

**B&W** Bowers & Wilkins

600 Series



**It's that time again.** When B&W unveils the latest edition of its 600 Series. It's been going on since the mid-1990s. Even on its debut the 600 Series swept up five star reviews and product of the year awards for its affordable, audible brilliance. Every three years or so since then, as new editions have appeared, it's been the same story. The new 600 Series – the fourth generation – has been a little longer coming, so the heat's been off the competition. But it's back. And it's better, sharing more leading-edge technologies with our top-of-the-range 800 Series. There's a wider choice of finishes, a fresh new look and a step forward in sound quality that raises the bar to a whole new level. It's been a wait, but it's worth it.





**There's no room for dreams in business.** That's what we're told. B&W is different. Its success stems from the dream of founder John Bowers to create the perfect loudspeaker – one that neither adds to nor takes away from the recorded performance. And, in the laboratories and listening rooms of our dedicated Research Establishment in southern England, that's been our goal from day one. The design breakthroughs we've made and the technologies we've developed along the way have helped to create award-winning loudspeakers at every level of the market. By working with respected studios like Abbey Road, we've satisfied the world's most demanding listeners. The dream is our business. And today, through networks such as our newly-founded Society of Sound, we're finding performers, technicians and customers who share it. We're getting closer all the time.

From left to right: Michael Gleason and Petar van Hook. Live from Abbey Road. John Dunckerley, Decca Recording Engineer.



You might think that seeing a movie at home can never compare to seeing it at the cinema. Well, that's what the B&W 600 Series is here for: to bring the big screen experience into your home. With a sound system that can deliver every word, whisper, pin drop and tyre screech in super-sharp clarity, from any point in your room, you'll find yourself living every moment. And, when you're winding down from that experience, switch the system to audio to enjoy your favourite music in revelatory sound quality.

The 683 Theatre is one of three suggested packages designed for different roomscales. It's the reference 600 Series home theatre system, put together to fill large, open spaces effortlessly with rich, deep, detailed sound. Prepare yourself for the big sound experience, fronted by a pair of uncompromising 683 floorstanders. Think you saw and heard it all at the cinema? Think again.





**Behind the scenes.** The creation of the 600 Series has engaged just about everyone at Bowers & Wilkins in some way. Here's a look at some of the detail and thinking from two of the people involved.



Mike Gough, Senior Product Manager

**When you are faced with creating a new 600 Series, how does your approach differ from that for a reference level range?**

In one respect, surprisingly little. After all, our customers' passion for music is governed by their hearts not wallets. And from an execution point of view we're tied by the same laws of physics at every level. Of course, the challenges are different but we expend just as much energy solving them.

**Can you explain how the challenges differ?**

Normally, new technologies are developed for high-end products. There the challenge is all about pushing absolute boundaries and there's usually a good deal of heartache in the perfecting process. It may be learning about new materials or getting to grips with a new manufacturing process. It's very time consuming and can be very expensive to perfect. Once that part of the process is over, however, you don't have to go through it again when you want to apply it to another product.

The challenge with value products is how to apply what may be an expensive feature more cost effectively. Interestingly, they're not all expensive to manufacture. Take Flowport™, for example. It costs no more to mould a dimpled port than it does a plain one, so that feature made its way into most of our products across the board very quickly.

**Give me an example of how you cost engineered an expensive technology.**

I'll give you two that are related. For many years, because of the cost of manufacture, Kevlar® cones were restricted to 800 Series products and the first two 600 Series did not feature them except for the midrange driver of the largest floorstander. We then considerably slicked up our production methods and not only made the cones more affordable but more consistent in performance. This time round, we have used our FST™ midrange driver for the first time in 600 Series. This is a really great driver - lots of detail and resolution - and has helped make the reputation of 800 Series products. This time though, we already had the optimum production methods in place, so nothing to gain there. What we did was use a much simpler mounting method than the single point tension method of the 800 Series. You can do that sort of stuff at the high end but that you can get a big chunk of the benefit at 600 Series level is a pretty good deal for the customer.

**A lot of what makes a great speaker is down to the final voicing. Do the 600 Series engineers go about this in a different way from the 800 Series engineers?**

If I say at the outset that it's the same team across the board, you'll realise that the answer is no. One of the advantages of this is that you get the same dedication to performance targets. Once you have worked on high end products, you can't lower your standards. I've stopped counting the number of times I have sat in on listening sessions and been amazed at the level of performance those guys can wring out of speakers.



