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PRESS RELEASE

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AHA Introduces Two New FEC Chips for Wireless Internet Access with Industry's Best Cost/Performance Ever

Targeted at $5, the Astro LE family's proven technology outperforms any other chip at this price point and opens FEC capabilities to consumer applications.

Pullman, Wash. — **Jan. 3, 2001** — Bringing additional speed and performance via increased bandwidth to consumer applications such as wireless Internet access, Advanced Hardware Architectures (AHA) announced today that it has developed the most cost effective Forward Error Correction (FEC) chip ever produced. The latest addition to AHA's family of FEC products, the 2Kbit Astro LE (AHA4522), is targeted at $5 and operates at standard channel rates up to 35 Mbit/sec. A 4Kbit chip (AHA4524) was also developed to provide additional coding gain for less cost sensitive applications. Based on the company's groundbreaking Turbo Product Code (TPC) technology, the Astro LE chips dramatically outperform existing Reed-Solomon/Viterbi technology.

Consumers are no longer satisfied with slow Internet connections and wired options. Demand for high-bandwidth wireless Internet access is growing exponentially. Achieving high-speed Internet access cost effectively is a critical milestone design engineers must reach in the race to develop next-generation wireless solutions.

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AHA's Astro LE chips will be designed into modems for use in high-speed wireless Internet access applications including point-to-multipoint terrestrial and satellite connections. The chips are also designed for next-generation powerline modems enabling home or business networks through standard electrical outlets.

In addition, these chips are ideal for wireless local loop (WLL) applications, bringing high-bandwidth wireless access to areas that cannot be economically serviced by traditional phone lines. Unlike cable or DSL Internet access solutions, wireless solutions are not hindered by central office distance limitations, squeezed by bandwidth tariffs or compromised by multiple users on the same cable. With wireless communications, users access the Internet independently—quickly and efficiently.

"Our Turbo Product Code technology brings Forward Error Correction out of R&D and into the mass market," said Pat Owsley, AHA's president and CEO. "Our earlier chips have made a huge impact on bandwidth capability in the commercial end of this market. We see an excellent opportunity unfolding in the next-generation solutions for wireless Internet access. With the Astro LE chips, these consumer applications can now benefit from the tremendous leap in performance that our TPC technology provides. This is the best price/ performance available, period."

The Astro LE chips incorporate AHA's patented TPC technology, delivering up to 3 dB of additional coding gain over current solutions such as Reed Solomon/ Viterbi. This coding gain translates into a range of options that allow designers to increase capabilities or decrease system cost to best fit their application. With an Astro LE, designers can reduce required bandwidth, increase throughput or reduce transmitter power by 2x. Or designers can opt to increase range by 40 percent, reduce antenna size by 30 percent, or reduce the required noise figure of the receiver by 3 dB.

"We've been successfully using AHA's Turbo Product Code technology in our satellite modems for more than a year," said Richard Miller, vice president Modem Engineering, Comtech EF Data Corp., Tempe, Arizona. "Customer response has been overwhelmingly enthusiastic. In the last year, our Turbo Codec Modem sales have more than doubled, and we believe that using AHA's

technology has given us an important competitive advantage. The coding gain and bandwidth efficiency made possible by AHA's TPC translates into real cost-savings in satellite applications, where transponder costs are a direct function of the power and bandwidth used. Also, the low processing delay (compared to concatenated Reed-Solomon/Viterbi) is definitely advantageous in low-rate coded voice and Internet-over-Satellite applications. We enthusiastically endorse AHA's Turbo Product Code ICs."

About the Astro LE

The Astro LE products are single-chip Turbo Product Code (TPC) Forward Error Correction (FEC) encoder/decoders capable of up to 35 Mbit/sec coded data rates and code rates from 0.25 – 0.95. These devices integrate both a TPC encoder and decoder and can be operated in full- or half-duplex mode. Two versions of the Astro LE are being introduced with support for block sizes of 2 and 4 Kbits. Both versions have 5V-tolerant inputs with a 3.3V I/O and 1.8V core operation. Rapid code change on-the-fly is included to balance speed and performance in any environment.

Price and Availability

The Astro LE prototypes will be available Q1 2001 with volume quantities shipping in July. The cost for the 2Kbit version is targeted at $5 per chip in quantities of 1 million.

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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