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Apogee Duetta II

Anthony H. Cordesman takes a preliminary look at a new Speaker that could Redefine the State of the Art

Two-ribbon full-range transducer. Midrange and tweeter ribbon: 0.8" wide by 47" long, less than 0.001" thick. Woofer ribbon: trapezoidal, average width 12" by 47" long, average thickness less than 0.001". Frequency response: less than 30Hz-25,000Hz, -3dB. Crossover slope: 6dB/octave at crossover, increasing to 12dB/octave approx. two octaves away. Can be biamped with or without external active crossover. Maximum SPL: 106dB at 4 meters, C-weighted, using 100W solid-state amplifier. Nominal impedance: 4 ohms. Dimensions: 58"H x 26"W x 3"D. Weight: 95 lbs each. Finish: grey or taupe (beige). Price: \$2780. Manufacturer: Apogee Acoustics Inc., 35 York Industrial Park, Randolph, MA 02368. Tel: (617) 963-0124.

I normally like to listen for several weeks before commenting on a new product, particularly one that I feel breaks as much new ground as the Apogee Duetta II. Anyone who remembers the one time *High Fidelity* ever heard an audio product that sounded truly different, and praised it as such, will probably remember that the product the magazine praised as redefining the state of the art was the Bose 901. At the same time, the Duetta II breaks so much new ground, and is so obviously a superb speaker system, that it simply would not be fair to you readers to put off reporting on this speaker until the next issue.

In fact, my wife's reaction to the Duetta II may be worth a thousand of my words. I had just unpacked the Apogee Duetta Series II, and set it up in the manufacturer's recommended position. I hadn't gotten around to really listening yet, and was still checking the speaker position and wiring as the Duetta IIs played, but my wife was sitting in the listening area. I thought she could tell me whether the channels were balanced, and asked her what the speakers sounded like.

The response I got was a great deal more dramatic than a comment on whether the channels were balanced. An exact quote: "They are the first speakers I've ever heard that remove the veil from the music that always tells you that you are listening to a hi-fi system." Well, my wife has heard virtually every high-end speaker that I've heard, including the Apogee Scintillas, the Quad ESL-63s, and the Infinity RS-1Bs that I have used as reference speakers. She is not given to ready praise. In fact, she is apt to sulk for several days after every major disruption of her living room, and be extremely critical of any speaker simply because it is new.

As a result, I immediately stopped tweaking and started listening. It was worth it! I suspect it may be weeks before I find the right room placement, amplifier, and speaker cable to get

the best out of this speaker. I am already sure, however, that I have never heard more detail and information in a more musically natural form. It may be years before Apogee fully explores the limits of ribbon speaker technology, but the Duetta II is a superb product, and redefines the state of the art in many important respects.

Design Evolution in the Duetta II

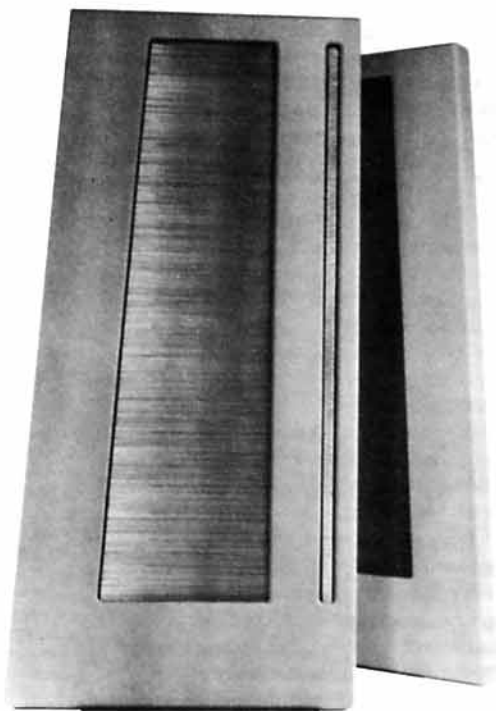
Let's take a few minutes before I describe the sound, however, and go over the design evolution of the Duetta II. As you have already read in these pages, the original Duetta built on the technology of the large Apogee and Scintilla, and provided a more affordable all-ribbon speaker, one that many good amplifiers could drive.

