SiS and VIA Integrate Graphics

Getting the jump on Intel's integrated graphics plans, Taiwanese chip-set vendors Silicon Integrated Systems (*www.sis.com.tw*) and VIA Technologies (*www.via.com.tw*), have both announced 100-MHz Socket 7 core-logic chip sets with integrated 3D-graphics acceleration.

The new parts are targeted at the sub-$800 PC segment, where Socket 7 is still important. In this market, where cost pressure is intense, integrating graphics into the north bridge is attractive because the graphics engine can use main memory, saving the cost of a separate frame buffer.

The SiS530 integrates standard north-bridge functions with SiS's 6326AGP 3D-graphics chip, which can render polygons at 800 Kpolys/s and fill them at 40 Mpixels/s. This makes the 530 a competent midrange graphics chip. The 530 supports digital flat-panel displays, which gives it a market in notebook PCs where Socket 7 will remain viable through 1999. The SiS530 comes in a high-pin-count BGA, while its companion SiS5595 south bridge uses a 208-pin PQFP.

VIA's Apollo MVP4 (VT82C501) integrates a 2D/3D graphics and setup engine with DVD acceleration and AC-97 audio. The part supports 768M of PC100 SDRAM. VIA did not provide 3D performance specifications. The VT82C501 is packaged in a 492-pin BGA and is accompanied by the VT82C686 south bridge in a 352-pin BGA.

With the Socket 7 market shrinking fast, we expect that VIA and SiS are both feverishly working to integrate graphics onto their existing Slot 1 chip sets (see MPR 6/1/98, p. 26) to compete with Intel's upcoming Whitney chip set.

The SiS chip set is sampling now with production in September and will be priced at $29 in quantities of 10,000 units. The VIA chip set will sample in October with production late in 4Q98; it will be priced at $39 in OEM quantities. Both chip sets are aggressively priced considering that Intel's 66-MHz 440EX—without a graphics engine—goes for $34.75. —*K.D.*

Aureal Spins Vortex

The new Vortex 2 audio processor from Aureal Semiconductor (*www.aureal.com*) provides many new features and twice the performance of its predecessor, the Vortex AU8820. The new AU8830 comes in a pin-compatible 128-pin package with a PCI host interface and an AC'97 codec port.

The Vortex 2 provides hardware support for twice as many wavetable-synthesis channels (64) and total DMA channels (96) as the previous Vortex chip. Also added is a hardware graphic equalizer covering ten bands per channel with a 96-dB signal-to-noise ratio. The new chip can drive up to eight speakers for high-end home theater applications when used with two AC'97 codecs.

Along with the new chip, Aureal has also released its new A3D 2.0 application programming interface. The update adds several new features including Aureal Wavetracing, a real-time physics-based technology to model audio reflections, reverb, and occlusion.

Absent from the Vortex 2 is the original Vortex's direct connection for ISA-bus modem chip sets, as well as support for an external DSP coprocessor to assist with Dolby Digital audio decoding. ISA-bus peripherals are now strongly discouraged by Microsoft for new system designs, and new host CPUs can easily implement Dolby Digital in software. The Vortex AU8820 remains available for customers who need these features. Aureal has not announced pricing for the new Vortex 2. —*P.N.G.*

Intel Buys Into E&S

Intel has purchased an 8.2% stake in Evans & Southerland (*www.es.com*) for $24 million. Intel's purchase was of newly-issued non-voting shares plus an option to purchase an additional 3.1% later. Under the Intel/E&S agreement, E&S will develop high-end graphics and video boards and components for Intel-based workstations. This is curious, considering that it's exactly what E&S did before the agreement.

The benefit of the deal for E&S is clear: it gets an infusion of capital to expand its business. The value of the deal to Intel is less obvious. Without voting shares or a seat on the board of directors, it gets little say in E&S's direction. Neither is it gaining any technology that it can integrate into its silicon. But with the E&S investment, Intel gets a direct pipeline into a leading-edge graphics company with an ear to the graphics-technology track. In the short term, the deal strengthens E&S's business, which increases the appeal of Intel's Pentium II, Xeon, and, eventually, Merced, workstations. —*K.D.*

K6-2 Checkmates Chessmaster

In a surprise development, "Deep Freeze," a KryoTech-cooled (see MPR 7/13/98, p. 4) AMD K6-2 running Rebel chess software at 450 MHz, has beaten Vishy Anand, the world's second-ranked grandmaster (behind champion Garry Kasparov). The event is notable because the chess software ran on a souped-up PC, not a specialized supercomputer like IBM's Deep Blue, which beat Kasparov.

The K6-2 was chosen for the match because it outperformed Pentium II-based machines on chess benchmarks, which reveal that the Rebel chess program (*www.rebel.nl*) from Schröder BV (Netherlands) runs 2% faster on the 333-MHz K6-2 than it does on a 400-MHz Pentium II. When cooled by the KryoTech system to run at 450 MHz, the K6-2 beats the Pentium II-400 by 25%, raising the question of whether even Intel's upcoming 450-MHz Xeon can match the thermally enhanced K6-2 on this program.

Chess buffs may want to check out the match at *www.rebel.nl/anand.htm*. —*K.D.*