

strands are provided for every 500 homes. One fiber acts as the send line, while the other acts as the return line to the cable company. In typical cable system design, the channels are converted from the send fiber to coaxial cable for delivery. In Mountain Cable's case, the two-way system is possible because there is a maximum of four solid-state coaxial amplifiers between the fiber and the home. "Advances in solid-state amplifiers have made two-way a reality, but the design is a critical factor in making it work in the field," said McNeil.

In addressing data speed, McNeil pointed out that the typical home computer can handle about 2 1/2 Mbits/sec. "I can currently deliver 2.4 Gbits/sec," he argued, pointing to the potential of cable, "but it would be very expensive." He then presented information that indicated a 2-Mbyte file that would take 583 sec to download on a 14.4 modem, and about 2 sec using a typical cable modem connected to a home PC. In delivering data information to a set-top box, cable typically uses one of three methods. They are bi-phase shift keying (BPSK), quadrature phase shift keying (QPSK), or quadrature amplitude modulation (QAM). A standard is also emerging called Data Over Cable Service Specification (DOCSIS). "When the information arrives at the set-top box or home computer, it's converted to ethernet for communication with the device," McNeil said.

In closing, it was McNeil's opinion that demand for Internet services over cable will drive the medium's return path rollout. Consumer demand for digital television will drive cable system upgrades. And more importantly, advanced digital set-top boxes will emerge for the home television envi-

ronment along with myriad training issues for cable installers.

Michael Coop, WebTV, then treated the audience to a preview of Microsoft's WebTV Plus scheduled to be launched in Canada on May 18. In presenting his paper on Interactivity and Internet Access via the Television Set, Coop explained that Microsoft's current focus is on data-enhanced TV. The original WebTV set-top box was designed to allow users to "surf" the Internet on their home television sets. The WebTV Plus box will integrate television in a seamless manner allowing the user to utilize traditional broadcast signal to interact with data and web sites delivered by the Internet. To obtain this marriage, the WebTV Plus unit contains an input for cable or a direct satellite service and a modem for dialing into a local service provider.

To make web information presentable given the resolution limitations of interlaced NTSC television, WebTV has developed its own browser to display information on a home television set. For example, WebTV converts all the text on a typical web page to a sans serif font so it can be read on a home TV set; to make the page easier to navigate with a remote control, WebTV only scans vertically when displaying information; to allow fast access to data, information downloaded from the WebTV service provider is cached in a 1.1-GB hard drive buried in the WebTV box. WebTV customers are also provided storage space from their WebTV service provider, allowing them to access their e-mail and store additional material.

Coop then demonstrated how users will be able to access either their WebTV home

page or their TV home page when they turn on their sets. For those choosing a TV home page, their television will act in a normal fashion. Users can then select the WebTV function on their remote and they will be directed to the WebTV home page which is the starting page for "surfing" the Internet. The WebTV set-top box also contains a printer connection and video/audio input connections. The printer port allows users to connect off-the-shelf printers to print out information. The video/audio connections allow the user to transfer 30-sec videoclips to a WebTV account and include them as e-mail. Along with sending video, WebTV e-mail can also deliver web pages, graphics, and photographs.

In the area of alerting a viewer of integrated WebTV data, broadcasters can embed a synchronized WebTV icon into the video image by making use of line 21, field 2 in the vertical blanking interval. When the WebTV box sees this data type, it will display a small WebTV icon in the upper left corner of the television image. If the viewer selects the icon, the set-top box contacts the WebTV service provider and delivers the appropriate synchronized data to the television viewer. The viewer can continue to view the broadcast, as it remains part of the screen via a picture-in-picture feature. Microsoft has gone to an open standard for this function: EIA-746.

Coop provided the audience with the following web site addresses to obtain more information on this kind of technology: <http://www.microsoft.com/DTV/>, and <http://pcube.com/>.—Brad Fortner, (Promotions Adviser), Rogers Communications Centre, Ryerson Polytechnical University

Books, Booklets, Brochures

The updated **IC Master catalog** contains the latest device specifications for currently available ICs. The catalog covers more than 100,000 base part numbers with device data efficiently organized in ten master selection guides. Also listed are an excess of 120,000 functional equivalents for current and discontinued ICs. Other sections include the part number index, military part directory, application notes directory, and a manufacturers and distributors directory.

The enhanced 1998 IC Master CD-ROM search tool for Windows has full-parametric search capability. For selected advertised devices, users can now link directly through their Internet browser to datasheets on IC manufacturer's web sites. In addition to all the information appearing in the catalog, the CD-ROM also cov-

ers discontinued ICs to deliver specifications for more than 135,000 base part numbers and package data for over 90,000 of these devices on a single compact disk.

Subscribers to the 1998 IC Master Catalog and CD-ROM will have access to the IC Master Online service for one year. Along with the regularly updated database, the web site offers full-parametric search with Krakatoa engine; pinout diagrams, and package styles; and direct links to IC manufacturer's home pages. The catalog and CD-ROM is available from Hearst Business Communications Inc./UTP Division, 645 Stewart Ave., Garden City, NY 11530.

The New Communications Technologies, 3rd edition, written by Michael M.A. Mirabito with contributions from Barbara

Morgenstern, provides information on the emerging technologies that will shape the way communicators do business. In addition to technological background on computers, information storage, fiber optics, and desktop video, the social and economical ramifications of these technologies are also discussed. New to this edition are chapters on the Internet and World Wide Web, wireless and mobile communications, e-mail and privacy, and new technologies in relation to the First Amendment. The Telecommunications Act of 1996 is also discussed and expanded coverage of satellites and launch systems are provided. The publication is available from Focal Press, 313 Washington St., Newton, MA 02158-1626.