The Caliper showed, however, that Apogee could do much more to produce a musically realistic sound, and at a much lower price. Further, Apogee made progress in a research program on canted ribbon transducers which could act as both midrange and tweeter. This progress showed that such a ribbon could provide excellent horizontal dispersion and realistic vertical imaging in a comparatively short length. Apogee also developed proprietary new approaches to ribbon suspension and mechanical acoustic shaping, which improved the smoothness of the sound of the combined midrange and tweeter (MRT) ribbon. As a result, it found that the use of a single ribbon eliminated potential time-alignment problems inherent in the use of separate midrange and tweeter ribbons.

The Duetta Series II speaker draws on other improved ribbon speaker design techniques which Apogee developed in designing and manufacturing the Caliper. For example, Apogee uses multi-sloping crossover shaping with a 6dB slope at the

crossover frequency, and uses a rear panel switch to add a gentle 2dB rolloff at the high end of the MRT to adjust tonal balance to different rooms and source material.

The Duetta Series II also incorporates a provision for an active crossover in the biamped mode. Apogee says that the use of this crossover improves resolution and tonal balance adjustment, gives you 3dB more headroom, and provides superior woofer and midrange shaping. I have not yet had a chance to use this unit, but will report on it when I give you my final thoughts in the next issue.



Apogee Duetta II

Redefining Transparency

I must again stress that proper listening to speakers takes weeks—not days—of experimentation. Accordingly, you should use my comments as a comparative reference for your own listening, and not as revealed truth. (Does any one ever pay *that* much attention to an audio critic?) Nevertheless, my reactions after a week of intensive listening are:

Deep Bass: Not present in the same strength and power as the larger Apogee and Infinity speakers, but very much there nonetheless. The best cone subwoofer systems are still superior in this area, but only with exact placement and superb active crossover designs and drive amplifiers. Coupled to the extraordinary flatness of the mid and upper bass, the feeling of deep bass power is far more satisfying than in any competing dipole, including the highest-priced electrostatics and Magnepans.

The bass characteristics of the Duetta II may well allow it to outperform the Scintilla and larger Apogee in most real-world listening rooms, and allow you to keep the room interaction, inevitable with dipole speaker designs, under exceptional control. This makes the Duetta II comparatively easy to place, provided that you obey the manufacturer's instructions and keep it 3-4 feet from the rear wall. Closer placement may also work quite well, but will almost inevitably reinforce some part of the deep bass at the cost of reducing other bass.

Mid and Upper Bass: The mid and upper bass are exceptionally flat. There is none of the slight emphasis or "warmth peak" found in the bass of the Caliper, and little of the room-interaction masking common in the larger Apogees—and any other large dipole speaker—when they are operated in reasonably sized listening rooms. There is exceptional detail in the mid and upper bass. As a former drummer, I could recognize more accurate percussion information in the mid and upper bass than with any other speaker I have heard. Only a really well set-up Quad ESL-63 system can compete with the Duetta IIs in this area, and that has trouble with the lower midbass.

Upper Bass/Lower Midrange: The exceptional, state-of-the-art, transparency that emerges in the mid and upper bass is sustained into the critical upper bass/lower midrange transition area. As a result, you may hear more from your records and CDs than you have ever heard before. The only uncertainty I can think of is that the match between the bass ribbon and combined midrange and tweeter seems to be equipment-dependent. Getting the best possible performance requires experimenting with different amplifiers, speaker cables, and room placement.

Even without such efforts, however, the upper bass/lower midrange transition area will still be very convincing, and few speakers ever made will give you a more realistic hall effect. I suspect that the use of the active crossover will also allow you to go one step further, and shift the overall spectral balance to give a more forward sound.

Mid-Midrange: This is the most critical area in reproducing music, and one where the Apogee Duetta IIs redefine the state of

the art. Extended listening leads to a constant series of new discoveries of what is actually in recordings, without any surprises or unnatural emphasis. This detail is common to all Apogees, but the Duetta IIs are far more convincing than any previous Apogee I have heard—or any other speaker, for that matter. The Quad ESL-63, which has always been my reference standard in this area, has just been displaced by the Apogee Duetta II.

