



Car Audio

Car HiFi, December 1998

1999 Car HiFi AWARDS GOLD

Dynaudio System 240 MkII - £399

Out from the shadows... Dynaudio's components steal the limelight at last.

Don't bother looking for the full review of this set in our back issues: you won't find it. So woss' going on? Well, Dynaudio, one of the world's best speaker manufacturers, produce units for other brands – including Becker, whose SP160X componets took top honours in February (no longer being produced). Unfortunately, they've discontinued that model, but Dynaudios picked up the baton to manufacture 'em under its own name (but, really has since 1994). Build quality and construction are first class and the sound is wonderful. As the Becker, this set scored almost perfect fives, only falling short on value for money at £480. These are £80 cheaper: top marks all around!

Auto Sound & Security, May 1998

Pleasure Dome, By Howard Doctor

We've recently tested a few clever coaxial drivers, so the idea of a 3-way plus subsystem, made up of all separate units, didn't initially seem to fit the program. How will we find room for them? Will it be worth the trouble? And, isn't this a throwback to the more ways is better" thinking that gave us dismal hi-fi in the eighties? Well, spending a week with the Dynaudio System 340 answered every question, and after we've passed our discovery on to you ... well, let's just say, some of you hard line 2-way system fans might find yourself converted.

Besides the System 340 that we tested, which has a 28mm (1.1-inch) tweeter, a 75mm (3-inch) dome midrange, and a 160mm (7-inch) mid-woofer, Dynaudio offers a version with a slightly larger mid-woofer. At \$1,149, the system is far from cheap, but as you will read, it can still be a very good value. Dynaudio builds all their own drivers, in their own plant, in Skanderborg, Denmark, and they are available at high-end-oriented auto sound retailers around the world.

Technical

The grade of parts and the assembly quality of all the units in the system are simply immaculate, with a fit & finish that is unsurpassed. The mid-woofer has a black die cast chassis, and if it were built on a standard chassis, it would be a 6.5-inch driver, but its wide cast, alloy mounting flange and Dynaudios flair for marketing make it a 7 inch. The rather flat profile, one-piece cone and dust-cap, is formed from mineral-filled polypropylene, and is supported on a high-grade rubber edge and a narrow, but deeply-convoluted spider.

The large, 3-inch diameter voice coil is aluminum wire, wound on an aluminum bobbin and follows Dynaudios normal technique of surrounding the magnet. Actually magnets, because there are two, small, ceramic rings inside the voice coil, in a clever sandwich array, give the chassis large vents for improved linearity and cooling. The magnet array has a large bore vent, fitted with a foam plug to thwart fingers and other intruding items. As might be expected, the terminals and tinsel leads were excellent.

The dome midrange is a solid block of technology, with a rim and grille that stick out about 25mm (1 inch) which allow the big, soft, textile dome to sit forward of the mounting plane, while the overall size is minimized. Behind the scenes, the back of the driver is sealed, and the mounting depth is a very reasonable 37mm (1.5 inches), through a 95mm (3.8-inch) cutout hole. Again the magnet is inside the coil, and again it is aluminum wire on an aluminum bobbin optimize for low mass and good damping. Sadly, the terminals are situated horribly, and conflict with the mounting cutout. The possibility to short out is there, unless protected, and one of the terminals is very close to a mounting screw location, posing more installation heartbreak.

The Dynaudio tweeter looks slightly generic, like many current generation, neodymium magnet products, but inside it is quite different; starting with a 28mm damped silk dome, and an unusual inverted suspension. Compared to a 25mm dome, the slight increase in diameter adds some serious radiating space to the diaphragm, and since the voice coil is also larger, it contributes more wire (for more efficiency) into the equation. Better coupling to the air, a lower resonant frequency and higher power handling are all achieved without compromising the high-frequency detail and extension. It comes with a recess mounting cup and can be removed very easily from its hardware for custom mounting into sail panels, vent or other locations.

