

# The world's most desirable kit

# TEMPTATIONS



## Bowers & Wilkins PM1

These **standmounters'** clever construction delivers a scintillating sound

### Profile

**Price** £1995 (plus £400 for stands) ★★★★★

**Design miracle** A small, high-quality speaker packed with the latest generation of B&W technology

**Tempted?** The promise is of a large slice of B&W's range-topping 800-series performance in a small, stylish box sold at a more affordable price. Who wouldn't succumb to that?

**S**ome folk might find the idea of spending £2000 on a speaker barely bigger than a decently sized shoebox a bit odd. Not us...

There's no getting away from the fact that any speaker that stands just 33cm high and sports a single 13cm mid/bass driver is never going to match the bass depth, authority and outright volume of the big boys at this price level.

But it seems nobody reminded B&W's engineers of that. While the PM1s don't quite manage to slip through a physics loophole, B&W's boffins have managed to eke out a surprisingly bombastic sound from tiny 6.5-litre boxes.

In small- to medium-sized rooms, these standmounters deliver impressive bass power and weight for their size. That little Kevlar mid/bass driver, along with the company's now-traditional dimpled reflex port, produces low

frequencies with plenty of gusto. Sure, bigger rivals go even deeper, but the B&Ws never sound undernourished or bass-light. That's a massive achievement in something so small.

### Big volume from small cabinets

They'll go loud enough for most people, too. Play *In the Hall of the Mountain King* from the *Social Network* OST and these standmounters throw out a huge sound, with waves of strong dynamics and plenty of bass. Push them really hard and things get a little confused, but by that time the speakers are playing way louder than we'd consider comfortable.

Move past the areas where all small speakers struggle and the PM1s set sky-high standards. They sound immensely fast, delivering transients with the kind of cohesion you usually only get with single-driver designs.

B&W has put a great deal of work into the PM1s' crossover network, and it shows in the speakers' seamless integration. The electronics are simple, with just three components in the circuit. Such a design is always hard to get right, despite the use of top quality parts - the PM1 uses a similar grade to those found on the company's range-topping 800 series speakers - but B&W has nailed it here.

The two-driver arrangement looks a lot like standard B&W fare, but there's been a lot of refinement going on. The 25mm aluminium dome tweeter, for example, is reinforced with a carbon ring to improve its frequency range and distortion performance (see *What makes it special?*, p76). The dome sits in the usual decoupled tweeter pod, and a rear-mounted tapered tube absorbs any stray sound waves.

The 13cm woven Kevlar cone now features an anti-resonance plug at its centre. This plug is made from polymer foam and, as the name implies, cleans up the cone's response with the aim of producing a more transparent sound.

### Brace, brace, brace

Of course, neither driver can work well if the cabinet isn't doing a good job.

The PM1's cabinet is surprisingly heavily braced (see *How does it work?*, left) for one so small, giving a rigid foundation for the mid/bass driver to work from. The curved front moulding looks like a one-piece affair, but is in fact made in two parts and finished to look seamless. It's shaped to have minimal influence on the sound, and it doesn't hurt if the final result looks as stylish and distinctive as this.

### How does it work? Braced for better sound

**Small speakers such** as the PM1s are rarely heavily braced because their size guarantees a certain amount of rigidity from the off. This wasn't good enough for B&W's engineers, so they came up with a lattice of reinforcement, just as in the company's high-end 800 series speakers. This is the first time the company has used this matrix construction below its range-topping series and the result is a very controlled and rigid cabinet. The use of mineral-loaded resin for the central moulded section allows the complex curved shape and adds damping, helping overall clarity.



B&W normally reserves this level of internal bracing for its über-pricey 800-series range-toppers

B&W's nailed the crossover.  
It's the sonic equivalent of  
doing a handbrake turn  
into a parking space



# Designer's notes

## "Small cabinets have fewer resonance problems and tend to have superior imaging"



\* Mike Gough  
Product Manager,  
B&W

All this careful engineering produces a wonderfully clean sound, one that picks up subtle detail and manages to keep it audible no matter how complex a piece of music gets. The PM1's insight into recordings is absolutely top class, with the speakers leaving no stone unturned when it comes to digging up low-level information.

