'Indiana' Jones doing much to earn his professor's salary in the Steven Spielberg/George Lucas four-film franchise. Yet Indy's handy knowledge of historic artefacts and sub-continent death cults marks him out as more than just a whip-cracking brawler in this indispensable adventure series.

Get it: 2012's *The Complete Adventures* Blu-ray boxset gets you the quartet of flicks on great-looking platters, plus a disc of bonus bits. A limited edition set, now out of print, adds heaps of cool collectibles.



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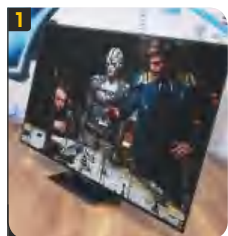
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Our **Top 10**
guide is here
to help

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TOP 10 Televisions

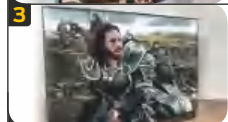
**Sony KD-65ZD9** → £3,500

★★★★★

Sony finished 2016 on a high with this full-array LED Bravia (with advanced local dimming tech) that claims a 1,800-nit peak brightness. Cinematic, sublime pictures – and Dolby Vision support is a firmware update away. *HCC #267*

**Panasonic TX-65DX902** → £2,300 ★★★★★

This HDR-capable 65-incher wears its Ultra HD Premium badge with pride, and employs a full-array backlight to take control of its impressive luminance talents. Imagery is excellent. *HCC #259*

**LG OLED65E6** → £3,500 ★★★★★

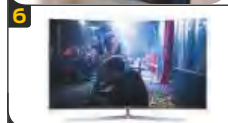
The sweetspot in LG's OLED range below the Signature G6 – most will consider the tweaked bezel design and inferior sonics of this TV worth settling for considering the price. *HCC #265*

**Samsung UE65KS9500** → £2,800 ★★★★★

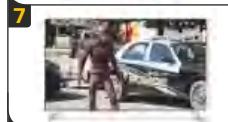
Replacing the edge LED system of the KS9000 with a direct array yields illumination improvements. Colour-rich, super-bright visuals and smart design. Lacks 3D support. *HCC #265*

**Philips 55POS901F** → £2,800 ★★★★★

Philips enters the OLED arena with a screen that stands out courtesy of its alluring performance and Ambilight. But it lacks the smart skills and 3D playback of some rivals. *HCC #270*

**Samsung UE55KS9000** → £1,500 ★★★★★

Samsung's quantum dot/edge LED 4K/HDR looker claims UHD Premium certification. Image quality is routinely great, but light banding can distract and 3D is absent. *HCC #260*

**Samsung UE55KS7000** → £1,000 ★★★★★

Straddling the world between genuine budget sets and more premium competitors, this 55-incher is perhaps Samsung's most appealing model. Impressive with both SDR and HDR. *HCC #265*

**Panasonic TX-50DX750** → £800 ★★★★★

Mid-range 4K/HDR LED TV. Not as impactful as its DX902 stablemate when it comes to pictures, but a neat design, fun UI and appealing screen size will win it plenty of fans. *HCC #260*

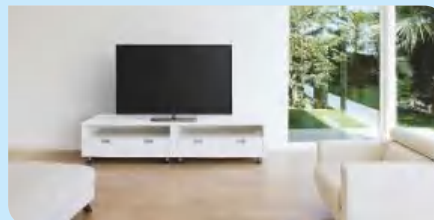
**Hisense 75M7900** → £2,500 ★★★★★

A massive 75in LED set at a bargain price. The appeal is its largescreen 4K playback: a lack of innate brightness and colour subtlety hampers HDR performance. *#267*

**Hitachi 49GHT69U** → £500 ★★★★★

49in 4K screen that could appeal to those on tight budgets. This £500 set offers a smattering of catchup, decent connectivity and a generally enjoyable image. No HDR support, though. *HCC #260*

TECH INFO: TELEVISIONS



4K is here to stay: The TV market is currently dominated by LED-lit LCD screens – plasma is long gone – but OLED is gaining a share as more brands adopt the self-emissive screen technology. 4K/Ultra HD models are now commonplace on displays above the 40in mark, which is where you should be looking for home cinema thrills. Curved models were once achingly trendy, but we're seeing a shift away from such design flourishes. Look out for sets offering support for HDR content, which is part of the UHD Blu-ray specification.



Active or Passive: At the beginning of the 3D era, most TVs featured the active system that uses powered 3D specs to deliver full-res images to each eye. Passive 3D TVs, which are now more common, have a filter over the screen and use non-powered specs with polarising filters. The glasses are cheap as chips, but the resolution of Full HD 3D is halved to 540 lines horizontally (but remains at 1,920 vertically). The same halving occurs with a 4K screen. 3D playback is increasingly being dropped by brands (including Samsung and Philips). Glasses-free 3D, heralded by Toshiba's early ZL2 TV, hasn't caught on. The tech is still being worked on, though...

TOP 5 Blu-ray movies

**Star Trek Beyond 3D**

A rousing Dolby Atmos mix and oh-so-deep stereoscopic 2.40:1 encode make this enjoyable sci-fi adventure a fine AV demo disc. Paramount loads the 1080p BD platter with plenty of informative extra features, too.

★★★★★

**The Magnificent Seven [Ultra HD Blu-ray]**

Yee-haa! This sharp-shooting Western remake rides out on 4K Blu-ray with blisteringly sharp, sun-baked HDR visuals and an impressively precise Dolby Atmos soundmix.

★★★★★

**The Jungle Book 3D**

Disney waves its live-action wand at Rudyard Kipling's famous tale of a boy and some beasts. Family fun that's stunning to look at (although the 3D presentation isn't as pleasing as its 2D partner).

★★★★★

**Deepwater Horizon**

Tense, explosive 'docbuster' that reunites Mark Wahlberg with *Lone Survivor* director Peter Berg. Lionsgate's BD offers a breathtaking soundmix, flaming Full HD visuals and a fair collection of extra features.

