In the Lab: New Polymer Optical Fiber Is Superfast

Researchers at Siemens AG have transmitted data over polymer optical fiber cable at a speed of around 1 gigabit per second, opening up new possibilities for the technology—including easy-to-build home networks that link PCs and HDTVs.

Though glass optical fiber—widely used in long-distance and local loop networks—can carry data at much higher speeds than the polymer version, it is also much thicker once wrapped in a protective shield, and it breaks if bent too severely. Cutting it cleanly to attach connectors or make joints requires a diamond blade.

According to project manager Sebastian Randel, the polymer optical fiber that Siemens is testing is about 1 millimeter thick, doesn't break easily, and can be cut with a razor blade.

Previous top speeds achieved over polymer were around 100 Mbps, but the technology that Siemens is testing employs a technique similar to that used by DSL to send signals over copper wires, allowing each pulse of light to carry several bits of information and increasing the data-transmission rate.

At press time, Randel was unable to say when a 1-gbps polymer cable product might reach the marketplace and what it would cost.

—John Blau

GADGET FREAK DAN TYNAN

Shopping for a Big-Screen TV? Think LCD

I've always had a soft spot for plasma TVs. There's something soothing about sitting in a dark room with a bowl of popcorn, enveloped in the deep blacks and rich colors of a plasma panel. In contrast, LCD screens have always appeared washed out to me, much like computer displays—the antithesis of soothing.

Such feelings may soon qualify as nostalgia. This past year, LCD has been kicking plasma's heinie, and it may eventually boot plasma out of the consumer market.

LCD Surge

Last fall LCDs outsold plasmas in the sweet spot of the market—40- to 44-inch panels—for the first time ever, according to DisplaySearch. Part of that is due to aggressive pricing by LCD manufacturers: The cost of big flat panels has dropped 30 to 40 percent annually for the past two years, says Chris Chinnock, president of research firm Insight Media.

But it's also because LCD quality has been catching up to plasma's and may soon surpass it. While plasma's physical constraints mean makers are struggling to produce affordable 1080p panels below 50 inches, LCDs of that size have been doing full-resolution HD for over a year. The two big knock against LCDs—that fast action tends to blur, and that colors aren't rich enough—should disappear in rapid fashion.

This year such manufacturers as Philips and Sharp began shipping LCDs with refresh rates of 120 Hz—twice the usual rate—to eliminate the blur effect. Roughly one out of ten LCD sets sold this fall will run at 120 Hz, says Eddie Taylor, VP of TV research for DisplaySearch.

Both LCD and plasma will also benefit from "Deep Color," part of the HDMI 1.3 standard that provides a far richer palette with higher levels of contrast. TVs with HDMI 1.3 connections were scarce last year, but should be easier to find now. Next year we'll begin to see LCDs that use LEDs for backlighting instead of fluorescent lights, allowing them to produce even more vibrant colors, says Jon Peddie, founder of Jon Peddie Research.

One thing you probably won't see this holiday season? More dramatic price drops. LCD supplies will be tight, and profit margins are already razor-thin. But you still should be able to find brand-name, 42-inch, full-resolution panels for under $2000.

Get the OLED Out

So from now on you'll buy LCD flat panels—right? Not exactly.

A couple of other technologies just might entice you. One is Organic Light Emitting Diodes—a wafer-thin, superbright technology that employs light-producing polymers instead of backlit liquid crystals. Sony showed off a 27-inch OLED set at a trade show last year and plans to ship an 11-inch screen in Japan this year. We don't know exact prices yet, but everyone expects the sets to be ridiculously expensive. Mark Fihn, publisher of the Veritas et Visus newsletter on display technology, predicts it will be five years before we'll see big-screen OLEDs on U.S. store shelves, due to high manufacturing costs.

Don't count out DLP rear projection, either. It remains the most affordable alternative above 55 inches—and it has a few tricks up its sleeve. Fihn says Samsung is shipping DLP sets that can produce a startling 3D effect by switching rapidly between left and right images.

Once studios begin producing stereoscopic content—most likely Blu-ray and HD DVD shootings—you may find yourself wearing a pair of silly glasses while watching King Kong II in 3D. And that will be something to see.