THIS ISSUE'S WINNER

CAD2 Imagine DQX

A powerful machine in every respect, but so quiet that you'd barely know it's on – and it won't even cost you the earth

DETAILS

PRICE
• £2,895 / $5,899* / €4,280*
*Currency conversion

PLATFORM
• Windows XP Pro (64-bit)

MAIN FEATURES
• 2x 2.33GHz quad-core Intel Xeon 5345 processors
• 768MB Nvidia Quadro FX 4600
• 4GB 667MHz DDR2

MANUFACTURER
CAD2

WEBSITE
www.cad2.com

Creating a 3D workstation for professional use isn't just about picking the best components possible, throwing them all into a box and hoping that you've got everything right. Apart from sorting out the most stable drivers around, and making sure that the system works as expected, it's also a case of understanding the needs of the customer. This ranges from knowing that a noisy system isn't acceptable when you're trying to be creative, through to offering quality after-sales support and certifying the hardware with the latest software.

CAD2 has years of experience catering specifically to the creative industry, and clearly the company knows a thing or two about how to actually build machines for this market. Before we get to the specification, which is striking, or the performance, which is spectacular, it's worth considering the build quality on offer here. The cables have been routed sensibly through the tower case to make for a machine that is a joy to open up and, when the inevitable happens and you need extra power, upgrade. But time and effort has

also gone into making this one of the quietest systems we've ever used. Apart from the initial rush when the machine is turned on, this is a whisper-quiet system using high-quality parts. The decision to opt

for the highest-quality gear is also evident in the performance of the workstation in daily use.

Along with every other vendor in this group test, CAD2 has turned to Intel for the processing power in this machine. But instead of going for the top-of-the-range quad-core Xeon, it has used a slightly lower-spec Xeon 5345 on a 2.33GHz clock. In terms of performance though, there's very little between this and its 2.66GHz sibling: this machine produces some of the best *SPECviewperf* scores in this group test, along with the fastest results in OpenGL shading in *Cinebench*. Once again, the impressive Quadro FX 4600 is on hand to help produce such high scores, along with 4GB of system memory, while a

powerful combination of hard drives produces the best combination of speed and storage space available.

The performance is impressive, but ultimately it's the added care and attention

THE DECISION TO OPT FOR THE HIGHEST QUALITY GEAR IS EVIDENT IN THE PERFORMANCE

that elevates this machine onto the winner's podium. The quietness of the system in everyday use will make it a joy to be around, and the smart design means it won't be problematic to upgrade. Oh, and it has more than enough power.

VERDICT

PROS
• Top-of-class performance
• Quality construction and build
• Whisper-quiet in operation

CONS
• 2.66GHz processor would be even better

RANGE OF FEATURES	9
VALUE FOR MONEY	9
OVERALL	9

CONCLUSION | A clear winner in a strong field

The quality of submissions to this group test has been incredibly high. To be honest, any of the machines in this review would make a fine workstation for general use: no matter how much you have available to spend, there's clearly a system out there that fits your budget.

Indeed, all of the machines we've looked at can be configured to your own needs and requirements. This can extend from simple points, like which operating system you'd like installed by default, through to more complex options in the GPU and processor department.

One issue that stood out in particular here was the build quality. Each manufacturer has used named components throughout, and built solid systems around the fast core components. Cables have generally been routed out of the way of the main slots, making for an easy upgrade path later on, and each manufacturer has specified a higher power supply than needed by the core specification, enabling a serious upgrade path to extend the longevity of each machine as new processors and graphics cards are released. Memory slots have also been left free for a quick upgrade up to 8GB on the whole too – a fairly inexpensive upgrade if you find your system slowing down when handling large models and complex scenes.

The utter dominance of Intel's latest chips did surprise us a bit: there's clearly no loyalty to AMD. It's the performance that counts, and you only need look at the differences between dual- and quad-core chips to see what this means to your work. If an application is properly multithreaded, those extra cores can easily halve your rendering time, while the top-of-the-range graphics cards make modelling your ideas a joy in the first place.

