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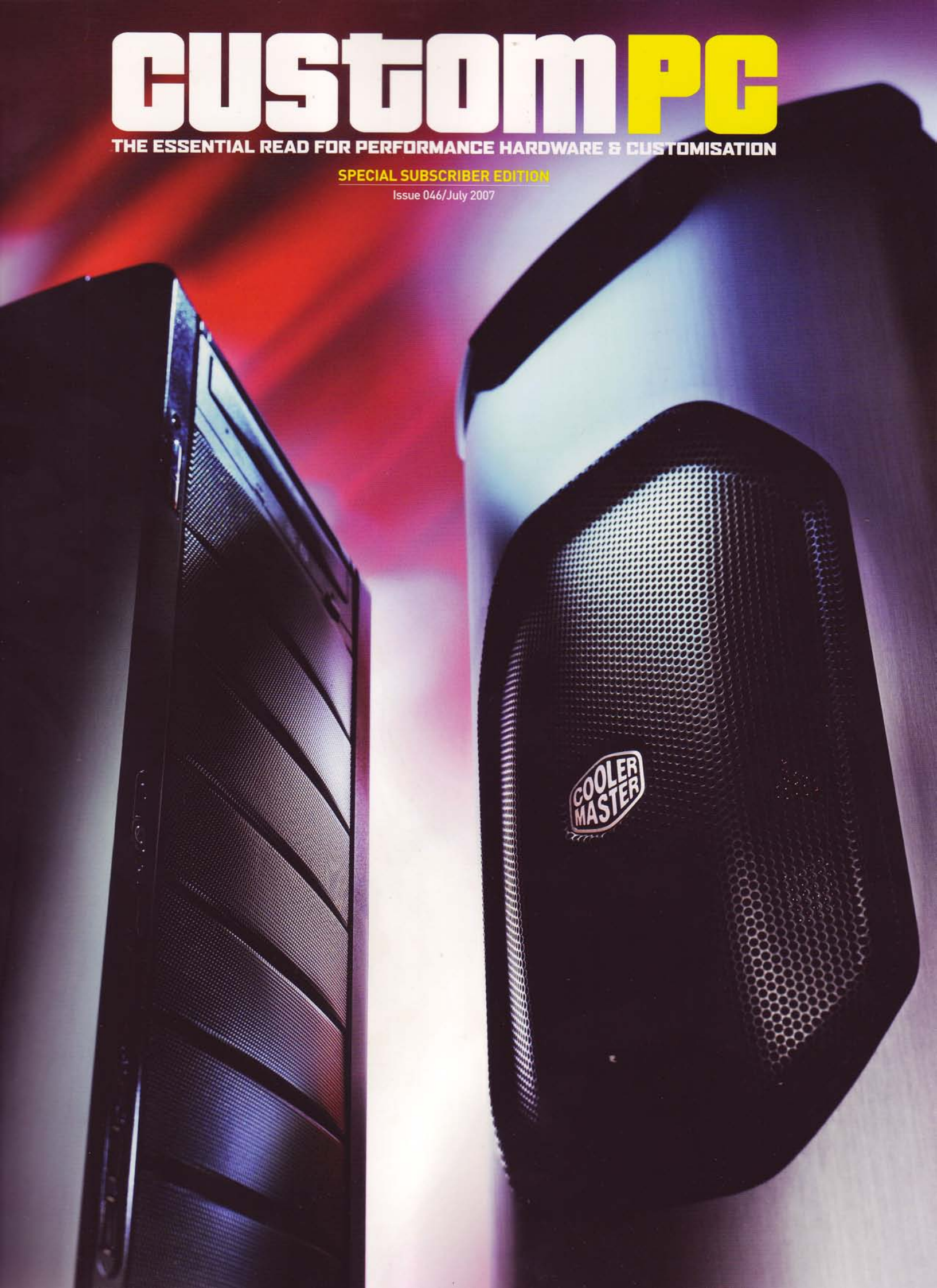
SPECIAL SUBSCRIBER EDITION

Issue 046/July 2007



HyperOs Systems HyperDrive4 (16GB)

Breezes past any hard disk, but remember to back up your data regularly

Price £2,767.12 inc VAT • **Price per GB** £172.95 inc VAT • **Supplier** www.hyperossystems.co.uk • **Manufacturer** www.hyperossystems.co.uk

The HyperDrive series of SSDs has been in development for several years, but this is first time we've seen its latest incarnation, the HyperDrive4.

Unlike most SSDs, the HyperDrive4 eschews flash memory in favour of registered PC2700 DDR RAM. This is much faster than most flash memory, but this RAM is volatile, so it loses its data when the power is cut. As you wouldn't want to install apps on the HyperDrive4 every time you reboot your PC, the HyperDrive4 is supplied with a small battery that provides power to the RAM modules for up to six hours. If that isn't enough for you then HyperOs also sells a model fitted with a 16GB Samsung Flash SSD that automatically backs up any data held in the RAM when the power is cut. An unpopulated HyperDrive4 will set you back £1,404.12 inc VAT, but you'll need to buy your own registered PC2700 DIMMs. If this is too much fuss for you then the 16GB model we tested costs £2,767.12 inc VAT, while a 16GB model with 16GB backup SSD costs £2,996.25 inc VAT.