★★★★★

**Captain America: Civil War**

The third standalone flick for Steve Rogers' baddie-battler is more of an Avengers ensemble (complete with Spider-Man!) that excels in every possible way. The BD has superb 2D/3D imagery and DTS-HD 7.1 sonics.

★★★★★

TOP 10 Blu-ray & Ultra HD Blu-ray players

- 1**  **Oppo UDP-203** → £650 ★★★★★

Oppo refreshes its player hardware with a superb universal design with Ultra HD playback (including Dolby Vision via firmware later this year). Packed with user adjustments and connectivity. No apps or Darbee Vision, though. *HCC #269*
- 2**  **Panasonic DMP-UB900** → £600 ★★★★★

The Ultra HD Blu-ray format got an inspiring debut in Panasonic's multi-talented deck that offers a sterling picture performance and 4K-enabled VOD apps. *HCC #259*
- 3**  **Pioneer BDP-LX88** → £1,100 ★★★★★

The Japanese corp returns to the disc-playing high-end with a universal deck that weighs more than your AVR and drips with user tweaks and processing features. Stonking performer. *HCC #246*
- 4**  **Oppo BDP-105D** → £1,100 ★★★★★

This heavyweight deck builds upon the premium picture performance of the BDP-103D with a wealth of audiophile upgrades – if you're serious about music, check it out. *HCC #234*
- 5**  **Sony UHP-H1** → £400 ★★★★★

Its last top-line BD deck before Sony embraces UHD, this player pleases with wide-ranging audio support (including DVD-A!), exquisite construction and slick performance. *HCC #261*
- 6**  **Panasonic DMP-UB700** → £300 ★★★★★ NEW ENTRY

Shorn of some of the audiophile niceties of the UB900 (including multichannel analogue outputs), but still a safe pair of hands with your 4K BDs. And at a bargain price. *HCC #270*
- 7**  **Arcam FMJ UDP411** → £1,200 ★★★★★

Pristine visuals – including upscaled SD – and a classy sonic performance grant this Arcam instant appeal. The design and build is commensurate with the premium price tag. *HCC #244*
- 8**  **Samsung UBD-K8500** → £430 ★★★★★

Ultra HD Blu-ray player that'll find fans courtesy of its sensible price point, connected smarts and eye-catching visuals. Build quality is a little uninspiring. *HCC #260*
- 9**  **LG BP556** → £85 ★★★★★

LG's top-of-the-line(!) disc-spinner is actually a budget offering. Design is a bit garish, but the addition of multiroom streaming, some smart apps and file playback sweeten the deal. *HCC #266*
- 10**  **Samsung BD-J7500** → £150 ★★★★★

This well-priced spinner offers twin HDMI outputs and multichannel phono audio for flexible system hookup, an appealing design, smart features and solid AV chops. *HCC #247*

TECH INFO: BLU-RAY PLAYERS

Matching your deck to your AV receiver: Blu-ray decks are designed to deliver top-notch images but Blu-ray is also about enjoying superior quality sound. When choosing a player, bear in mind the connectivity and decoding features of your AV receiver. If you're still using an older model that doesn't offer HDMI inputs, then you'll need a Blu-ray player with multichannel analogue audio outputs to enjoy decoded hi-res surround sound formats. Similarly, older but still HDMI-equipped receivers may not be able to cope with 3D/4K/HDR output signals, in which case you'll need a deck with dual HDMI outputs – one channelling audio to your receiver amp, the other piping video direct to your TV.

What about consoles?: Both Sony's PlayStation and Microsoft's Xbox platforms support Blu-ray playback – the latter's Xbox One S will even spin your Ultra HD Blu-ray platters. Using a console can be an affordable alternative to a deck, particularly when gaming and media playing talents are taken into account, but the joypad user experience can feel a little odd and you'll need to make sure no one else is playing *Grand Theft Auto* first.



DEMO DELIGHT

Lucy: The popcorn-munching Luc Besson sci-fi/actioner starring Scarlett Johansson scrubs up great on Universal's Ultra HD Blu-ray release, making the most of the format's dynamic range and wider colour capabilities. Demo heaven.

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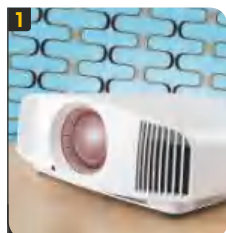
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Photo courtesy of UK Home Cinemas

TOP 10 Projectors

**Sony VPL-VW550ES** → £9,000

★★★★★

For its top-range domestic SXRD beamer, Sony introduces an HDR Contrast tool that proves useful in fine-tuning its UHD Blu-ray performance. Excels with standard BD content and setup flexibility, too. *HCC #269*

**JVC DLA-X7000** → £5,700 ★★★★★

With contrast and brightness improvements over the more affordable DLA-X5000, this is a great bigscreen option, although its SDR performance impresses more than HDR. *HCC #259*

**Sony VPL-HW45ES** → £1,850 ★★★★★

The most affordable model in Sony's home cinema range, the Full HD-resolution 45ES features excellent light management for a routinely cinematic image. Great value. *HCC #263*

**ViewSonic Pro7827HD** → £600 ★★★★★

Pictures impress from this single-chip DLP budget option that carries a third HDMI input designed for smart sticks. Includes ISF calibration. 3D spex are an optional extra. *HCC #261*

**JVC DLA-X5000** → £4,000 ★★★★★

Fourth-gen eShift projector marries its pixel-shifting talents with a contrasty performance, HDR support and HDMI 2.0a. Not the smoothest with motion, and price tag is considerable. *HCC #257*

**Epson EH-TW9300** → £3,000 ★★★★★

Epson brings HDR playback and 4K up-rezzing to an agreeable price tag. Colourful and well-contrasted visuals, but don't expect an HDR knockout. *HCC #266*

**Epson EH-TW7300** → £2,200 ★★★★★

Similar performance traits to its bigger brother (above), but with reductions in max brightness (and claimed contrast). Currently the most affordable HDR model around. *HCC #269*

**Optoma GT5000** → £1,000 ★★★★★

Ultra short-throw model with healthy brightness that makes sense for regular living rooms where a traditional install isn't possible. Casts Full HD images from just 30cm. *HCC #261*

