

“ ... **TRULY WONDERFUL** ...

I found myself saying ‘WOW’ at speakers

for the first time in years.”

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“... neutral and accurate ... perfectly homogenous ... ‘image like the dickens’ seems an understatement ... a remarkable amount of punch ... most good speakers can play ‘loud,’ but not all can do it while maintaining good transient response.”

by Brian Florian

Surveying the electronics market over the past decade, it’s not surprising to find a growing skepticism on the part of consumers. In a broad sense, marketing has virtually overwhelmed us to the point of its own discredit. It is, literally, hard to believe most of what we’re told when it comes to how good something is or the performance gains it will yield. The claims are just incredulous. Paradigm on the other hand ... well ... that’s a different story. Here is a company which got its start so many years ago by doing something very simple, yet unique in the field: Deliver practical loudspeaker performance. No gimmicks. No bull. By addressing principally what really matters in terms of loudspeaker performance, their prices naturally fell short of the market median and they quickly gained a reputation for consistently delivering more speaker for less money than anyone else. Over the past 25 years, Paradigm founders VanderMarel and Bagby have done nothing but foster this same culture, investing heavily in in-house research and development. Their famed anechoic chamber, now in its second iteration, and their double blind listening room (which puts “golden ears” to shame) are just a couple of examples. I’ve toured their factory, I’ve talked at length with their design team; for heaven’s sake, I’ve had dinner with them on several occasions. I know these guys and, dare I say, I believe them when they tell me things like their Signature series is better than their Studio series. These people know what constitutes “good sound” more than anyone else I know, so they’ve been

able to focus on what really matters, leave behind what doesn’t, and continually improve their lines. But let’s be practical. Every couple of years or so we hear about new models or revised models which offer even better this, that, and the other thing. A manufacturer, even Paradigm, has to be careful here: if the Signature series is the ultimate loudspeaker, that doesn’t leave them too many places to go from there. Or does it? The past several years of new offerings from Paradigm have shown something of a paradigm shift, if you will pardon the pun. In addition to revising and consolidating their entry and mid-level products, they have been hard at work making lateral moves. Specifically, they have been taking the performance level of their upper-end products and putting it into the new face of home theater: smaller, less obtrusive, even one would say stylish products. Yesteryear, when a 40” CRT RPTV took up half the room, a traditional “big box” speaker seemed right at home. Fast forward to today when people are hanging 65” plasmas on a wall: the last thing that owner wants is five to ten big boxes scattered around the room, attractive as their finish may be. The



subject of today's review is their latest such offering: the intersection of this new format and their absolute high end Signature series performance—a surround sound configuration whose size belies its virtues.

Enter what Paradigm affectionately calls “Lifestyle” speakers.

S1, C1, ADP1

Essentially, what we have here are dedicated mains, a center, and surrounds. The first and most noteworthy aspect of the designs is the enclosure. The main challenge offered a designer/builder who is doing smaller speakers is how to keep the internal volume large enough to ensure adequate low end response. Paradigm wants the main L/R in particular to be flexible, able to be used both with and without a subwoofer so low end response is a factor here. Yet even if one elects to build a true satellite speaker where a subwoofer is a given, we still must depend on the speaker to deliver an appreciable low-end, otherwise you force the design into an unacceptably high sub/sat crossover. So out with the traditional 1" thick MDF cabinet construction, and in with the aluminum. Yes, that's right: all speakers in this ensemble feature a cast aluminum shell which is then artfully clad with a real wood veneer of your choice: Cherry, Bird's Eye Maple, or “Piano” Gloss Black. At first this might strike some as silly, covering metal with wood, but when you think about this, it's no different than covering MDF with a real wood veneer. Regardless of how you take it, the final product is absolutely gorgeous to look at. My wife, who cares nothing for any of this “audio stuff” and generally would like to see less of it in the house, even remarked how attractive these speakers are.

The point of it though is that the actual wall of the enclosure is a fraction of the thickness of usual construction and materials. The only danger in going this route is that you, literally, have a bell on your hands which will want to “ring”, but strategic molding of ribs and the progressive shape ensure that it is, in all practicality, inert as such. It's worth noting here that Paradigm takes advantage of the housing by using magnets to attach the speaker grilles. That in and of itself may seem only a novelty, but there is an interesting fringe benefit: with none of the usual grille mounting holes or snaps, these speakers look just as sharp and stylish without the grilles in place (of course you'll want to do so only if you are confident that no careless family member or pet is going to poke something through a cone).