These B&Ws, like many small speakers, can also deliver impressive stereo imaging. Listen to Tchaikovsky's *1812 Overture* and the PM1s excel with instrument placement and focus, and

They communicate the sense of drive, aggression and excitement in this kind of music terrifically well and, provided the rest of your system is good enough, these speakers can't help but shine.

As far as kit-matching is concerned, the B&W PM1s will sound perfectly good with the likes of Roksan's Award-winning £1595 Caspian M2 integrated amplifier (Awards 2010, ★★★★★). But, such is their transparency that their sound continues to improve significantly as the partnering electronics increase beyond that level.

**These standmounters work well with all types of music and engage the listener better than just about any B&W speaker we've heard in years. Great things really do come in small packages**

a beautifully layered and impressively expansive sound stage. Perhaps most impressive of all is their ability to disappear within the presentation. Close your eyes and it's nigh-on impossible to locate the boxes without looking.

### Transparent presentation

That's not where the good news ends. These standmounters time very well, and can convey rhythms excellently. Play the likes of Kanye West's *Monster* and the PM1s charge along at full throttle when the music demands.

You'll need the dedicated stands, though. These £400 supports were used during the PM1s' development, and it shows: no other stands we tried (and we have a more than a few on site) gave the same sense of control and balance. The aesthetics match too, which is nice.

Put it altogether and you have a hugely capable pair of small standmounters that work well with all types of music and engage the listener better than just about any B&W speaker we've heard in years. Sometimes great things really do come in small packages.

### Living with it

B&W's engineers always tune their speakers in biwire mode – so if you want to hear them as the engineers intended, this is the way to connect them.

For serious listening sessions it's well worth taking off the magnetically-held tweeter mesh alongside the main mid/bass driver grille. The PM1s sound cleaner and more open when used this way. Be careful not to dent the fragile metal dome, though.

The PM1s come with foam bungs for blocking their reflex ports. This reduces bass output enough to use them close to a wall. If possible, always use these speakers in free space and with unblocked ports – they'll sound so much better.



### Rating ★★★★★

**FOR** Fast, cohesive and surprisingly full sound; exceptional stereo image; superb integration and timing; top class build and finish

**AGAINST** Their size brings certain constraints

**VERDICT** Arguably the most engaging and entertaining speakers B&W has made in years

### TECH SPECS

- Type Standmounters
- Sensitivity 84dB/W/m
- Impedance 8 ohms
- Max power handling 100W
- Biwireable Yes
- Finishes 2
- Dimensions (hwd) 33 x 19 x 30cm

### What makes it special?

### The carbon-fibre-reinforced metal dome tweeter

B&W would have loved to use a diamond dome tweeter here, but the cost was prohibitive. The company's entry-level diamond-equipped speaker, the 805D, costs almost twice as much as the PM1s at £3750.

So the next best thing was to improve the long-running metal dome design. The company decided to make the dome more rigid by adding a reinforcement ring made of carbon fibre. It comes from an idea used in the original Nautilus speaker, and raises the first break-up mode to 40kHz, up from the 30kHz claimed for the standard unit. The raised limit and additional damping provided by the carbon fibre ring take the metal dome a little closer to the performance achieved by the impressive diamond unit.



B&W uses the 25mm aluminium dome in many other designs. It's easily damaged – hence the grille

This carbon-fibre reinforcement ring helps strengthen the dome, as well as damping resonance

The tube's casing is made of metal in the PM1, which makes it feel far classier than the earlier plastic ones

The tweeter's grille is held on by magnets. Take it off and you'll get a clearer, more precise sound

This tapered tube sits behind the driver and absorbs all rearward sound for bags more detail

The PM1's tweeter has been designed to deliver maximum precision and detail