

Scan 3XS HC2-7950

CORE 2 EXTREME LIVES UP TO THE HYPE WITH A STORMING DEBUT

Price £2,466 inc VAT
 Supplier www.scan.co.uk
 Manufacturer www.scan.co.uk

Nobody in the world is better at swearing than the British. Perhaps the Americans – Samuel L Jackson and the population of New Jersey in particular – come close but, in the end, we're the champion cursers. So the UK – well known in the IT market as an AMD stronghold – is going to have some choice words for Scan's 3XS HC2-7950. It's based around the top-of-the-range Core-based CPU, the Core 2 Extreme X6800, and **** me, it's one ***** fast processor, I **** you not.

That out of the way, on to the details. The 2.93GHz Core 2 Extreme X6800 is Intel's new top-of-the-range CPU. Until now, Extreme Edition CPUs have

been a bit of a joke, a hastily conceived product range created in a desperate bid to stop the Athlon 64 FX in its tracks. However, the NetBurst architecture just wasn't fast enough, and even all the extra features that Intel bolted on, such as lots more cache and an unlocked multiplier, couldn't hide this fact.

Intel's new Core architecture changes all that. As well as an all-new architecture, the Core 2 Extreme X6800 has a 266MHz FSB (1,066MHz effective), and a hefty 4MB of cache shared between both cores. It runs at 2.93GHz, with a default multiplier of 11. Scan hasn't left it as it is, though, opting instead to overclock it by raising the multiplier to 12. This means that the CPU inside the Scan runs at 3.19GHz – a fair way off the 3.73GHz of the Pentium Extreme Edition 965 but, given the



efficiency of the Core architecture, it promises a lot more performance. The voltage has been raised to 1.325V, two steps above its default of 1.3V.

Although Core architecture CPUs use the familiar LGA775 socket, and are compatible with Intel's 975X chipset, in order to support these CPUs, motherboards need updated voltage circuitry. There aren't many third-party boards from which to choose right now, so Scan has opted to use Intel's own D975XBX. We've taken a closer look at this motherboard in a separate review on p44.

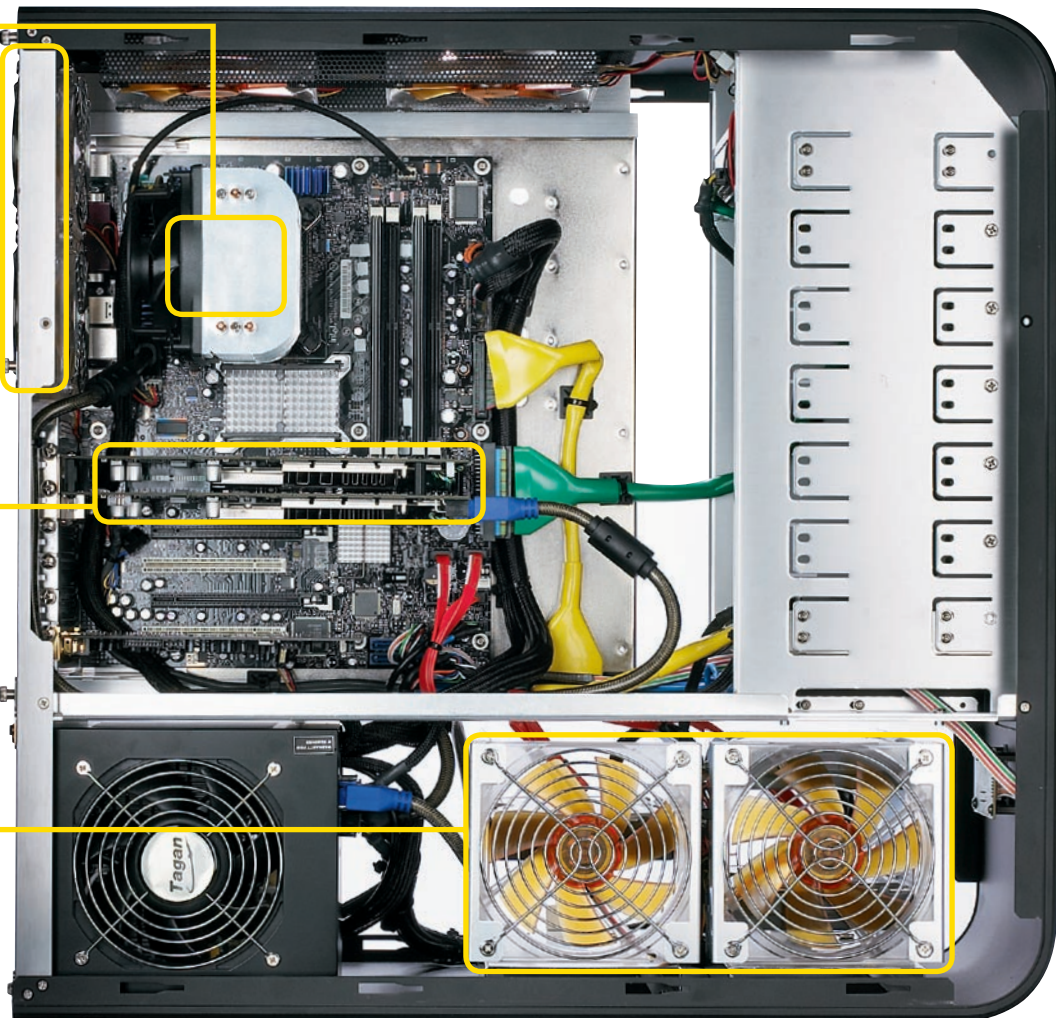
The 975X chipset can support two ATI graphics cards in CrossFire mode, and the D975XBX features what looks like three 16x PCI-E slots. This isn't the case, though, as one is a 4x slot, and the other two are 8x slots when two graphics cards are installed. With only