**BenQ W2000** → £800 ★★★★★

Average black-level performance limits this model's all-round appeal, but elsewhere this Full HD DLP budget PJ catches the eye with its calibration options and detailed visuals. *HCC #257*

**Optoma HD27** → £800 ★★★★★

Another budget beamer where black levels aren't exemplary, but there's plenty to like here including the small form factor and vibrant colours. Limited zoom of 1.1x. *HCC #264*

TECH INFO: PROJECTORS



Installation: Although projectors can be temporarily placed on a cupboard, stand or shelf situated at the rear of the room (use the adjustable feet on its base to level the image so that it aligns with the screen), a much better long-term solution is to mount it on your ceiling with an appropriate bracket. Projectors can be quite heavy, though, so it's important to ensure that the bracket is attached firmly – ideally, it should be secured to a joist. Position your PJ so that an imaginary line from its lens to the opposite side of the room hits the screen exactly half-way along its width. The location of your screen should therefore dictate where your projector is. A decent tape-measure or laser pointer will help you to determine the position.

Throw distance: Throw distance specifies the distance between the projector and screen for a focused image of given size. As the vast majority of projectors are equipped with a zoom lens, minimum and maximum throw distances are often specified – say, 3.01m to 6.08m for a 100in. 16:9 image. Shorter throw distances are ideal for smaller rooms, and longer ones for larger rooms. Simple.

Throw ratio: Sometimes, a manufacturer will quote a throw ratio rather than a throw distance. This is basically the throw distance divided by the image width. To get the projected image size, divide the distance between projector and screen by the specified figure. Once again, the inclusion of a zoom lens means that upper and lower figures are usually specified.

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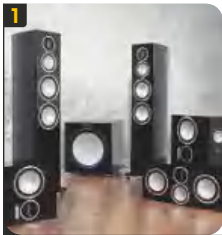
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TOP 10 Speakers


- 


1 Monitor Audio Gold 300AV → £7,150 ★★★★★
MA revamps its Gold Series and we pay serious attention. This big-ticket package excels across the frequency range, offers exquisite design and packs setup flexibility via the dipole/monopole FX surrounds. *HCC #251*
- 


2 Q Acoustics 3000 5.1 Cinema Pack → £700 ★★★★★
A superior compact package with driver improvements over the previous 2000i series. The two-way cabinets and dual-driver sub combine to offer impressive audio for the money. *HCC #247*
- 


3 XTZ Cinema Series 5.1.4 → £3,700 ★★★★★
Spectacular dynamics, gut-thumping bass and a sense of scale that most systems at this price only dream of – XTZ's 3D audio-ready setup is an easy recommendation. *HCC #259*
- 


4 KEF R Series 7.1 → £6,500 ★★★★★
A 7.1 array mixing dipolar and direct surrounds, this authoritative package takes its cues from KEF's Blade concept speaker and offers faultless, largescale home cinema sonics. *HCC #217*
- 

5 Monitor Audio Bronze B5 AV → £1,500 ★★★★★
Like their Gold siblings, these feature switchable surround speakers and MA's C-CAM drivers. Smaller in stature and output, but eminently more affordable. *HCC #254*
- 

6 Wharfedale DX-1SE → £400 ★★★★★
Delightfully compact 5.1 package (although with two-way satellite speakers) that blends a tidy design with crisp surround sonics at a very tempting price. *HCC #267*
- 

7 ELAC Debut 5.1.2 → £1,950 ★★★★★
Well-priced floorstanding Atmos system that manages to balance subtlety and precision with an exciting delivery. Subwoofer includes app-based room EQ. *HCC #262*
- 

8 DALI Opticon 5.1 → £3,200 ★★★★★
The Opticons employ driver designs created for DALI's higher-end models, and showcase a talent for both involving music presentation and high-octane home cinema. *HCC #260*
- 

9 Dynaudio Emit 5.1 → £3,200 ★★★★★
Entry-level for Danish brand Dynaudio – still a hefty chunk for a 5.1 array. What the money gets you is a wonderfully natural and cohesive soundstage and stonking build quality. *HCC #263*
- 

10 Q Acoustics Concept 5.1 Cinema Pack → £1,750 ★★★★★
Step-up Q Acoustics offering with handsome floorstanders joined by standmount surrounds employing the Concept Gelcore construction. Classy, consistently neutral performance. *HCC #257*

TECH INFO: SPEAKERS



Centre speaker: Handles most of the dialogue and onscreen effects. Should be positioned above or below the screen as close to it as possible. Of course, if you're using a projector screen, it should ideally be placed behind it.

Front speakers: Left and right speakers should be positioned either side of the screen, in line with the centre. Turn the speakers in slightly to face the listener if there isn't an even movement of sound across the front of the room.

Subwoofer: Can be positioned wherever it sounds best or can be tucked out of sight due to the non-directional nature of low-frequency signals. Be aware that close positioning in corners or next to walls can create a boomy effect.

Surrounds: Position alongside the listener, pointing in or slightly behind the ears for a good surround effect. The back wall is not a good position for surrounds – it is, in fact, where you should locate the sixth and seventh speakers (rears) in a traditional 7.1 array.

DEMO DELIGHT

Deepwater Horizon: Based on the real-life oil rig disaster in 2010, this good-looking thriller starring Mark Wahlberg features a terrifying Dolby Atmos soundmix on both its Full HD and 4K Blu-ray releases. Placing you right in the centre of the unfolding chaos through precise effects placement and fabulous dynamics, it's, er, very slick...