Dr. Gary Geaves, Head of Research

**One of the important acoustic changes in this new 600 Series is in crossover design. Why is this area of acoustic design so crucial?**

Sufficient coverage of the full audible spectrum requires at least two drive units, covering the low, mid and high frequency bands. It is necessary to filter out the high and low frequencies respectively, in order that the two drivers combine in the correct manner. This filter is known as the crossover, and it is just as critical to the overall sound as any other element in the system. Experience has shown that the simpler we can make the crossover filter, the better the sound. And the better the drivers, the simpler the crossover required. In this new 600 Series we have really done a lot of work in this area which has resulted in just one capacitor for the high frequency part of the crossover - as uncomplicated a format as it gets.

**B&W also talks about the selection of these crossover components as being in itself crucial.**

Yes. With a loudspeaker design where the drive units are very high resolution, it is often the case that filter components which appear to have identical stated specifications can sound drastically different. We're researching this to find out why but we can definitely hear huge differences that we currently don't really know how to measure. The ear is a remarkably sensitive device!

**How do you choose these components then?**

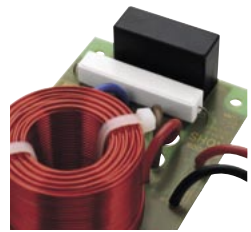
The final selection of components and therefore the overall 'tuning' of the loudspeaker must, of necessity, be done by subjective analysis i.e. listening to music. And not just in one room with one type of equipment - in as many rooms as possible with all manner of different partnering equipment. This aspect of acoustics is actually as much of a skill as the more obviously scientific areas like material science and it's why B&W has always dedicated a large portion of a loudspeaker's development time to listening. It's also the area of development where we'll involve our friends at, say, Abbey Road Studios to get as broad a set of opinion as we can.





**Treble.** Mobile phones, DVD players, car navigation systems... Sooner or later, most technological advances become accessible. Few, though, will generate as much sheer pleasure as the innovations now found in the 600 Series.

When we develop a breakthrough technology for one of our studio-standard ranges, every other B&W product feels the benefit. What was state-of-the-art in the high-end series becomes state-of-the-art in more affordable ranges. Everything that goes into a B&W speaker has a pedigree. The 600 Series tweeter is a case in point. Its tube-loaded design, which spirits away unwanted sonic radiation from behind the dome, first appeared in our convention-busting Nautilus™ speaker. The aluminium dome itself, bonded resolutely to the voice coil, achieves truer-than-ever frequencies well past the upper limit of human hearing.



Neodymium magnets similar to the kind used in the tweeter of the 800 Series replace the ceramic magnets of the previous 600 Series tweeter. More compact, they allow the separation between the centres of the midrange and tweeter to be reduced, which makes for a more focused sound 'image'. Other refinements, to the magnet pole and the surround material, have lowered distortion and further sharpened the imaging. All of which adds up to a tweeter of such high quality that it requires only a 1st-order filter, whose simplicity helps to preserve the full purity of the signal.



**Midrange.** Owners of earlier 600 Series speakers will be wondering how we could improve on the clarity and detail of a midrange drive unit that's already in a class of its own. That's just the kind of challenge we like.



In all our 600 Series midrange/bass units the distinctive yellow woven Kevlar® cone snuffs out the kind of concentric standing waves that build up in standard, homogeneous cones, while a light, airy 'open' chassis cuts down echo from behind the cone. But, to the midrange of the three-way 683 speaker, we've been able to add something even more special. We call it a 'fixed suspension transducer', or FST™ for short. It sounds complex, but it's not. It's simple, and it sounds wonderful, but until now it has only been seen in B&W's audiophile ranges, such as the 800 Series.

The FST™ is a ring of foam whose mechanical properties exactly match those of the woven Kevlar® cone, which gives it magical properties over the bending waves that travel outwards through the cone, to its edge. With a conventional roll surround, these energies would be reflected back into the cone and smudge the sound. The FST™ soaks them up, like a circular shock absorber around the cone's edge. What you hear is a cone moving even more freely and responsively; a midrange that's top of the range.





