

**£200 per pair** ☎ 01623 517000 🌐 www.advance-acoustic.com

# ADVANCE ACOUSTIC UM20

*A combination of French design with global manufacturing*

**A** relatively new name on the hi-fi scene, Advance Acoustics was founded in Toulouse, France in 1995, to design, develop and out source manufacturing of high-quality stereo hi-fi components.

Loudspeakers were the first items on the agenda, but since then the company has introduced an extensive range of electronic components, from some very serious amplification to several clever iPod products.

The £200 Ultim UM20 is the smallest of the company's four stereo speaker pairs and the only standmount in the line-up. It's a simple two-way miniature, combining a small 130mm bass/mid driver and 25mm tweeter in a tough, yet attractive enclosure with a shaped front panel to assist high frequency dispersion. The rear panel has a single terminal pair alongside the unusual combination of a wall bracket and a small reflex port.

The enclosure combines four cherry wood veneered panels, separated by heavily post-formed black edges, all finished in a glossy lacquer. The back and the front are all black, and the latter seems to be extra thick, with some chamfering around the tweeter.

The little 130mm main driver has a high-quality cast alloy frame and a flared and doped paper cone, roughly 100mm in diameter. This crosses over at around 3kHz to a 25mm soft dome tweeter, using high-quality crossover components operating at 12dB/octave.

## SOUND QUALITY

Although the smooth and open midband (and nicely judged top end) were immediately noticeable, a lack of bass weight and warmth was also rather obvious when the speakers were positioned on stands and well clear of walls.

Moving them back close to the wall produced an immediate and clear improvement, with very little sacrifice in terms of smoothness, though not unexpectedly image depth and air were slightly curtailed.

When a small speaker is coupled closely to a wall, acoustically, there's often a tendency to create an unwanted peak in the upper midband. This will tend to emphasise detail, especially in the voice band and can become rather wearing over the longer haul. The UM20 largely manages to avoid this hyped detailing, though it does have a slight tendency towards forwardness and unevenness, leading to slight coarseness and some edgy coloration when reproducing human voice.

However, in a price context its limitations are only to be expected and eminently forgivable, as the overall sonic character has a liveliness and openness that more than compensates for the mild-coarseness and colorations.

In many ways the sound is fairly typical of a small and well-conceived paper cone drive unit, in which a degree of coloration is considered an acceptable trade-off for the fine delicacy and good communication skills of this approach. Certainly the UM20 is very good at conveying the expressive qualities of human voices, which always makes the speaker an enjoyable and involving experience, notwithstanding the inevitably rather limited dynamic tension.

The ear/brain invariably focuses on the midband here, which perhaps does the entirely adequate and self-effacing bass and treble performance something of a disservice. Suffice to say, both are smooth and well balanced to avoid attracting unwanted attention.

They don't get in the way, so the listener gets

sucked into the thoroughly enjoyable and informative midrange. **HFC**

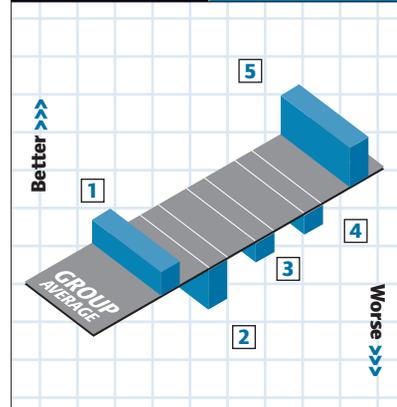


## LAB REPORT

Advance Acoustic claims a sensitivity of 88dB, and that's exactly the thoroughly respectable figure that came out in our tests. And although the impedance dips to around 5 ohms through the bass and lower midrange, it doesn't look unduly demanding, which is probably sensible in view of its likely partners.