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Photo courtesy of Gary J.Fernandez

TOP 10 AV Receivers/AV Processors

**Anthem MRX 1120** → £4,000

★★★★★

Combining Anthem's superb ARC room EQ system with 11-channel amplification makes this an essential consideration for full-spec Atmos setups. Muscular, precise sound. No networking skills, though. *HCC #265*

**Arcam AVR850** → £4,500 ★★★★★

High-end seven-channel AVR marrying Class G amplification and Atmos (and future DTS:X) support with talented Dirac Live Room EQ. 11-channel pre-outs for full-fat setups. *HCC #257*

**Denon AVR-X4300H** → £1,300 ★★★★★

Nine-channel receiver with HEOS multiroom integration and 11-channel processing (Atmos, DTS:X, plus Auro-3D as a paid-for upgrade). Great, detailed sound and foolproof usability. *HCC #267*

**Trinnov Audio Altitude32** → £27,000 ★★★★★

Capable of outputting 32 discrete channels and mapping Dolby Atmos, DTS:X and Auro-3D sources to any setup via advanced EQ. Only premium cinema owners need apply, though. *HCC #262*

**Denon AVR-X2300W** → £500 ★★★★★

This almost entry-level Denon offers excellent value for money, with a well-balanced sound signature and bulging feature set. Seven-channel design won't suit all setups. *HCC #263*

**Yamaha RX-A3060** → £2,000 ★★★★★

New nine-channel flagship from Yamaha features excellent room EQ implementation, well-judged DSP modes, and an even-handed, effortless sound. *HCC #264*

**Denon AVR-X6300H** → £2,000 ★★★★★

Denon bundles 11 channels of power, plus cutting-edge features, into this crisp, articulate AV receiver. Ideal partner for 7.1.4 setups, but not quite the muscle-monster you might expect. *HCC #269*

**Marantz NR1607** → £600 ★★★★★

The latest slim-line AVR from Marantz continues the brand's good work when it comes to space-saving sonics. Seven-channel amp with object-based audio. Punchy, lively sound. *HCC #266*

**Pioneer VSX-1131** → £550 ★★★★★

Seven-channel model with Atmos and DTS:X support that features an overhauled remote control and UI to improve usability. Bass-rich, energetic sound. *HCC #265*

**Yamaha RX-A860** → £900 ★★★★★ **NEW ENTRY**

Only seven channels and hindered by only three HDCP 2.2-enabled HDMI inputs, but beyond that this flexible MusicCast AVR proves a great listen, with plenty of DSP toys. *HCC #270*

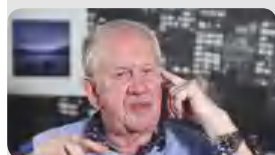
TECH INFO: AV RECEIVERS



Tackling new heights: A recent innovation in AVR circles is the introduction of Dolby Atmos, the object-based sound format that has taken off in commercial cinemas and is supported in the home by the likes of Onkyo, Pioneer, Denon, Marantz and Yamaha. This requires new height speakers in addition to a regular 'flat' 5.1 or 7.1 speaker configuration. The heights can either be physically mounted in/on your ceiling, or provided via up-firing reflective models. Setup can be complex, but the results are certainly impressive. Atmos-encoded Blu-rays are a bit thin on the ground, but you can use Dolby Surround post-processing with regular 5.1/7.1 soundtracks to get the most from your new AVR/speakers. Rivals to Atmos are Auro-3D, which uses height speakers in a different configuration, and DTS:X. Most AVR brands have pledged support for the latter; software isn't as widespread as Atmos.

How much power?: Many of the mass-market AV receiver manufacturers are involved in a specifications race to see who can say their model is the most powerful, which can be confusing for consumers. For instance, both Krell's £7,000 S-1500 seven-channel power amp and Yamaha's £500 RX-V675 both claim 7 x 150W – the important part is that Krell's figure is into an eight-ohm load with all channels driven, and that Yamaha's is with one channel into a four-ohm load, which is hardly a real-world situation. The best advice is ignore the numbers game and get a demo of your desired AVR with the same, or similar, speakers that you intend to partner it with.

TOP 5 Bonus features

**Sam Peckinpah: Man of Iron – The Director's Cut**

Arrow Video bolsters its *Bring Me the Head of Alfredo Garcia*: Limited Edition Blu-ray with over 10 hours of extended interviews shot for Paul Joyce's fascinating TV doc about the film's director.

★★★★★

**Star Wars: The Force Awakens commentary**

Director JJ Abrams provides a trivia-packed chat track on the Collector's Edition Blu-ray release of Disney's box office killer. Indispensable for *Star Wars* geeks.

★★★★★

**Napoleon: Triptych**

On a package that also features a remarkable five-hour commentary track, the option to watch the movie's three-panel footage on three displays (via three discs) is the icing on the cake.

★★★★★

**The Giant's Dream**

Superior hour-long documentary on *The Iron Giant*'s Signature Edition Blu-ray that is refreshingly honest about the toon's production and its now-famous box office failure. Brilliant stuff.

★★★★★

**You're so cool, Brewster!**

Fan-pleasing 147-minute retrospective *Fright Night* documentary (edited down from an original much-longer crowd-sourced movie) featuring exclusive interviews and plenty of production nuggets.

★★★★★

TOP 10 Subwoofers

- 

SVS SB-2000 → £600 ★★★★★
This follow up to the SB-1000, which incorporates a new 12in driver and revamped Sledge DSP amplifier, offers immense value for money. A mid-sized woofer that imbibes your Blu-rays with potent LFE, the SB-2000 sounds quick and taut, and is a perfect introduction to what a truly good sub can accomplish. *HCC #233*
- 

REL 212SE → £2,750 ★★★★★
Lush design joins engineering nous in this premium sub with two active 12in drivers supported by a pair of passive radiators. Loud, deep and impactful, your BDs are in safe hands. *HCC #246*
- 

JL Audio Fathom f212v2 → £6,500 ★★★★★
A second-gen outing for JL's 2 x 12in monster, with an increase in power (now 3,600W) and improvements to the room EQ system among the changes. Sounds as good as you'd imagine. *HCC #261*
- 

SVS SB16-Ultra → £2,500 ★★★★★ NEW ENTRY
A big driver (16in) and 1,500W amp combine to give SVS's flagship sealed sub real appeal. Goes low while sounding tight and fast. App-assisted EQ and operation. *HCC #270*
- 

REL S/3 SHO → £1,450 ★★★★★
The 10in, 400W S/3 is part of REL's revamped 'Super High Output' Serie S line. Performance is excellent, with speed, control and a scale bigger than you might expect. *HCC #264*
- 

