



Pulse Rate

Adam Smith listens to MonoPulse's striking new 42A loudspeakers...

There are many different schools of thought when it comes to loudspeaker design. Some believe that the drive units are the be all and end all, others say the cabinet is most important, a different group point out the crossover as the make or break item and a few individuals on the lunatic fringe believe that none of this matters as long as the drivers are strung together with cable that costs as much per metre as crude oil does per barrel currently!

No matter which school of thought you subscribe to however, there is a general trend towards using one or all of these ideas to set up and modify a desired frequency response, with the general idea being to get it as flat as possible, maybe with the odd spot of judicious tweakery here and there according to the design requirements, or the designer's preference. One or two designers take a slightly different approach, however...

Allan Hendry of MonoPulse is such a designer. A hi-fi enthusiast since his early days, Allan worked in the aerospace industry for years designing phased-array radar systems, and it was this work that made him think about loudspeaker design and in particular, the necessity for phase coherence from the drive units. Allan investigated the impulse response of a wide range of loudspeakers in a variety of situations and came to the following conclusions; firstly, that it was vital to time-align the treble and bass drivers in order that an impulse sent to both drivers would arrive simultaneously at a measurement microphone set in front of each unit (and therefore, at the listener's ears); secondly, that the connection of tweeters out of phase to compensate for the phase inversion of a second order crossover network causes more problems than it solves and, finally, that maintaining phase coherence in a loudspeaker becomes more difficult the more drive units you add.

With this in mind, he picked up pen and paper and the result is the MonoPulse range of loudspeakers, with the name being a nod towards the impulse-correct designs he intended to create. At the moment, there are four models on offer (plus matching

"a fabulously integrated, big and relaxed sound..."

centre channel and rear surround items) – two in the S series and two in the 'Audiophile' A series, of which the 42A is the smaller. Both this and its bigger brother, the 82A, use an 8in (200mm) main driver with a 28mm tweeter claimed to extend to 30kHz but the 82A is slightly bigger physically, with higher power handling and deeper bass courtesy of a main driver equipped with a Kevlar cone and a four layer voice coil.

The 42A's driver is an Audax paper-coned design that crosses over to the tweeter at 4kHz. In keeping with the time domain accuracy, the crossover uses a second order filter on the bass driver, but a fourth order design on the tweeter. Most interesting however is the cabinet, which is an MDF case fitted inside a rolled steel 'hoop' and isolated from it using a "high-hysteresis-loss polymer". The tweeter is suspended separately from the top of the hoop, isolated from the main driver and cabinet, and set back by the required amount to maintain the time alignment. A steel damping bar is fitted to the front of the cabinet, and can be located outside as a styling feature, or tucked away inside if you prefer.

The cabinet itself is covered in cloth which is available in ten different colours, including Black, two different Blues, Red, Green and Burgundy. The steel hoop can also be specified in Gunmetal, Black, Sand, Bronze or Burgundy. Build quality is very good and I personally rather like the styling but am less sure about the Dark Chocolate/Metallic Bronze colour combo that editor DP requested for the review (albeit unsurprising if you've seen his shirt collection). The rear of the main cabinet and the tweeter are covered with black foam and two pairs of terminals allow for bi-wiring duties.

Finally, the 42As are supplied with spikes that fit into the feet and are sufficiently long to allow some experimentation with spacing of the loudspeaker from the floor, which will alter the behaviour of the down-firing port. MonoPulse point out that setting them shorter gives more emphasis and less extension, and vice versa, which is useful for taking different flooring materials and thicknesses into account. Vital statistics are 1080x230x250mm (HxWxD) and 22kg per loudspeaker.

SOUND QUALITY

A decently sized main drive unit usually means a decently large soundscape and this is indeed the case with the MonoPulse 42As. Their eight inch bass/mid unit endows

them with a lovely, properly grown up sound that gives the bass and midrange a great sense of depth, ease, warmth and detail. That is not to say that the 42As are all soft, warm and fluffy at the low end as they certainly are not – bass lines were deep, confident, pacy and blessed with fine rhythmicity. However, whereas some designs with smaller drive units can give a similar effect with an underlying sense of 'see how hard I'm working to give you all this!' the 42As never seemed under duress.

Another most notable feature of the 42As' performance was their transient response. Allan's work on the phase coherence of the design has resulted in a loudspeaker with no hesitancy or wallow. Big-sounding, unstressed loudspeakers can often be rather flabby in timing terms but not so the 42As; drum strikes are swift and snappy, bass guitars are detailed and well defined, and every instrument stands out from its cohorts. Although the image generated by the MonoPulses does not quite envelop the listening area from side to side in the way that some designs can, they still have a fine sense of spaciousness between them, and order everything very neatly in this space. Additionally, they do give fine front to back depth to proceedings.

Mating a larger unit to a single tweeter can often be a hit and miss affair but MonoPulse has done well here. There is no sense of disjointedness between the two drivers and the 42As have a well defined and crisply spry top end. The only problem I found here was that the dip and peak combo above 6kHz means that the likes of cymbals and hi-hats are pleasingly strong and sharp, but tend to lack form and can sound a little spitty as a result. Each strike is a snappy event, but the necessary detail that tells you the size and nature of the item being struck is a little lacking.

CONCLUSION

In a world of loudspeakers populated by the equivalents of high-revving four cylinder engines, the MonoPulse 42As are a relaxed and smooth

V6. They have a fabulously well integrated and big, relaxed sound that is also well defined, yet one that times with positively metronomic precision. These are rare qualities to find together in one loudspeaker and, as a result, the 42As are something of a breath of fresh air into the loudspeaker market. Combine this with their easy load and wide range of interior-friendly finishes and they make a very strong case for themselves. Well worth checking out.



VERDICT ●●●●●£
 Quirky yet excellent loudspeakers with an expansive and unstressed sound, plus fine timing and pace.

MONOPULSE 42A £1,495
 MonoPulse
 ☎ +44(0)7785 558238
 www.monopulse.co.uk

FOR
 - bass weight and detail
 - superb timing
 - 'big' sound
 - build and finishes

AGAINST
 - treble unevenness

MEASURED PERFORMANCE

The MonoPulse 42As have a generally even trend to their frequency response, but with a couple of undulations. One is at around 500Hz which is fairly narrow and should go unnoticed, but the other, in the 5-10kHz region may rob some treble detail. The corresponding peak towards 16kHz should help to disguise this, but the 42As' top end may not be quite as even as that of some competitors as a result.

At the low end, the 42As perform well, the main 200mm driver extending down to 75Hz or so, with the port coming in below this, down to its tuning frequency of around 40Hz. This should bode well for a good low end weight and the down-firing nature of the port should absorb its upper output peak at 200Hz.

Electrically, the 42As are a very easy load, only dropping down as far as 7 Ohms in the high frequency region where current draw is minimal. Other than this, they do not dip below 10 Ohms and give a very high average measured impedance of 14 Ohms, meaning that they are a very easy load. An unfortunate downside of this, however, is a sensitivity rating of 85dB, which is low for a floorstander and a long way short of MonoPulse's

claimed 90dB. As a result, an amplifier with at least 50 Watts will be required for decent listening levels. In addition, the large inductive peak at 2kHz may upset the output stages of some amplifiers - careful partnering would be wise. AS

FREQUENCY RESPONSE



Green - driver output
 Red - port output

IMPEDANCE