This is a tiny 'miniature' speaker, so deep bass isn't expected to be on the agenda. In free space there's an obvious lack of mid-bass (60Hz - 150Hz), while the 55Hz-tuned port output looked likely to mitigate against close-to-wall use. Happily, that wasn't the case at all and the UM20 delivered a fine bass alignment with assistance from close-to-wall positioning, while the attendant increase in midband unevenness was relatively mild. Indeed, the mid-to-treble looks smooth and very well balanced. The pair match of our samples was unusually good for an inexpensive speaker.

## HOW IT COMPARES



- 1] Sensitivity >> +10%
- 2] Bass extension >> -20%
- 3] Ease of drive >> -10%
- 4] Overall frequency balance >> -10%
- 5] Response smoothness >> +20%

## SPECIFICATIONS

Measurement	Rated	Actual
Sensitivity @ 1m/2.83V	88dB	88dB
Impedance (nominal/minimum)	4 ohms	7/5 ohms
Estimated bass extension (-6dB)	55Hz	42Hz

## VERDICT

<b>SOUND</b> ★★★★★	Cutely styled, with a solid shaped front baffle and an attractive combination of cherry veneer and gloss black finish, this sharply priced miniature has fine overall balance with good communication skills.
<b>PRACTICALITY</b> ★★★★★	
<b>BUILD</b> ★★★★★	
<b>VALUE</b> ★★★★★	
<b>HI-FI CHOICE OVERALL SCORE</b> ★★★★★	



£645 per pair ☎ 07837 956069 🌐 www.aurousal.com

# AUROUSAL A1 MK2

*Aurousal has upgraded the performance and price of its A1 speaker*

At the end of last year we reviewed the Aurousal A1 loudspeaker (HFC 299). What distinguished the A1 from most (if not all) of its immediate competition was that it was based on a single full-range drive unit, an approach that has certain unique advantages as well as unavoidable limitations. Given that it also used a very decent-looking real wood veneered enclosure, the quoted price of £450 seemed sharp enough for a Best Buy rating.

Six months later and a new Mk2 version of the A1 has appeared, claiming a number of improvements over the original model, but also including a significant price rise. Now quoted at £549, we were a little surprised to discover (too late in the day to change the review group) that this relatively high figure excluded VAT, so the actual UK selling price of the A1 Mk2 is £645. Significantly more than we anticipated and also substantially more costly than the other models in this group.

Simplicity is, of course, the key feature. The solitary driver looks like one of Ted Jordan's small metal diaphragm units, combining a cast frame with a 90mm diameter metal diaphragm. The main cone is conventionally concave, while a much smaller cone pointing outwards covers the voice-coil area in the middle. Naturally there's just a single terminal pair and no crossover as such (though some degree of network equalisation has been introduced, which will inevitably

introduce a little extra phase shift). And naturally the single voice coil will have to handle the full bandwidth output from the amplifier, which will somewhat limit power handling and loudness potential.

The prime roles of the enclosure are to support the drive unit properly and ensure that the sound from the front of the diaphragm is kept separate from that generated out of phase by the back of the cone. A tuned port fitted to the front panel and energised by the rearward radiation and the box volume will reinforce the bass region. Said enclosure is finished in a real wood veneer (beech or cherry) and, if it's a relatively prosaic example of the genre, at least it's the real thing. Piano gloss black is an optional extra. According to Aurousal, this Mk2 version includes "bass weight optimisation", with further improvements to internal acoustic behaviour.

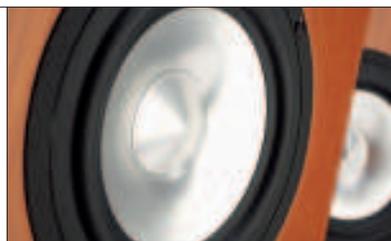
## SOUND QUALITY

Kept well clear of walls and with a bottom end that's dry, well controlled and with adequate weight, the Mk2's much flatter overall in-room balance is a major improvement over the original. The result is much better neutrality, alongside similar (though somewhat less extreme and obvious) overall time coherence.