BK Electronics P12-300SB-DF → £475 ★★★★★
Bass heads can get outrageous value for money in the shape of BK's overperforming 12in sub. A front-firing model is also offered, and other finishes knock the ticket down to sub-£400. *HCC #247*
- 

ELAC SUB 2070 → £1,300 ★★★★★
A dual-driver, 600W sealed sub with control and onboard EQ system driven by a free Android/iOS app. Meaty, assured performance, with useful tweaks offered. *HCC #261*
- 

Eclipse TD520SW → £3,000 ★★★★★
This twin 8in woofer, driven by ICEpower amplification, aims for ultimate speed and tone – and succeeds. Simply put, the TD520SW is worth every penny of its asking price. *HCC #249*
- 

SVS PC-2000 → £800 ★★★★★
The cylinder construction means this 12in, 500W design can boast a large cabinet but a relatively small footprint. Good value with weighty, slamming bass, but a little lacking in nuance. *HCC #267*
- 

Artison Nano 1 → £800 ★★★★★
Artison's media room-friendly woofer tucks twin 6.5in bass drivers and a 300W amp into its compact frame. Bass extension isn't the deepest, but this is tight, fast and heaps of fun. *HCC #253*

TECH INFO: SPEAKERS

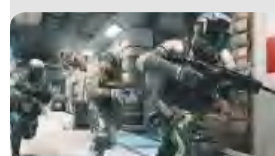


Why use more than one sub?: Using two subwoofers (or perhaps four) should, in theory, bring huge rewards in terms of bass performance. But remember that LFE is a tricky beast to control. Running two subs may simply double problems in your room like room boom and suck-outs, where outgoing and reflected bass sounds cancel each other out. If you have some flexibility in where you place subwoofers, trial and error may well throw up some interesting results. The acoustics wizard Floyd E Toole (his book *Sound Reproduction: The Acoustics and Psychoacoustics of Loudspeakers and Rooms* is fine bedtime reading) suggests one LFE sub to either side of the room may be best for accuracy while placing them in the front corners would be best for overall bass power. Yet there is no hard and fast rule as to what will work best for every room, and you may find that simply using one (large) subwoofer is preferable as it's the easiest to get sounding right.

DEMO DELIGHT

Star Wars: The Force Awakens: Bass is a constant (phantom?) menace in Disney's *Star Wars* sequel, whether it's underpinning the complaining, rumbling engine of the Millennium Falcon, adding weight to frequent explosions or used to bring scale and depth to locations. It seeps into every element of the Blu-ray's DTS-HD MA 7.1 soundmix, meaning your subwoofer is called upon to put in a serious shift.

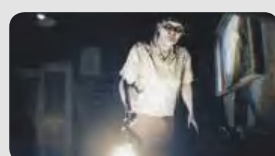
TOP 5 Console games



Call of Duty: Infinite Warfare

The sci-fi trappings may upset *COD* purists, but this is one of the series' best entries in years. The action-packed single-player campaign is a blast; multiplayer extends the fun.

★★★★★



Resident Evil 7: Biohazard

Moving from the familiar third-person perspective to a first-person view was always going to be a risk, but it pays off here with a terrifying return to the series' roots. PS4 Pro owners get enhanced resolution visuals.

★★★★★



Gears of War 4

A thrilling continuation of the Xbox action stalwart, with an absorbing, well-scripted single-player campaign and wonderfully colourful and vibrant visuals (with HDR on Xbox One S). Give it a spin!

★★★★★



No Man's Sky

Massive, intergalactic exploration that feels like a cross between *Minecraft* and *Elite Dangerous*. Relaxed, absorbing gameplay with a gorgeous 50s/60s sci-fi aesthetic and beautiful orchestral score. Odd but fun.

★★★★★



Uncharted 4: A Thief's End

The final entry in this blockbuster franchise is simply epic, both in terms of gameplay (driving, puzzle-solving, stealth battles...) and the exquisite 1080p visuals. Roll on next year's movie adaptation!

★★★★★

TOP 10 Accessories

- 1 KEF R50 → £600 ★★★★★**
 KEF's Dolby Atmos-enabled reflective modules are a smart choice for anyone looking to beef up their speaker system. Using the company's Uni-Q point source drivers pays real dividends, enabling full-range sonics that reach deep into your cinema room. Styling and build quality are first rate. £600 gets you a pair – you'll soon want four... *HCC #252*
- 2 Amazon Echo Dot → £50 ★★★★★**
 Less impressive as a standalone speaker than its larger sibling, but a third of the price, and its 3.5mm output lets it work with third-party kit. Fun AI experience, and a real bargain. *HCC #269*
- 3 Nvidia Shield Android TV → £150 ★★★★★**
 The Android TV platform gets the hardware it deserves – this stylish set-top box offers potent processing, resulting in a slick gaming and media playback experience. 4K capable. *HCC #262*
- 4 Amazon Fire TV → £80 ★★★★★**
 Media streamer with impressive search functionality and plenty of content, including 4K Netflix and Amazon Video. HDR support would be nice, though. *HCC #270*
- 5 Logitech Harmony Elite → £270 ★★★★★**
 Flexible and relatively easy to set up, this all-in-one remote package combines touchscreen handset and hub with smart device app. Worthwhile if you have a stacked kit rack. *HCC #256*
- 6 Devolo Wi-Fi ac Repeater → £50 ★★★★★**
 Simple plug-based add-on that extends the range of your Wi-Fi network, and offers hardwired access. Could be just the ticket for your loft-based movie room. *HCC #269*
- 7 Xbox One S → From £250 ★★★★★**
 The retooled Xbox One adds Ultra HD Blu-ray playback, 4K streaming and HDR gaming to the feature list. Available in 500GB/1TB/2TB versions. *HCC #264*
- 8 PSB Imagine XA → £350 ★★★★★**
 These two-way Dolby Atmos-enabled upfiring speakers are fairly chunky, but work well at creating a height layer and the £350-per-pair ticket makes them an enticing option. *HCC #264*
- 9 DVDO iScan Mini → £275 ★★★★★**
 HDMI 4K upscaler (using Silicon Image's VRS processing) that teases sharpness from HD and SD sources. A good fit for an entry-level or mid-range 4K TV. *HCC #264*
- 10 Sony PlayStation 4 Pro → £350 ★★★★★**
 A mid-cycle upgrade of Sony's console brings 4K and HDR gaming, plus app streaming, but not UHD BD playback. Gorgeous gameplay is the USP here. *HCC #268*

