

# “Massively Parallel Silicon is the Solution for Accelerating Challenging New Video Systems Equipment to Market”

An interview with Ambric CEO Howard Bubb by the NAB SHOW DAILY at the 2008 NAB Show



**Q.** Hello, Howard. We welcome you and Ambric to your first exhibition at NAB. Please tell me about your company and its products.

**A.** Ambric is a fabless semiconductor company headquartered in the Silicon Forest near Portland, Oregon.

We've developed a new kind of software-programmable device — the award-winning Am2045™ Massively Parallel Processing Array (MPPA) — which features more than 300 RISC/DSP processors and delivers more than 1 TeraOPS of processing power with only 1/10 the power and heat of CPUs and GPUs.

Ambric also developed the first practical software development methodology and tools for massively parallel programming. These tools were designed to be powerful yet easy to use with a hierarchical model, like object programming, complex embedded systems applications can be designed and tested far faster than multi-threaded programs or gate level logic — and the result is far more robust. Our customers say that programming is fun again!

The Ambric Am2045 and Ambric aDesigner™ software tool suite combine to form the new-generation solution for the design of complex embedded systems, with outstanding flexibility for advanced media processing.

**Q.** Is Ambric targeting any vertical markets?

**A.** Our first vertical is the market for high-quality video encoding for DVD, Blu-ray, Flash, the internet, VoD, and other uses. Even on multi-GHz quad-core processors, computing bottlenecks still occur during high-end HD video processing. Our OEM customers saw a clear market opportunity there with more than 1,000,000 professional and high-end “prosumer” digital video producers worldwide.

Ambric provides Ambric Am2045 MPPA silicon, developer boards, reference designs, and the aDesigner software tool suite to OEMs for developing their video processing systems. Our first OEM agreement for this market is with PYRO AV by ADS Tech, a leading-edge video conversion, capture, and encoding solution

provider. PYRO AV recently introduced its first Ambric-based product — Pyro Kompressor™ HD, a PCI Express-based accelerator card solution that speeds HD MPEG-2 and HD H.264/AVC encoding up to eight times faster than software-only compression. This translates into a much faster video authoring workflow, cutting substantial time and cost out of the production process.

Sorenson Media, a worldwide leader in video compression and decoding solutions, just announced its Ambric-based Squeeze 5 Pro Juiced™ Accelerator card. The Am2045 MPPA chip on the card is seamlessly integrated with Squeeze 5 Pro's award-winning video encoding software. Juiced also includes plug-ins to provide transparent integration for accelerating Adobe® Premiere® Pro CS3 and Adobe After Effects® CS3.

**Q.** How does using the Am2045 and aDesigner software compare with developing embedded systems the traditional way — by using FPGAs or DSPs.

**A.** Compared with using FPGAs, our customers report that performance-density of the Am2045 is two to four times better for complex video algorithms. And, they spent a fraction of the time developing the code for the Am2045 as they did for the FPGA-based systems.

Relative to DSPs, the Am2045 delivers throughput that ranges from 10-25X higher than a 1 GHz 32-bit DSP without the tough problems of synchronizing multiple DSPs for real-time programming. Also, the Am2045 required less than half the code than the comparable DSP application.

These two factors alone show the tremendous advantage of moving from FPGA — and multi-DSP-based design and moving up to Ambric for designing embedded media systems. And, when you add in the other benefits of using our MPPA and software, such as how much less power an Ambric-based embedded system uses, it's easy to see the value in Ambric's solution.

**Q.** What's next for Ambric?

**A.** With success building in media processing equipment, we're looking at other markets, such as medical imaging, where the processing power, easy-to-use development tools, power, cost and time-saving benefits of Ambric-based products would be highly valued. I look forward to updating you on all of this at next year's NAB.

*Thanks for talking with us today, Howard.*