Bowers & Wilkins

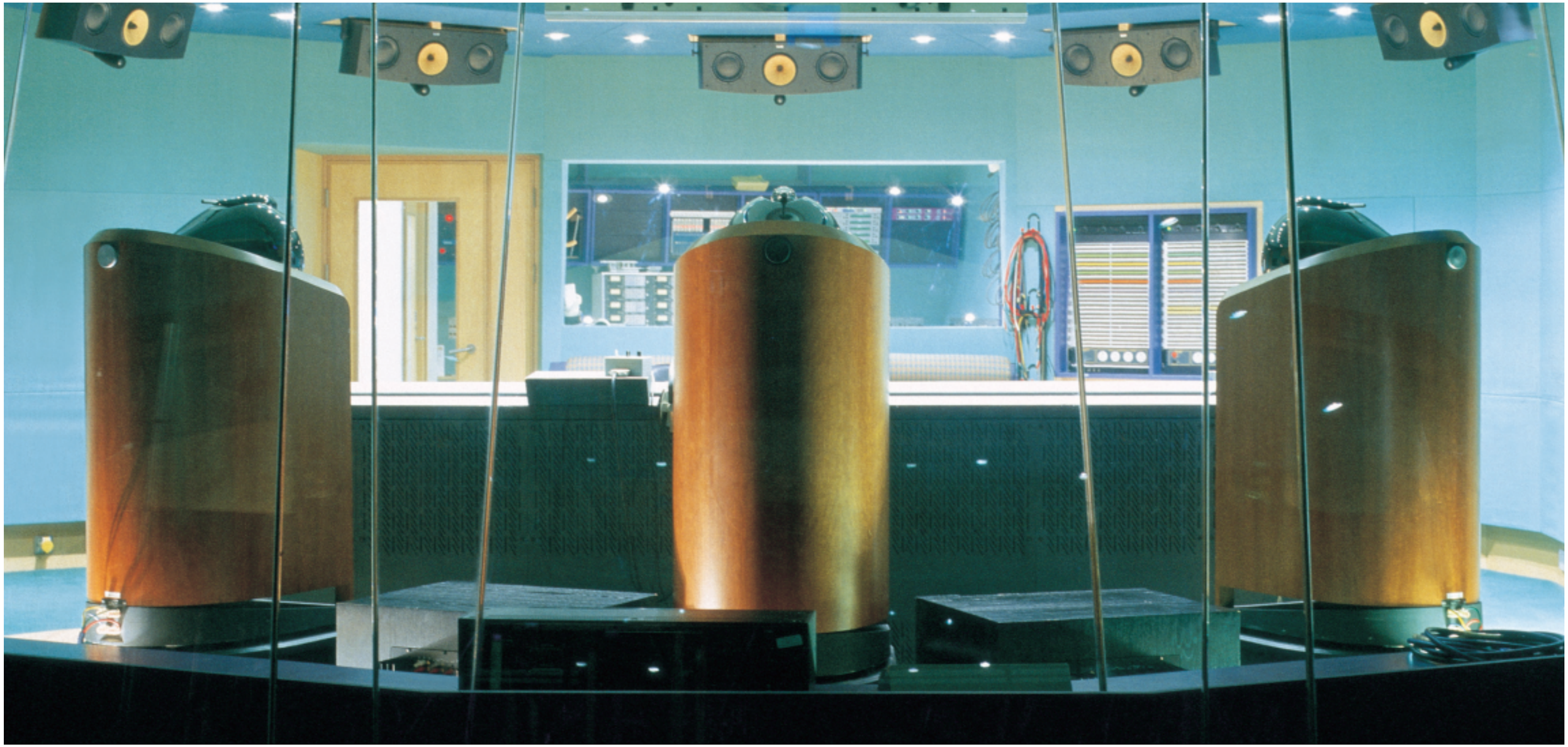
CM Series

Pure and simple

No artificial additives. That's been our approach to sound quality from the very beginning. We've taken it to a new level with the CM Series. By using only the most refined drive unit technologies and removing any unnecessary details, we've been able to hone each speaker down to its purest, most elegant essentials. So nothing gets between you and the true sound of the original recording.