The HyperDrive4 has both EIDE and S-ATA ports, and fits inside any 5.25in drive bay. There are two whiny 40mm fans at the front, but it shouldn't take too much effort to disable these, cut a hole in the roof and fit a single quiet fan. Our review sample had a metallic blue bezel, although the HyperDrive4 is available in several different colours.

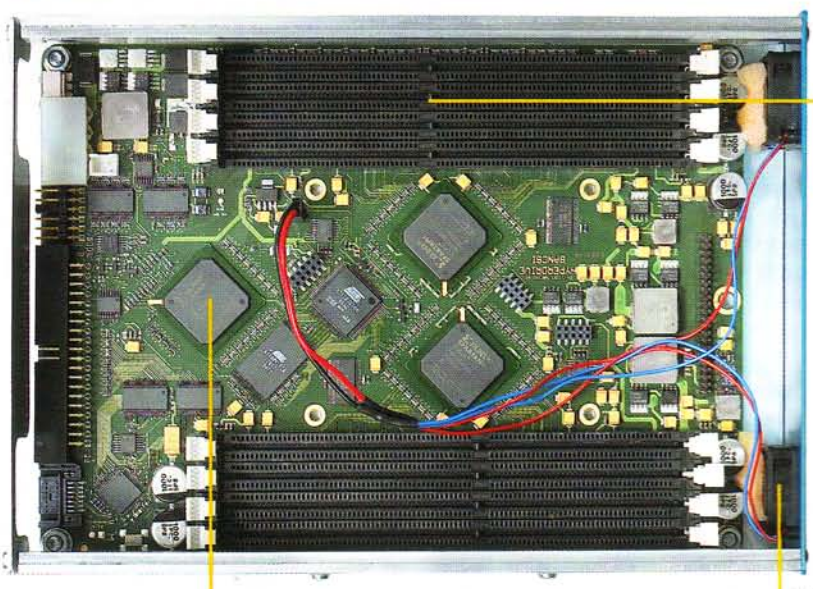
In EIDE mode, the HyperDrive4 delivered incredible performance, with a read STR of 118.4MB/sec and a write STR of 87.1MB/sec. In contrast, the HyperDrive4's performance in S-ATA mode when connected to the Intel ICH8R Southbridge in our test rig was much worse, with a read STR of 82.1MB/sec and a write STR of 80.7MB/sec. However, the poor S-ATA performance seems to be the result of some sort of conflict between the HyperDrive4 and ICH8R; when we connected the HyperDrive4 to a JMicron JMB363 S-ATA controller, its performance was much better. Nonetheless, the HyperDrive4 consistently performed slightly slower in S-ATA mode than in EIDE mode, regardless of which controller we used.

In the real-world tests, the HyperDrive4 proved to be very fast, scoring 1.57 and 1.55 in Paint Shop Pro in EIDE and S-ATA modes respectively. The HyperDrive4 was unbeatable at loading games in EIDE mode, getting Far Cry up and running in just 31 seconds, and loading Silent Hunter 4 in 27 seconds. In S-ATA mode, each game took one second longer to load. The only other SSDs that could match this level of performance were the Gigabyte i-RAM (see p74) and enterprise class STEC ZeusIOPS (see p79).

We also benchmarked the HyperDrive4 using Iometer using both 64KB and 4KB block sizes. With 64KB blocks, the HyperDrive4 was slower than the Gigabyte i-RAM, which points to latency issues in the HyperDrive4's memory controller. Using 4KB blocks, both the HyperDrive4 and Gigabyte i-RAM were pummelled into the dirt by the ZeusIOPS, which was nearly 400 per cent faster at reading.

The HyperDrive4's performance is impressive, whether it's reading and writing large amounts of sequential data, or accessing lots of small files at random. In contrast, the Gigabyte i-RAM, the only other RAM drive in this Labs test, is slightly faster in apps and slower at loading games, but it has a nearly useless maximum capacity of 4GB. The only real downside to the HyperDrive4, aside from its high price, is its noisy cooling fans, which defeat one of the major plus points of a SSD (no moving parts, and therefore no noise). If you want the ultimate performance storage device for your gaming rig then the HyperDrive4 is worth considering. However, if you're looking to upgrade your database server then the more robust and faster ZeusIOPS is definitely king of the hill. **JG**

UP CLOSE



The HyperDrive4 supports registered DDR RAM, which fits in matching pairs in eight DIMM sockets.

This chip controls the EIDE and S-ATA interface, making the HyperDrive4 one of the most gregarious SSDs ever made.

Unlike the other SSDs in this Labs test, the HyperDrive4 isn't silent, as it's cooled by two 40mm fans.

SCORES

SPEED	FEATURES	VALUE	OVERALL
89%	60%	51%	70%
40/45	12/20	18/35	70/100