

“...amazingly good value.

A TRUE ‘BEST BUY!’”

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Best Buys
SPEAKERS, AMPLIFIERS, AND RECEIVERS

“... the Atoms were exceedingly difficult to fault ... the result was a completely realistic acoustic rendering of whatever was going on on-screen.”

At the risk of giving away a trade secret, there’s a pretty easy way to pick a good loudspeaker from the pack: it’s the one that is produced, year after year, without any change of name, or having a MkII (or III or IV) appended to its name. When you see a speaker like this, you can be sure that what it means is that the particular model (whatever its price bracket) is being accepted in significant quantities by a wide variety of consumers, and selling so well that the manufacturer (whoever it might be) sees no need to invest in extra R&D, or extra promotion, or to try and improve sales by indulging in some creative re-badging. And that’s pretty much the story of Paradigm’s Atom. Released to the world at the 1993 Winter Consumer Electronics Show in the U.S., it’s been selling well, year after year, for the past four years, during which time its biggest competitor has been Paradigm’s own Titan loudspeaker.

Although it’s fair to say the Atom has been selling very well on its own, as a small, budget loudspeaker for use in

ordinary two-channel hi-fi systems, it’s also a great choice for the front and rear channels of a home theatre system, in combination with a magnetically shielded centre-channel speaker, and a subwoofer. For this review, we matched two pairs of Atoms with a Paradigm CC-150 centre-channel and a Paradigm PS-800 subwoofer and discovered—as will you when this review unfolds—that they make sweet music indeed.

Paradigm (the company is Canadian, by the way, which means it’s had the advantage of having had access to a Canadian-government-sponsored loudspeaker research development program) has applied several cost-cutting measures with the Atom that are what you’d expect, such as using standard particle board and MDF, building the cabinet from 12 mm stock rather than 18 mm stock, and attaching the bass/midrange and treble drivers from the inside of the enclosures rather than from the outside

The New Atom
(Improved over version reviewed, for even better sound.)



(which means the grille becomes non-removable) and eschewing the use of Internal cross-bracing or edge reinforcing. All to be expected at this price range and, when the small size of the cabinet is taken into account, hardly likely to contribute to any unwanted resonances. There is a small quantity of fibreglass inside the cabinet, which we'd recommend you replace with an equivalent quantity of either pure Australian lambs-wool (the best, but pricey) or non-allergenic inner-bond if you wish to prevent fibreglass particles from exiting the single small rear-firing port (a 38 mm x 84 mm section of thin walled cardboard tube.)

"... the bass/midrange driver is a very impressive looking polypropylene-unit that has a high pressure die-cast chassis."

Whatever money Paradigm has saved on the enclosures seems to have been reinvested in the drivers, because the bass/midrange driver is a very impressive looking polypropylene-coned unit that has a high-pressure die-cast chassis that the company has noted is "certainly not typical in this price range", a sentiment we here at Best Buys would heartily endorse. Rated as a 140 mm diameter driver, this measurement is the spacing between the mounting holes (a method of measuring that's common in the loud-speaker driver industry). The actual cone diameter is 90 mm, which increases to 120 mm if you include the entire roll surround. The cloth dust-cap is completely acoustically (and visually) transparent, so it's possible to peer through to the 25 mm



The New CC-170

(Improved over version CC-150 reviewed, for even better sound.)

diameter voice-coil, but no dust or dirt can enter. One reason the bass/midrange driver can be so good is that it is made in-house by Paradigm, so the company isn't paying a premium for a driver from a third party.

Paradigm claims that its 19 mm dome tweeter is made in Europe, but it's actually made in Scandinavia, by Vifa. (This is apparently a very subtle distinction, but one the Danes insist on!) It has a polyamide dome that's connected to an aluminum former. Like most tweeters of this quality, it's filled with ferro-fluid to increase power handling and efficiency, and to aid in damping. The crossover is basic (a single iron-cored coil, a high-power ceramic resistor and a capacitor) but at least it's a real crossover, which is more than one often gets at this price point. The rear output terminals are beefy affairs, so you'll be able to connect decent cable.