Masters of sound

You're looking at the room where recorded music is born. Abbey Road Studios in London is one of the most legendary recording studios in the world. Made famous by the Beatles, everyone from Lady Gaga to the London Symphony Orchestra has recorded here. And since the 1980s, the studios have played host to another star performer: the Bowers & Wilkins 800 Series. In the control room of Studio 1, sound engineers rely on 800 Diamond speakers to capture the live performance in the studio in all its nuance and detail. So you can trust Bowers & Wilkins to bring out the best in your music. The people who recorded it already do.



From Hi-Fi...

It's one thing to hear music. It's something else to really experience it – to close your eyes and feel as though the artist is there, performing in the room with you. At Bowers & Wilkins, we've dedicated nearly half a century to creating these experiences. Listen to our speakers, and you'll discover depth and detail in your music you never knew existed – from the scrape of a plectrum on a guitar string to the sense of emotion and atmosphere in a live performance. We call it true sound. And you can experience it yourself, with the CM Series.

...to Hollywood

With TV and films, what you see is only half the story. You might have the widest screen and the sharpest resolution. But without great sound to complete the picture, the sense of atmosphere and excitement we expect from movies will always be missing. With the CM Series, everything changes. Suddenly, you're not just watching the action. You're right in the heart of it, tap dancing in the rain with Gene Kelly or roaring through the streets of Gotham City with Christian Bale. Isn't it time you brought the sound of the cinema home?

Behind the scenes

There's a lot more to the CM10 than meets the eye. Bowers & Wilkins senior product manager Mike Gough talks us through some of the technology and ideas that have gone into making the speaker.

CM10 is the first CM Series speaker to use a tweeter-on-top configuration. What advantages does that approach offer?

Although it hasn't been part of the CM's design language up to now, we've used the tweeter-on-top configuration for decades, ever since our DM7 loudspeaker back in 1978.

The enclosure of any drive unit plays a part in defining how sound spreads out from it. The narrower the enclosure compared to the driver's diaphragm, the wider and more consistent with frequency the dispersion becomes. This not only improves imaging, it also reduces any change in sound character for listeners not in the central 'hot seat'. It's no accident that the sides of the narrow main cabinet are as close as possible to the bass and midrange drivers. It's a natural progression to treat the tweeter the same, and its much smaller diaphragm requires a commensurately smaller enclosure. Not only does imaging improve, but the sound is better endowed with that elusive 'out of the box' quality. You're more aware of a truly three-dimensional sound picture, and less of where the speakers are actually located.

We can also decouple the tweeter housing from the top panel of the CM10 using low shore-hardness (highly compliant) material. Virtually all structures have some residual vibration, and drivers can very easily excite resonances inside the structure of the cabinet within which they're mounted. We want to prevent vibration travelling from one drive unit to another, so in CM10, the tweeter is compliantly mounted from its housing, and then the housing itself is compliantly mounted from the main body of the cabinet.

Is the tweeter itself the same as with other CM Series speakers?

The CM10 uses a new design, based in part on the research we conducted on the carbon-braced tweeter employed in our PM1 loudspeaker. Here, we're strengthening the edge of the aluminium dome using a second aluminium layer that replicates the main dome's profile with the centre part cut out, giving us a new 'double-dome' design.

This approach stiffens the whole structure and prevents the voice coil from going 'out of round' at higher frequencies. The result is superior performance: the double-dome pushes the first break-up frequency up from the 30kHz of our standard dome to 38kHz in the new design. This makes the tweeter purer and more piston-like in the all-important audible band below 20kHz. The result is exceptional clarity and control, even under duress.

What else is new in CM10?

