

particularly the ease of coupling light into the fiber's larger core. Philips also cited the possibility of using the 850-nanometer window for "narrow-band long distance" messages in local telephone networks.

The fiber used in the experiments was produced by Philips in Eindhoven, The Netherlands, and has a 50-micrometer core and loss of 0.55 decibel per kilometer at the 1317-nm transmission wavelength. F&G

cabled the fiber for use in the West German Post Office's BIGFERN long-distance transmission project, between Hamburg and Hannover. France also seems interested in multimode fibers. In the United States, however, interest centers on singlemode fiber, and some developers have even talked of using singlemode fiber in the local telephone loop.

—Jeff Hecht

## FO Digital Broadband LAN is Announced

Artel Communications Corporation of Worcester MA has announced plans for the first digital broadband fiberoptic local area network. According to Tad Witkowitz, Artel's chairman, the LAN is "expected to operate at speeds far exceeding those of products currently available and will be designed to accept connection of devices from different vendors." The system will be capable of transmitting 200 megabits per second.

"The LAN will use the systems approach," said Phil Wilson, vice president of R&D, "which is new for the industry." In this approach, several different protocols can be mixed and travel over the fiber simultaneously. This means that different units of bandwidth will be allocated to different types of protocol, such as token ring and bit-stuffing. As an option, an active-node ring architecture can be used with loops off the ring so the system appears starlike in its reliability/redundancy capability.

"By combining digital technology with fiber optics technology, we've come up with a unique and useful network with a high data rate," said Wilson. "There are none of the disadvantages of broadband modems."

The Artel system will provide a complete set of components including fiberoptic cable, interface nodes, and software. Fibers in the main network will be multimode, 830 nanometer wavelength, and anywhere from 50 to 100 micrometers in diameter. For longer hauls, as in the reach between buildings on a university campus, a singlemode fiber option will be available.

—Holly Bigelow

## British Install First Singlemode Sea Link

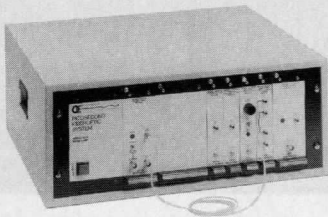
British Telecom has completed the world's first submarine singlemode fiberoptic cable. Standard Telephones and Cables supplied the 23-kilometer conductor, which is laid across the channel between southern England and the Isle of Wight. A double covering of steel wire armor protects the undersea portions, which comprise one third of the total length.

Each of four fiber pairs in the cable can transmit telephone calls, data, text, and graphics at a wavelength of 1300 nanometers and data rate of 140 megabits per second—the equiv-

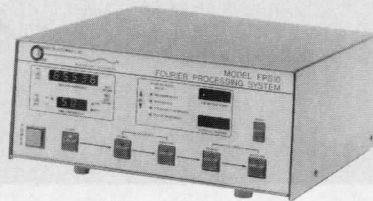
## State-of-the-Art

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The Model FPS10  
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For detailed technical information and application notes for the Picosecond Fiberoptic System and Model FPS10 Fourier Processing System, call or write:



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