The top end remains rather dull and lacking in 'sparkle', because it becomes progressively focused into a relatively tight beam as frequency rises. Best results are, therefore, found when sitting directly on the drivers' forward axes.

The A1 Mk2 might not quite match the tight time coherence of its predecessor, but it gets very close and delivers an intimacy and realism, especially with voices, that's exceptionally seductive. The tight timing also underpins sharper and more vigorous dynamic expression than most of the competition. Some nasal and 'cupped hands' colorations

are audible, but imaging is precisely defined and very well focused. **HFC**



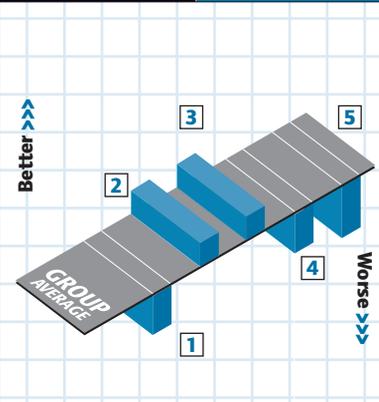
## LAB REPORT

Single full-range driver speakers invariably show some limitations under measurement and that was certainly true of the original A1, which performed best through the midband region, but fell away rather towards the upper and lower ends of the audio band.

This Mk2 version shows a significant improvement in overall neutrality, essentially it would seem through adding a degree of network equalisation that increases the impedance slightly above 150Hz, presumably through adding an inductance in series with the driver. This has the positive effect of reducing the previously prominent midband by about 3dB, but the sensitivity (now 86dB rather than 89dB) and the top end are also reduced by a similar amount.

The net result is very well-balanced, though not particularly smooth below 40Hz up to above 3kHz, with a reduced treble zone above this point.

## HOW IT COMPARES



- 1] Sensitivity >> -20%
- 2] Bass extension >> +10%
- 3] Ease of drive >> +10%
- 4] Overall frequency balance >> -20%
- 5] Response smoothness >> -30%

## SPECIFICATIONS

Measurement	Rated	Actual
Sensitivity @ 1m/2.83V	87dB	86dB
Impedance (nominal/minimum)	-	8/8 ohms
Estimated bass extension (-6dB)	39Hz	30Hz

## VERDICT

<b>SOUND</b> ★★★★★	This Mk2 single-driver speaker might look a bit pricey compared to its predecessor, but the combination of fine time coherence and impressive neutrality in an affordable standmount is unique.
<b>PRACTICALITY</b> ★★★★★	
<b>BUILD</b> ★★★★★	
<b>VALUE</b> ★★★★★	<b>HIFI CHOICE</b> OVERALL SCORE ★★★★★



**£279 per pair** ☎ 01903 221500 🌐 www.bowers-wilkins.com

# BOWERS & WILKINS 686

*The 686 is the baby of Bowers & Wilkins' budget 600-series*

**B**&W is dead – long live Bowers & Wilkins: the marketing decision to revert to its original name has much to do with avoiding any confusion with car maker BMW, now that Bowers & Wilkins has forged an alliance to put high-quality audio systems into the brand new Jaguar F-type saloon.

The most successful hi-fi loudspeaker company in the world might be owned by a Canadian these days, but it's still essentially a British company with its headquarters and major manufacturing operation in Worthing, plus research and development labs a few miles inland at Steyning.

The 600-series, in a variety of iterations, has represented the budget price, entry-level range in the Bowers & Wilkins line-up for decades. This fourth-generation range, consisting of four stereo pairs plus numerous home cinema additions, first started appearing last summer. The six-year gap has brought in a number of changes. Drive units, for example, have undergone significant refinement; prices have increased and manufacture has shifted to China. This £279 per pair 686 is the smallest of the 600-series. It has no direct equivalent in the previous range and actually costs £30 more than the rather larger 601 S3 did in 2001. It's quite a lightweight affair at just 4.9kg and the styling is attractively contemporary, with chunky proportions and a combination of a

black front with a choice of four vinyl wood-print finishes – black ash, light oak, red cherry and wenge – on the other five. The 130mm main driver has a 90mm Kevlar cone and a solid, central phase-compensating 'bullet'. The tube-loaded tweeter has a rather vulnerable-looking 25mm aluminium dome, while a new surround allows for a simpler, first-order crossover feed.

