PC SPECIALIST APOLLO X02

WITH EIGHT CPU CORES TO THE SIX OF ITS RIVALS, PC SPECIALIST IS OUR TOP CHOICE IN THE £2,500 CATEGORY THIS MONTH

SCORE ★★★★☆

PRICE £2,083 (£2,500 inc VAT)
from pcspecialist.co.uk

PC Specialist is unusual in the sub-£2,500 inc VAT category this month in that it hasn't gone for the excellent new six-core Coffee Lake Intel Core i7-8700K. Instead, the Apollo X02 is based around the equally brilliant eight-core Intel Core i7-7820X. So you're getting a couple of extra cores for your money.

Although the 7820X isn't as recent as the 8700K, it has still only been around for a relatively short period. This is a Skylake-X CPU like the Core i9 processors in Scan's 3XS WI6000 Viz and the Workstation Specialists WS-X1180. Where the Core i9 has ten or more cores, the Core i7 Skylake-X tops out at eight, but the 7820X has a much higher nominal clock speed of 3.6GHz – and PC Specialist has pushed all eight cores to 4.6GHz.

PC Specialist chooses a Cooler Master MasterLiquid Lite 240 watercooler to keep the processor chilled. It originally planned to supply the Noctua NH-U14S, which is one of the most capable air coolers on the market, and both are great choices. The CPU is partnered with 32GB of 3,000MHz DDR4 SDRAM, supplied as four 8GB modules, which leaves four more DIMM slots free for upgrading to the motherboard's 128GB maximum. Since this is a Skylake-X processor, it offers quad-channel memory for more bandwidth, rather than the dual-channel configuration of the 8700K.

For graphics, PC Specialist joins the crowd with an Nvidia Quadro P4000. With its 1,792 CUDA cores and 8GB of GDDR5 memory, this is the gold standard for professional 3D graphics acceleration under £1,000.

Storage is almost entirely standard, with a 500GB Samsung 960 Evo M.2 NVMe SSD for OS and applications, alongside a 2TB SATA-connected 7,200rpm Seagate Barracuda Pro hard disk. The SSD is one of the slower units this month, with 2.3GB/sec reading and 1.8GB/sec writing, but the hard disk is one of the quicker models, reading at 211MB/sec and writing at 199MB/sec. PC Specialist has also found space for a DVD writer. Should you need more storage, the Corsair Carbide 200R has three 3.5in bays easily accessible from the side panel, but these aren't hot-swap capable.

The extra two cores pay off when the Apollo X02 performs rendering tasks. The Maxon Cinebench 15 CPU score of 1,830 is 12% faster than the quickest 8700K-based system, but isn't a patch on the Core i9s or AMD Threadripper. Similarly, the Blender render duration of 2,039 seconds is 10% quicker than other £2,500 workstations when using the CPU; like all but the Overclockers Renda G3-CS, the graphics accelerator doesn't have enough memory to render in GPU.

ABOVE A watercooler keeps the processor's heat under control

PC PRO RECOMMENDED

BELOW The Apollo X02 isn't perfect, but it still has the edge over other £2,500 PCs

In the *PC Pro* benchmarks, the Apollo X02 was the slowest for image editing, but its video encoding was 6% faster than its direct competitors, and 12% faster for multitasking, giving it a 7% speed advantage overall. With Adobe Media Encoder, the Apollo X02 can't compete with the more expensive systems this month, but it's at least 9% quicker than other machines in its price category.

The 3D modelling abilities aren't so dominant, however, due to the clock speed disadvantage compared to 8700K-based systems. The Maxon Cinebench 15 result of 170 was second slowest, and SPECviewperf 12.1 results were a mixed bag. The 3ds Max score of 123 was the second lowest, as was the Maya result of 99, Creo result of 109 and 150 in Catia. But, the Apollo X02 fared better with other viewsets, sitting in the middle of the pack with SolidWorks.

The Apollo X02 isn't the perfect 3D modelling workstation. What it gains in CPU-intensive tasks, it loses in frequency-intensive ones. But its modelling abilities are still very good, and there are time savings to be made when rendering 3D or encoding video. This gives the Apollo X02 the edge over the other £2,500 machines.