While the mid-range posed some mounting difficulties, the tweeter was a delight to install with the supplied kit of flush mounting hardware. Our enclosure for the mid-woofer was probably larger than necessary, but the extra volume didn't harm anything, it just made getting them into the car quite awkward, even in a fat car with plenty of room. In retrospect, maybe a different shape would not have seemed so big. In any case, it seems likely that the mid-woofers will be

mounted into doors, and the dome mid-range and tweeter in floor pods, so any enclosure recommendation is almost irrelevant.

Included in the Dynaudio System 340 package are X-360 dedicated, passive crossover units, containing some very respectable grade components. Unfortunately, high grade does not mean high slopes, and the combination of 6 and 12 dB filters may please hi-fi purists, but we feel it makes for a less than perfect crossover. Regular readers will already be familiar with our tirade against inadequate crossover networks, so we'll keep this brief: excursion rises at 12 dB per descending octave, so drivers need at least 12 dB per octave to minimize distortion. Make no mistake, the Dynaudio dome midrange is a wonderful driver, but with this crossover, it is roughly 10 dB down at its resonant frequency, and seem to be begging for mercy. Sound quality and power handling both improve with steeper slopes and, especially in auto sound applications, mutual (destructive) interference is minimized, allowing more flexibility in mounting positions.-

The overall sensitivity of the System 340 is not super high, but the tremendous power handling, contributed by the large voice coils, allows levels approaching painful before there is any risk of damage. The impedance of all the drivers is almost entirely resistive, ensuring that any decent amplifier can drive them without the slightest stress.

Listening Tests

We installed the mid-woofer into a standard 12 liter test enclosure that we keep around for just such occasions, and attached the dome mid-range and tweeter on the outside, which made it look like a (mildly) deranged hi-fi speaker. This allowed us to test the system against a couple of other systems in the lab, then put them in the foot wells of the Oldsmobile. The results were eye-opening. Getting a 3-way system into an automotive environment is not a task for amateurs. At best, it can be a delicate juggling act, balancing the ideal speaker location against installation difficulty, and at worst, it can be a nightmare. System 340 rewarded us with a clarity and definition that was almost holographic, and playing well-recorded female vocal tracks, with eyes closed, is an experience that will have you grinning madly in spite of trying to keep a straight face.

When pressed hard, the system loses its focus, and much of the delightful detail disappears, leaving it still balanced but a bit raw sounding. Since the performance of the individual drivers was so good, we thought the limiting factor in achieving hi-fi at freeway levels might be the crossover. Even though we went to some trouble to ensure that the gains matched the factory specs, the sound was noticeably different, although some minor trimming of slopes and cross-points got us closer. While working on this, we recognized that making the active system's sound a perfect duplicate of the passive system's was a challenge without a reward, so we set it by ear and left it.

We used 200 watts per channel on the mid-woofers, and 75 watts each on the mid-domes and tweeters. The system was so clean, you could see your face in it. It went both loud enough and long enough to bring a visit and lecture from the building manager. Our crossover points were 70 Hz, 600 Hz, and 4 kHz, all at 24 dB per octave. The mid-woofer went nicely down to the 70 Hz subwoofer crossover point at all except the highest levels, when we liked it a shade over 100 Hz to limit its excursion. We tested the System 340 with several subwoofers, and it never failed to integrate perfectly

All those who got a chance to listen to the Dynaudios were left truly impressed, including one of our deeply cynical friends, Bob, who has little tolerance for car audio. Now, it takes a fair bit to impress us, after years of this stuff, our threshold is pretty high, but Bob is case-hardened, and when he describes it as "glorious," it is high praise, indeed. This is the kind of sound that our bank manager would love, (she's a BIG opera fan), yet it still does dance music really well. The final straw for us was a ride with a Sisters of Mercy disc, at face ripping levels (it must never be played quietly). Sixteen bars into "This Corrosion," we made the decision to keep them.

Comment

The answers to the questions posed at the start of this test are obvious. If you don't have a hair over a thousand dollars to spend on your next car speakers, do not listen to the System 340, because once you do, you will be absolutely hooked, and it may be painful to go back to conventional 2-way systems. You will want the Dynaudios badly, and will start selling-off your other belongings to get them.

SOUND QUALITY: FIVE STARS
EASE OF INSTALLATION: TWO STARS
OUTPUT ABILITY: FOUR STARS
OVERALL VALUE: THREE STARS