Another advantage of the change in tweeter configuration is that, within the same overall height of our CM9 loudspeaker, we've managed to get in a third bass driver, giving us both improved sensitivity and enhanced low-frequency response. Put another way: in CM10, we've got the ability to both play louder, and to deliver less audible distortion when doing so.

CM10 also features an FST™ midrange drive unit. This is decoupled from the main cabinet and supported by a rod anchored at the back of the cabinet, much as in an 800 Series Diamond. This compliant mounting mechanism stops unwanted vibrations from the moving diaphragm getting into the cabinet, delivering a cleaner, less coloured sound.

Mike Gough
Senior product manager

Treble

To capture the spine-tingling subtleties in music, you need a tweeter capable of precision and control. Combining some of our most advanced acoustic technologies with a high quality, first-order crossover, the CM Series provides sweeter high frequencies than you'd ever imagine possible. And for the top speaker in the range, we've introduced something very special: the tweeter-on-top design found in our flagship 800 Series Diamond.

Tweeter on top
The top-of-the-range CM10 is the only speaker in the series to come with a tweeter-on-top design – a feature it shares with our most advanced reference speaker range, the 800 Series Diamond. Isolating the tweeter in this way aids imaging and dispersion, creating a more natural, spacious sound. Meanwhile the tweeter dome's unique sandwich construction raises the bar for precision and control, even at the very highest frequencies.

Nautilus™ tubes
The aluminium tweeters in the CM Series speakers feature our Nautilus tapering tube design – a technological innovation we first pioneered in our legendary Nautilus speaker. The tubes act like horns in reverse, soaking up unwanted resonances from the rear of the tweeter dome and reducing them to an insignificant minimum. Which means no distortion from the back of the tweeter. And the purest sound possible from the front.

First-order crossover
In a speaker, the better the mechanical design of the drive units, the simpler the electronic design of the crossover can afford to be. And the quality of CM Series drive units is such that we've been able to make the speaker's crossover one of the simplest we've ever produced. The CM Series' first-order tweeter filter contains just a single component of the very highest quality, so the audio signal remains as pure and unadulterated as possible.

Midrange

Creating a pure midrange sound demands the right kind of speaker material, with just the right combination of stiffness and flexibility. Step forward Kevlar®. It's resistant to bullets, and just as good at stopping distorting speaker cone resonances dead in their tracks. Combine it with high-end technological refinements like FST, and you've got a midrange that's anything but middle of the road.

Kevlar
Kevlar has been a Bowers & Wilkins hallmark since 1974 – and for good reason. Impregnated with a stiffening resin, and then treated with a polymer coat that seals the fibre and adds damping, Kevlar maintains a more constant dispersion pattern at all frequencies in its range than any other cone material. The result? Far fewer delayed, time-smearing sounds, and an exceptionally clean, precise midrange.

FST
FST (or "fixed suspension transducer", to give it its proper name) enhances the properties of Kevlar by absorbing bending waves travelling to the edge of the cone, further improving response times and the integrity of sound transmission. It's a highly refined piece of technology we reserve for some of our most advanced Hi-Fi speakers, including many of the speakers in the CM Series.

Decoupling
A tweeter on top isn't the only thing the CM10 shares in common with the 800 Series Diamond. As with speakers in the flagship range, the CM10 features a midrange drive unit that's decoupled from the cabinet. Decoupling the drive unit in this way helps to isolate it from the effects of cabinet resonance. Which means a midrange that's free from coloration, and an even purer, cleaner sound.

Bass

It's one thing delivering powerful bass: it's quite another doing so while preserving the precision and detail essential to the overall richness of the sound. With the CM Series, longer voice coils and larger magnets help the speaker deliver a prodigious amount of bass impact with complete control and minimal distortion. Combine this with rock-solid drive unit construction, and you've got the kind of bass you need to bring music and movies roaring to life.

Power and control
The top-of-the-range CM10 speaker packs an extra-powerful bass punch, thanks to its three mighty bass drivers. But power is just part of the picture. The extra driver doesn't just fill rooms with earth-shaking bass: it also reduces distortion and extends bass response. Which means excellent timing and control, no matter how loud you're playing it.