A bracket is fitted to the rear to facilitate wall mounting, which might seem a little contradictory in view of the nearby port. Twin terminal pairs provide a bi-wire/-amp option. A clever two-part foam bung allows the anti-turbulence Flowport to be entirely blocked or re-tuned (by removing the central plug in the bung), giving three alternative bass alignments.

## SOUND QUALITY

After spending some time fiddling around with various combinations of positioning and ports, we came to the conclusion that the best arrangement in our room was to mount the speakers on open stands in free space and fit the ports with the foam sleeve, keeping the port-loading but lowering the frequency to avoid interaction with our room modes.

The sound of the 686 is best summed up as 'small but sweet'. It's certainly very well balanced and behaved, notably neutral in tonal balance with good overall coherence and very little evidence of time-smear. The bass is punchy and lively and speech reveals very little coloration through the vital voice band.

Dynamics, however, sound a bit feeble and repressed, but the high quality of the drive units is evident in the wide dynamic range available, a lack of dynamic tension robs the music of some of its excitement.

This is an impressive speaker, with evidence of high-quality engineering. While its rather cautious approach has some validity in a budget system context, the

small size and significant price remain disincentives. **HFC**



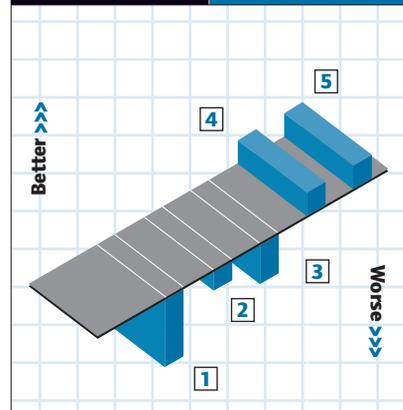
## LAB REPORT

Claimed sensitivity is very low at 84dB, which we wouldn't dispute, though it errs on the conservative side as we would have given it 85dB. One reason lies in a very mild and easy-to-drive impedance, which only drops below 6 ohms around 200Hz.

A key feature is the foam bung (see main text) which allows three different bass alignments. Fully open, the port is tuned to 57Hz; fully sealed the fundamental driver/box resonance is at 69Hz; the narrow foam-lining tunes the port to 42Hz. Under our room conditions the restricted port worked best with the speakers in free space, or with the port blocked when the speakers were against the wall.

Whatever bass alignment and positioning is chosen, the 686 delivers a textbook balance above 200Hz, with impressively smooth output through the midband and treble, and just a hint of restraint across the presence zone (1.5 – 4kHz).

## HOW IT COMPARES



- 1] Sensitivity >> -40%
- 2] Bass extension >> -10%
- 3] Ease of drive >> -20%
- 4] Overall frequency balance >> +10%
- 5] Response smoothness >> +10%

## SPECIFICATIONS

Measurement	Rated	Actual
Sensitivity @ 1m/2.83V	84dB	85dB
Impedance (nominal/minimum)	8/5.1 ohms	8/6 ohms
Estimated bass extension (-6dB)	45Hz	40Hz

## VERDICT

<b>SOUND</b> ★★★★☆	Neatly styled and very compact vinyl woodprint miniature has usefully flexible bass loading. Tonal balance and smoothness are both impressive, but sensitivity is low and the price seems a little high.
<b>PRACTICALITY</b> ★★★★★	
<b>BUILD</b> ★★★★☆	
<b>VALUE</b> ★★★★☆	
<b>HIFI CHOICE</b> OVERALL SCORE ★★★★★	



£369 per pair ☎ 0845 660 2680 🌐 www.focal-fr.com

# FOCAL 706V

Classy drivers feature in Focal's affordable standmount

As France's leading speaker manufacturer until 2004, Focal used to market its complete loudspeaker systems under the JMLab brand. It has since reverted to its original name (which used to be reserved for raw drive unit and in-car sales).

