

GROUP TEST & LAB REPORTS: PAUL MESSENGER

# LOUDSPEAKERS

Got around a grand to spend on speakers? Here are six of the latest and greatest

**M**oving up a price notch from the *Ultimate Group Test* we conducted last May, which was nominally between £700 and £1,000 per pair, the least expensive speaker here is the £895 Quad 22L, and the bias on this occasion is definitely towards the four figure spectrum.

On this occasion too, all six are floorstanders, though there's quite a variation between the models nonetheless, in physical size, driver size, driver complement and configuration. Three are simple two-ways (and there's absolutely nothing wrong with that if it's done well); two are what are usually called 'two-and-a-half-ways' – two-ways aided and abetted by an extra bass-only driver; the large Triangle, however, makes use of four drive units in a full three-way configuration.

Perhaps reflecting its substantial size and engineering content, the Triangle is also the only model in the group to have vinyl woodprint-covered surfaces rather than real wood veneers. This, together with its bulk and black-painted MDF front panel, make the Celius 202

arguably the least attractive-looking model among those assembled here, though physical beauty and discretion are no indicator of sound quality.

The prettiest is surely the Quad 22L. It's taking advantage of its Chinese ownership to create a stunningly beautiful enclosure, combining a top-class veneer with a deep, high-gloss piano lacquer surface. Tasty.

The most compact is PMC's pretty little GB1, which has a particularly illustrious pedigree, since it's essentially a cross between the standmount DB1 and the larger floorstanding FB1, both of which have received Best Buy ratings in previous *HFC* reviews. PMC is clearly hoping for the best of both worlds.

Like Triangle, BC Acoustique is a French brand seeking to make its mark in overseas markets, with models that are typically individualistic in content and presentation. Horn tweeters are a particular trademark of this company.

Spendor's new 'e'-suffixed evolution models might look very similar to their predecessors, though in fact the whole of this very attractive range has

undergone a major underskin makeover. And lastly there's B&W's 704, which has already had the benefit of a very favourable solo review in *HFC* 248, but including this advanced model from the number one loudspeaker brand around helps establish the overall context. **HFC**

## EQUIPMENT USED

- ⊕ Naim CDS3 CD player
- ⊕ Burmester 001 CD player
- ⊕ Linn LP12 turntable
- ⊕ Rega RB1000 tonearm
- ⊕ Linn Akiva and Dynavector XV-1 phono cartridges
- ⊕ Magnum Dynalab MD102 tuner
- ⊕ Naim NAC552 pre-amp
- ⊕ Naim NAP500 power amp
- ⊕ Vertex AQ and Naim cables

## MUSIC USED

- ⊕ Tom Waits *Alice*
- ⊕ Lambchop *Aw C'mon*
- ⊕ Joni Mitchell *Mingus*
- ⊕ Mari Boine *Eallin*
- ⊕ Verdi *Macbeth Overture*
- ⊕ Robbie Robertson *Storyville*

## ON TEST



BC ACOUSTIQUE  
ACT-A1  
£1,195



B&W 704  
£1,400



PMC GB1  
£995



QUAD 22L  
£895



SPENDOR S6E  
£1,495



TRIANGLE  
CELIUS 2  
£1,225

## LISTENING TESTS

Loudspeaker listening poses more complex problems than those involved in assessing other components. Speakers vary greatly, and interact strongly and often unpredictably with the room. The difficulty facing sequential unsighted loudspeaker presentations is the tendency to judge each according to how its balance differs from the previous model. Accordingly, extended hands-on listening sessions were adopted for this group, giving scope to adjust to the changes in balance and to experiment with the positioning.

## LAB TESTS

The speakers were tested under in-room conditions to best represent real-world conditions. The equipment used included a Neutrik Audiograph analogue signal generator with synchronised pen recorder, which was used to plot the far-field in-room averaged response traces and impedance plots. Pair-matching was also checked at one metre.

**No other magazine offers an equivalent test and listening programme for comparative tests.**

## LAB REPORTS: THE BAR GRAPH

Our 3D bar graphs are a simple way of showing how the speakers compare across quantitative and qualitative measures. Individual parameters are assessed and shown as better or worse than the group average.