TECH INFO: MEDIA PLAYERS



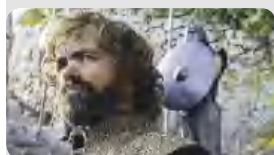
What about my TV?: Most flatscreen TVs from the major brands (Sony, Samsung, Panasonic, LG, Philips, Hisense, etc) also incorporate media player functionality, using Ethernet or Wi-Fi to stream from your home network, or from plugged-in USB drives. Most modern Blu-ray players offer this, too. However, file support is rarely as extensive as on dedicated devices from the likes of Western Digital and A.C. Ryan, and our experience shows some are more adept at playback from USB than over a network. Nor (obviously) is a TV or BD player portable. If your media collection extends beyond JPEGs and MP3s into lossless audio rips and esoteric HD video formats, then a standalone player is a good investment.

Storage: You can, if you really want, store all your files on a plethora of USB drives, or on your PC, but it's best to get a NAS (Network Attached Storage) device for simplified sharing of your media across a network with



multiple players, such as one from Netgear's ReadyNAS range (pictured). These dedicated devices often offer RAID array file backup, and are managed via browser software. Storage capacity can be anything from 1TB to 12TB and beyond.

TOP 5 Blu-ray/DVD boxsets

**Game of Thrones: The Complete Sixth Season**

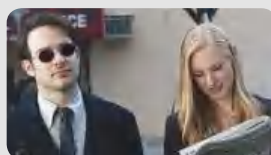
Another brilliant BD boxset for HBO's jewel in the crown. Atmos ensures AV thrills, and the story remains strong despite no longer being based on George R. R. Martin's source novels.

★★★★★

**Gomorrah: Complete Seasons 1 & 2**

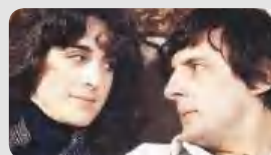
Thrilling Italian crime drama based on the same book as the 2008 film. This seven-disc set changes the audio from LPCM 2.0 for S1 to DTS-HD 5.1 mixes for the second run.

★★★★★

**Daredevil: The Complete First Season**

Marvel's 13-part series originally streamed on Netflix, and is now available on a boxset that impresses with imagery and DTS-HD 5.1 mixes, but is bereft of extra features.

★★★★★

**Dissent and Disruption: Alan Clarke at the BBC (1969-1989)**

Mega boxset with a mega price tag (£150) featuring a comprehensive collection of Clarke's work spread across 11 BDs and two DVDs.

★★★★★

**The Hunger Games: The Complete 4-Film Collection**

Ultra HD package with pleasingly crisp 2.40:1 encodes, new Dolby Atmos mixes for the first two movies and a bulging collection of extra features.

★★★★★

TOP 10 Soundbars & Soundbases



Yamaha YSP-5600SW

→£1,900 ★★★★★

With its 46 drivers (including upfiring) this premium 'bar delivers precisely-steered and immersive audio, even of the Atmos variety. Potent wireless sub and 4K-capable HDMI switching sweeten the high-end deal. *HCC #254*



Canton DM55 →£330 ★★★★★

Canton's smallest soundbase still delivers big sonic thrills. Twin woofers underpin clean and crisp mids and highs, and build quality is first-rate. Doodle to use. Bluetooth built-in. *HCC #260*



Samsung HW-K950 →£1,300 ★★★★★

Soundbar with additional wireless rears and Dolby Atmos support via four upfiring drivers. Impressively largescale performance, good connectivity. No native DTS support. *HCC #263*



Cabasse Stream BAR →£850 ★★★★★

Soundbar/hi-res speaker that's blessed with real musicality, but doesn't fall short when it comes to energetic film soundtracks. HDMI in/out, but v1.4 only. *HCC #269*



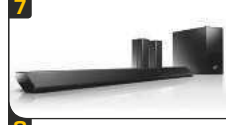
Geneva Model Cinema →£550 ★★★★★

The Swiss brand comes up trumps with this five-driver Bluetooth-capable soundbase. It musters a massive sound with huge dynamics, rich bass and articulate highs. *HCC #261*



DALI Kubik One →£800 ★★★★★

The Danish speaker brand brings a slice of glamour to your setup with this stylish soundbar. No HDMI or digital decoding but it packs a tight, lively and nuanced sound. *HCC #269*



Sony HT-RT5 →£500 ★★★★★

Sony joins the growing 'soundbar with wireless surrounds' market with an enjoyable debut that packs some worthwhile DSP modes and plenty of media-savvy functionality. *HCC #257*



Bluesound Pulse Soundbar →£1,000 ★★★★★

Part of the Bluesound multiroom stable, this glam-looking soundbar offers audiophile tricks such as MQA streaming and a largescale, dynamic sound. Bit pricey, though. *HCC #270*



Acoustic Energy Aego Sound3ar →£200 ★★★★★

Smallscale second-room option impresses with its punch and clarity, but a few EQ tweaks would have been nice. No HDMI connectivity. *HCC #264*



LG SH6 →£260 ★★★★★

GoogleCast and HDMI join Bluetooth to make this soundbar well-connected. No sub, but there's a hefty low-end output via its driver array and impressive scale to its sonics. *HCC #270*

TECH INFO: TV PLATFORMS



TV addicts – go free, or pay-to-view?:

The analogue switch-off has created a competitive market in free-to-air platforms, while Sky and Virgin Media are squaring up to the likes of EE TV, Amazon Prime and Netflix. Deciding which service is right for you can be complex, and you may find your needs are best catered for by a combination.

Sky+HD: The long-running satcaster offers a plethora of HD channels, with content including recent movie releases, live sports and sought-after US shows. The new Sky Q hardware includes a 4K-capable PVR with multiple tuners for simultaneous recording/device streaming.