Other than the fact that they are fastened to the front baffle from the inside, all of the drivers are direct imports from Paradigm's larger Signature Series speakers. Although anecdotal information about driver construction is no way to judge a speaker, it bears touching on here for a couple reasons. The first thing I want to note is that Paradigm actually manufactures their drivers, right down to the molding of the cones, winding of the voice coils, and assembling the whole thing by hand. This is in sharp contrast to the industry norm of using drivers “off the shelf” from a driver manufacturer, or at best having someone make a driver to your spec. This fact enables Paradigm to design a driver for a speaker as oppose to doing it the other way around. They can make a driver, try it out, and very quickly make another with a small change, rendering a very fluid and open design process. I've in fact seen their “driver graveyard”, a veritable pile of experimental parts and pieces which didn't work out.

The second thing to note about Paradigm's drivers is that they are of the absolute highest order. I've never seen, in all my speaker travels, better designed and put-together transducers. The price of these speakers belies what is inside. Key points on these particular pieces is a tweeter common to all models made of beryllium. JJ has noted the relative resurgence of this material in tweeters, the cliff notes being it has incredible stiffness-to-mass ratio which is one of the most desirable traits in tweeter dome material, but it is quite toxic to work with, hence the tweeter being protected by a perforated metal grille (though I might say it's more to protect you from the tweeter).

Click on the photo below to download a short video that shows a Paradigm factory staff member assembling a midrange driver cone. The video was taken by Editor John Johnson on a recent trip to visit Paradigm:



As per the norm with Paradigm, the motor structure behind it is so overbuilt that one

could easily mistake it for a mid/bass driver! The midrange and mid/bass driver cones are an aluminum-cobalt-alloy, which has challenges of its own, namely ringing, but Paradigm clearly has mastered that. These drivers also feature a “true” phase cone in that it is stationary (i.e., it is not part of or attached to the cone) which we've witnessed makes a difference in the drivers' upper end response when Paradigm switched to them in their Studio Series speakers. The bass drivers are a more conventional polypropylene cone, which Paradigm feels is better suited to the range they are responsible for (the virtues of the metal cone would be somewhat wasted in the role).

S1

To break the set down a bit, the S1 is a proverbial “2-way-6-incher”. Its displacement is very slight, and it will fit just about anywhere. As with all these speakers, it is a sealed alignment, which is a rare and novel move for Paradigm, as they traditionally favor vented enclosures. Here though it makes a tremendous amount of sense to go sealed since its roll-off favors contemporary bass management schemes, and the smaller drivers can use the excursion protection of the sealed alignment anyway. On the back we find a very robust set of binding post connections with a curious trait: the positive and negative are oriented away from each other by about 90 degrees. At first glance it would seem not worth mentioning, except that not one but two of my choice speaker cables on hand could not be used with these speakers because both feature banana connectors and are jacketed: there was not enough lead length to reach both connectors without first removing several inches of the jacket. Just something to be aware of. There are in fact two pairs of posts for bi-wire or bi-amp use, though it would please me just as much not to see this somewhat esoteric feature.

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C1

The C1 is a very special piece in my opinion. Like all of Paradigm's most recent dedicated center channel speakers, it eschews their long-standing, almost stubborn use of a horizontal d'Apolito array (a tweeter flanked by two woofers) in favor of a vertical



C1



ADP1

tweeter/midrange pairing, flanked by the two woofers. Without taking a total tangent here, the proverbial mid-tweet-mid (MTM) has always been on my list of bad ways to do things. It tends to be a lazy designer's way out and a marketing department's dream because it "looks symmetrical". Fact is it's a bad choice because inherent to it is off-axis combing of the speaker's response.

