

# CEED

COMMUNICATIONS ENGINEERING & DESIGN  
THE PREMIER MAGAZINE OF BROADBAND COMMUNICATIONS



## Editorial Index

November 1996-October 1997

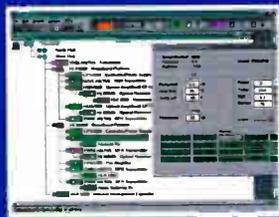
A supplement to CED magazine

# IT'S NOT ONLY A LIGHT AT THE END OF THE TUNNEL.

Today, it might be **anything** from HFC  
to MMDS, Digital Satellite, ATM/SONET  
or Digital Broadcast.

Harmonic Lightwaves is well known as a cable industry leader in hybrid fiber/coax transmission technology. We built this reputation by pioneering cutting-edge solutions for evolving HFC broadband networks. And as the high-tech world has progressed, so have our innovations.

As you probably know, we're still setting industry standards with our DFBs, 1550 nm transmitters, amplifiers and receivers. What you might not know, is how Harmonic's latest fiber optic transmission and digital headend equipment can enhance your system, providing the flexibility to add any new services you have planned — now or in the future.



Today, all of Harmonic's products have built-in NETWatch™ Element Management System capability, allowing you to monitor and control your network performance online with a user-friendly Windows™-based interface. And, all of our products offer

an open architecture to let you configure your system to suit your exact needs. While compliance with all major industry standards makes our product lineup virtually "future proof."

Harmonic's equipment is known for being highly integrated, compact, and modular, with performance that is always a step ahead. We design every product with an eye on space efficiency and plug-and-play simplicity.

As television, telecommunications and high-speed telecomputing continue to converge, Harmonic will be there in every headend, hub and node with network products that keep you online. Simpler, faster and better.

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Cover design by Don Ruth

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## How to use this editorial index

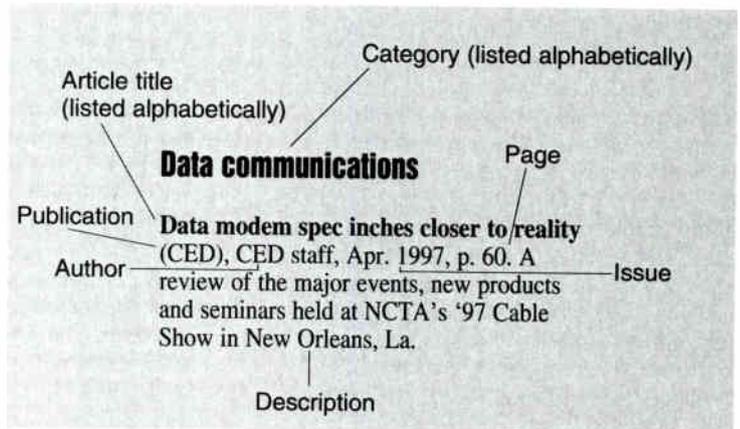
This index of articles covers every major article that appeared in *CEM* magazine from November 1996 through October 1997. As you can see from the list above, the index is broken down by major subject categories to make it easier to find broad areas of interest. The articles are then listed in alphabetical order under each subject area. To aid in your search for information, the index has been cross-referenced, so that articles that fall into multiple categories appear in multiple subject areas.

As shown in the diagram, each listing consists of an article title, the article's author and professional affiliation, the issue date and page number on which the article begins. That information is followed by a short description of the article's contents or theme.

For those who are interested in expanding their search, an editorial index that covers *CEM* as well as technical articles that appeared in both *Cablevision* and *Multichannel News* can be found on the *CEM* Web site. Just point your browser to <http://www.cemmagazine.com> for more information.

Persons interested in retrieving copies of certain articles can do so by faxing a request to *CEM* magazine at (303) 393-6654. Up to three stories can be requested without charge; after that, each story can be purchased for \$2 each, pre-paid. Also, some articles are available in the *CEM* on-line archives on the Web site given above.

For anyone who desires multiple copies (i.e. reprints of 100 or more) of the same article, please call Don Ruth at (303) 393-7449 to make a request.



**Ad Insertion**

**Digital delivers multi services over long distances (CED)**, Tim Wilk, Scientific-Atlanta Inc., Sept. 1997, p. 46. As broadband operators strive to reduce costs while expanding services, fiber ring digital interconnects will play a key role.

**Digital insertion: Can we all work together?** (CED), Robert Wells, May 1997, p. 42. A look at the digital ad insertion landscape and what CableLabs is doing to generate standards for this revenue-intensive service.

**New automated software debuts for cable MSOs (CED)**, Aug. 1997, p. 14. Columbine JDS announces the release of software package touted as the first totally integrated management information system that electronically links all critical business processes.

**SeaChange, IPC team for VOD (CED)**, Jan. 1997, p. 16. SeaChange International and IPC Interactive Inc. will jointly develop new digital platform to deliver network-based video-on-demand services.

**Video servers to get facelift (CED)**, Jan. 1997, p. 16. Summary of recent video server developments by Oracle, Digital Equipment Corp. and IBM.

**Vyvx upgrades to digital platform (CED)**, Oct. 1997, p. 16. Vyvx Advertising Distribution Services announces it has converted its extensive satellite network to digital.

**Advanced television**

**Apple, Showtime team on ITV technology (CED)**, Jan. 1997, p. 14. Showtime Networks and Apple announce agreement to collaborate in several areas to jump-start the fledgling interactive TV and multimedia industry.

**ATV channel numbering and navigation (CED)**, Jeffrey Krauss, Telecommunications and Technology Policy, April 1997, p. 24. Krauss discusses the implications of digital TV that carry multiple standard definition programs, how to name or number the digital channels and how to navigate among them.

**Back to the (converging?) future (CED)**, Michael Lafferty, Jan. 1997, p. 64. A panel of cable industry technology professionals offer up their predictions for the coming year.

**Computer trio take TV angle (CED)**, June 1997, p. 14. PC heavyweights-Compaq Computer Corp., Microsoft Corp. and Intel Corp.-announce plans to work cooperatively with broadcasting and cable industries to exploit potential of digital television.

**Digital TV now close to reality (CED)**, Jan. 1997, p. 14. Broadcast, computer and consumer electronics industries reach final agreement to press the FCC to adopt a digital television standard.

**Digital video and transport connectivity options (CED)**, Jay Shuler, Nortel, Nov. 1996, p. 80. A discussion on the structure and bene-

fits of creating a video operations center (VOC) network.

**The DTV process has begun-Where are cable operators? (CED)**, Andy Paff, Integration Technologies, June 1997, p. 62. A discussion considering the potentially weighty effects the FCC's recent digital television implementation ruling will have on the cable industry.

**FCC slates deput of digital broadcast (CED)**, May 1997, p. 14. FCC announces schedule for broadcasters to "go digital."