Virgin Media TiVo: The cable giant offers a three-tuner PVR (ITB) with intelligent TiVo recording tricks, catch-up apps (including Netflix and Spotify), and over 240 channels (depending on package). Premium Sky content can be added on a monthly basis.

Freeview: Common option when it comes to TVs and STBs. Freeview offers 13 HD channels plus SD and radio. Freeview Play adds IPTV integration to the EPG – and you'll find it on Panasonic and Finlux TVs.

Freesat: Satellite service offering a similar – but not identical – channel lineup to Freeview, delivered via a dish but without a subs cost. Budget-priced STBs are available.

YouView: This relatively new kid on the block integrates the UK's main catchup portals directly into a backwards EPG. Again, channels are broadly similar to Freeview and there's no contract. Humax (PVRs) and Sony (TVs) are leading the hardware charge.

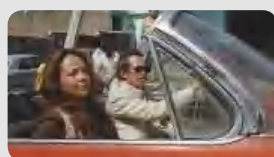
TOP 5 Back-catalogue Blu-rays



His Girl Friday

Criterion rustles up the definitive release of this 1940 Cary Grant/Rosalind Russell classic. Superb 1.33:1 monochrome transfer, plus a wealth of extras on this two-disc BD, including the 1931 flick *The Front Page*.

★★★★★



Bring Me the Head of Alfredo Garcia: Limited Edition

Arrow's two-disc release marries a stunning new 4K restoration of Sam Peckinpah's most personal (and misunderstood) movie to a treasure trove of bonus goodies.

★★★★★



10 Rillington Place

Nicely timed to coincide with the recent BBC series, this debut Blu-ray release from new UK indie label Indicator adds a 32-page booklet to a striking 1080p encode of the grimy 1971 true-life serial killer movie.

★★★★★



It Came From Outer Space

Universal unleashes this 1953 science-fiction classic on a fine-looking (and well-priced) 3D Blu-ray release. Audio thrills come via a DTS-HD 3.0 presentation of the original three-track soundmix.

★★★★★



Crouching Tiger, Hidden Dragon

An assured 4K debut for Ang Lee's Mandarin-language martial arts drama. Sony Pictures' restoration work reaps rewards; a new Dolby Atmos mix is another reason to buy.

★★★★★

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TOP 5 PVRs



Virgin Media TiVo, £subscription

This triple-tuner PVR offers recording flexibility, useful features – you can undelete deleted shows! – and smart TiVo functionality. If you're in a cable area, consider it.

★★★★★



Sky Q, £subscription

Sky's new top-tier product offering dazzles with its image-rich user interface, wireless multiroom skills and recording flexibility delivered by the PVR's 12 tuners. Now supports 4K content.

★★★★★



Humax HDR-1100S, £190

Freesat Freetime PVR that impresses with its usability, VOD options and form factor – Humax's small, white box will slot into any kit rack. We tested the 500GB version – 1TB and 2TB models are also available

★★★★★



Humax DTR-T4000, £subscription

This YouView-based PVR is required to get BT Sport's new Ultra HD channel – available to those with BT fast fibre and a BT TV sub. Easy to use and with 1TB of storage

★★★★★



EE TV Smart Box £subscription

This quad-tuner 1TB PVR, from the mobile/broadband corp, offers innovative Replay 24-hour channel recording and great Smart device streaming. Needs more catch-up though

★★★★★

TOP 5 Headphones



Sony MDR-HW700DS, £800

Comfy cans supplied with an HDMI surround processor, enabling multichannel audio to be fed to a virtual 9.1-channel soundstage. The effect is superb – great for late-night listening

★★★★★



Sony MDR-1ABT, £300

Another cracking Sony pair with a good sonic balance, here with integrated Bluetooth allowing for cable-free movie watching (although they can be used wired too). Large design perhaps not suited to travel

★★★★★



Lindy Cromo NCX-100, £100

A cost-effective domestic option and great for travelling, these noise-cancelling 'phones (which can also be used as a normal passive design) feature a pleasant, balanced sound

★★★★★



PSB M4U1, £220

Aimed at both home and on-the-move use (and supplied with a carry case and two cable options), the M4U1s offer solid bass response and impactful highs. Build quality is good, as is comfort

★★★★★



Bose QC35, £290

The latest in the QuietComfort range ditches the wired connection in favour of Bluetooth but retains Bose's luxurious styling and rich performance. Noise-cancelling mode is very efficient.

★★★★★

TOP 5 Wireless speakers



KEF Muo, £300

Portable Bluetooth speaker that's a cut above much of the competition. KEF's sonic knowhow results in a punchy, dynamic presentation that cherishes lossless rips. Excellent build quality

★★★★★



Sony SRS-X11, £60

An affordable palm-sized Bluetooth speaker with internal rechargeable battery, Sony's SRS-X11 is supremely portable and sounds decent for the money. A neat little gizmo. Get two and they can work in stereo

★★★★★



Q Acoustics BT3, £280

Bluetooth stereo pair with optical input makes a good alternative to a soundbar (there's even a subwoofer pre-out) while remaining a dab hand at music. Neat and tidy design, good price.

★★★★★



Simple Audio Listen, £400

Desktop stereo speakers with Bluetooth support, these benefit from separate tweeter/midbass units and a classy construction. Performance is well-balanced, and a subwoofer output is offered for extra bass

★★★★★



Star Wars Bluetooth speakers, £150 each

Bring a touch of fun to your tunes with these Stormtrooper and C-3PO replica Bluetooth speakers from ACWorldwide. Solid sound quality and gorgeous styling