Flowport™
Great bass depends on a smoothly regulated airflow. The Flowport venting system minimises turbulence in the same way as a golf ball. Dimples on the surface generate tiny eddy currents, over which air can flow smoothly and silently. Extraneous noise is reduced to a minimum – so even with the volume right up, bass sounds smooth and tight.

CM Series subwoofers
The CM Series speakers all offer impressive bass for their relative dimensions, but sometimes, there's no getting beyond the need for a high-quality subwoofer, particularly when it comes to a home cinema system. The CM Series includes two subwoofers the ASW10CM and ASW12CM (USA only) and both feature bass drivers constructed from a rugged, finely tuned mix of paper pulp, Kevlar fibres and resin.

Design

While sound is always our first priority, we know that a speaker is also a piece of furniture. So while we've paid a lot of attention to what goes on inside a CM Series speaker, we haven't forgotten about what's happening on the outside. Thanks to a range of high-quality finishes and a painstaking attention to design detail, the CM Series will fit harmoniously and elegantly into the home environment.

Grilles
The CM Series grilles attach magnetically, so there are no grille mounting features to spoil the lines of the CM's façade. A simple touch that makes a big aesthetic difference.

Rosenut

Wengé

Black Gloss

Satin White

Finishes
The CM Series comes in a range of finishes to suit any room. Choose between two classic real wood veneers, Rosenut or Wengé. Or go for a more minimal feel with a Gloss Black or Satin White finish.

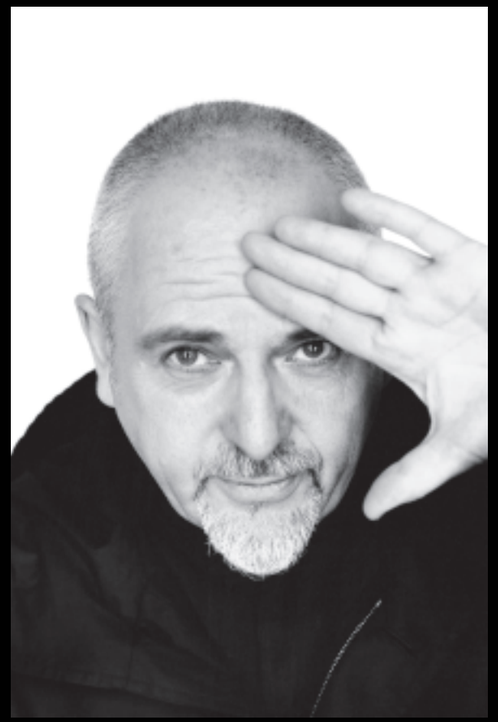
Bowers & Wilkins

Society of Sound

At Bowers & Wilkins, the pursuit of perfect sound continues. For more than 45 years, we've been dedicated to creating a loudspeaker that neither adds to nor takes away from the recorded sound. In the process, we've become a world leader, developing groundbreaking speakers like the CM Series.

It's a passion. But 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 music, knowledge, insights and our love of sound.

You can be a part of this community too. Come to **www.bowers-wilkins.com** to find out more and to join the Society of Sound.



