

“WOW ...

it was like being at the concert!”

Reprinted with permission from

Best Buys
SPEAKERS, AMPLIFIERS AND RECEIVERS

HIGHLIGHTS:

FOR: Superb Performance. All speakers are tonally matched and of equal bandwidth.

AGAINST: Nothing

At last! A manufacturer that understands that in order to work properly with Dolby Pro-Logic, Dolby Digital, THX and DTS, all the speakers have to be tonally matched, and of equal bandwidth. Not that it's terribly hard to do this—all you have to do is make sure that all the speakers in the system (R, C, L, RS, and LS) use identical drivers. However, this approach is expensive, so most manufacturers use smaller, cheaper drivers in their surround speakers (RS/LS) than they do in their front speakers, and fewer drivers in their centre speaker (C) than they do in the left and right. Not Canadian manufacturer Paradigm. It uses exactly the same bass/midrange driver throughout the entire home speaker system, and exactly the same tweeter ... and what's more, it uses exactly the same number of drivers in the centre speaker. Notice that we haven't mentioned the subwoofer? That's because it uses a much larger, 254 mm driver, to

enable it to handle frequencies down to 25 Hz at power levels of up to 130 watts (the output of the built-in amplifier). However, over the operating range of the subwoofer (around 25 Hz to 70 Hz when using the LCR-450's) tonal matching is not critical.

How can Paradigm use the same drivers in all its speakers? The reason is quite straightforward. Unlike almost all the other companies manufacturing Home Theatre speakers, Paradigm does not rely on other companies to make its drivers. Both the bass/mid driver and the tweeter are designed and manufactured in-house by Paradigm. This alone represents an enormous cost-saving, but more importantly, Paradigm uses these same drivers in almost all its models, which means it benefits from economies of scale that few other companies in the world could duplicate.



LCR-450

"Sounds moved effortlessly from one channel to the other, without any aural discontinuities whatsoever."

EQUIPMENT

The system supplied to Best Buys comprised a pair of Paradigm LCR-450 front speakers; a pair of Paradigm ADP-450 dipolar surrounds; a Paradigm CC-450 centre-channel and Paradigm's well known PS-1000 powered subwoofer. We would have liked to have used Paradigm's new Servo-15 subwoofer, which uses a servo-controlled 400 watt RMS amplifier to power a 15-inch Kevlar driver, but review samples weren't available at the time we went to press.

"The illusion of being at the concert was – intense ... The Paradigm's didn't miss a beat ... super dynamic."

The bass/midrange driver common to all the speakers in this system is Paradigm's well-known "MLP" 6.5 inch AVS unit.

The MLP initials mean the cone is made from "mica-loaded polymer". This material has a slightly yellow tinge and has been dimpled so that it looks a little like Kevlar. As for "AVS", these initials mean the die-cast driver chassis uses an Air Ventilation System whereby the entire chassis is covered in fins that are not unlike a transistor heatsink, so the heat generated by the driver can be conducted away rapidly, increasing the power-handling capacity of the driver.

Although it's rated at 170 mm, the diameter of the moving part of the speaker (cone and butyl rubber roll surround) is only 140 mm, and the effective cone diameter is 120 mm. Thus the effective cone area is 113 cm². The magnet used

on the driver is very large, and the voice-coil is wound around a 25 mm diameter Apical™ former.

"... the sound of this 450-based Paradigm system was nothing short of stunning ... this is a superb home theatre system ..."

The tweeter used in all the speakers is Paradigm's famous 25 mm aluminum dome unit. The front-channel speakers all use a standard D'Appolito driver configuration, except that the tweeter is squeezed as closely as possible between the two bass/mid drivers to try to get a point-source effect and to minimize interference effects. The rear (surround) channel speakers are dipolar, with a woofer and tweeter on the rear baffle as well as the front. This means that ADP-450's conform with the spirit of the THX approach of a diffuse soundfield, yet by positioning them carefully, they could equally perform like conventional direct-radiator speakers, a la Dolby's preference for Dolby Digital.

"... frequency balance (of the 450's) is also exceptional; the midrange is flat; the treble is extended ..."

LISTENING

We spent some time carefully arranging the three front-channel speakers, because although the trick of squeezing the tweeter between the two woofers is clever, it means that listeners should make sure their ears are level with the tweeters in the left and right speakers, and that the tweeter of the centre channel speaker is directly above the TV screen and angled so it fires precisely at the listening position. If you don't take these steps, you won't hear the Paradigms at their best!

In our listening room, we found the PS-1000 could be positioned just about anywhere without being able to be localized, though it's better if the three vents don't face the listening position. Speaking of the sub, Paradigm could lift its game with the

rotary controls provided to adjust level, cut-off frequency and phase—they felt decidedly "tacky".

"The surround channel information was fabulous. This is the first Home Theatre system where bipolar surrounds have been able to keep up with the front channels."

However, the sound of this 450-based Paradigm system was nothing short of stunning. We actually started the session with Eric Clapton's "Layla" on DVD (*Unplugged*, Warner WPBR-1). Wow ... It was like being at the concert! The surround channel information was fabulous. This is the first Home Theatre system where bipolar surrounds have been able to keep up with the front channels. The illusion of being at the concert was so intense that we cranked up the volume to levels that were probably louder than the original performance. The Paradigms didn't miss a beat—they went as loud as we could bear them, and were at all times super dynamic, as demonstrated on "Tears In Heaven".

"... the PS-1000 takes over seamlessly from the other channels, providing that awesome bass ..."

Watching a selection of movies from a DVD sampler disc showed both the importance of timbral matching, and the accuracy of the level of the matching achieved by Paradigm. Sounds moved effortlessly from one channel to the other, without any aural discontinuities whatsoever. The frequency balance of the ADP-450's is also exceptional: the midrange is flat; the treble is extended and bright without being fatiguing. Although if used on their own, these speakers might be found to be a tad shy in the bass, this certainly doesn't apply in a Home Theatre situation, where the PS-1000 takes over seamlessly from the other channels, providing that awesome bass that makes Home Theatre sound so excitingly real.



CC-450

CONCLUSION

As reviewed, this is a superb Home Theatre system, but what's even more impressive is that because of Paradigm's dedication to timbre-matching, you can mix and match with bigger and smaller speakers in the range without compromising performance. This flexible approach to home theatre will win Paradigm a lot of admirers. Us included.

**ADP-450****PS-1000**