**GTE shuts down interactive TV unit (CED)**, Feb. 1997, p. 16. GTE Interactive Corp. shuts down claiming there is enough Internet content being created by other sources.

**Hiding data: Compatible digital upgrades (CED)**, Walter S. Ciciora, April 1997, p. 94. Cable operators need a practical digital rollout plan that would employ digital technology in applications that pay dividends, and avoid it where it simply raises costs.

**Is HDTV doomed from the beginning?** (CED), Jeffrey Krauss, Telecommunications and Technology Policy, Aug. 1997, p. 24. Continued disagreement over the digital base-band interface that's suppose to connect digital TVs, VCRs and cable boxes could endanger the HDTV rollout.

**Is it premature for analog requiem? (CED)**, Walter S. Ciciora, June 1997, p. 154. Ciciora argues that even with the increased emphasis on digital television, the news of analog television's imminent death is quite premature.

**Kelso: Capturing cable's fair share (CED)**, Dana Cervenka, May 1997, p. 18. Profile of James Kelso, cable video systems manager at SeaChange International Inc.

**Low-power TV and digital channels (CED)**, Jeffrey Krauss, Telecommunications and Technology Policy, Jan. 1997, p. 22. The case is made that low-power television stations should not get digital channels.

**Navio's software found to be seamless (CED)**, Oct. 1997, p. 14. Navio Communications and Interactive Cable Communications Inc. announce successful field tests in Japan of Navio's TV Navigator, which provides viewers Internet access without personal computers.

**Operational issues for digital have arrived (CED)**, Wendell Bailey, NCTA, May 1997, p. 20. The FCC's digital TV mandate for broadcasters generates a host of issues for cable operators to deal with.

**Proactive return path maintenance (CED)**, Bill Morgan, Hewlett-Packard, Nov. 1996, p. 86. Part II of three-part series on the return path, its characteristics and how to monitor and maintain it. (Part I/Oct. 1996; Part III/March 1997)

**Resolution and bandwidth: The twins (CED)**, Nov. 1996, p. 22. Interlace and pro-

gressive scan formats and their relation to HDTV are discussed.

**Spectrum waste and digital must-carry (CED)**, Walter S. Ciciora, Aug. 1997, p. 102. Ciciora views must-carry applicability for digital TV as a waste of spectrum and a slap in the face to viewer's programming prerogatives.

**Stretching the HDTV envelope with a standard (CED)**, Michael Lafferty, March 1997, p. 42. While the HDTV standard has finally been "set" by the FCC, nagging regulatory and technical issues still exist.

**TWC, Wink team to enhance programs (CED)**, Sept. 1997, p. 14. The Weather Channel signs on to add interactive Wink technology to its national signal, 24 hours a day, seven days a week.

**Will digital roll-out speed ITV, HDTV deployment? (CED)**, Fred Dawson, Aug. 1997, p. 82. Recent developments on several fronts that are opening up opportunities for two-way multimedia may accelerate digital TV roll-out.

**Zenith works deals for 'Net TVs and boxes (CED)**, Feb. 1997, p. 14. Zenith Electronics Corp. and Navio Communications Inc. announce plans to collaborate on consumer-based Internet software and services.

**CableLabs**

**Broadcom delivers MCNS-compliant modem prototype gear for testing (CED)**, Aug. 1997, p. 12. Broadcom Corp. delivers the first MCNS-compliant cable modem prototype equipment to CableLabs for evaluation.

**Cable data modem schedule on track (CED)**, Sept. 1997, p. 12. CableLabs conducts three-day test of cable modem interoperability and MSOs feel plentiful supply of interoperable cable modems will be available early next year.

**Data services gear up; modem std. a year away (CED)**, Nov. 1996, p. 14. The three top MSOs debut high-speed data services, while CableLabs announces the industry is "likely" to see interoperable cable modems by the end of 1997.

**Digital insertion: Can we all work together?** (CED), Robert Wells, May 1997, p. 42. A look at the digital ad insertion landscape and what CableLabs is doing to generate standards for this revenue-intensive service.

**Government regulation & intellectual property (CED)**, Jeffrey Krauss, Telecommunications and Technology Policy, Feb. 1997, p. 24. Krauss maps out how and why intellectual property rights will take on increasing importance for professionals in cable TV, video and telecommunications.

**Lab focuses on modem interoperability (CED)**, Robert Wells, CableLabs, Sept. 1997, p. 26. An overview of CableLabs' latest project-interoperability testing-now that the

modem specification writing phase is winding down.

**Mapping the cable industry's future** (CED), Roger Brown, Dec. 1996, p. 100. An in-depth interview with Dr. Richard Green, CableLabs' president and CEO.

**Modems, test gear, return path hot at Expo** (CED), CED staff, July 1997, p. 46. Summary of the products, seminars and important developments at SCTE's 1997 Cable-Tec Expo in Orlando, Fla.

**MSOs: IP telephony plan no longer stuck on 'hold'** (CED), Fred Dawson, Oct. 1997, p. 72. IP (Internet protocol) telephony has moved to the front burner with MSOs rethinking their strategies for voice services and data networking.

**Return path noise: Testing tool aids diagnosis** (CED), Robert Wells, Cable Television Laboratories Inc. (CableLabs), Jan. 1997, p. 24. CableLabs' testing system, CW Tester, is reviewed.

## Capital Currents

**ATV channel numbering and navigation** (CED), Jeffrey Krauss, Telecommunications and Technology Policy, April 1997, p. 24. Krauss discusses the implications of digital TV that carry multiple standard definition programs, how to name or number the digital channels and how to navigate among them.

**Evolution of the local phone market** (CED), Jeffrey Krauss, Telecommunications and Technology Policy, Nov. 1996, p. 24. While the 1996 Telecom Act was enacted to spur competition, the future lies in the consolidation of telecom competitors.

**Government regulation & intellectual property** (CED), Jeffrey Krauss, Telecommunications and Technology Policy, Feb. 1997, p. 24. Krauss maps out how and why intellectual property rights will take on increasing importance for professionals in cable TV, video and telecommunications.

**The Internet and the telephone network** (CED), Jeffrey Krauss, Telecommunications and Technology Policy, Dec. 1996, p. 26. Phone companies just can't get it through their collective heads that when customer demand patterns change, for example with Internet access, the service has to change as well.

**Is HDTV doomed from the beginning?** (CED), Jeffrey Krauss, Telecommunications and Technology Policy, Aug. 1997, p. 24. Continued disagreement over the digital base-band interface that's supposed to connect digital TVs, VCRs and cable boxes could endanger the HDTV rollout.

**LMDS auctions next: Place your bets** (CED), Jeffrey Krauss, Oct. 1997, p. 24. An update on the LMDS auction plan with special focus on two problems: telco eligibility and installment payments for small businesses.

**Low-power TV and digital channels** (CED), Jeffrey Krauss, Telecommunications and Technology Policy, Jan. 1997, p. 22. The case is made that low-power television stations should not get digital channels.