In 2006, Focal introduced no fewer than ten new stereo pairs in its 'budget' Chorus ranges, a huge number that reflected the fact that there are actually two distinct Chorus ranges – the simpler, more inexpensive and traditional-looking 700Vs and the more stylish, costly and substantial 800Vs.

A year ago (HFC 294), we tested the £289 per pair 705V, the smallest and least expensive of the ten, so this examination of the next model up, the somewhat larger and more costly £369 per pair 706V, is well overdue.

First and foremost, being a drive unit specialist, Focal makes all its drivers in its French factory. The cone driver used here has a 165mm cast alloy frame and a 120mm diameter Polyglass cone, made of paper coated with glass 'micro-spheres'. The familiar Focal inverted dome tweeter has a 23mm aluminium/magnesium alloy diaphragm, driven by a rather smaller voice coil. It's mounted in a rigid L-shaped cast chassis at the top edge of the enclosure, unobstructed by the visually rather striking V-shaped grille; a small

optional protective mesh is supplied for those with young and curious children.

The distinctive styling has tapering side panels, so the internal faces are not parallel and, therefore, avoid creating focused (frequency specific) standing waves. All the panels, finished in a dark Amati vinyl woodprint, are a substantial 20-25mm thick. A front port provides bass loading and signal is applied via a single terminal pair.

### SOUND QUALITY

As the in-room measurements indicated, the 706V likes some – but not too much – assistance from wall proximity. Having found the best overall bass alignment, one is rewarded by a beautifully even, smooth and neutral overall sound quality, with good voice band integrity. The mild presence restraint does create a slightly 'shut in' and hollow effect, but overall coherence is pretty good and time-smear is modest.

'Walking' bass lines show fine agility and a good sense of direction and purpose, while the bass as a whole has a measure of grip, power and authority that is clearly superior to the group average.

The top end is very well-judged, adding delicacy and air without drawing attention to itself, and the sound as a whole delivers plenty of fine detail, with no obvious boxiness or serious colorations even when quite close to a wall. Imaging is spacious with nice focus, though depth is somewhat curtailed.

The overall dynamic range is wide, showing good enclosure control and delivering good detail deep down in the mix. Best of all, however, the 706V is capable of creating a fair measure of genuine dynamic tension and this is an important ingredient in helping the musical expression to come through.

Whereas the smaller 705V proved a little disappointing and was clearly out of its depth in our test room, the slightly bigger 706V has proved to be a resounding success, which would tend to suggest that doubling the main driver's cone area might

be the key ingredient that helps bring life to the music and brings the music to life. **HFC**

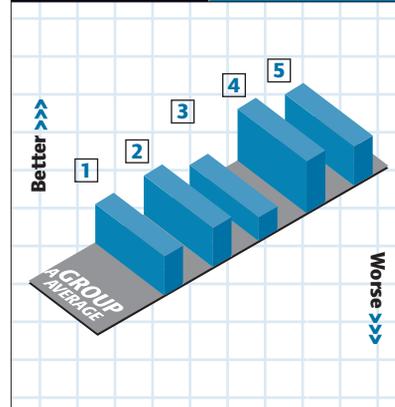


### LAB REPORT

Focal's 90dB sensitivity claim seems distinctly optimistic: using our far field in-room technique it struggles to make 88dB. Happily the load stays above 4 ohms and isn't excessively demanding, while the bass is still producing useful output down to 30Hz under in-room conditions, helped by a port tuning frequency of 43Hz. Pair matching is rather good.

