



PRESS RELEASE

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AHA Astro-OC3 Forward Error Correction Chip Reduces Required Bandwidth by 2X

New technology provides up to 3 dB of coding gain over concatenated Reed-Solomon Viterbi in wireless applications.

Pullman, Wash. – June 28, 2000 – Today's data explosion is putting unrelenting pressure on the communications industry. The critical need for increased bandwidth coupled with the demand for better data integrity presents huge challenges for communications systems designers. Ideally, designers should be able to choose between various levels of improved data reliability, reduced systems costs or increases in range. Now, they can.

Advanced Hardware Architectures (AHA) today announced the release of the Astro-OC3 Forward Error Correction (FEC) Integrated Circuit (IC) based on the company's enhanced Turbo Product Code (eTPC) technology. Giving designers the power to decide what combination and level of benefits work best for their application, the OC3 allows designers to:

- Reduce required bandwidth by 2x or
- Increase data throughput by 2X or
- Increase range by 40 percent or
- Reduce antenna size by 30 percent or
- Reduce transmitter power by 2X or
- Reduce the required noise figure of the receiver by 3 dB

The first commercially available chip of its kind, the OC3 is designed for use in satellite communications, wireless LANs and wireless digital broadcast applications or in any application that requires very high data rates and demonstrates bandwidth efficiency issues, or stringent data reliability requirements.

AHA's Astro-OC3 provides up to 3 dB of coding gain (compared to Reed-Solomon/Viterbi) and is the only commercially available turbo code technology to achieve channel rates of 200 Mbit/sec. In applications requiring high code and data rates, eTPC performs significantly better than Turbo Convolution Codes (TCC) in real world applications.

"Bandwidth equals dollars in today's wireless market," said Dr. Patrick Owsley, AHA president. "Because it is incredibly efficient and flexible, the Astro-OC3 hits the sweet spot for a wide variety of wireless applications. In fact, until the Astro-OC3 release, the ability to exceed data rates of 200 Mbits/sec and achieve quasi error free transmissions had never been accomplished in a cost-effective, commercially available turbo code product."

About the Astro-OC3

The Astro-OC3 is a single-chip Turbo Product Code (TPC) Forward Error Correction (FEC) Encoder/Decoder capable of 155 Mbit/sec data rates, with coded channel rates exceeding 200 Mbits/sec. The device integrates both a TPC encoder and decoder and can be operated in a full duplex mode. The Astro-OC3 supports block sizes up to 16 Kbits.

Unlike single-pass decoding technology with hard-decision output, the Astro-OC3 chip is based on AHA's patented TPC technology that uses a soft-input, soft-output (SISO) decoder. The SISO decoder makes intelligent correction decisions based on retained confidence information. The turbo decoder iteratively corrects errors until it converges on the best results.

Price and Availability

The Astro-OC3 prototype is available June 2000 in prototype with volume shipping in early Q4. The cost is \$100 per chip in quantities of 1,000.

About AHA

Advanced Hardware Architectures develops and markets superior integrated circuits and intellectual property core technology for communications systems architects worldwide. AHA provides flexible, cost-effective solutions for today's growing bandwidth and reliability challenges. Located in Pullman, Wash., AHA has been setting the standard in Forward Error Correction technology for more than a decade and offers a variety of standard and custom IC solutions for the data communications industry. www.aha.com.

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