

“... pure ... effortless ...

convincing ... real ... do these speakers

SOUND GREAT

or what!”

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“If you’re after accurate, dynamic sound in a speaker that won’t break the bank, book a session with Paradigm’s Studio/60. I can promise you won’t regret it.”

by Greg Borrowman

Having been mightily impressed by Paradigm’s Atom loudspeakers (*Australian Hi-Fi*, Vol. 28, No. 7) I happily agreed when Charles Cull, of Duratone, suggested I might look at one of Paradigm’s larger, floor-standing models. It wasn’t long before a pair of neatly-packed Studio/60s landed on the doorstep.

THE EQUIPMENT

In appearance, the Studio/60s aren’t too dissimilar to the Paradigm Monitor 9, but I suppose they could be likened to any three-driver, three-way tower speaker using identically-sized bass and midrange drivers—it’s a popular format with designers right around the world.

Starting at the top for a change, the Studio/60’s high frequencies are handled by a 25-mm aluminum dome tweeter that hides behind a phase array that doubles as dome protection. The assembly is mounted on a chunky plate that’s attached to the front baffle by four ordinary, posidrive-headed chipboard

screws in such a way that it stands proud of the baffle by 11 mm.

Remove the plate and you’ll discover the tweeter has a second magnet bonded to the rear of the main magnet. It’s not there to cancel magnetic force, it’s there to pump more flux into the gap. This ferro-fluid-filled tweeter was made in Canada, and carries Paradigm’s own sticker. The hefty multi-strand wires that lead away to the dividing network (which is attached to the rear of the speaker terminal plate) are attached to the tweeter by simple slide-on lugs.

Moving down the front baffle exactly 129 mm we encounter the midrange driver. Rated by Paradigm as a 170-mm driver, the diameter of the moving part of the speaker (cone and butyl rubber roll surround) is 140 mm, but the actual effective cone diameter is 120 mm. This

The New Studio/60
(Improved over version reviewed for even better sound.)



gives an effective cone diameter of 113 cm². The cone is made from a material Paradigm calls “mica-loaded polymer (MLP)”. This material has a slightly yellow tinge, and has been dimpled and looks a little like Kevlar® (it’s not). The magnet assembly is large, and the basket is a massive one-piece casting (also bearing the Paradigm brand). The casting is unusually finned, rather like a conventional transistor heatsink, so heat can be conducted away from the assembly more quickly. I gathered that the fins are an integral part of a system Paradigm has dubbed (and trademarked!) AVS™ (Air-Flow Ventilation System), but it looked more like hype than solid engineering. The driver’s voice-coil is a multi-layer type, wound around a 38-mm-diameter Apical™ former. I have no information on what Apical might be when it’s at home, and Paradigm’s otherwise excellent and informative sales brochure didn’t help.

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The bass driver is fairly obviously made using most of the same components as the midrange driver. The various dimensions and weight are identical, the casting is the same, the magnet appears to be the same, the same AVS finning is used ... you get the picture.

The differences? Well, the bass driver has a smooth polypropylene cone that’s coloured black, with a much larger central dust cap that’s made out of fairly stiff plastic (the smaller dust cap in the midrange driver is made from a softer, rubberized compound). The midrange drivers on my samples seemed to have a slightly higher compliance than the bass drivers, but the spiders appeared to be identical, and so did the compound used for the roll surround, so it may have been my imagination. All electrical connections (on both drivers) are made with spade connectors.

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Like the tweeter, both drivers are surface-mounted onto the baffle, and secured by posidrive-headed chipboard screws. However, unlike the tweeter, each driver is held in place by eight screws. Why the extra four screws per driver? Well, when a driver is rebated into a cabinet, it is supported by the front baffle itself – the “mounting screws” are really only there to stop the speaker falling out, not to support it.

With the surface-mount approach used by Paradigm, the screws not only prevent the drivers from falling forward, they also have to support the entire weight of the driver. Personally, I would have thought it would have been easier (and cheaper) to rebate the drivers than attach four extra screws, but Paradigm obviously had its reasons. I measured the thickness of the front baffle at 20 mm, and the thickness of the front of the driver frame is 10 mm, so rebating would not have posed problems.