In free space the frequency balance is remarkably smooth and flat from 100Hz up to the limit of audibility, with just a little restraint in the presence zone 2-5kHz. Below 100Hz the bass rolls off gently, so some wall proximity will be beneficial, though full close-to-wall siting is not recommended as it's likely to lead to midbass excess. The bottom line is, one needs to experiment with placement in order to find the best compromise to match the characteristics of any given room.

### HOW IT COMPARES



- 1] Sensitivity >> +20%
- 2] Bass extension >> +20%
- 3] Ease of drive >> +10%
- 4] Overall frequency balance >> +30%
- 5] Response smoothness >> +20%

### SPECIFICATIONS

Measurement	Rated	Actual
Sensitivity @ 1m/2.83V	90dB	88dB
Impedance (nominal/minimum)	8/3.6 ohms	7/4.5 ohms
Estimated bass extension (-6dB)	47Hz	30Hz

### VERDICT

<b>SOUND</b> ★★★★★	This handsome and relatively substantial standmount with advanced drive units delivers a very impressive combination of a smooth, even overall balance with healthy dynamic expression and tension
<b>PRACTICALITY</b> ★★★★★	
<b>BUILD</b> ★★★★★	
<b>VALUE</b> ★★★★★	<b>HI-FI CHOICE OVERALL SCORE</b> ★★★★★



£450 per pair ☎ 01753 652669 🌐 www.triangle-fr.com

# TRIANGLE TITUS EX

Triangle's new budget speaker is rather different from its predecessor

Triangle is very individualistic – some would say somewhat idiosyncratic – in its approach to hi-fi loudspeaker design. It recently received a major injection of capital, when founder and *eminence grise*, Renaud de Vergnette sold a majority shareholding to French businessman and long-term Triangle enthusiast Olivier Decelle. De Vergnette remains closely involved in product development, but the takeover has led to substantial expansion in engineering and marketing resources.

Successor to the Titus ES, (reviewed in *HFC* 269), the EX is the smallest and one of just two standmounts in Triangle's least-costly Esprit EX range. Regrettably, following the strengthening of the Euro against the pound, the price has recently increased to £450 per pair from £370 per pair.

Very much a variation on the theme of the range as a whole, the Titus EX shares the same unusual horn-loaded tweeter and the same rather individual styling, alongside a smaller enclosure and smaller cone driver – a 130mm bass/mid driver and a ported enclosure volume of around 11 litres.

The styling remains rather prosaic, with a slightly convex front panel painted a metallic charcoal grey, while the rest is covered in a rather undistinguished vinyl woodprint. Large gold-coloured grille mounting lugs provide a measure of decoration, but the new and quite large badge attached

to the grille seems to overlap the mouth of the tweeter horn slightly.

Although there has been plenty of prejudice against horn-loaded tweeters in the past (they do have some potential drawbacks) they have several advantages over conventional direct radiating domes. First, the diaphragm is well away from potential damage by prying fingers; secondly, high inherent efficiency confers considerable dynamic headroom; thirdly – and this is main reason Triangle favours their use – the horn mouth more closely matches the size of the bass/mid driver cone, which is claimed to smooth the crossover transition.

The small 130mm bass/mid driver now has a 95mm paper cone with a soft central phase plug and a conventional rubber surround (as distinct from the unusual 'double-S' fabric surround used in the previous model). This crosses over to the tweeter at around 2.5kHz. Twin terminal pairs adorn the back panel and a port is mounted on the front.

## SOUND QUALITY

Barring a touch of nasal coloration, the little Titus EX sounds quite smooth and well-balanced when operating clear of walls, though the lack of any real bass weight and power is rather obvious.

Placing the speakers back against the wall proves very effective in improving midbass output. However, this positioning also interferes somewhat with the midrange, introducing a sometimes aggressive and over-projected character to voices – a slightly 'shouty' quality that tends to exaggerate detail, but which isn't quite in the true spirit of hi-fi neutrality.