**1] Sensitivity:** Sensitivity measures how loud a speaker will go for a given voltage from the amp. It's scaled to 2.83V at 1m (one watt for an eight-ohm load). This figure can be misleading, as sensitivity varies significantly and as lower-impedance speakers extract more current and hence power from an amp than higher-impedance ones.

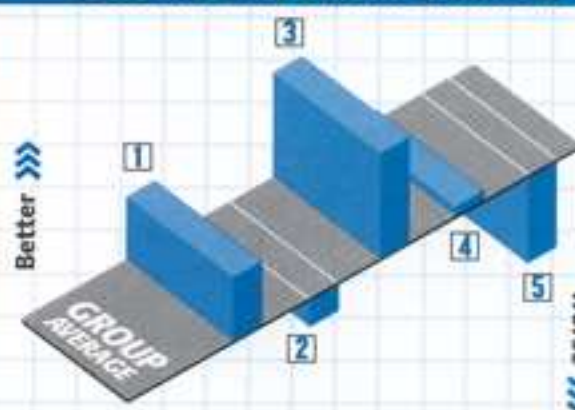
**2] Bass extension:** A speaker's bass is heavily modified by the room. To replicate 'real world' conditions, our figure represents the averaged bass roll-off frequency at -6dB ref the broad midband, measured across the far field for a stereo pair in a 4.3x2.6x5.5m room.

**3] Ease of drive:** The lower the impedance, the more current it extracts from a driving amp for a given volume. Lower-impedance designs have higher sensitivities, reducing voltage requirements for given loudness levels.

**4] Overall frequency balance:** Overall broad frequency response trends do much to define the character of a speaker, although true neutrality is the obvious goal.

**5] Response smoothness:** The small-scale smoothness of a speaker has much to do with the delicacy of the sound, and its ability to deliver subtle harmonic shading.

### OUR BAR GRAPHS: AN EXAMPLE



£1,195 per pair ☎ 020 8882 2822 🌐 www.bc-acoustique.com

## BC ACOUSTIQUE ACT-A1

*A prominent horn tweeter is just part of this speaker's charm*

It's not hard to guess that BC Acoustique comes from France. The website is rather unhelpful info-wise, but the company is run by Messrs Bruno Roux and Christian Avedissian (the B and the C, presumably), and is primarily a speaker operation, though it also distributes some overseas brands on the French market.

It's not quite a *Hi-Fi Choice* virgin, since we recommended something called an Araxe some four years ago, in *HFC* 204. That model no longer exists, and has probably been replaced by one or other of this brand new ACT series. These include five stereo pairs – one standmount and four floorstanders – and this A1 is the smallest of the floorstanders.

It's a simple two-way, operating in a quite deep rear-ported enclosure, and feels exceptionally solidly built, as its 20kg weight indicates. Real wood veneer covers all faces, and comes in four finishes from a very light maple via the cherry supplied for this review to two darker brown shades called 'amarant' and 'wenge'. In the French tradition, the veneer is very plain with little visible grain.



Simple it may be in outline, but the detail here is unusual, interesting and original, even if some of the technical justification in the catalogue gets rather lost in translation. The standout feature must be the shiny silver horn-loaded tweeter – an uncommon technique these days, but favoured by more than one French brand.

The 165mm main driver has a very open frame plus a 120mm polypropylene cone, and is surrounded by an attractive silver fixing ring. The silver finish theme is echoed in the chunky cast metal feet that ensure fine stability, but make no lock-nut provision for the accompanying cones. The theme continues in the large terminal/network plate on the rear, which incorporates a jumper arrangement to give five tweeter-level options across a 6dB spread, plus a single terminal pair. The crossover has gentle 6dB slopes, for best phase coherence, and uses top quality ingredients internally.

### SOUND QUALITY

According to another French manufacturer, one advantage of using a horn tweeter is that it provides a better energy match to the midrange unit through the crossover region. It's a somewhat enigmatic comment, but one that immediately came to mind when the ACT-A1 was connected up to the system.

With this speaker, the ears immediately zoom in on a presence vividness and coherence that is very persuasive and convincing, and which makes regular speakers sound a little limp by comparison. It's a very exciting and involving experience, if also a little edge-of-the-seat, and naturally places something of a premium on the quality and type of equipment with which it's used. The UK importer, The Audiophile Club, also distributes high-quality valve amps, and the latter's delicious midrange would seem to make for an ideal match.

