

RF Gurus Bring Intelligence to In-Building Wireless

Wireless signal booster adapts to frequency interference improving data transfer performance



by Sondra Sneed



Spotwave Wireless designs and manufactures in-building wireless coverage products for business customers and have been doing so for nearly seven years. The company's adaptive repeaters enhance wireless coverage in buildings where cellular and PCS signal strength has historically been limited.

Spotwave's recent product launches include their first "intelligent" repeater for the public safety and private-trunked radio markets. Public Safety organizations rely on wireless communications as a critical part of their day-to-day operations. This dependence however, is often put at risk since these private networks are faced by the same in-building challenges as the public networks experience. Spotwave products are referred to as "intelligent" devices because they possess the ability to adapt to changes in the wireless signaling environment. By continuously scanning the radio frequency, and then adjusting power and gain as necessary, the SpotCell systems avoid feedback and power drop issues often associated with conventional repeaters.

SpotCell 167 in-building repeaters are for 800 MHz private radio networks and can be configured to support up to 20 defined frequencies for local-trunking control channels. The SpotCell 167 gives public safety personnel who respond to local emergencies – reliable coverage for their radio communications devices regardless the location. This is significant for the purpose of addressing

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ordinances that are developing within certain municipalities. These ordinances are designed to ensure reliable in-building wireless coverage for emergency personnel.

In 2006, Spotwave also introduced its first product priced for the consumer at home. The Z1900 -which enhances

all signals in the PCS band - takes their patented network-friendly technology from the company's enterprise line, and delivers it in a small, sleek, yet powerful product for the consumer and small office segment. This year, Spotwave has plans to launch a consumer version that addresses both the cellular and PCS bands in one offering, delivering the first intelligent dual-band repeater to this same market.

Spotwave was established in 2000 with their signal booster technology. However, the company formed amidst the post-.com bust, which made finding investor funding a challenge. In their favor, the original founders were wireless experts from the Canadian Marconi Company. If Marconi sounds familiar, it's because you may have heard of the Marconi wireless telegraph built in 1897 or Marconi transistor radios popular in Europe during WWII. Spotwave's products are the result of RF guru-status engineers and resemble the Marconi tradition of bringing communications to remote or obstructed locations.

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WDM feature: product awareness

known as the Storm of '98, it had hit a narrow band of landmass stretching from Eastern Ontario to Southern Quebec and into Nova Scotia in Canada, as well the bordering U.S. areas of Northern New York to Northern Maine. The massive damage to electrical infrastructures left people in the dark, some for weeks, resulting in 30 deaths. An out-and-out standstill in large cities such as Montreal and Ottawa was also experienced because of the storm. Spotwave's founders were among the effected and were inspired to increase the ability to communicate in the case of isolation from a wireless network, which is common even without a natural disaster or catastrophic event.

One of Spotwave's founders was never able to use his cell phone as a reliable landline backup because of the limited signal in his home and surrounding area. The effects of the storm sparked a realization that the wireless network had to extend beyond "the last mile" and to penetrate structural barriers. Leveraging their experience with interference cancellation and smart antenna design, Spotwave engineers collaborated with North American wireless carriers to define parameters in an adaptive intelligent repeater solution, and then set up a research center in Ottawa for product development.

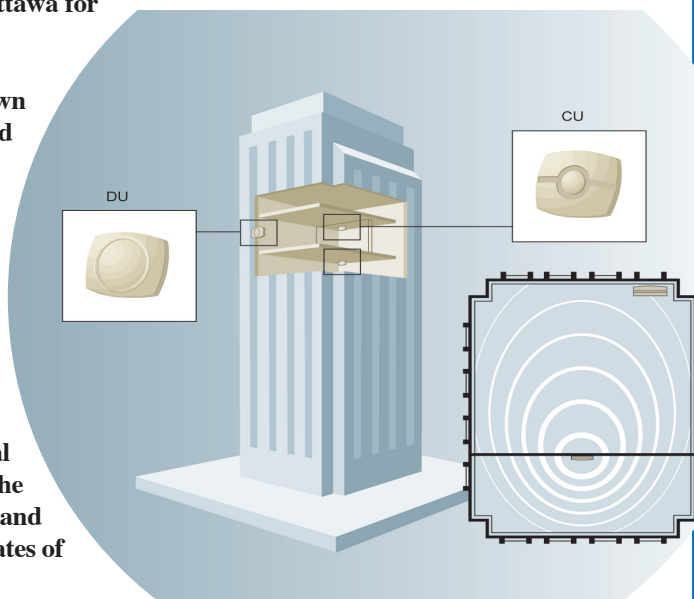
Spotwave is now known for quality products and customerserviceandenjoy partner-relationships with carriers as well as an expanding reseller network. The launch of the Z1900, the first intelligent repeater for the home user, has received positive reviews, from editors at influential media such as CNET, The Wall Street Journal, and leading TV network affiliates of

ABC, NBC, and CBS news:

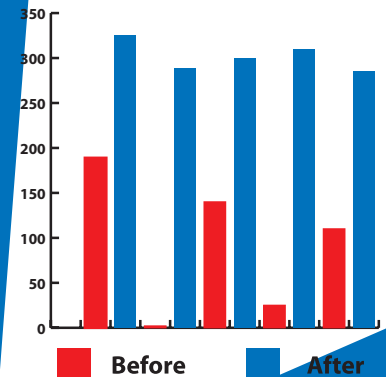
"The Spotwave Zen Z1900 signal booster delivers on its promise to boost cell phone signals and improve data speeds. It also doesn't interfere with existing networks and other household electronics. Spotwave is known for their in-building, wireless signal boosters..."

CNET, September 2006

The future of wireless repeaters is inherent in customer satisfaction margins within data services as much as voice services. What's most important about these products to dealers selling data services in particular, is that 3G data speeds require a strong signal in order to perform; PDAs and 3G aircards for example, are only as valuable as the signal strength they rely upon for data transfer. Performance tests have shown a substantial difference in data transfer speeds after Spotwave products are installed compared to before, to which Spotwave refers when driving home the point that customer satisfaction with wireless providers is tied to the signal performance.



EVDO Data Throughput (Kb/s)*



* Measurements based on EVDO version 1x.

Dealer Benefits with Expanded Coverage

Sell more data services:

Signal repeaters increase data transmission performance. Poor performance confines users to hardline ISPs.

Reduce carrier switching:

When cell phone coverage fails, the carrier or phone is blamed. Signal repeaters increase bandwidth performance keeping customers happy with their phone service provider. Customers become less dependent on landlines and may more likely choose wireless for home phone and internet use.

Avoid customer charge backs:

No one wants to pay for services they didn't use and if there is no wireless signal, customer's complaints can cause invoice reduction.

Complement existing offerings:

Wireless signal boosters are a perfect addition to your cell phone, PDA and 3G enabled products.

Increase customer satisfaction:

If customers aren't happy, nobody's happy.