**Lurid confessions of a beta tester** (CED), Jeffrey Krauss, Telecommunications and Technology Policy, June 1997, p. 30. Krauss relates his experiences (both good and not-so-good) as a cable modem beta tester.

**Rain and its effect on microwave spectrum** (CED), Jeffrey Krauss, Telecommunications and Technology Policy, May 1997, p. 24. Krauss discusses how to calculate the rain attenuation in the LMDS spectrum that's about to be auctioned off.

**Satellite plans pose new competition** (CED), Jeffrey Krauss, Telecommunications & Technology Policy, Sept. 1997, p. 24. A review of two recent developments in satellite communications—a new low earth orbit (LEO) system; and a proposal to carry local TV stations to home dishes at Ka-band.

**Sorting out the satellite confusion** (CED), Jeffrey Krauss, Telecommunications and Technology Policy, July 1997, p. 24. A summary of the new satellite systems recently authorized by the FCC.

**Standards, strategic value and the SCTE** (CED), Jeffrey Krauss, Telecommunications and Technology Policy, March 1997, p. 24. Krauss discusses the strategic value to the cable industry of the standards activities of the Society of Cable Telecommunications Engineers (SCTE).

## Ciciora's Corner

**Finally, a cable/CE breakthrough** (CED), Walter S. Ciciora, Dec. 1996, p. 158. A recent breakthrough (sort of) has the potential to break the logjam on cable/consumer electronics compatibility.

**Hiding data: Compatible digital upgrades** (CED), Walter S. Ciciora, April 1997, p. 94. Cable operators need a practical digital rollout plan that would employ digital technology in applications that pay dividends, and avoid it where it simply raises costs.

**Is it premature for analog requiem?** (CED), Walter S. Ciciora, June 1997, p. 154. Ciciora argues that even with the increased emphasis on digital television, the news of analog television's imminent death is quite premature.

**Latest New Year's resolution: Read more!** (CED), Walter S. Ciciora, Feb. 1997, p. 102. Ciciora passes along his recommendation on a quarterly publication he thinks cable professionals should make a "must read" for the new year.

**Loss of ally in D.C. signals end of era** (CED), Walter Ciciora, Oct. 1997, p. 102. Ciciora laments the industry's loss as Wendell Bailey departs the NCTA.

**Spectrum waste and digital must-carry** (CED), Walter S. Ciciora, Aug. 1997, p. 102. Ciciora views must-carry applicability for digital TV as a waste of spectrum and a slap in the face to viewer's programming prerogatives.

## Competing technologies

**1997-98 CED Cable TV Fiber Topologies Comparison Chart** (CED), CED staff, Sept. 1997, insert between pages 90-91. Special pull-out wall chart detailing "typical" fiber optic network designs used to solve most operator's needs.

**5 MSOs commit to test TV On-Line** (CED), Dec. 1996, p. 14. Five major cable TV network operators are planning to field trial the "TV On-Line" data service WorldGate Communications.

**56 kilobit modems more a boon than a threat to cable (article originally titled erroneously: High-speed access tech may give telcos a hand)** (CED), Fred Dawson, Jan. 1997, p. 86. The pending introduction of two non-compatible 56-kbps analog modems may play to cable's advantage in its high-speed data service deployments.

**ADSL technology: Dead in its tracks?** (CED), Alan Stewart, Dec. 1996, p. 92. Once seen as the telco's secret weapon against cable TV, asymmetrical digital subscriber line (ADSL) seems to have been sidelined by the baby Bells as they scramble to maintain their local loop monopolies.

**AlphaStar goes dark; DirecTV picks up** (CED), Oct. 1997, p. 12. The first DBS competition casualty, AlphaStar goes off the air after it's unable to find funding to keep service going.

**Ameritech launches against Jones in Elgin** (CED), Oct. 1997, p. 14. Ameritech goes head-to-head with Jones in Elgin, Ill. with the launch of its americast cable television service.

**Arch-rivals work together on telephony standards** (CED), James Carless, March 1997, p. 54. Arch-rivals work together on telephony standards; Canada's cable and telephone industries are quietly working together to develop standards for local competitive telephone service.

**Broadband CDMA gets tryout over phone** (CED), Aug. 1997, p. 14. InterDigital Communications Corp. announces the successful completion of its first live demonstration of Broadband-Code Division Multiple Access (B-CDMA) wireless local loop technology.

**Cable and the mumpsimus syndrome** (CED), Jim Farmer, Antec, Jan. 1997, p. 20. Competition is forcing the cable industry to question its "immutable" principles and concepts.

**Cable moves ahead in high-speed data race** (CED), Fred Dawson, Feb. 1997, p. 76. With the Data Over Cable Service Interface

Specifications (DODSIS) effort nearing completion, the cable industry has taken the lead in the high-speed data race over the telco xDSL effort.

**Cable telephony: Ready to take off?** (CED), Compiled by CED Staff and written by Michael Lafferty, May 1997, p. 34. Overview of cable telephony efforts in the United States and abroad.

**Canadian cable ops band together, set to roll with data** (CED), James Careless, Jan. 1997, p. 70. Despite the absence of cable modem standards, three Canadian operators launch a nationally-branded Internet service provider product.

**CAI given OK for wireless lab** (CED), June 1997, p. 16. The FCC approves CAI Wireless Systems Inc.'s request to create a "wireless laboratory" to test two-way voice, video and data services in Pittsburgh, Pa.

**CellularVision plans to offer data services** (CED), March 1997, p. 14. CT&T (formerly CellularVision Technology and Telecommunications) announces purchase of 100,000 internal PC modems and plans to begin high-speed wireless Internet service via its LMDS network.

**Computer trio take TV angle** (CED), June 1997, p. 14. PC heavyweights-Compaq Computer Corp., Microsoft Corp. and Intel Corp.-announce plans to work cooperatively with broadcasting and cable industries to exploit potential of digital television.

**Cox steps up the plate with telephony in CA.** (CED), Dave Woodrow, Cox Communications/Guy Gill, Nortel, May 1997, p. 58. An overview of Cox Communication's telephony initiative in Orange County, Calif.

**Cracking into the lucrative commercial market** (CED), Leo Wrobel, Premiere Network Services Inc., Sept. 1997, p. 78. First part in a series of articles dealing with how operators can position themselves to reap new revenues as they do battle with telecommunication competitors.

**Cracking the commercial telecom market** (CED), Leo Wrobel, Premiere Network Services Inc., Oct. 1997, p. 44. Part two of a series dealing with the right and wrong things to do in raiding the telco markets, ways to exploit the small or home office markets, and how to address big company service needs.

**Data modem spec inches closer to reality** (CED), CED staff, Apr. 1997, p. 60. A review of the major events, new products and seminars held at NCTA's '97 Cable Show in New Orleans, La.

**Evolution of the local phone market** (CED), Jeffrey Krauss, Telecommunications and Technology Policy, Nov. 1996, p. 24. While the 1996 Telecom Act was enacted to spur competition, the future lies in the consolidation of telecom competitors.