The front-firing bass-reflex port is quite large at 125 mm long and 80 mm in diameter. Made of black plastic, it is flared at both ends to reduce the possibility of port chuffing. It seems Paradigm has gone to some trouble with the port, presumably for the simple reason that getting rid of port noise is far more important with a front-mounted port than it is with a rear-mounted one. Each speaker cabinet has an internal volume of 51 litres and is made entirely from 20-mm-thick MDF, cross-braced inside for rigidity. Copious amounts of synthetic acoustic materials are inside the enclosure, occupying all voids. This acoustic material has not been fixed to the cabinet walls. The cabinet is said to incorporate “Cascade™” technology, which appears to be not a lot more than a series of interlocking vertical and horizontal cross-braces. Perhaps more significantly,

the braces form a kind of “chamber within a chamber” effect that has been used very successfully by a South Australian manufacturer (VAF).

Paradigm’s dividing network is an unusual design, and is beautifully executed. It’s actually two completely separate filters, on two completely separate printed circuit boards. The lower of the two boards sports two ferrite-cored coils and two 100-VDC bipolar electrolytic capacitors (with values of 15 µF and 33 µF). The top-most PCB is home to no fewer than four capacitors (MKP and poly), a single ceramic resistor (4.3 ohm/15 watts) and an air-wound coil. I particularly liked the fact that the three coils are all cross-mounted, for minimum magnetic interaction (through it must be said that because the coils are fairly closely spaced, even this isolation technique might not work as well as one might expect).

Paradigm’s own description of the crossover is that it’s “third-order electroacoustic at 1.5 kHz; second-order electro-acoustic at 400 Hz.”

When you take a dispassionate look at the Studio/60, you will see that there are few frills to be seen. The cabinet is finished in a very plain and ordinary black vinyl, the grille is industry-standard, and the front baffle is coated in a light grey vinyl. As mentioned previously, the drivers are screwed on, rather than bolted, and the cabinet-work is basic. But if you look a little more closely, you’ll see that Paradigm has made sure that all the drivers have full gaskets, along with the rear panel terminal block and that the internal speaker wiring is good and thick. The drivers also look the part.

The speakers aren’t quite as tall as they appear to be in the accompanying photograph, topping out at 96 cm without spikes fitted. The speakers are 21 cm wide and 39 cm deep.

LISTENING SESSIONS

As I said in my review of the Atom speakers, all Canadian manufacturers, of which Paradigm is one, enjoyed for many years almost exclusive and easy access to one of North America’s greatest resources,

Dr. Floyd E. Toole who, when he was in control of the Canadian government's National Acoustic Laboratory, worked very closely with Canadian manufacturers to improve their understanding of why good speakers sounded good, and how to make a speaker sound good.

"Larger symphonic works were handled very nicely. ... sound was excellent."

With this type of input, it has not been surprising that Canadian loudspeaker manufacturers have leapt several steps up from being small players on the international market to being amongst the top ten. I also guess this is partly the reason Dr. Sidney Harman, of Harman-Kardon, talked Dr. Toole into leaving Canada to head up HK's research and development team.

My listening sessions on Paradigm's Studio/60s were done in the middle of winter, primarily at night, and I found that even though I had run the speakers in for dozens of hours, to "break-in" the suspensions, the tweeter often needed a good 10 minutes to "warm-up" before the speakers reached their optimum performance capability. Searching for a clue to this, I ran across an item in Paradigm's general manual that indicated that the particular ferro-fluid the company is using in the tweeter thickens in cold weather. Obviously, Paradigm is referring to Canadian winters, because I doubt that the ferro-fluid would get too thick at around 6° C, which is what my thermometer said my room was at, but my experience with listening certainly bore out the gist of the advice. Since I'm mentioning it, Paradigm also states that, "the surround material used in the bass/midrange drive unit is made of a compound that may stiffen in colder temperatures" but again Paradigm makes no mention of what temperatures they mean. I certainly couldn't detect any audible difference in bass response (in either level or extension) between the speakers being 'cold' at 6° and after the room had warmed to 20°.

"Violin sound was accurate ... high-voiced percussion (bells, triangles, tubes) tinkled with a pure, limpid quality that seemed effortless."

As I have mentioned on any number of occasions (so I'm probably boring long-term readers by repeating it), first impressions are just as powerful when auditioning hi-fi components as they are in any other sphere of human activity. My first impression of the Studio/60s was "Hey, do these speakers sound great or what!" For me to be so impressed by a pair of speakers from the very first notes is something of a rarity – most of my acquaintances say I rarely get excited about anything, so I took this to mean that the Paradigm Studio/60s might be *something* out of the box.