**Bass.** When push comes to shove, you have to be serious about bass. At B&W, it's a science. We test materials, structures and circuits to their limit to get better bass for your buck.



You might not think a material like paper would tie in very well with a B&W bass driver. Turn the volume up on one of our 600 Series subwoofers, for instance, and you could probably shake wallpaper off walls. So it might surprise a lot of listeners to find that paper plays a vital part in what they're hearing. In our ASW608, ASW610 and ASW610XP subs, the bass driver diaphragms are constructed from a finely-tuned mix of paper pulp, Kevlar® fibres and resin, which provides the stiffness needed to withstand the tremendous physical forces exerted by the voice coil and pressures inside the cabinet.

For the 683 bass drivers, which operate to higher frequencies than the subwoofers, that paper/Kevlar® mix is closely bonded to an aluminium front skin and the unit features our novel "mushroom" construction in which the cone, dust cap and voice coil bobbin are bonded together like a ring girder. Extra measures to extend the performance.

Ultra-solid construction - that's the key to slamming bass, drum kicks and special movie effects. Deformation is minimised; bass precision, power and enjoyment are maximised.



**Finishes.** We don't believe in spoiling your enjoyment of what you hear by designing speakers that you don't want to see. Choose from a wider-than-ever set of finishes and tailor your 600 Series speakers to their setting.



Speakers, after all, are furniture. They have a form as well as a function. You'll find the craftsmanship and quality of finish on B&W 600 speakers reflect the high standard of engineering and innovation inside them. For the new series, we have widened the choice of cabinet finishes and remodelled the speaker facades to echo currents in contemporary furniture design.



A matt, soft-touch front surface and elimination of visible screws around the drivers creates an understated, seamless appearance, complemented by a new, brushed aluminium, diamond-cut logo plate that encompasses the tweeter. There are now four cabinet veneers available: our traditional Black Ash; the Light Oak that proved popular for the 600 Series 3; plus two new finishes, a smooth Red Cherry and a densely-grained Wengé.

Want to ride with Hopper and Fonda in Easy Rider? Fly into the Death Star with Luke? Or eavesdrop on the neighbours in Rear Window with James Stewart? If your requirements from a home theatre system don't run to maximum power, but you'd still like sound that can drop you headfirst into the action, we suggest the 684 Theatre. Featuring a pair of 2½-way, floorstanding 684s, two 686s in the rear position, an HTM62 centre speaker and an ASW610 subwoofer, it can recreate movie sound and music in totally believable 3D detail and power.



**Home theatre packages.** With two bookshelf speaker models, two floorstanders, two centre speakers and three subwoofers in the 600 Series, there's a lot of potential ways to assemble a home theatre system. Here are three groups that, to our ears, go together as harmoniously as the Beach Boys or Ladysmith Black Mambazo.



**685 Theatre**  
 The most compact of the three set-ups, the 685 Theatre is a bookshelf-based arrangement for more enclosed listening environments. With an ASW608 subwoofer bringing bass aplenty, it still packs all the punch you'll need.  
 Main: 685  
 Centre: HTM62  
 Surround: 686  
 Subwoofer: ASW608



**684 Theatre**  
 For maximum detail and impact in medium-sized to large rooms, team up a pair of 2½-way 684s with a larger subwoofer, an HTM62 centre speaker and a pair of 686s in the rear position.  
 Main: 684  
 Centre: HTM62  
 Surround: 686  
 Subwoofer: ASW610



**683 Theatre**  
 If you're watching movies and listening to music in a large, open space, you need a system with authority as well as attention to detail. The 683 Theatre will command the largest domestic spaces with ease.  
 Main: 683  
 Centre: HTM61  
 Surround: DS3  
 Subwoofer: ASW610XP



**So, that's it. Or is it?** At B&W, the pursuit of perfect sound continues. For over 40 years, we've been dedicated to creating a loudspeaker that neither adds nor takes away from the recorded sound. In the process, we've become a world leader, developing award-winning speakers like the 600 Series. It's a passion. Thankfully, we're not alone. There are others – musicians, technicians, critics, customers – who are as dedicated as we are. And now, we're coming together to share knowledge, insights and our love of sound. You can join this global network, too, and get closer to your movies and music. Come to [www.bowers-wilkins.com](http://www.bowers-wilkins.com) to find out more and to join the Society of Sound.



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