The CC-150 is the middle model in Paradigm's range of three centre channels. We feel it's the best match for the Atoms, because the smaller CC-50 has only one bass driver and the larger CC-300 uses slightly bigger bass drivers and a different tweeter. It is magnetically shielded, so you can place it on top of—or underneath—your TV set with impunity.

Paradigm's PS-800 powered (110 watts continuous) subwoofer is the 'baby' in the company's subwoofer range, underneath the PS-1000 and PS-1200. It uses a single 210 mm bass driver that has a simply enormous voice-coil (38 mm). This driver operates from a band-pass box that Paradigm calls "DCBS dual-cavity bass shaping enclosure with high-velocity resistive ports." This design approach makes for quite a small enclosure (380 mm x 360 mm x 430 mm). On the electronics side, the PS-800's power amp handles either line-level or speaker-level signals and you can run a high-pass out using either configuration. Once connected, the Paradigm has a rotary volume control, rotary phase control (0-180°) and a rotary control that gives control over cut-off frequency (50-150 Hz). That isn't the end of the electronic niceties, because the PS-800 has an auto on/off circuit (so you don't have to worry about switching the

sub on and off all the time), a soft-clipping circuit, which allows you to over-drive the system (and thus generate higher SPL's) without producing high-order distortion components, and a thermal limiter, so that if you overdrive too much, for too long, you won't damage the amplifier!

"... they make sweet music indeed."

LISTENING SESSIONS

The regulars here at Best Buys have been itching to hear an Atom (in our own environment, rather than in a showroom or at a hi-fi show) for some considerable time, and we weren't disappointed. They aren't very efficient (Paradigm claims 86 dB SPL for the Atom and 88 dB SPL for the CC-150) but this is only of significance when you're listening to just a single pair of Atoms. When you're listening to two pairs plus a centre channel (plus a subwoofer!) the total sound field gets very, very loud, very, very quickly, even with low powered (less than 50 watts RMS) electronics.

As stereo speakers on their own, the Atoms have a good, tight sound that lacks the two bottom octaves (the laws of physics dictate you can't get them from a cabinet/driver combination this size). The midrange is slightly 'coloured', so that human voices seemed a mite more 'husky' sounding than in the original, for example, but the effect was minor. High frequencies were pleasantly mellow, to the point where we might have liked a little more 'crispness', depending on the style of music and the instrumentation. However, interestingly, in a smaller room, where you're sitting closer to the speakers, the overall bass/mid/treble balance is better, presumably because there's less air attenuation between the speakers and your ears.

In the home theatre context, the Atoms were exceedingly difficult to fault, and because the M 150 didn't have the same huskiness we noted in the Atoms, the result was a completely realistic acoustic

rendering of whatever was going on on-screen. Speech was very clean and clear and the slight h.f. mellowness meant sibilants were suppressed, so any spitty-sounding actors had their voices greatly improved, for free, courtesy of the Paradigms. Despite the minor differences in the front-channel speakers, the panned sound (L/C/R) was seamless, without any audible anomalies—in tone or in focus.

The PS-800 proved to be quite a seamless match with the CC-150 and Atoms, but obviously, you'll have to experiment with both the electronic tailoring that's available, and with the placement of the subwoofer in the listening room for best results. We ended up placing the sub just to the right of the TV, about a metre away, with the ports firing along the wall, which resulted in just the right amount of bass. It produced quite prodigious amounts of taut, deep bass, with nary a peep of complaint, even when overdriven.

CONCLUSION

It pays not to forget the bottom line when you're talking home theatre, because there is quite a bit of kit to buy, and even low-ticket items start to add up.

When we did the adding up (to total two pairs of Atoms, a CC-150 and a PS-800) we couldn't help but smile, because for the total price to get sound like this is just amazingly good value. A true 'Best Buy!'



The New PDR-12

(Improved over version PS-800 reviewed, for even better sound.)