A few CDs later, I was ready to start jotting down some notes on my standard listening test sheet (one designed by none other than Floyd E. Toole, actually, when he was working at NAL).

Even as an admitted bass freak, I realised I was going to find it hard to complain about the bass, because the Studio/60 has more than its fair share, considering the constraints of the bass driver and enclosure design. The bass digs really deep, and has enough grunt to make it seem real – though not quite enough to give you a tactile whack in the stomach. This is one that I think more than a few pipe organ aficionados will be able to live with. Sure, it might not get down to 16 Hz, and even the smaller pipes are not really 'thunderous', but there's never a moment when you don't think you're in the presence of a pipe organ, which is more than I can say of any two-way of my acquaintance. More importantly (because so few people listen to organ), the bass is just as convincing with piano, bass guitar, double bass, drums – even the dreaded synthesizer. I found I just had to pull out my old Emerson, Lake and Palmer CDs – and even an ELP LP – to hear some of those old low-frequency favourites (Tank

et al). But it was the fidelity of the piano that was the real grabber, such as Sheffield's *Speaking in Melodies* (Sheffield 100354-2-F), or Move's *Pictures* (Move MD 3193). Another treat was a new CD from Marco Polo-Godowsky: *Piano Music Volume 1*, which has Konstantin Schebakov at the keyboard. I hadn't heard of any of these pieces before getting this CD, and all are fascinating in themselves, but the pianism is just superb – and just listen to the low notes as reproduced by the Paradigms (and there are plenty of them).

Larger symphonic works were handled very nicely. I listened to Brahms' *Violin Concerto, Op 77* (Zukerman with Mehta and the Los Angeles Philharmonic on Victor Red Seal ... a lovely recording) and thought the sound was excellent. And if you're into jazz, try the two-track *The Redwood Session* (CIMP #101) featuring Evan Parker (sax), Barry Guy (bass), Joe McPhee (trumpet) and Paul Lytton (drums). Recorded live, this direct to two-track digital CD has a dynamic range in excess of 70 dB. The raw sound of McPhee's trumpet is something to earhold—a real treat—and the bass and drums are something else again. (CIMP CDs are now available through Anabasis in Melbourne.)

Vocal music, whether it was the lone voice (I listened primarily to Mary Black and Holly Cole) or massed voices (I listened to Bach's Cantatas, Mozart's *Requiem* and Handel's *Messiah*) for me exhibited a very slightly strident edge, but without the forwardness I usually associate with this sound. I felt this gave the Studio/60s a sense of being articulate without being punchy – a trait I have no doubt many listeners will find appealing. I certainly did.

At very high frequencies I really couldn't fault the Studio/60s. Violin sound was accurate without being screechy, and high-voiced percussion (bells, triangles, tubes) tinkled with a pure, limpid quality that seemed effortless.

By now, you're probably wondering if there's a catch; if the speakers will only work in certain rooms, or only in precise locations, or only with specific ancillary components. As far as I could determine,

there isn't a catch. As far as rooms and positioning in a room is concerned, I found the Studio/60s to be remarkably non-critical. Sure there are subtle differences, but you can back the speakers up hard against a wall, bring them out into the room ... or even move them fairly close to the corners. In all these positions (and more) you'll hear balanced, high quality sound.

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Significantly, the Studio/60s will also do it without a lot of amplifier muscle. I didn't have anything available that put out less than 40 watts continuous and this amount of power proved more than ample to drive the speakers to significantly loud levels, at which I didn't note any distortion or compression. A higher-powered home theatre receiver (but perhaps one without the current-delivery ability of the 40-watter I used) proved the Studio/60s will also be perfectly at home in medium-to-large home theatre system set-ups.

CONCLUSION

If I was taken aback by the sound quality of Paradigm's Studio/60s, I was even more taken aback when I learned how little you'll have to fork over to stand them upright in your own listening room. Duratone Imports has established a good reputation for being able to keep its freight and distribution costs down, but how it can sell a pair of large, fully-imported, three-driver Canadian floor-standers for this price has me beat. If you're after accurate, dynamic sound in a speaker that won't break the bank, book a session with Paradigm's Studio/60. I can promise you won't regret it.