**FCC finally sets LMDS auctions** (CED), Sept. 1997, p.16. After months of delay, the FCC sets December 10 as the date it will begin auctioning spectrum to be used for local multi-point distribution service (LMDS).

**Finally, a cable/CE breakthrough** (CED), Walter S. Ciciora, Dec. 1996, p. 158. A recent breakthrough (sort of) has the potential to break the logjam on cable/consumer electronics compatibility.

**FTTH: Are telcos headed back to the future?** (CED), Fred Dawson, March 1997, p. 105. FTTH: Are telcos headed back to the future? RBOC leaders predict aggressive fiber-to-the-home (FTTH) strategy is taking shape in the telephone industry.

**Gaining momentum using two-way coax plant for data** (CED), Alon Carmeli, Terayon Corp., April 1997, p. 54. A comparison of S-CDMA access systems running over two-way, pure coaxial plants with telephony-return cable modem solutions.

**GI and S-A agree on key points of set-top interoperability specs** (CED), Nov. 1996, p. 12. General Instruments and Scientific-Atlantic reach historic agreement on digital set-top interoperability arrangement.

**GTE expands ADSL trials for data services** (CED), July 1997, p. 16. GTE launches two trials using Asymmetric Digital Subscriber Line (ADSL) technology.

**Hiding data: Compatible digital upgrades** (CED), Walter S. Ciciora, April 1997, p. 94. Cable operators need a practical digital rollout plan that would employ digital technology in applications that pay dividends, and avoid it where it simply raises costs.

**@Home, Wave join forces for data** (CED), June 1997, p. 12. HP and Intel drop modem plans: Service providers and hardware vendors jockey for position and the shakeout begins in high-speed data-over-cable race.

**Hughes debuts new satellite dish** (CED), Sept. 1997, p. 14. Hughes Network Systems unveils newly designed satellite dish that is capable of receiving both video and data over satellites.

**Hybrid WDM systems for video trunking** (CED), Chinlon Lin, Keang-Po Ho, Hongxing Dai & Jinyi Pan, Bellcore/Hermann Gysel, Mani Ramachandran, Synchronous Communications, Nov. 1996, p. 30. Simulation results indicate high-performance trunking of both digital and analog video channels can be achieved with proper design of a hybrid WDM system.

**In wireless world, hearing is believing** (CED), Thomas G. Robinson, River Oaks Communications Corp., March 1997, p. 126. Contrary to popular belief, the wireless evolution/revolution is moving forward with the concerted efforts of both local governments and wireless providers.

**Interdiction enjoys comeback** (CED), April 1997, p. 14. It's deja vu as Motorola and Scientific-Atlanta announce significant enhancements and upgrades to video signal transport systems through new interdiction systems.

**The Internet and the telephone network** (CED), Jeffrey Krauss, Telecommunications and Technology Policy, Dec. 1996, p. 26. Phone companies just can't get it through their collective heads that when customer demand patterns change, for example with Internet access, the service has to change as well.

**Is it premature for analog requiem?** (CED), Walter S. Ciciora, June 1997, p. 154. Ciciora argues that even with the increased emphasis on digital television, the news of analog television's imminent death is quite premature.

**The issue: DBS competition** (CED), Aug. 1997, p. 88. Reader poll finds that while most operators discount DBS penetration rates, at least half of them report they've either lowered prices or offered special promotions to combat DBS competition.

**The issue: Signal theft** (CED), Jan. 1997, p. 92. Reader poll indicates that while respondents acknowledge cable piracy is a problem, they downplay its extent.

**It's time to take the blinders off** (CED), Wendell Bailey, NCTA, Jan. 1997, p. 18. Bailey underscores the need to innovate citing and interesting book he recently read.

**Keeping up with the big guys** (CED), Michael Lafferty, July 1997, p. 76. Innovative software developers and small and medium-sized operators are joining forces to catapult their cable customers onto the information superhighway.

**LMDS auction rules shut out cable MSOs** (CED), May 1997, p. 16. The FCC's newly proposed rules for upcoming auction of LMDS spectrum excludes participation of local MSOs and telcos.

**LMDS auctions next: Place your bets** (CED), Jeffrey Krauss, Oct. 1997, p. 24. An update on the LMDS auction plan with special focus on two problems: telco eligibility and installment payments for small businesses.

**Local telcos, cable companies partner for profit** (CED), Ken Pyle, E/O Networks, Nov. 1996, p. 62. A review of the opportunities that exist for local cable and telephone operators to share facilities.

**Low-power TV and digital channels** (CED), Jeffrey Krauss, Telecommunications and Technology Policy, Jan. 1997, p. 22. The case is made that low-power television stations should not get digital channels.

**Marcus gains pole grief relief** (CED), Sept. 1997, p. 14. The FCC gives Marcus Cable Associates a favorable ruling in its complaint against Texas Utilities Electric Company and its unfair pole attachment policies.

# SINGLE PLATFORM. DOUBLE CAPACITY. TRIPLE OPTION.

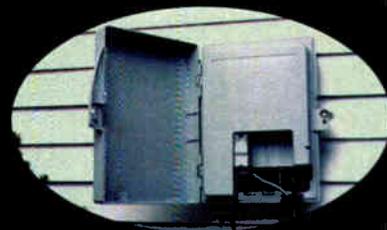
**ADC HOMEWORX™ TRANSPORT SYSTEM. THE ONLY FULLY INTEGRATED HFC PLATFORM FOR VOICE, DATA AND VIDEO.**

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So for flexible, efficient broadband service delivery of voice, data and video, the answer is as easy as ADC. Call us for more details at **800 366-3891**.



 **ADC Telecommunications**

**MCI to test suite of new services (CED)**, May 1997, p. 14. MCI forms Pioneer Holdings with Iowa telephone company and electric utility to provide voice, video and data services on a turnkey basis.

**Microsoft plots TV entrance strategy (CED)**, Feb. 1997, p. 16. Microsoft Corporation announces partnerships with 50 consumer electronics companies, TV distribution companies and content developers to "make PCs more interactive."

**MSOs: IP telephony plan no longer stuck on 'hold' (CED)**, Fred Dawson, Oct. 1997, p. 72. IP (Internet protocol) telephony has moved to the front burner with MSOs rethinking their strategies for voice services and data networking.

**New fiber optic start-up company puts Dense WDM onto a chip (CED)**, Mar. 1997, p. 12. Lightwave Microsystems has achieved breakthroughs in polymer optical technology which will enable new dense wavelength division multiplexing products.

**New trend: Traffic control times two (CED)**, Tom Robinson, River Oaks Communications Corp., Nov. 1996, p. 114. Local governments are looking at traffic signaling infrastructure to provide transport for

other types of data, voice and video communications.