That said, this is unquestionably a fun loudspeaker. It might be a bit coloured and edgy, but it's always lively and involving. And whilst it's not particularly smooth or muscular, it delivers the vital midrange dynamics with the sort of

enthusiasm that always leaves one searching for the next disc to spin. **HFC**

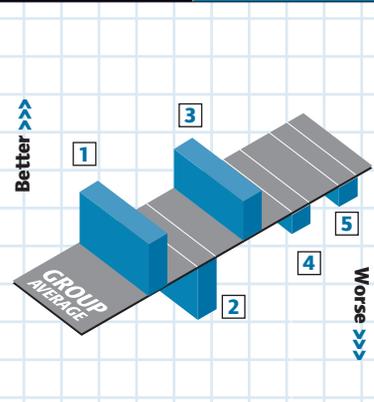


## LAB REPORT

Our sensitivity rating, measured under far-field in-room conditions, is 89dB – generous enough, but 2dB less than the 91dB claimed. Fortunately, the accompanying amplifier load is not too demanding, staying above 4 ohms throughout. Pair-matching was pretty good, but a relatively high port tuning of 68Hz explains the limited bass extension.

It's no surprise to discover that this speaker works best when sited close against a wall, as this fills in the otherwise too lean 50 – 90Hz zone very well. However, close-to-wall siting also has some negatives further up the band, showing mild leanness through the lower midband (200 – 600Hz) and then peaking up to a rather obvious prominence in the upper mid (800Hz – 1.5kHz). Although the treble is smooth and well-judged in relative level terms, a distinct notch was visible at 1.8kHz.

## HOW IT COMPARES



- 1] Sensitivity >> +30%
- 2] Bass extension >> -30%
- 3] Ease of drive >> +20%
- 4] Overall frequency balance >> -10%
- 5] Response smoothness >> -10%

## SPECIFICATIONS

Measurement	Rated	Actual
Sensitivity @ 1m/2.83V	91dB	89dB
Impedance (nominal/minimum)	8/3.8 ohms	6/4 ohms
Estimated bass extension (-6dB)	55Hz	48Hz

## VERDICT

<b>SOUND</b> ★★★★★	Vigorous and entertaining wall-mount communicates well, but could be smoother and less coloured. There's a slight exaggeration of detail but overall performance is dynamic and full of enthusiasm.
<b>PRACTICALITY</b> ★★★★★	
<b>BUILD</b> ★★★★★	
<b>VALUE</b> ★★★★★	
<b>HI-FI CHOICE OVERALL SCORE</b> ★★★★★	



£180 per pair ☎ 01480 447700 🌐 www.wharfedale.co.uk

# WHARFEDALE DIAMOND 9.1

Anniversary version of this popular speaker is excellent value

Having celebrated its 75th anniversary in 2007, Wharfedale is the quintessential traditional name in British hi-fi speakers, with a history that extends back to the very birth of the product. It's no surprise, therefore, that the company has been through a number of substantial changes over the years and operated under several different owners. For the past decade or so, it has been part of the Chinese-owned IAG Group, alongside a number of other well known UK names. And the strategy of combining British design talent with low cost Chinese manufacturing seems to have been rather successful.

The Diamond series have always been budget entry-level speakers and the Wharfedale catalogue lists many Diamond 8 and Diamond 9 models for both home cinema and stereo use. There are no fewer than six stereo pairs in the Diamond 9 range, but the 9.1 miniature is the one that's been grabbing the headlines. In the standard vinyl finish it costs just £150 per pair, but our limited Anniversary edition (with better fit, but the same acoustic performance), comes in a lovely waxed walnut wood veneer, with gilt trim and concealed magnetically attached grille.

Though both enclosure and bass/mid driver are decidedly small, this is a very classy little speaker. This is certainly true of the enclosure, which has curved sides to add stiffness to the structure and disperse horizontal standing waves and reflections. Twin ports, claimed to

reduce distortion by 40 per cent, are fitted into the front panel.