With our regular solid state amplification there was a slight tonal hardening and a touch of 'horniness', but the speaker remained very involving nonetheless. However, if the midband and top end are exceptional, the same cannot be said of the bass, which seemed ill-matched to our listening room in much the way that the Araxe had been. Rather than delivering a smooth, deep extension, the A1 has a very prominent 'thump' which can be rather wearing with some material. **HFC**

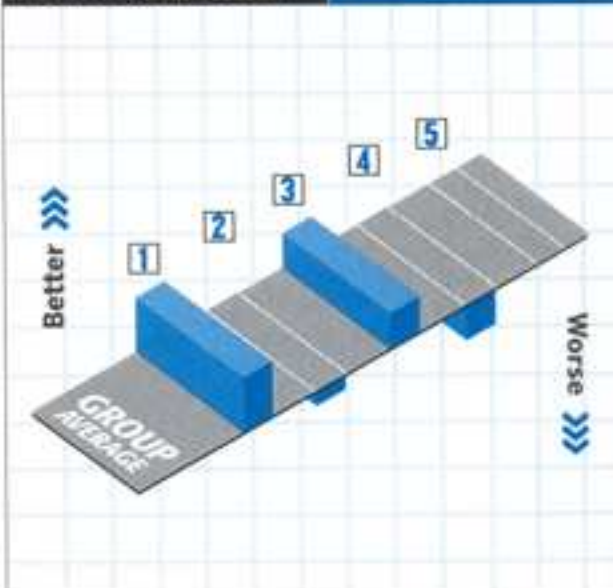


### LAB REPORT

Sensitivity was measured at a generous 90dB, though to be fair that's partly achieved through an amplifier load that dips close to 4 ohms through the upper bass and lower midband, centred around 250Hz, a portion of the spectrum which one would expect to carry heavy modulation levels. Slight resonances are visible at 200Hz and 400Hz on the impedance plot.

Though not particularly smooth, the in-room far-field averaged response nevertheless looks very well ordered above 200Hz, with a broad, shallow depression through the presence zone (1.5-5kHz). The upper bass and lower midband (70-200Hz) is a little lean, but the port output, tuned here to 40Hz, resulted in a massive excess 30-70Hz, typically 5-8dB above the midband datum under our conditions. This is partly because it's close to a room mode at 55Hz, but also indicates that the port output is probably a little too energetic.

### HOW IT COMPARES



- 1] Sensitivity >> +30%
- 2] Bass extension >> -10%
- 3] Ease of drive >> +20%
- 4] Overall frequency balance >> -20%
- 5] Response smoothness >> 0%

### SPECIFICATIONS

Measurement	Rated	Actual
Sensitivity @ 1m/2.83V	90dB	90dB
Impedance (nominal/mean)	4 ohms	6 ohms
Estimated bass extension	52Hz	25Hz

### VERDICT

- SOUND >> 89%
- PRACTICALITY >> 85%
- BUILD >> 86%
- VALUE >> 87%

This French speaker has quite exceptional focus and dynamic coherence and expression through the voice band. Presentation is very smart but plain, and the bass might have been more even under our listening conditions.

**HI-FI CHOICE**  
OVERALL SCORE >> **87%**

# CONCLUSIONS

These floorstanders represent the best at around £1,000 – and there's a speaker here for everyone

Trying to pick the bones out of this group, one is left with a bit of a dilemma. The discipline of the group test is that the group as a whole defines a series of standards against which the performance of any individual model may be judged. The trouble comes when trying to make an overall value judgement when, for example, one model has the better bass while another has the superior midband.

None of these speakers was poor, but there were substantial

differences between them, so it's really down to the potential customer to consider his/her own priorities and look for the best fit. Let's summarise these differences by climbing up the price ladder.

Least expensive and arguably the best looking is the £895 Quad 22L, which features a lovely deep piano gloss lacquer over a birds-eye maple veneer. It has a more open and forward balance than the others, which might well be to taste, but a midband resonance is slight concern. However, given its

price and appearance, it offers strong value for money.

PMC's ultra-compact £995 GB1 is rather more laid back, and could arguably do with a touch more warmth, but it's beautifully clean and articulate with a delightful freedom from boxiness. The £1,195 ACT-A1 from BC Acoustique has exceptional focus and dynamic coherence through the voice band, though the bass might have been more even under our conditions.