**Next-generation FSS may prove formidable (CED)**, Fred Dawson, May 1997, p. 76. The next generation Ka-band fixed satellite services (FSS) slated to launch in '99 and beyond promise to alter the parameters for satellite participation in broadband communications.

**Operators look at back-door telephony service (CED)**, April 1997, p. 48. Internet telephony, or voice over IP services, could open the door to a variety of telephony services for operators who don't want to invest the time or money in more traditional lifeline telephony service.

**Outside of the service comfort zone (CED)**, Wendell Bailey, NCTA, July 1997, p. 20.

When it comes to overstatement in the past, the RBOCs and cable companies are expert, but it seems the cable companies have a little more to show for their efforts recently.

**Primestar satellite blasts into orbit (CED)**, Editorial staff, March 1997, p. 16. Primestar satellite blasts into orbit; Following the successful launch of the GE-2 satellite, Primestar will soon add 65 channels to its present lineup.

**PrimeStar set to go to high-power service (CED)**, Dec. 1996, p. 16. Frustrated in trying to acquire satellite licenses from other sources, PrimeStar Partners and TCI plan to launch a high-powered, direct-broadcast satellite next year.

**Rain and its effect on microwave spectrum (CED)**, Jeffrey Krauss, Telecommunications and Technology Policy, May 1997, p. 24. Krauss discusses how to calculate the rain attenuation in the LMDS spectrum that's about to be auctioned off.

**RCN teams with Washington utility to offer bundled cable, telephony (CED)**, Oct. 1997, p. 12. Potomac Electric Power Co. and RCN Corp. team up to provide local and long distance telephone, cable TV and Internet services in Washington D.C. suburbs.

**Revenue from data expected to explode (CED)**, Aug. 1997, p. 12. Strategis Group study predicts cable industry is in a position to tap significant new revenue streams from new services, including high-speed datacom services and digital video.

**S-A and GI chart new courses (CED)**, July 1997, p. 12. Scientific-Atlanta Inc. and General Instruments introduce new products (Sonet transmissions products and digital loop carrier products respectively) to attract new customers.

**Set the bar high, and raise it constantly (CED)**, Wendell Bailey, NCTA, June 1997, p. 22. Bailey asserts that in the face of looming competition, cable operators and the industry in general should get their business practices act together and focus on improving customer service.

**Signs point to broadband wireless onslaught (CED)**, Fred Dawson, July 1997, p. 82.

Technology has pushed ahead to where the means of wireless attack are available across many frequency zones.

**Sinclair Group intends to multi-cast (CED)**, Oct. 1997, p. 12. Sinclair Broadcast Group decides to go against the HDTV grain and announces it will use its new spectrum allowance to multi-cast digital, standard definition TV and data services.

**Stretching the HDTV envelope with a standard (CED)**, Michael Lafferty, March 1997, p. 42. While the HDTV standard has finally been "set" by the FCC, nagging regulatory and technical issues still exist.

**Swiss test shows cellular TV works (CED)**, Oct. 1997, p. 14. A successful 10-month trial of LMDS (local multipoint distribution services) technology in Switzerland prompts a commercial rollout by Swiss Telecom.

**Telco video plans becoming clearer all the time (CED)**, CED Staff, Nov. 1996, p. 42. Annual review of individual telco plans, trials and technology being used in deploying broadband services.

**Ultimately subscribers, like politics, are local (CED)**, Thomas G. Robinson, May 1997, p. 102. Robinson doesn't believe direct-to-home satellite industry has what it takes (i.e., the local programming) to dominate the multi-channel video services marketplace.

**US West poised for cable, telephony (CED)**, Aug. 1997, p. 14. US West chairman and CEO Richard McCormick tells stockholders that the company plans on becoming a "one-stop shop" for telecommunications.

**Vendors launch new ADSL equipment (CED)**, Nov. 1996, p. 16. A variety of vendors announce new ADSL product offerings.

**What comes first? The human or the machine? (CED)**, Michael Lafferty, Sept. 1997, p. 62. CED's annual Salary and System Survey details industry worker concerns and system activity.

**Whole-house service gets a face lift (CED)**, Roger Brown, June 1997, p. 68. The set-top less whole-house service paradigm, using interdiction and broadband scrambling schemes, is getting a new look from companies that dismissed the idea just a few years ago.

**Zenith selects OS for Americast box (CED)**, Dec. 1996, p. 16. Zenith Electronics chooses Microware Systems Corp.'s DAVIDLite operating system for the 3 million digital set-tops it's designing and will produce for the telco consortium, Americast.

## Construction issues

**Building an efficient headend for data (CED)**, Adrian Jones, Terayon Corp., Aug. 1997, p. 76. The first of a two-part article to discuss the issues in deploying data services

**1996-1997  
Editorial Index Online**

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Multichannel News and  
Cablevision,  
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[www.cedmagazine.com](http://www.cedmagazine.com)

over a broadband cable network.

**Changing hats: Managing an HFC upgrade** (CED PMR), Walter T. Colquitt, OpTel, April 1997, p. 6. A discussion of the tools and expertise needed to make plant upgrades easier and more manageable.

**How to insure a healthier bottom line** (CED PMR), Craig Kuhl, July 1997, p. 14. Discussion on how operators can improve their insurance plans.

**How to migrate from HFC to a Sonet network** (CED), Gary Briggs, Fujitsu Network Communications, Sept. 1997, p. 40. Migrating from an HFC to a Sonet network isn't as difficult or expensive as it was a short time ago, and makes a great deal of sense for those looking to expand service offerings.

**The issue: 1997 construction plans** (CED), Apr. 1997, p. 80. Reader poll confirms industry rumblings that 1997 will see a lot of plant upgrades, new headends and fiber optic deployments.

**Justifying funding for tomorrow's network** (CED PMR), Leo Worbel, Premiere Network Services Inc., Oct. 1997, p. 6. A discussion of how one can influence financial executives to fund expensive system upgrades.

**Keeping the lines of communication open** (CED PMR), Michael Lafferty, April 1997, p. 12. The do's and don'ts that make today's operator/contractor relationships work better and more efficiently.

**Marcus gains pole grief relief** (CED), Sept. 1997, p. 14. The FCC gives Marcus Cable Associates a favorable ruling in its complaint against Texas Utilities Electric Company and its unfair pole attachment policies.

**Optical receiver stubs fit today's networks** (CED), Dean Yamasaki, Siecor Corp., Feb. 1997, p. 44. Factory pre-connectorized cable assemblies (aka: "stubbed" assemblies) can help meet the demands associated with fiber deployment deeper into system.

**Pumping up the headend with preventive maintenance** (CED), Linc Reed-Nickerson, Tektronix Inc., Aug. 1997, p. 34. Part one of a four-part series on how operators can optimize headend performance through a dedicated preventive maintenance program.

**Taking broadband service into the home** (CED), Thomas E. Chapuran/Ronald C. Menendez/Stuart S. Wagner, Bellcore, Jan. 1997, p. 28. Results from a series of experimental and analytical studies of coaxial-cable premises-wiring impairments for digital broadband signals.