The Core 2 CPU keeps the LGA775 packaging, so you can use the same coolers as with older Intel CPUs. The Core 2 Extreme X6800 outputs less heat than previous Extreme Edition Pentiums but, as it's such a high-density design, and has been overclocked to 3.19GHz, it still gets fairly hot.

These two fans at the back blow air into the case. The HSF then sweeps it across the CPU, before two fans in the ceiling of the case exhaust it.

Although the Intel D975XBX motherboard can provide two 8x PCI-E slots, it doesn't support two-card SLI, so there's no option to buy a second 7950 GX2 for a Quad SLI setup.

These two 120mm fans blow cool air across the Scan's three hard disks, which provide nearly 1TB of storage.



one graphics card installed, as is the case with the Scan, one slot is disabled, and another gets all 16 PCI-E lanes. Scan has opted to fill the 16x PCI-E slot with an Asus EN7950 GX2 (see Issue 35, p46). It's the most powerful graphics card out there, combining two GeForce Go 7900 GPUs in one dual-PCB sandwich. Essentially, it's SLI on one card, which means that performance fluctuates depending on driver support. In an SLI-optimised game such as F.E.A.R., it's ****ing phenomenal, whereas in Need for Speed: Most Wanted, it's just pretty ****ing good. There's probably no upgrade path either, unless Nvidia has a sudden change of heart and opens up SLI for non-Force-based motherboards.

As Scan hasn't used the FSB to overclock the CPU, it runs at its default of 2.93GHz. To partner it, our review PC had 2GB of Corsair XMS2-6400. CPU cooling is handled by the excellent Arctic Cooling Freezer 7 Pro HSF. Scan has made neat use of the fan mounts in the system's SilverStone Temjin TJ-07 case. The two 80mm fan mounts at the rear are fitted with Akasa Amber fans that blow air across the CPU HSF into the case; the air is then exhausted through a mesh panel in the roof of the case by two 120mm fans. This forms a tidy cooling loop, and means that CPU heat won't hang around for long. Both side panels have a ventilated mesh panel, and the right panel has two 120mm fans that blow air over the three hard disks that sit in bays at the bottom of the case. There are two 400GB Samsung SpinPoint disks in RAID 0, and a 300GB version by itself. In addition to supplying nearly 1TB of storage space, they're all 7,200rpm disks, with 8MB cache and, as they're S-ATA II, they support NCQ.

The PSU, a 580W modular unit from Tagan, also has its own compartment at the bottom of the case.