Admittedly, Paradigm has always made it work, if by a bit of brute force. They build such robust tweeters that they are able to cross them over at inordinately low frequencies, as low as 1.5 kHz (where 2.5-3.0 kHz is the norm), and the lower you go the farther off-axis you have to be to find detrimental levels of combing. By sandwiching a true midrange and tweeter between the woofers, the transition between the middle component and the outer woofers drops, in this case, to just 550 Hz, which pretty much eliminates any possibility of experiencing adverse effects in any practical application.

"... the C1 is an identical sonic match to the S1's ... an incredible anchor for the system as a whole."

So, we get a center channel which is still short and wide, looks symmetrical for the cosmetically inclined, yet just plain works correctly, and in fact is in a position to best its peers at left and right. Like the S1, there is a double set of binding posts spaced far apart.

ADP1

The ADP1 is also a very special speaker in that, if only given a fair shake, is capable of putting to rest all that nonsense about dipole surround speakers being inferior or having some sort of compromise. The driver complement consists of two opposing sets of tweeter and midrange, plus a single woofer on the face. ADP is an acronym Paradigm coined a long time ago, standing for Adapted Di-Pole. A "true" dipole maintains the opposite phase of its two poles uniformly through the speaker's frequency response. Paradigm's, on the other hand, smoothly transitions from dipole to bipole at the lowest frequencies, which gives them the requisite diffuse characteristic of a dipole with uncharacteristic extended low-end response.

In the case of this particular ADP, the trick comes less from messing with the phase of the low end of the poles, and more from the fact

that there is a single woofer, which happens to be crossed over at relatively low 300 Hz. More importantly though, like all Paradigm surround speakers, the ADP1 is a correctly designed dipole in that it exhibits a smooth power response. That is, its response as a whole, not its response in front of one of the poles, is smooth. This is fundamental to its success. Far too many people have dismissed dipole surrounds after evaluating an incorrectly designed set, which sadly are all too common (particularly in the early days of home theater, when otherwise fine and respected manufacturers with good two-channel experience "jumped on board" the home theater bandwagon by haphazardly creating derivatives of their speakers, usually including surrounds which were nothing more than two regular speakers back to back and out of phase). If those same dipole detractors would give a properly set up pair of Paradigm surrounds a chance, I wager they will not go back to conventional speakers in that role. More on how these actually work in a moment.

"I declare these ADP1's about as perfect a surround speaker as can be had ... full and natural ... able to image between themselves and the fronts ... deadly precision ... the ADP's know what to do and when to do it."

IMPLEMENTATION

Just a couple words on fitting these speakers into a setup.

Paradigm curiously elected to continue the elegant curves of the design on the speaker bottoms, such that when first taking them out of the box, they wobble like weebles. Granted, the ideal placement of the surrounds is on the wall (for which the requisite hardware is provided by the way), so for them it's not much of an issue, but for the front speakers, it may well be. If you elect to couple them with Paradigm's own special set of elegant stands, the speakers actually are fastened at their back with screws. Trouble is, that stand may not always be the ideal height, and the center channel is almost certainly destined for conventional placement such as on top of the TV itself or on a shelf directly above or below it. To this end, Paradigm does provide for each speaker a set of rather large rubber half-spheres

which must be very carefully and precisely placed on the bottoms per the supplied diagrams. Once in place, they are literally invisible, but be prepared to go through the motions, and if you are using conventional speakers stands, you must ensure that their top plate is large enough to catch all four rubber feet. The nominal impedance for all speakers here is quoted as 8 ohms, which is considered an “easy” load for amplifiers, but their efficiency is decidedly quite low. They required no less than a full 6 dB more output from my amplification system to reach a given level in-room as compared to my reference speakers. One might say that’s 6 dB of headroom I don’t have. Granted, anyone even considering these exquisite speakers would almost certainly be pairing them with a robust amplifier, but I would be remiss if I did not at least mention this caution about how power hungry they can be. An “honest” 100 Watts-per should be considered an absolute minimum, with 200+ being the ideal. Paradigm states that these speakers are anechoically flat from 20 kHz down to just over 70 Hz (the surrounds down to 100 Hz). Being that these are sealed speakers, they should work well, or at least much better than ported speakers, in terms of integrating with the ubiquitous and often cloned THX crossover scheme of 2nd-order highpass and 4th-order lowpass. Using them in one such system, with the crossover frequency set at 70 Hz, proved exemplary.