The little (125mm) main driver has a 'skeletal' cast alloy frame, to avoid reflecting the rearward radiation. It has a 100mm diameter cone made from woven Kevlar-in-polymer-matrix, while the tweeter has neodymium magnets and a soft 25mm doped fabric dome diaphragm. Twin terminal pairs are fitted on the rear.

### SOUND QUALITY

Although the Diamond 9.1 delivers a rather small sound, dynamically speaking, and lacks any serious bass weight or power, it still delivers a surprisingly generous and spacious soundstage which is significantly bigger than the visual cues lead one to expect.

The speaker can sound a little too thick and heavy if it's positioned too close to a wall. When some space is left around them, however, the modest coloration and well controlled boxiness, the cleverly organised balance and the fine overall coherence really come into their own. And the overall sound has a warmth that small loudspeakers often lack. The sound might also be a little too laid-back for some tastes perhaps, but that is a worthwhile feature of any low-cost speaker system that's likely to be used with modestly priced sources, amplification and ancillaries.

Small speakers often show a tendency to 'shout', by over-projecting the upper midband and presence zone. While such character might have initial showroom appeal, it can become wearing after a time and is not what

hi-fi ought really to be about. It is very much to the credit of this Wharfedale that it carefully avoids such a pitfall and manages to sound like a genuine 'grown up' hi-fi speaker, despite its very modest price.

There are limitations, especially in its reluctance to generate any real dynamic tension and a slightly muted dynamic expression. But the fine soundstage imaging, substantial freedom from boxiness and the well-controlled tonal balance,

all amount to a beautifully made hi-fi performer at an unfeasibly low price. **HFC**

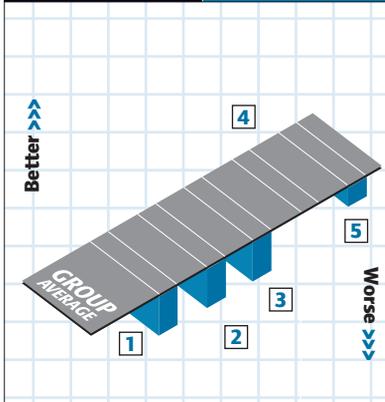


### LAB REPORT

This is a small speaker, which is inescapably reflected in the measured performance. Sensitivity measures a modest 86dB, exactly as specified, though this should be seen in the context of a relatively easy amplifier load and a bass alignment that, unlike most miniatures, doesn't really need close-to-wall siting.

Although this speaker is best kept clear of walls, best results were found with a gap of about 60cms between speaker and wall. The tonal balance is a little unusual, as output starts to roll off, albeit very gently, above a relatively low 800Hz. The upper portion of the audio band, between 800Hz and 20kHz, is not particularly smooth, but it does hold within impressively modest limits and show a well controlled progression. The presence zone, often hyped up to emphasise detail in small loudspeakers, is gently restrained here.

### HOW IT COMPARES



- 1] Sensitivity >> -20%
- 2] Bass extension >> -20%
- 3] Ease of drive >> -20%
- 4] Overall frequency balance >> 0%
- 5] Response smoothness >> -10%

### SPECIFICATIONS

Measurement	Rated	Actual
Sensitivity @ 1m/2.83V	86dB	86dB
Impedance (nominal/minimum)	6 ohms	7/5 ohms
Estimated bass extension (-6dB)	50Hz	40Hz

### VERDICT

<b>SOUND</b> ★★★★★	This beautifully appointed miniature seems remarkably good value for money. It has a laid-back, but nicely progressive tonal balance, which gives a bigger than expected sound, with low coloration and fine imaging.
<b>PRACTICALITY</b> ★★★★★	
<b>BUILD</b> ★★★★★	
<b>VALUE</b> ★★★★★	<b>HI-FI CHOICE OVERALL SCORE</b> ★★★★★



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