Upper Midrange: If the prototypes of the first version of the Duettas were a bit bright in this area, the present Duettas are so smooth that it is going to take you several hours to get over the shock of not hearing your usual speaker colorations. I found the Duetta IIs to be very listenable with virtually all material, even with their MRTs set flat (though I actually preferred the -2dB switch setting). Again, the level of resolution surpassed that of any speaker I have heard to date. If you rely heavily on CD, you simply must hear the Duetta IIs. No speaker has yet been able to get as much natural musical pleasure out of the better CDs, and, while you won't rush out to sell your record collection, this speaker also redefines the musical pleasure that CDs can provide.

Upper Octaves: There is a mix of smoothness, well-chosen radiation characteristics, and transparent detail in this region that simply has to be heard to be believed. A real-time measurement with a one-third octave analyzer confirmed that the highs are very smooth and flat, and go on forever—or at least well above 20kHz. It's amazing how *musical* the highs can sound and still be there in full abundance.

Depth: Depth is excellent at normal listening levels, but be careful. The transparency of the Apogees, like that of the Quad ESL-63s and a few competing speakers, encourages you to listen at too high a level. This can collapse depth and give a feeling of loss of detail in dynamic peaks. Watch your listening levels. Play them loud, but by all means keep them natural.

Soundstage Width and Height: Speaker placement gives you so much control of width, without a hole-in-the-middle effect, that you can virtually create a soundstage to taste. The only speakers I have heard that are more realistic are the Infinity IRS and RS-1b-II.

Imaging: A superb arc of instruments, with excellent placement in depth as well as from left to right.

Dynamics and Transient Handling: The speed of dynamic changes and the ability to handle soft, moderate, and loud transients is rivaled—if at all—only by the larger Infinity and VMPS reference monitors, although the Infinities and VMPSs can handle loudness levels above the 106dB level of the Duetta IIs. The practical result is a speaker that can play very, very loud, do so better than any electrostatic or Magnepan I have heard, and do so better than virtually all cone speakers.

You can drive the Duetta IIs to levels that compete with most other speakers, with just about any good power amplifier that puts out 100 watts per channel. While you can biamp, I strongly preferred using one

stereo amp, and biwiring, to biamping without an active crossover. I wouldn't rush out to buy two amps, given the coherence and excellent power handling capability you can get with any good stereo 100-watter.

I did notice listening room limitations at higher power levels. I was getting a bit too much reflected sound when I really cut loose, but this was relieved by better placement. I also found I got better results in this area of sonic performance when I switched speaker placement from 3.5 feet away from the rear of the long wall, to one-third the distance of the room from the rear wall. This produced an immediate major improvement in transparency at very loud listening levels, although at some cost to the size and depth of the soundstage. Since your room is certain to be different from mine, this indicates only that you should experiment.

As my wife said at the start, the Apogee Duetta IIs, more than any other speaker, remove an entire layer of coloration from the sound. They are at least a truly excellent speaker system; I strongly suspect that more extended listening will reveal they are the new state of the art.

There are a great many things I have to learn, however, before I can fully report on the overall spectral balance, room effects, and amplifier- and speaker-cable match. I hesitate to say that this is the most value for money I have yet encountered in a high-end speaker only because I have not had the time to search out any minor quirks; nor have I heard the Duetta IIs with their active crossover.

You also need to show a bit of sense before rushing out to buy a pair. Not everyone has a room in which they can place speakers 3 feet from the rear wall and give 2 feet clearance on the sides. You may still need a good cone speaker with no rear radiation, even if you can afford the Duetta IIs. I should also stress that we sometimes underestimate the level of progress and sophistication available at moderate prices from designers like Thiel, Vandersteen, and KEF.

I have heard so many dipole speakers work well in small rooms and badly in large ones, however, that I would not rule out using the Duetta IIs even in small rooms, after tuning their placement for the best compromise of room interactions. I'd just caution you to work closely with your dealer. No dipole speaker can easily be placed in a small listening room.

I suspect that the Duetta IIs will rapidly force competing speaker manufacturers to make whatever improvements they can in their existing line. I would not sleep easily were I making Magnepan, Quad, or Martin-Logan speakers—or even the larger Infinity Reference series. Yet these are all outstanding speaker manufacturers at the top of the high-end pyramid.

Apogee already seems to have forced Bob Carver to rip off Apogee's styling in order to compete. One wonders what manufacturers who do compete with Apogee will do to equal or surpass this new level of sound quality. The Duetta IIs are brutal competition, and I expect a sudden flood of new ribbon systems a year or two from now, as other manufacturers begin to catch up. 