Specifications

Technical features	CM10	CM9
	Free-mounted dual layer aluminium dome tweeter with Nautilus™ tube loading **Kevlar® brand fibre cone FST midrange** **Decoupled midrange and tweeter units** **Flowport™**	**Nautilus™ tube loaded aluminium dome tweeter** **Kevlar® brand fibre cone FST midrange** **Flowport™**
Description	3-way vented-box system	3-way vented-box system
Drive units	1x ø25mm (1 in) dual layer aluminium dome high-frequency 1x ø150mm (6 in) woven Kevlar® cone FST midrange 3x ø165mm (6.5 in) paper/Kevlar® cone bass	1x ø25mm (1 in) aluminium dome high-frequency 1x ø150mm (6 in) woven Kevlar® cone FST midrange 2x ø165mm (6.5 in) paper/Kevlar® cone bass
Frequency range	-6dB at 28Hz and 50kHz	-6dB at 30Hz and 50kHz
Frequency response	45Hz - 28kHz ±3dB on reference axis	56Hz - 22kHz ±3dB on reference axis
Dispersion	Within 2dB of reference response Horizontal: over 60º arc Vertical: over 10º arc	Within 2dB of reference response Horizontal: over 60º arc Vertical: over 10º arc
Sensitivity	90dB spl (2.83V, 1m)	89dB spl (2.83V, 1m)
Harmonic distortion	2nd and 3rd harmonics (90dB, 1m) <1% 86Hz - 28kHz <0.5% 110Hz - 20kHz	2nd and 3rd harmonics (90dB, 1m) <1% 90Hz - 22kHz <0.5% 120Hz - 20kHz
Nominal impedance	8Ω (minimum 3.1Ω)	8Ω (minimum 3.0Ω)
Crossover frequency	350Hz, 4kHz	350Hz, 4kHz
Recommended amplifier power	30W - 300W into 8Ω on unclipped programme	30W - 200W into 8Ω on unclipped programme
Max. recommended cable impedance	0.1Ω	0.1Ω
Dimensions	Height: 990mm (39 in) (cabinet only) 1087mm (42.8 in) (including tweeter and plinth but not feet) Width: 200mm (7.9 in) (cabinet only) 366mm (14.4 in) (including plinth) Depth: 337mm (13.3 in) (cabinet only) 364mm (14.3 in) inc. grilles and terminals but not plinth 414mm (16.3 in) including plinth)	Height: 990mm (39 in) (cabinet only) 1025mm (40.4 in) (including plinth but not feet) Width: 200mm (7.9 in) (cabinet only) 320mm (12.6 in) (including plinth) Depth: 300mm (11.8 in) (cabinet only) 321mm (12.6 in) (including grille and terminals but not plinth) 370mm (14.6 in) (including plinth)
Net weight	33.5kg (73.7 lb)	26.6kg (58.5 lb)
Finishes	Cabinet: / Grille: Real wood veneers Rosenut / Black Wengé / Black Painted finish Gloss Black / Black Satin White / Grey	Cabinet: / Grille: Real wood veneers Rosenut / Black Wengé / Black Painted finish Gloss Black / Black Satin White / Grey

