



MB QUART DUA216

MB Quart has been in the news a lot this year. The outcome of all the press releases and changes is that MB Quart GMBH is now owned by Maxxsonics USA and will be distributed in Canada by Trends Electronics of North Vancouver, BC. The staff at MB Quart has been hard at work, coming up with lots of new and cool products and one that really caught our attention was the Discus DUA216 set, so that's what's on tap for this review.

Text and Photos by Dave MacKinnon / AudioLabsOnline.com

FEATURES

The Discus series represents the entry-level product from MB Quart and includes both co-axial drivers and two-way component sets. The DUA216 set is comprised of a 6.5-inch woofer, 1-inch titanium tweeter and an external passive crossover network.

The Discus DUA series of drivers, along with the 'step-up' Reference Series RUA component speakers are available in 4-, 5.25- and 6.5-inch sets (or 10cm, 13cm and 16cm as the Germans refer to it). They are all designed to provide excellent performance while offering some of the shallowest mounting depths on the market. Knowing MB Quart, it kept performance at the forefront of the project.

The woofer supplied with the DUA216 set is indeed shallow – it has a mounting depth of 1.75 inches by my measurements. This stunning feat is achieved by removing the conventional ferrite magnet from the rear of the woofer and implementing a front-mounted neodymium magnet. This results in the farthest rearward component being the bottom of the basket.

Speaking of the basket, the DUA216 woofer uses an injection-moulded basket that is formed from a combination of polyamide ABS composite

reinforced with extremely fine glass fibres. This material, combined with the shape of the basket, results in a very stiff and well-damped foundation for the speaker. The motor assembly obviously took some engineering. The conventional bottom plate extends up through the center of the cone to support the neodymium slug. The Kapton voice coil former is bonded to the cone in a fashion that allows it to extend upwards, rather than down. Interestingly, the voice coil winding has an impedance of 2.8Ω. A 'cap' on the top of the driver protects the partially exposed voice coil from being damaged. The cap (as I have chosen to call it) is machined from low carbon steel. It helps focus the magnetic field on the voice coil gap. It's a simple but elegant arrangement.

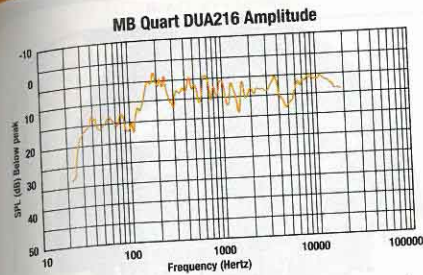
The cone is designed once again by Kurt Muller and has a curvilinear shape for excellent off-axis performance. At the base of the cone is a conventional spider made from treated cotton. The spider has a diameter of 3.5 inches and sits atop a vented spacer. At the top of the cone is a butyl rubber half roll surround that has been bonded to the basket and cone. Compliance is divided into 80% spider and 20% surround to produce very linear and predictable performance.

Now, to the tweeter. MB Quart chose to include a full 1-inch titanium tweeter in the Discus DUA216 set. This is the kind of tweeter you

find on top-of-the-line sets of days of old. There is also no tweeter that seems to carry more 'reputation' in the industry than the infamous 'Quart Titanium.' We've found the sound of these tweeters to be very detailed and accurate. Consider, if you will, the sound of someone playing a live saxophone or trumpet. There is absolutely nothing smooth or subtle about the sound – and historically – the Quart was able to reproduce this with incredible accuracy.

The design of this tweeter uses military Grade 1 pure titanium pressed into a dome shape. The tweeter has a diameter of 1-inch measured at the edge of the Kapton voice coil former. MB Quart learned a great deal over the years about controlling thermal energy throughout the entire speaker system. Because of the incredibly stiff and lightweight properties of the tweeter, the frequency response is extended well beyond the range of human hearing. Because all drivers exhibit non-linearities at the 'end' of their usable range, the Quart tweeter moves these out of the range of human hearing. This results in smoother and more predictable results in its operating range. Also incorporated in the tweeter is a diffuser that equalizes the tweeter and helps improve off-axis response.

The set of crossovers provided with the DUA216 set features a two-way, second order



design with a Butterworth alignment. The woofer and tweeter both use Mylar capacitors, while one gets an air-core inductor (tweeter) and the other (woofer) an iron-core inductor. There are a total of seven ceramic resistors of various values built into the network. These, along with three terminals for the negative wire of the tweeter, allow for 0dB, -3dB or -6dB operation of the tweeter to help compensate for variable tweeter placement efficiencies. The crossover point is set at 5.2kHz for both drivers. Tweeter protection comes by way of a poly switch, in case you get overzealous with the volume knob.

TESTING

Ok, this is where we started scratching our heads – not because there was a problem, but because the whole thing was going way too easily.

We broke the set in overnight, then loaded them into our reference enclosures for some listening while writing the technical part of this review. We listened to the entire Focal Demonstration Disc 1 and the new Disc 6, as well as some tracks from a few older IASCA discs. The listening session had nothing to do with wasting time – it's just that these things sound so damn good.

Our toughest challenge of a system is the upper registers of Rebecca Pidgeon's "Spanish Harlem." We always hold our breath before hearing this part of the track. The Quarts, playing away at comfortable listening levels, handled it superbly. No sharpness, no sibilance – just detail and clarity.

The next thing that struck us was their performance in the lower octaves. We listened to these drivers in 1 cubic foot sealed enclosures, while our reference bookshelf speakers have a vented design. Usually we don't get the same performance below 100Hz. That being said, the DUA216 set provided a very solid low frequency foundation no matter what we listened to. No, they don't rumble like a sub or shake our tools off the wall – but they sure sound warm and nice. In the car, given the transfer function, you could easily still enjoy your music without the need for a subwoofer (all the time).

The attached frequency response graph shows that these drivers offer very smooth and balanced performance across the entire audible frequency spectrum. You can see that the tweeter is exceptionally smooth from 7kHz to 21kHz. Anyhow – you can completely forget about the now 'fabled' harsh MB Quart tweeter – it's all about detail. The bass appears to step down a little at 150Hz, but extends out to 40Hz without any problem.

CONCLUSION

In the past, we have reviewed some shallow drivers, and they were easy to install, but sounded terrible. The engineers and designers at MB Quart have kept smiles on our faces by producing a solid speaker set that is incredibly shallow, while sounding absolutely excellent in all regards. The set is also reasonably priced, especially considering they perform as good as or better than some speakers costing twice as much. What we have to wonder though is, if the entry-level (for MB Quart) Discus series sounds this good, what do the Reference versions sound like? Excuse us... we're going to have to make a phone call. **DMAC**

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