# REVIEWS

## HARDWARE / SOFTWARE / TRAINING

# NextEngine Desktop 3D Scanner HD

Building on the success of its standard-def predecessor, this hi-def 3D scanner offers more detail and more colour in a faster package **BY CRAIG CRANE**

● **With the help of supplied turntable and part gripper accessories, the Desktop 3D Scanner HD prepares a complete mesh in under two minutes**

**L**ast year's release of NextEngine's Desktop 3D scanner brought affordable laser scanning to the masses, revolutionising certain aspects of 3D modelling in the process. No larger than a cereal box, the device wowed the critics not only for its technical achievements, but also for its ease of use.

Now NextEngine is starting to roll out the next generation of its desktop scanner, the Desktop 3D Scanner HD, with an all-new high-definition laser array and sensors.

The core differences in the machine are in the way that it captures colour data. Point density is now a whopping 400 per cent higher than in the previous model, an increase that's immediately obvious when scanning finely detailed shapes.

Colour capture is also improved. The Scanner HD has a colour wheel that captures a wider colour gamut than the previous model, which used conventional printed RGB filters on the CMOS image sensor chips. With the new colour wheel, the CMOS sensors now capture four times as many pixels, and go beyond RGB with six high-quality colour film filters. The result is a richer, more precise colour palette when you need colour textures in addition to shape.

Another dramatic and obvious improvement in the scanner is scan speed. While scanning was never a laborious task with the SD version, the new HD version boasts some pretty dramatic speed increases across all three modes (quick, standard and HD). Capture time in HD is about 105 seconds. If you're scanning objects with multiple passes, these speed improvements are obvious. Anyone used to the SD scanner may be a little disappointed to learn that they no longer have time to run off and make a cup of tea.

### DETAILED RESULTS

Scanning a maquette of the *Lord of the Rings* character Gollum resolved with incredible detail, previously unavailable at this price. The fine detail etched on the original sculpt was resolved with impeccable fidelity, capturing 1,600 dots per square inch in the same time that the SD took to scan in standard mode. The enhanced capture resolution also provided better results on surfaces that the SD version had some difficulty coping with. For more challenging materials (shiny, reflective, clear or deep black, for example), NextEngine supplies a helpful selection of poster paints and dusting brushes to treat stubborn surfaces.

NextEngine's *ScanStudio Core* software continues to impress, with the new 1.7 release sporting a noticeable increase in overall speed. Utilising the

**CMOS SENSORS**
The re-engineered sensors capture four times as much detail as the previous SD scanner and gather superior colour data

**LASER ARRAYS**
Twin arrays, each with four lasers, make it possible to scan at 1,600dpi

**AUTOPOSITIONER**
Connect the Desktop 3D Scanner to a robust turntable to control your target's rotation automatically

*RapidWorks* toolset, the software's clean-up, alignment and final fuse excels. In HD mode on a 64-bit machine, the results are outstanding. To fully appreciate the abilities of the HD setting, you will require a 64-bit machine – but even in a 32-bit environment, the advances to the software are clearly noticeable.

The €795 *ScanStudio Pro* adds the ability to transform its scanned meshes into NURBS surfaces, and *RapidWorks*

# IF YOU'RE SCANNING OBJECTS WITH MULTIPLE PASSES, THE IMPROVEMENTS ARE OBVIOUS

itself is available as an option for €1,995 for converting scans to CAD parts.

Hopefully, later versions of the standard free software may include the ability to retopologise scanned data,

making it more animation-friendly. But after an extensive period of testing in a production environment, NextEngine's Desktop 3D Scanner HD proves itself as a rapid and accurate scanning solution. ●

## VERDICT
**PROS**
• Scanning speed
• Superb level of detail
• Improved colour capture
• Strong bundle software
**CONS**
• Inability to retoplogise

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| SPECIFICATIONS | 9 |
| VALUE FOR MONEY | 10 |
| OVERALL | 9 |