**Taking control of materials management** (CED PMR), Laird Simons, Sprint North Supply, July 1997, p. 22. Outsourcing materials management can help improve project efficiency and boost bottom-line performance.

**TCI, Antec form construction firm** (CED), July 1997, p. 16. Tele-Communications Inc.

forms a 50/50 joint venture with Antec Corp. to provide design, engineering and construction services.

### Data communications

**5 MSOs commit to test TV On-Line** (CED), Dec. 1996, p. 14. Five major cable TV network operators are planning to field trial the "TV On-Line" data service WorldGate Communications.

**56 kilobit modems more a boon than a threat to cable (article originally titled erroneously: High-speed access tech may give telcos a hand)** (CED), Fred Dawson, Jan. 1997, p. 86. The pending introduction of two non-compatible 56-kbps analog modems may play to cable's advantage in its high-speed data service deployments.

**A role for ATM in managing local traffic?** (CED), April 1997, p. 76. As the cable industry and other competitors to the local exchange carriers ponder how they will interface their networks with the networking world at large, the question comes down to figuring what, if any, role ATM (asynchronous transfer mode) should play.

**ADSL technology: Dead in its tracks?** (CED), Alan Stewart, Dec. 1996, p. 92. Once seen as the telco's secret weapon against cable TV, asymmetrical digital subscriber line (ADSL) seems to have been sidelined by the baby Bells as they scramble to maintain their local loop monopolies.

**Are HFC networks at the breaking point?** (CED), Roger Brown, Dec. 1996, p. 30. A discussion of some of the problems operators may run into as they try make their analog video networks a reliable pipeline for new services like high-speed data and telephony.

**ATM sends multiple services via same HFC pipe** (CED), Staffan Nilsson, Broadband Services/Ingemar Dahlqvist, Ericsson Inc., June 1997, p. 102. A discussion on the advantages of using ATM (asynchronous transfer mode) as a transmission technology for multiple services via HFC.

**Back to the (converging?) future** (CED), Michael Lafferty, Jan. 1997, p. 64. A panel of cable industry technology professionals offer up their predictions for the coming year.

**Broadcom delivers MCNS-compliant modem prototype gear for testing** (CED), Aug. 1997, p. 12. Broadcom Corp. delivers the first MCNS-compliant cable modem prototype equipment to CableLabs for evaluation.

**Building an efficient headend for data** (CED), Adrian Jones, Terayon Corp., Aug. 1997, p. 76. The first of a two-part article to discuss the issues in deploying data services over a broadband cable network.

**Building an efficient headend for data** (CED), Adrian Jones, Terayon Communication Systems, Sept. 1997, p. 86.

The second part of a series dealing with the major headend architectural and operational issues in deploying data services over a broadband cable network.

**C-Cor allies with Bay; adds suite of services** (CED), Nov. 1996, p. 12. C-Cor Electronics signs non-exclusive agreement with Bay Networks to support the delivery of data over cable networks.

**Cable data modem schedule on track** (CED), Sept. 1997, p. 12. CableLabs conducts three-day test of cable modem interoperability and MSOs feel plentiful supply of interoperable cable modems will be available early next year.

**Cable moves ahead in high-speed data race** (CED), Fred Dawson, Feb. 1997, p. 76. With the Data Over Cable Service Interface Specifications (DODSIS) effort nearing completion, the cable industry has taken the lead in the high-speed data race over the telco xDSL effort.

**Cable's fortunes revolve around training** (CED), Michael Lafferty, June 1997, p. 80. A cable engineering panel underscores the realization that it's not technology, but their people in the trenches that will determine cable's ultimate success or failure in the telecommunications battle.

**Cable/telco co-op on new telephony gear** (CED), Nov. 1996, p. 14. Century communications and Citizens Telecom have jointly deployed an HFC-based system for a wide-ranging service trial.

**CableNET '96 zeroes in on data, net management** (CED), Dana Cervenka, Dec. 1996, p. 76. A preview of CableNET '96 and its more than 35 participants who will focus attendee attention on high-speed data and network management.

**Canadian cable ops band together, set to roll with data** (CED), James Careless, Jan. 1997, p. 70. Despite the absence of cable modem standards, three Canadian operators launch a nationally-branded Internet service provider product.

**Capacity planning for advanced services traffic** (CED), Curtiss Smith, General Instrument Corp., Feb. 1997, p. 48. An investigation of the effects of system penetration rates on the sizing of serving areas and nodes.

**CAI given OK to operate in Boston** (CED), March 1997, p. 14. CAI Wireless Systems Inc. receives permanent authorization from the FCC to use its spectrum for fixed two-way video, voice and data services in Boston.

**CellularVision plans to offer data services** (CED), March 1997, p. 14. CT&T (formerly CellularVision Technology and Telecommunications) announces purchase of 100,00 internal PC modems and plans to begin high-speed wireless Internet service via its LMDS network.

**Charting a course for interoperability** (CED), Robert B. Russell, 802.14 Working Group, May 1997, p. 52. An explanation of the Institute of Electrical and Electronic Engineers' (IEEE) 802.14 committee, its vision and an update on the status of its work as the "other" data-over-cable standardization effort.

**Cool technologies are hot on the 'Net** (CED), Craig Kuhl, Aug. 1997, p. 74. A growing number of operators see the Web as a way to expand visibility and add services using an explosion of leading-edge graphics, audio and other technologies.

**Curing common path distortion** (CED), Jim Farmer, Antec, Feb. 1997, p. 22. Farmer discusses an all too common problem in the return path - common path distortion (CPD).

**Data and network management on menu at Western** (CED), CED staff, Jan. 1997, p. 74. Summary of the events, announcements and new products that debuted at the 1996 Western Show.

**Data modem spec inches closer to reality** (CED), CED staff, Apr. 1997, p. 60. A review of the major events, new products and seminars held at NCTA's '97 Cable Show in New Orleans, La.

**Data over cable? Just do it, says Cotter** (CED), Frank Cotter, Feb. 1997, p. 18. Cotter discusses his philosophy ("Just do it!") for entering the data-over-cable business.

**Data services gear up; modem std. a year away** (CED), Nov. 1996, p. 14. The three top MSOs debut high-speed data services, while CableLabs announces the industry is "likely" to see interoperable cable modems by the end of 1997.

**The dawning of a new day for data over cable** (CED), CED staff, Feb. 1997, p. 66. Review of SCTE's Conference on Emerging Technologies in Nashville, TN as well as the 1997 Polaris Award winner.

**The effect of bits on baud demystified** (CED), Jim Farmer, Antec, Oct. 1997, p. 22. An explanation of the difference between bit-per-second and a baud.

**Fundy Cable prepares to go retail with modems** (CED), July 1997, p. 14. Canadian Fundy Communications Inc. plans to offer Scientific-Atlanta telephone-return cable modems for sale directly to customers via local retail outlets.