Technical features	CM8	CM5	CM1
	Nautilus™ tube loaded aluminium dome tweeter **Kevlar® brand fibre cone FST midrange** **Flowport™**	**Nautilus™ tube loaded aluminium dome tweeter** **Kevlar® brand fibre cone bass/midrange** **Flowport™**	**Nautilus™ tube-loaded aluminium dome tweeter** **Kevlar® brand fibre cone bass/midrange** **Flowport™**
Description	3-way vented-box system	2-way vented-box system	2-way vented-box system
Drive units	1x ø25mm (1 in) aluminium dome high-frequency 1x ø130mm (5 in) woven Kevlar® cone FST midrange 2x ø130mm (5 in) paper/Kevlar® cone bass	1x ø25mm (1 in) aluminium dome high-frequency 1x ø165mm (6.5 in) woven Kevlar® cone bass / midrange	1x ø25mm (1 in) aluminium dome high-frequency 1x ø130mm (5 in) woven Kevlar® cone bass/ midrange
Frequency range	-6dB at 43Hz and 50kHz	-6dB at 45Hz and 50kHz	-6dB at 45Hz and 50kHz
Frequency response	69Hz - 22kHz ±3dB on reference axis	52Hz - 22kHz ±3dB on reference axis	55Hz - 22kHz ±3dB on reference axis
Dispersion	Within 2dB of reference response Horizontal: over 60º arc Vertical: over 10º arc	Within 2dB of reference response Horizontal: over 60º arc Vertical: over 10º arc	Within 2dB of reference response Horizontal: over 60º arc Vertical: over 10º arc
Sensitivity	88dB spl (2.83V, 1m)	88dB spl (2.83V, 1m)	84dB spl (2.83V, 1m)
Harmonic distortion	2nd and 3rd harmonics (90dB, 1m) <1% 100Hz - 22kHz <0.5% 300Hz - 20kHz	2nd and 3rd harmonics (90dB, 1m) <1% 100Hz - 22kHz <0.5% 150Hz - 20kHz	2nd and 3rd harmonics (90dB, 1m) <1% 110Hz - 22kHz
Nominal impedance	8Ω (minimum 3.0Ω)	8Ω (minimum 3.7Ω)	8Ω (minimum 5.1Ω)
Crossover frequency	350Hz, 4kHz Bass unit 3rd-order low pass Midrange 2nd-order high-pass, 1st-order low-pass Tweeter 1st-order high-pass	4kHz	4kHz
Recommended amplifier power	30W - 150W into 8Ω on unclipped programme	30W - 120W into 8Ω on unclipped programme	30W - 100W into 8Ω on unclipped programme
Max. recommended cable impedance	0.1Ω	0.1Ω	0.1Ω
Dimensions	Height: 960mm (37.8 in) (not including feet) Width: 165mm (6.5 in) (cabinet only) 252mm (9.9 in) over plinth Depth: 277mm (10.9 in) (cabinet, grille and terminals only) 298mm (11.7 in) over plinth	Height: 340mm (13.4 in) Width: 200mm (7.8 in) Depth: 280mm (11 in) (cabinet only) 301mm (11.9 in) (including grille and terminals)	Height: 280mm (11 in) Width: 165mm (6.5 in) Depth: 255mm (10 in) (cabinet only) 276mm (10.9 in) (including grille and terminals)
Net weight	19.5kg (43 lb)	8.9kg (19.6 lb)	6.7kg (14.7 lb)
Finishes	Cabinet: / Grille: Real wood veneers Rosenut / Black Wengé / Black Painted finish Gloss Black / Black Satin White / Grey	Cabinet: / Grille: Real wood veneers Rosenut / Black Wengé / Black Painted finish Gloss Black / Black Satin White / Grey	Cabinet: / Grille: Real wood veneers Rosenut / Black Wengé / Black Painted finish Gloss Black / Black Satin White / Grey

CM Centre 2

Technical features	Nautilus™ tube loaded aluminium dome tweeter Kevlar® brand fibre FST midrange Flowport™
Description	3-way vented-box system
Drive units	1x ø25mm (1 in) aluminium dome high-frequency 1x ø100mm (4 in) Kevlar® cone FST midrange 2x ø165mm (6.5 in) Paper/Kevlar® cone bass
Frequency range	-6dB at 40Hz and 50kHz
Frequency response	56Hz - 22kHz ±3dB on reference axis
Dispersion	Within 2dB of reference response Horizontal: over 20º arc Vertical: over 60º arc
Sensitivity	89dB spl (2.83V, 1m)
Harmonic distortion	2nd and 3rd harmonics (90dB, 1m) <1% 90Hz - 22kHz <0.5% 120Hz - 20kHz
Nominal impedance	8Ω (minimum 3Ω)
Crossover frequency	350Hz, 4kHz
Recommended amplifier power	30W - 200W into 8Ω on unclipped programme
Max. recommended cable impedance	0.1Ω
Dimensions	Height: 218mm (8.6 in) Width: 590mm (23.2 in) Depth: 280mm (11 in) (cabinet only) 301mm (11.9 in) (including grille and terminals)
Net weight	18.7kg (41.1 lb)
Finishes	Cabinet: / Grille: Real wood veneers Rosenut / Black Wengé / Black Painted finish Gloss Black / Black