Graphics cards are obviously key to the overall performance of a machine when it comes to working with 3D content, and it's reassuring to see that the Quadro FX 4600, winner of last issue's group test, is here in force. While the Quadro FX 5600 is indeed a higher performing card, the boost it offers over the 4600 is minimal considering the extra cost. Obviously, workstation builders agree.

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Possibly the biggest surprise during testing was just how well the Deob Aeon R2 fares for what is relatively very little money. For a machine lacking half the cores of three other systems, it performs well. If you don't have many processor-intensive tasks, it makes a tempting option. The fact that the machine manages to pack a Quadro FX 4600 into the bundle is stunning, particularly at a price that manages to undercut similar performing systems by a grand.

If you do need that extra processing power, however, there's really only one option for the sensible money, and that is the CAD2 Imagine DQX. This is clearly a lovingly crafted machine from a system builder that understands its audience, and has also taken time to get everything just right. The fact that this machine manages such high results is made all the more impressive when you consider that it is running the 64-bit version of Windows XP Professional. Many manufacturers shied away from installing this OS for the test because their own internal results had the 32-bit version of Windows producing much better numbers. There's clearly much more work needed on 64-bit drivers as a whole, but CAD2 has shown that you can produce an impressive machine with what is available today. ●

FEATURES COMPARISON

MODEL	PROCESSOR	RAM	GRAPHICS CARD	GRAPHICS MEMORY	AUDIO	HARD DISK	DISK SPEED	OPTICAL STORAGE	OTHER	OS	WARRANTY	PRICE	SCORE
Alienware MJ-12 8550i	Intel Xeon 5150 (2.66GHz, 1,333MHz FSB, 4MB cache)	1GB 667MHz DDR2	Nvidia Quadro FX 3500	256MB	Integrated HD Audio	500GB SATA II, 16MB cache	7,200rpm	18x DVD±RW DL	Intel Gigabit Ethernet, USB floppy drive, Logitech keyboard and mouse	Windows XP Professional SP2 (32-bit)	4 years	£2,451	**6**
Deob Aeon R2	Intel Xeon 5355 (2.67GHz, 1,333MHz FSB, 8MB cache)	8GB 800MHz DDR2	Nvidia Quadro FX 4600	768MB	Creative X-Fi Xtreme	2x 150GB Western Digital Raptors	10,000rpm	18x DVD±RW DL	N/A	Windows XP Professional SP2 (32-bit)	3 years	£2,499	**8**
Xworks X20i-64	2x Intel Xeon 5355 (2.67GHz, 1,333MHz FSB, 8MB cache)	2GB 667MHz DDR2	Nvidia Quadro FX 4600	768MB	Integrated HD Audio	Fujitsu 74GB SAS + Western Digital 500GB SATA II	15,000rpm + 7,200rpm	18x DVD±RW DL	Microsoft keyboard and mouse	Microsoft Windows XP Professional 64-bit	3 years	£3,759	**7**
ERA HP xw8400	2x Intel Xeon 5355 (2.67GHz, 1,333MHz FSB, 8MB cache)	4GB 667MHz DDR2	AMD ATI FireGL V7350	1GB	Integrated HD Audio	2x 73GB SAS	15,000rpm	18x DVD±RW DL	HP keyboard and mouse	Windows XP Professional SP2 (32-bit)	3 years	£3,871	**8**
CAD2 Imagine DQX	2x Intel Xeon 5345 (2.33GHz, 1,333MHz FSB, 8MB cache)	4GB 667MHz DDR2	Nvidia Quadro FX 4600	768MB	Integrated HD Audio	150GB Western Digital Raptor + 500GB Seagate Barracuda SATA II	10,000rpm + 7,200rpm	18x DVD±RW DL	Logitech S510 Creative Cordless Desktop keyboard and mouse	Microsoft Windows XP Professional 64-bit	3 years	£3,819	**9**