**Gaining momentum using two-way coax plant for data** (CED), Alon Carmeli, Terayon Corp., April 1997, p. 54. A comparison of S-CDMA access systems running over two-way, pure coaxial plants with telephony-return cable modem solutions.

**GI a preferred choice for @Home data nets** (CED), May 1997, p. 14. General Instrument's NextLevel Satellite Data Networks Group gets the nod as a "preferred" vendor for telephone-

return modems and related equipment by @Home Network.

**GI offers turnkey data solutions** (CED), April 1997, p. 12. GI's NextLevel Satellite Data Networks Group forges new alliances with companies like Community Networks Inc. (CNI) to provide turnkey high-speed data solutions.

**The great Sonet debate: Primed for video?** (CED), Dana Cervenka, Sept. 1997, p. 30. While the Sonet (synchronous optical network) platform has been embraced by some for high-speed data and voice transport, there's still some question whether it will make the grade for video transport.

**GTE expands ADSL trials for data services** (CED), July 1997, p. 16. GTE launches two trials using Asymmetric Digital Subscriber Line (ADSL) technology.

**The high-speed data race is on; cable and MMDS ops do battle** (CED), April 1997, p. 12. The race to provide high-speed data heats up as several cable TV and MMDS operators commit to modem purchases and roll out customized services.

**@Home, Wave join forces for data** (CED), June 1997, p. 12. HP and Intel drop modem plans; Service providers and hardware vendors jockey for position and the shakeout begins in high-speed data-over-cable race.

**How to build a stainless steel house** (CED), Wendell Bailey, NCTA, Nov. 1996, p. 20.

Two-way services revive discussion on just how much and what kind of information service providers can collect on their customers.

**How to migrate from HFC to a Sonet network** (CED), Gary Briggs, Fujitsu Network Communications, Sept. 1997, p. 40. Migrating from an HFC to a Sonet network isn't as difficult or expensive as it was a short time ago, and makes a great deal of sense for those looking to expand service offerings.

**Implementing security for data-over-cable** (CED), Gerry White, Bay Networks Inc./Chet Birger, May 1997, p. 66. Part two of a two-part article on the unique security issues that HFC networks must deal with and the modern cryptographic technology that can be used to provide the security that operators and their customers need.

**The Internet and the telephone network** (CED), Jeffrey Krauss, Telecommunications and Technology Policy, Dec. 1996, p. 26. Phone companies just can't get it through their collective heads that when customer demand patterns change, for example with Internet access, the service has to change as well.

**Internet security system offered to cable MSOs** (CED), March 1997, p. 16. TimeStep Corp. launches an Internet security program designed for Internet Service Providers (ISPs), cable TV systems and telcos.

**The issue: 1997 construction plans** (CED),

Apr. 1997, p. 80. Reader poll confirms industry rumblings that 1997 will see a lot of plant upgrades, new headends and fiber optic deployments.

**The issue: Data over cable** (CED), July 1997, p. 90. Reader poll finds that despite commonly recognized problems (i.e., modem costs, noisy return path), operators appear undeterred in their plans to deploy high-speed data services.

**Jones purchases modems from Hybrid** (CED), Oct. 1997, p. 16. Jones Intercable signs agreement to purchase Hybrid headend systems and cable modems as part of its Internet Channel high-speed Internet access service.

**Keeping Continental on the fast track** (CED), Roger Brown, Jan. 1997, p. 40. Profile of CED's Man of the Year award recipient, David Fellows, Continental Cablevision's senior vice president of engineering.

**Keeping up with the big guys** (CED), Michael Lafferty, July 1997, p. 76. Innovative software developers and small and medium-sized operators are joining forces to catapult their cable customers onto the information superhighway.

**Kuska and the theory of relativity** (CED), Dana Cervenka, Nov. 1996, p. 18. Profile of Michelle Kuska, director of network technology for TCI Technology Ventures and head of the MCNS working group for cable modem specifications.

**Leading-edge software drives systems to new heights** (CED), Craig Kuhl, Oct. 1997, p. 36. An overview of the software available that can assist operators in dealing with dispatching, billing, customer care, marketing and overall plant management.

**Lurid confessions of a beta tester** (CED), Jeffrey Krauss, Telecommunications and Technology Policy, June 1997, p. 30. Krauss relates his experiences (both good and not-so-good) as a cable modem beta tester.

**MainStreet comes to Clearwater, FL** (CED), Jan. 1997, p. 16. GTE launches its interactive video and high-speed data access service, MainStreet, in Clearwater, FL.

**Making two-way work** (CED), Nov. 1996, p. 96. Respondents express their views on upgrading their systems to two-way.

**MCI to test suite of new services** (CED), May 1997, p. 14. MCI forms Pioneer Holdings with Iowa telephone company and electric utility to provide voice, video and data services on a turnkey basis.

**MediaOne kicks off branding; unveils Detroit control center** (CED), Sept. 1997, p. 12. MediaOne begins national branding campaign with the debut of its Master Control Center in Detroit, Mich.

**MediaOne unveils national backbone** (CED), Oct. 1997, p. 16. MediaOne activates a

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**Medin: No more dumb pipes for cable** (CED), Dana Cervenka, April 1997, p. 18. Profile of Milo Medin, @Home Network's vice president of networks.

**Microsoft plots TV entrance strategy** (CED), Feb. 1997, p. 16. Microsoft Corporation announces partnerships with 50 consumer electronics companies, TV distribution companies and content developers to "make PCs more interactive."

**Microsoft hands Comcast \$1 billion to get high-speed data kick-started** (CED), July 1997, p. 12. The country's fourth-largest MSO receives a \$1 billion check from Microsoft to accelerate construction of its HFC networks and support high-speed data services.

**Modems, test gear, return path hot at Expo** (CED), CED staff, July 1997, p. 46. Summary of the products, seminars and important developments at SCTE's 1997 Cable-Tec Expo in Orlando, Fla.

**MSOs: IP telephony plan no longer stuck on 'hold'** (CED), Fred Dawson, Oct. 1997, p. 72. IP (Internet protocol) telephony has moved to the front burner with MSOs rethinking their strategies for voice services and data networking.

**National data net could be the key to new services** (CED), Fred Dawson, June 1997, p. 116. Cable MSOs have come to the realization that they can create a truly competitive nationwide network infrastructure for data-based communications.

**Navio's software found to be seamless** (CED), Oct. 1997, p. 14. Navio Communications and Interactive Cable Communications Inc. announce successful field tests in Japan of Navio's TV Navigator, which provides viewers Internet access without personal computers.

**Nebraska ops cashes in on educational data** (CED), Leslie Ellis, Oct. 1997, p. 68. Case study of Galaxy Cablevision and how they turned their upgrade into a revenue generating opportunity and partnership for distance learning.

**Necessity drives small ops to new technologies** (CED), Craig Kuhl, June 1997, p. 92. Small cable operators are becoming more innovative, and inventive, in their use of advancing technologies.

