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## Welcome to the AV Club

By Suzanne Deffree -- *Electronic News*,  
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The AV club in high school usually consisted of a few pocket-protector wearing geeks that spent their lunch hour clipping shots and background music together for an amateur-hour presentation. The club is still about audio and visual content (and a few pocket protectors may still remain), but amateur hour it is not, as the average consumer has the tools at her fingertips to copy, create and edit advanced audio and visual materials, like MP3s and digital video, in the home. The trick then becomes enjoying that material in any room of the home -- a problem the HomePlug Alliance's new specification, HomePlug AV, thinks it can solve.

HomePlug AV, a second-generation powerline technology based on the Alliance's work, aims to act as a backbone home networking technology. The throughput rate is strong enough to support latency-free multimedia like video or television, said the industry group, and compares to the previous generation powerline technology that ran at 14Mbits/sec., HomePlug 1.0, developed by **Intellon**.

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**Intellon** teamed up with Arkados, Conexant and Sharp for the AV specification, finalized just last month.

“It was clear to the company that in order for this to be a true global technology, there needed to be more contribution from other companies that have significant roles to play in the ecosystem,” said Andy Melder, senior VP of strategic business development at **Intellon**. Melder said powerline technology itself has been around for about 15 years, but without the common standard, consumers weren’t hooked.

“Powerline communications in general is not a new technology. What has happened over the years, though, is there have been so many different flavors of powerline communications technology out there that it left the consumer with a bit of an empty feeling because it really never delivered on the promise of robust communications within the home. And frankly, 15 years ago there wasn’t any real focus on broadband to the home.”

HomePlug AV, as described by the Alliance, offers advanced Physical Layer for near theoretical channel capacity throughput and coverage around the home; a high-efficiency MAC layer that incorporates both scheduled access (TDMA) with Quality of Service guarantees and contention access (CSMA) capabilities; a guaranteed bandwidth reservation function; tight control of latency and jitter, and higher reliability than wireless.

### Friend of Foe?

Wireless could be the technology’s prime competitor or prime ally – specifically ultra wideband (UWB) and upcoming 802.11n wireless LAN, both of which have throughput speed that support video. HomePlug members say their plan is to push the specification as a full backbone technology complementing wireless.

“I’ve fought an uphill battle for a long time trying to convince people that powerline and wireless are not intrinsically antagonistic technologies,” Deepak Ayyagari, principal scientist for Sharp Laboratories of America, said. “Powerline can serve as a backbone in the home while you continue to use wireless for distribution within the home or a single floor, a geographically constrained space. You have the luxuries wireless provides you, which is primarily mobility, yet you get the secure, robust, high data rate ability that backbone in the home provides you.”

Ayyagari admits UWB has the throughput to carry video, but its short range prevents it from networking the average house. He sees more similarities between HomePlug AV and 802.11n, also expected to run at video-streaming throughputs, but believes its lack of standardization and [recent holdups](#) could give AV the upper hand.

“802.11n is at least two or three years away; they are embroiled in a standards battle right now. When .11n comes along -- if it meets the promise of higher capacity and throughput -- then certainly some consumers will look at wireless as being competitive,” Ayyagari stated. “But what is more likely to happen is over the next two or three years you will see the [powerline] as a backbone concept catch on and when .11n shows up, in my estimation it will work well in some cases and not well in other cases.”

### AV Club Membership Climbs

HomePlug AV has even won the support of some of the largest players in wireless. Intel, for

one, announced at its recent Intel Developer Forum that it had rejoined the technology group during its mobility keynote. Sean Maloney, executive VP and general manager of Intel's mobility group, later said during a press Q&A that the reason Intel had previously resigned from the HomePlug Alliance was that its participation there could have muddied its wireless LAN push on behalf of its Centrino brand.

Beyond Intel, the Alliance has seen a recent influx of new members, many of which come from the chip side of the market.

"Surprisingly the consumer electronics companies that have driven the development of HomePlug AV are not the traditional chip vendors like Motorola, Intel or TI," Sharp's Ayyagari said. "The reason is the consumer electronics companies were the first to recognize that data in the form of video and voice moving around the home is going to be over the next four years really the place they will make most of their money."

Beyond Intel and Motorola, STMicroelectronics, Cisco's Linksys division, Sony, Broadcom, Analog Devices are among the Alliance's 50 members.

The Alliance will present the details of HomePlug AV technology at this year's HomePlug Powerline Technology Conference held September 27-28, in San Francisco.

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