In terms of size and drive unit count, if not finish, Triangle's

Celius 202 is a lot of speaker for £1,225, its dynamically vigorous midband providing great entertainment. But whether it's worth the extra cost over the Antal 202 must be debatable.

B&W's £1,400 704 has very superior bass and treble, though its midband might have been smoother and a little less laid back. Finally, the £1,495 Spondor S6e is a classy two-way with unusually deep bass, plus an attractively open midband, though the top end here is a little too restrained. **HFC**

## TRY THEM WITH THESE

**AMPLIFIERS**  
**EXPOSURE 3010** £1,000  
 A beefy integrated amp with Exposure's typically sweet and involving sound.

**SUGDEN A21A** £899  
 Limited power but this latest version of a classic has delightful resolution.

**CD PLAYERS**  
**ARCAM DIVA CD93T** £950  
 Superior resolution and fine transparency from an excellent player.

**SONY SCD-XA3000ES** £800  
 Does CD and SACD too, the latter in stereo or surround sound.

## HINTS AND TIPS

⊕ Floor-coupling spikes should have tight lock-nuts, but don't over-tighten or you'll strip the threads

⊕ Finding the right place to put the loudspeakers acoustically is very important. Do take time and trouble to experiment with position.

⊕ Moving a speaker from a free space location until it's close to a wall will substantially boost the mid-bass output.

⊕ Expect all speakers to improve steadily over the first 100 hours or so of listening.

## LOUDSPEAKERS AT A GLANCE



MAKE MODEL	BC Acoustique ACT-A1	B&W 704	PMC GB1	Quad 22L	Spondor S6e	Triangle Celius 202
PRICE	£1,195	£1,400	£995	£895	£1,495	£1,225
SOUND						
PRACTICALITY						
BUILD						
VALUE						
OVERALL						
CONCLUSION	Quite exceptional focus and dynamic coherence though the bass might have been more even in our room.	Superior bass and treble, though the restrained midband may be a positive or a negative according to taste.	Very compact floorstander sounds clean and articulate, with a delightful freedom from boxiness.	Lovely piano gloss finish and an unusually open and forward balance – good value but try before you buy.	Classy compact two-way with unusually deep and full bass, though the top end is a little too restrained.	Dynamically vigorous midband and good image height, but perhaps not the prettiest of speakers.
KEY FEATURES						
SIZE (WxHxD)	21x90x33cm	22x96x32cm	16x90x23.5cm	21x85x28cm	19x88x30cm	22x113x30cm
DRIVER CONFIG	2-way	2.5-way	2-way	2.5-way	2-way	3-way
MAIN DRIVER SIZE(S)	1x165mm	2x165mm	1x130mm	2x165mm	1x165mm	3x165mm
STAND/FLOOR	Floor	Floor	Floor	Floor	Floor	Floor
CABINET FINISH	Real wood	Real wood	Real wood	lacquered real wood	Real wood	Vinyl woodprint
BI-WIRE	No	Yes	Yes	Yes	Yes	Yes
LAB CONCLUSIONS E = EXCELLENT • G = GOOD • A = AVERAGE • P = POOR						
SENSITIVITY	90dB <b>G</b>	90.5 dB <b>G</b>	87dB <b>A</b>	89dB <b>A</b>	88dB <b>A</b>	92dB <b>E</b>
EST. BASS EXTENSION	25Hz <b>G</b>	<20Hz <b>E</b>	30Hz <b>A</b>	25Hz <b>G</b>	23Hz <b>G</b>	27Hz <b>A</b>
IMPEDANCE (MIN/ AVE)	4/ 6 ohms <b>A</b>	3.3/ 6 ohms <b>F</b>	6/ 8 ohms <b>E</b>	4.5/ 6 ohms <b>A</b>	6/ 8 ohms <b>E</b>	2.5/ 4 ohms <b>F</b>
OVERALL FREQ. BALANCE	-20% <b>A</b>	+30% <b>G</b>	-20% <b>A</b>	+20% <b>G</b>	-15% <b>A</b>	0% <b>A</b>
RESPONSE SMOOTHNESS	0% <b>A</b>	-20% <b>A</b>	-20% <b>A</b>	+30% <b>G</b>	+20% <b>G</b>	-10% <b>A</b>