THE SOUND

This speaker ensemble is truly wonderful. It’s been a very long time since I’ve been genuinely excited about a set of speakers, the past many years seeming an unending stream of the same-old, same-old.

We used to talk about speakers sounding “good”, “pleasing”, “warm”, and any number of other abstract adjective. If a speaker changes the sound from what it is in the recording, that is a distortion, even if subjectively we like that distortion. True performance, as exemplified here by Paradigm, is when the speakers don’t sound like any thing at all. They are utterly passive, imparting nothing at all except the signal that is sent to them. This, although lacking in poetic delivery, is in fact the highest praise I can in good conscience give a loudspeaker.

Critical stereo listening revealed not only how neutral and accurate these speakers are, but how perfectly homogeneous they are. It’s one thing to design an excellent speaker, and it’s

quite another to mass-produce it and have every single one be within 0.5 dB of the next. “Image like the dickens” seems an understatement. Subjectively good recordings yield pleasing, natural vocals and instruments. They have a remarkable amount of punch for their size as well. Most good speakers can play “loud”, but not all can do it while maintaining a good transient response. This is a characteristic of loudspeakers which in some ways is even more important than frequency response, but which is a little more elusive, not to mention most contemporary music recordings won’t even challenge a speaker in this respect. Turning to recordings which actually exploit the medium’s dynamic range, these speakers not only deliver in this respect, but do so in spades, even when run full range without a subwoofer!

I honestly don’t do a lot of two-channel listening anymore, in that I almost always put my CDs through Pro Logic II Music processing, and of course my near daily movie watching is a multi-channel experience. Here again I found myself internally saying, “WOW” at speakers for the first time in years. Yes, the C1 center is an identical sonic match to the S1’s, and it stands out as an incredible anchor for the system as a whole. It is a natural product of multi-channel mixing that the center channel gets a very complex signal at times, and here the three-way configuration pays dividend. Yet it is the surrounds, somewhat unexpectedly, which I would like to give the most credit to.

I talked about how properly designed dipoles have a smooth total power response. That is, even though you, the listener, are ideally in the null, the speaker should sound pretty much the same as its front direct radiating counterpart. In terms of in-room response, the ADP1’s “looked” like fronts. Here is a fun exercise if you ever get the chance: use a pair of ADP1’s as main L/R speakers. They will sound every bit as good as the S1’s, are even able to image, but in a much less focused way. In other words I declare these ADP1’s about as perfect a surround speaker as can be had.

Back on the wall where they belong, they do two things: they produce the same full and natural sound as their front counterparts and do it with just enough spacial precision. They are able to image between themselves and the fronts, but, unlike monopoles-as-surrounds, not to a degree which undermines their expansive nature. They mimic, with an uncanny likeness, the very arrays which the media is

produced on in the first place, as exemplified by the media itself: A scene where leaves are rustling in the background, being input to both surround channels, perhaps even a little out of phase, ends up sounding “all around” you (regardless of seating position), yet when a car comes “from rear-right to front-right” there is deadly precision in the sound’s movement which one can easily “follow”.

Try any of the multi-channel mixes of Big Phat Band and you will hear instruments positioned between a surround and its corresponding front, yet simultaneously the more vague ambience in the track. It’s as if the ADP1’s know what to do and when to do it.

Their only hitch is the price, which will strike some as high, but it is justified given the sheer number of drivers enclosed. The only way in my opinion to get equal surround performance would be speaker arrays which are just as expensive and a nightmare to implement and set up.

CONCLUSIONS

There is no question that the Signature Series speakers are slightly better than the Studio series, though admittedly, not dramatically so. While speakers which make a visual statement are not new, what is unique here in my opinion is that these do so without compromising true speaker performance. With the exception of the most cavernous of spaces, I have no reservation about endorsing these for just about any system: they are small, they look great, they perform remarkably as a 5.1 whole, the S1’s can be used on their own without a sub, and the surrounds are going to cause some people to give up long held biases.

Bravo Paradigm!

“I have no reservation about endorsing these [speakers] for just about any system: they are small, they look great, they perform remarkably ... can be used on their own without a sub ... the surrounds are going to cause some people to give up long held biases.”