

## System Powers 56K Modems To The Max

By [Todd Spangler](#), Inter@ctive Week  
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Maybe you're one of the lucky few who have broadband Internet access. Well, good for you.

For the rest of us - an estimated 80 million home users - Internet access still involves using plain old analog modems. What's worse, many people can't connect at anywhere near 56-kilobit-per-second speeds, the theoretical maximum speed of the 56K modem, because of poor line conditions and other factors.

GoDigital Networks, a small telecommunications equipment company in Fremont, Calif., wants to breathe new life into the humble modem. On May 1, the company was set to unveil a technology that gives telephone companies a relatively low-cost way to make 56K modems live up to their potential - regardless, the company said, of how far away users are from the phone company's central office (CO).

"It's a huge issue for telcos," said Dennis Haar, president and chief executive of GoDigital. "Between 30 [percent] and 35 percent of the complaints they get are from customers not being able to get V90 speeds they thought they were going to get."

### Signal degradation

The problem with 56K modems, which are based on the International Telecommunication Union's V.90 standard, is that the analog signal on the copper phone line from the modem to the CO starts to degrade over distances of more than 15,000 feet, resulting in lower connect speeds. GoDigital's line-powered transmission technology eliminates that hurdle, providing voice and V.90 services up to 130,000 feet, or almost 25 miles.

The GDSDL XCel-8 digital transmission system, which sits in a telco's CO, includes digital signal processor chips that allow V.90 modem connections to pass through without any impairments on the line. Over long distances, with GoDigital's signal repeaters on the phone lines, the system can support V.90 connect speeds of roughly 45 Kbps, said David Krantz, vice president of marketing at GoDigital.

GoDigital has tested the system with modems from 3Com, Conexant Systems and Lucent Technologies, thus covering about 90 percent of the modems on the market, Krantz said.

The GDSDL XCel-8 system, based on the company's existing phone-line transmission product, is due in June, priced from \$300 to \$500 per line, depending on the distance from the CO.

One of the company's target markets for the V.90-enabled system will be telcos installing second phone lines, many of which are used expressly for Internet access, Krantz said.

Kathie Hackler, principal analyst for remote access at GartnerGroup Dataquest, said GoDigital's technology could be an attractive way for phone companies to differentiate their offerings by guaranteeing V.90 connectivity. But, she added: "The challenge for GoDigital is to convince the telcos that this will save them some money in terms of fewer customer complaints about modem speeds."