CM Centre

Technical features	Nautilus™ tube loaded aluminium dome tweeter Kevlar® brand fibre cone bass/midrange Flowport™ Magnetic shielding
Description	2-way vented-box system
Drive units	1x ø25mm (1 in) aluminium dome high-frequency 2x ø130mm (5 in) woven Kevlar® cone bass/midrange
Frequency range	-6dB at 45Hz and 50kHz
Frequency response	55Hz - 22kHz ±3dB on reference axis
Dispersion	Within 2dB of reference response Horizontal: over 20º arc Vertical: over 60º arc
Sensitivity	85dB spl (2.83V, 1m)
Harmonic distortion	2nd and 3rd harmonics (90dB, 1m) <1% 100Hz - 22kHz <0.5% 200Hz - 22kHz
Nominal impedance	8Ω (minimum 4.3Ω)
Crossover frequency	4kHz
Recommended amplifier power	30W - 120W into 8Ω on unclipped programme
Max. recommended cable impedance	0.1Ω
Dimensions	Height: 166.5mm (6.6 in) Width: 480mm (18.9 in) Depth: 255mm (10 in) (cabinet only) 275mm (10.8 in) (including grille and terminals)
Net weight	11.5kg (25.3 lb)
Finishes	Cabinet: / Grille: Real wood veneers Rosenut / Black Wengé / Black Painted finish Gloss Black / Black Satin White / Grey

ASW 10CM

Technical features	Paper/Kevlar® cone long throw driver 500W Class D amplifier
Description	Active closed-box subwoofer system
Drive units	ø250mm (10 in) paper/Kevlar® cone long-throw 76mm (3 in) dia voice coil - dual suspension diecast chassis
Frequency range	-6dB at 18Hz and 25/140Hz adjustable (EQ at A)
Frequency response	±3dB 25Hz – 40/140Hz adjustable (EQ at A)
Bass Extension	-6dB at 18Hz (position A) -6dB at 23Hz (position B) -6dB at 28Hz (position C)
Amplifier	Power output: 500W Rated power consumption: 94W Standby power consumption: 0.8W Input impedance: 33kΩ Signal / noise: >80dB Functions: Input level (line in) Input level (speaker in) Low-pass filter frequency Low-pass filter bypass Bass extension Bass roll-off alignment Auto sense on/standby Phase switch Inputs: Line In (RCA Phono) Speaker in (Binding post) 12V trigger (3.5mm jack)
Low-pass filter	Active 4th-order, variable cut-off frequency
Dimensions	Height: 325mm (12.8 in) (not including feet) Width: 325mm (12.8 in) Depth: 362mm (14.3 in) (including grille and controls)
Net weight	15.5kg (34.4 lb)
Finishes	Cabinet: / Grille: Painted finish Gloss Black / Black

ASW 12CM

(Available in the USA only)

Technical features	Paper/Kevlar® cone long throw driver 500W Class D amplifier
Description	Active closed-box subwoofer system
Drive units	300mm (12 in) paper/Kevlar® cone long-throw driver 76mm (3 in) dia voice coil - dual suspension diecast chassis
Frequency range	-6dB at 18Hz and 25/140Hz adjustable (EQ at A)
Frequency response	±3dB 25Hz – 40/140Hz adjustable (EQ at A)
Bass Extension	-6dB at 18Hz (position A) -6dB at 23Hz (position B) -6dB at 28Hz (position C)
Amplifier	Power output: 500W Rated power consumption: 94W Standby power consumption: 0.8W Input impedance: 33kΩ Signal / noise: >80dB Functions: Input level (line in) Input level (speaker in) Low-pass filter frequency Low-pass filter bypass (line in only) Bass extension Bass roll-off alignment Auto sense on/standby Phase switch Inputs: Line In (RCA Phono) Speaker in (Binding post) 12V trigger (3.5mm jack)
Low-pass filter	Active 4th-order, variable cut-off frequency
Dimensions	Height: 395mm (15.5 in) (not including feet) Width: 395mm (15.5 in) Depth: 432mm (17.0 in) (including grille and controls)
Net weight	24.5kg (54 lb)
Finishes	Cabinet: / Grille: Painted finish Gloss Black / Black

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