There are two issues concerning the cooling: the first is that it leaves the graphics card without much air flowing over it, and the second is that, thanks to the eight fans (including the PSU fan), the Scan is noisy. It whooshes and hums, and you'll certainly notice it when it's on. Still, you can always drown out the noise, thanks to the Creative Sound Blaster X-Fi that's installed. There's also only one optical drive, which is all you need.



PERFORMANCE

At 3.19GHz with 2GB of memory, the Scan quite comfortably kicked the **** out of our Media Benchmarks. It scored 1.98 overall, nearly twice as fast as the 2.8GHz Pentium D reference PC, and well ahead of Scan's Quad SLI-equipped 3XS Panther (see Issue 34, p34) with its FX-60 (1.52), the last Vadim PC we looked at (1.53), which had a 2.6GHz dual-core Opteron 175, or an Athlon 64 FX-62 (1.67).

It was no slouch in gaming either, averaging 58fps in Need for Speed: Most Wanted at 1,920 x 1,200 with high AA and AF. Compare this result to that of our overclocked 2.8GHz Athlon 64 FX-55 graphics test rig, which can only manage 41fps at the lower resolution of 1,600 x 1,200, and you can confidently tell any game that issues a warning

IN DETAIL

CPU	2.93GHz Intel Core 2 Extreme X6800 overclocked to 3.19GHz
Motherboard	Intel D975XBX
Memory	2GB Corsair XMS2-6400
Graphics	1GB Asus EN7950 GX2
Sound	Creative Sound Blaster X-Fi Xtreme Music
Hard disk(s)	300GB S-ATA II Samsung HD300LJ, 2 x 400GB S-ATA II Samsung HD400LJ (RAID 0)
Optical drive(s)	LG GSA-H20L, Read: DVD 16x, CD 48x; Write: DVD+R 16x, DVD+R9 8x, DVD+RW 8x, DVD-R 16x, DVD-R9 6x, DVD-RW 6x, CD-R 48x, CD-RW 32x
Case	SilverStone Temjin TJ-07
Cooling	CPU: Arctic Cooling Freezer 7 Pro. Case: 2 x 80mm Akasa Amber intake fans, 2 x 120mm Akasa Amber intake fans, 2 x 120mm Akasa Amber exhaust fans
PSU	580W Tagan
Ports	2 x PS/2, serial, parallel, 8 x USB 2, LAN, 4 x surround audio out, line in, mic, X-Fi breakout box, 4 x DVI
Extras	Windows XP Professional, floppy drive and 6-in-1 memory card reader

when you use high settings to **** off.

Overclocking the Scan was tricky, however; despite using the same motherboard, RAM, HSF and CPU that James used in the review of the CPU (see p42), I couldn't get any more speed out of the Scan, no matter which voltage or settings I tried. James, on the other hand, clocked his 2.93GHz Core 2 Extreme X6800 to 3.66GHz, and topped the **CPC** benchmarks leaderboard in the process. And before you mock my overclocking skills, James couldn't get anything more out of the Scan either. Clearly, the Scan's chip wasn't willing to go above 3.2GHz. The only difference we could see was in the BIOS of the motherboard, which was different to that of our review board.

CONCLUSION

We'd usually say something sensible here about the dangers of being an early adopter, and while there are some disadvantages to this, in the case of the 2.93GHz Core 2 Extreme X6800, **** it. It's a terrific CPU. True, the Scan isn't that quiet, nor is it a hugely innovative build. You could also complain about not having an upgrade path in terms of graphics but, in its favour, it provides tons of storage and enough power to turn the air blue, plus it's half the price of the ludicrous Scan 3XS Panther.

ALEX WATSON

RESULTS

APPLICATIONS:

Paint Shop Pro image editing



An FX-62 scores 1.60

TMPGEnc DVD encoding



An FX-62 scores 1.89

Multitasking



An FX-62 scores 2.01

OVERALL:



An FX-62 scores 1.67. Get the picture?

CPC reference PC = 1.0

3D:

Need for Speed: Most Wanted

1,280 x 1,024 low AA, low AF

53fps

1,920 x 1,200 high AA, high AF

37fps

58fps

Minimum Average