★★★★★

HOME CINEMA

Choice

→ IN THE NEXT ISSUE

Set to stun! We look back at LaserDisc – home cinema's first premium format

LG How the Korean corp and Dolby have joined forces to rock your AV world

Back to the beginning Hollywood prequels

→ REVIEWS

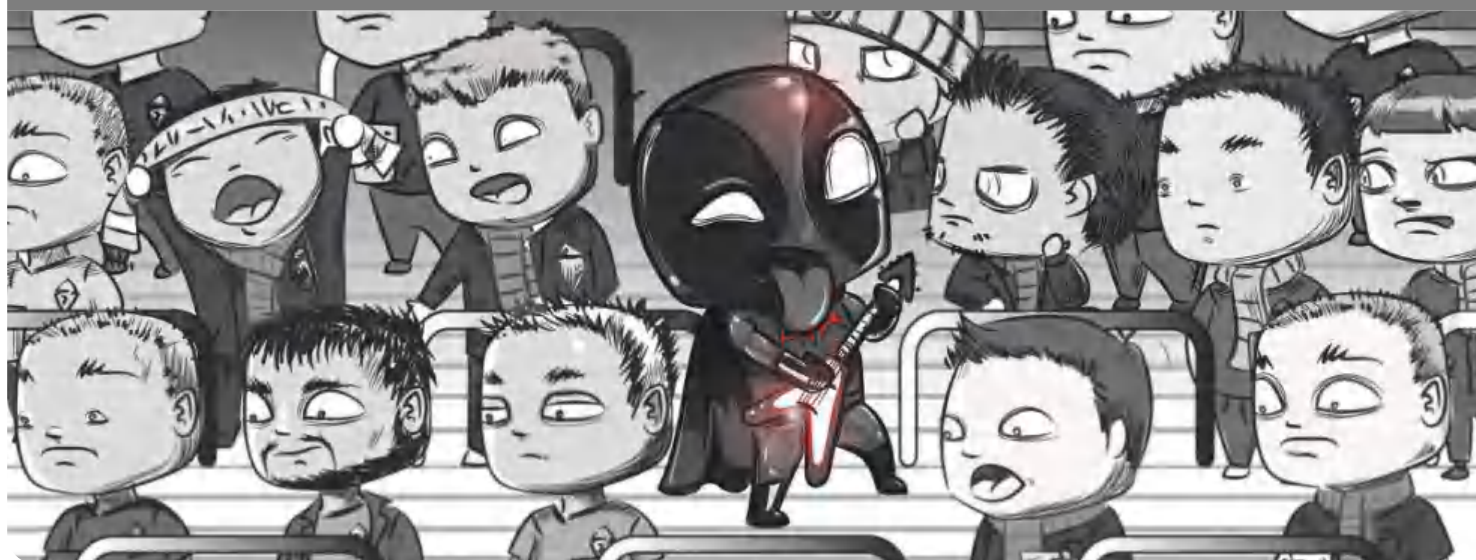
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CONTENTS SUBJECT TO CHANGE – BUT ONLY FOR THE BETTER



AV Avenger

A night on the town with Robbie Savage, plus some heavy-metal mayhem, has convinced **Steve May** that there's more to Dolby Atmos than just explosions and gun-fights...

DOLBY ATMOS IS clearly too good to waste just on movies. The 3D audio format is extending its reach beyond film. Indeed, it has such momentum now that literally no one (not fake news, I've checked) is talking about DTS:X or Auro-3D. Dolby Atmos has become the *de facto* next-generation audio format. Creative types can't get enough of it.

Perhaps the biggest surprise is just how effective it is with live sports. The introduction of Atmos audio to BT Sport's 4K football coverage has effectively taken the codec to another level.

The telecomms giant is now capturing all its Premier League fixtures in Atmos. I went to a shindig to celebrate the first broadcast, Liverpool v Chelsea, to listen live, and was astounded at just how convincing it was. To recreate the ambience of a stadium, BT's sound engineers have treated crowd noise as a definable object and slapped it into the height channel.

Listening in a sports bar kitted out with the necessary gear, the sense of scale was pronounced. Unlike a movie mix, where that height component can be subtle and fleeting, crowd noise seemed to ebb and flow. Soccer has never sounded so good.

'It's amazing,' declared Robbie Savage, evidently hearing Dolby Atmos for the first time. He is, I was later informed, a footballer pundit of some renown and not just a contestant from *Strictly Come Dancing*. 'And you already have this [Atmos] at home?' he asked incredulously. I assured him I did. Clearly he's not an HCC reader.

Not to be outdone, Sky has since confirmed it's also adding Atmos to 4K sports content. I'm betting it'll be on UHD movie offerings soon.

I first asked BT Sport chief operating officer Jamie Hindhaugh about the possibility of broadcasting

Atmos at a Silverstone Moto GP meet, back in 2015. He tells me that discussions with Dolby began almost immediately afterwards. The result was BT laying claim to the world's first Atmos live UHD sports broadcast. He says they had to consistently break new technical ground to make it happen.

Music = the food of love, Atmos = chips

Atmos is also being assimilated into the Pure Audio Blu-ray spec. The London Symphony Orchestra has just released *Asyla, Tevot & Polaris*, conducted by Thomas Adès, a live Atmos recording that sets out to mimic the experience of listening in the centre of the Barbican Hall.

Personally I prefer my classical mixed with screaming guitars. Enter *Prometheus: The Dolby Atmos Experience* by Luca Turilli's Rhapsody. Rhapsody, in case you didn't know, is a 'cinematic' metal band and this Pure Audio BD is a 3D remix of its head-banging symphonic album.

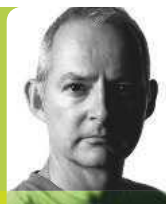
Producer Chris Hail, who has worked with Bowie, Bryan Adams and The Scorpions, has taken power chords and choirs, classical orchestrations and chugging riffs, and created a 'three-dimensional parallel universe... a divine, musical experience of transcendence,' in Turilli's words.

He's not wrong. Produced in partnership with Yamaha, the disc is part film score, part power-metal hoedown. It's engulfing, exciting, pompous and breathtaking. Let's face it, any Dolby Atmos heavy metal album which references Tolkien (*One Ring to Rule Them All*) and Norse mythology (*Yggdrasil*) can take all my money right now.

I somehow doubt it's Robbie Savage's cup of tea, though ■

Have you been watching BT Sport's Atmos-fuelled footy? Let us know: email letters@homecinemachoice.com

Steve May may be ahead of most Premier League footballers when it comes to sonic know-how, but ask him to kick a ball and he falls over.





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