**New automated software debuts for cable MSOs** (CED), Aug. 1997, p. 14. Columbine JDS announces the release of software package touted as the first totally integrated management information system that electronically links all critical business processes.

**New modems appear on the scene; supported by range of new products** (CED), Jan. 1997, p. 12. Overview of pre-Western Show announcements of new modems, new compo-

nents for modems, field tests and back office support.

**NEC and H-P chosen as Telstra main suppliers** (CED), Nov. 1996, p. 14. Australian telco selects NEC and Hewlett-Packard as equipment and information technology suppliers for next round of broadband service deployment.

**Noise and ingress performance in the return path** (CED), Bill Morgan, Hewlett-Packard, March 1997, p. 76. Third article in three-part series on the return path that discusses several ingress measurements to use in monitoring the return path.

**Operators look at back-door telephony service** (CED), April 1997, p. 48. Internet telephony, or voice over IP services, could open the door to a variety of telephony services for operators who don't want to invest the time or money in more traditional lifeline telephony service.

**Optimizing reverse path loss in tree-and-branch architectures** (CED PMR), Tim Block, Cable System Services, Oct. 1997, p. 14. Temperature is often overlooked when trying to track down return path ingress in lengthy cascade tree-and-branch architectures.

**Plant managers walk tightrope: New services, old plant** (CED PMR), James Careless, Oct. 1997, p. 18. The ins and outs of balancing old plant performance in order to offer two-way services.

**RCN teams with Washington utility to offer bundled cable, telephony** (CED), Oct. 1997, p. 12. Potomac Electric Power Co. and RCN Corp. team up to provide local and long distance telephone, cable TV and Internet services in Washington D.C. suburbs.

**Real-time reverse: An upgradable architecture for HFC** (CED), William E. Wall, Scientific-Atlanta, March 1997, p. 68. A description and discussion of a new approach (real-time reverse) for the deployment of two-way digital technologies.

**Return path noise: Testing tool aids diagnosis** (CED), Robert Wells, Cable Television Laboratories Inc. (CableLabs), Jan. 1997, p. 24. CableLabs' testing system, CW Tester, is reviewed.

**Revenue from data expected to explode** (CED), Aug. 1997, p. 12. Strategis Group study predicts cable industry is in a position to tap significant new revenue streams from new services, including high-speed datacom services and digital video.

**S-A enters high-speed data market, offering telco return unit for \$199** (CED), Dec. 1996, p. 12. Convinced the time is right, Scientific-Atlanta Inc. announces its plans to build a low-cost (\$199), telephone return data modem.

**Security in hybrid fiber/coax based networks** (CED), Gerry White, Bay Networks Inc./Chet Birger, Apr. 1997, p. 26. Part one of

a two-part discussion of the unique security issues that HFC networks must deal with and the modern cryptographic technology that can be used to provide the security that operators and their customers need.

**Serving up Quality of Service** (CED), Mark Laubach, Com21 Inc., April 1997, p. 34. What is Quality of Service and why is it an increasingly important issue for operators?

**Sinclair Group intends to multicast** (CED), Oct. 1997, p. 12. Sinclair Broadcast Group decides to go against the HDTV grain and announces it will use its new spectrum allowance to multi-cast digital, standard definition TV and data services.

**So you want to cash in on high-speed data?** (CED), Michael Lafferty, April 1997, p. 42. The industry is going to need some help in deploying datacom services and system integrators may have what it takes to get some operators up and running on the information superhighway.

**Sorting out the satellite confusion** (CED), Jeffrey Krauss, Telecommunications and Technology Policy, July 1997, p. 24. A summary of the new satellite systems recently authorized by the FCC.

**Standards, strategic value and the SCTE** (CED), Jeffrey Krauss, Telecommunications and Technology Policy, March 1997, p. 24. Krauss discusses the strategic value to the cable industry of the standards activities of the Society of Cable Telecommunications Engineers (SCTE).

**Survey-said! Focus on purchaser preference** (CED), Thomas Robinson, River Oaks Communications Corp., Sept. 1997, p. 114. Robinson details his conclusions on key trends in the industry after culling survey work on subscriber preferences.

**Survey: Consumers ready to buy data** (CED), June 1997, p. 14. The Strategis Group's latest study seems to support the proposition that consumers will buy high-speed data services.

**Taking a dip in a cool technology pool** (CED), Thomas G. Robinson, River Oaks Communications Corp., July 1997, p. 102. Cable's high-speed data equipment and services are ideal for creating cost-effective I-Nets (institutional networks).

**Telco video plans becoming clearer all the time** (CED), CED Staff, Nov. 1996, p. 42. Annual review of individual telco plans, trials and technology being used in deploying broadband services.

**Texas hooks TWC as local phone op** (CED), June 1997, p. 16. The University of Texas announces that Time Warner Communications has become its largest local telephone access provider for its dial-up Internet service, "Telesys."

**The issue: Interconnects** (CED), Feb. 1997,

p. 90. The issue: Interconnects; The launch of datacom services has respondents saying the industry ought to be doing more to determine the feasibility of interconnecting adjoining cable systems.

**The issue: Going interactive** (CED), Oct. 1997, p. 82. Reader poll finds upgrading to two-way plant has become a standard operating procedure for most operators.

**These days, Craddock is digging in bigger bins** (CED), Dana Cervenka, Sept. 1997, p. 18. Profile of cable veteran and Comcast Corporation's vice president of New Media Development, Steve Craddock.

**TWC issues RFP for interactive TV** (CED), June 1997, p. 16. Time Warner Cable issues a request for proposal and request for quote for its "Pegasus" digital set-top, i.e., software and hardware solutions to support full video-on-demand and the addition of its RoadRunner high-speed data service over the television.

**Unicom develops return modulation** (CED), April 1997, p. 14. Ultracom Communications is developing a new higher-order modulation (Variable Constellation/Multi-Tone Modulation) to overcome excessive noise in the return path.

**Vendors launch new ADSL equipment** (CED), Nov. 1996, p. 16. A variety of vendors announce new ADSL product offerings.

**Video perks give data a sharper image** (CED), Fred Dawson, Sept. 1997, p. 90. New software tools enhance the prospects for adding innovative and highly advanced types of video content to high-speed data channels.

**Web giants hope to bridge a multimedia gap** (CED), Fred Dawson, Dec. 1996, p. 124. Two powerful camps in the Silicon Valley landscape are slugging it out over a video streaming standard that will have a direct impact on cable's high-speed data future.

**Zenith works deals for 'Net TVs and boxes** (CED), Feb. 1997, p. 14. Zenith Electronics Corp. and Navio Communications Inc. announce plans to collaborate on consumer-based Internet software and services.

## Digital technologies

**1997-1998 Frequency Allocation Chart** (CED), Aug. 1997, insert between p. 84 and p. 85. Special pull-out wall chart diagramming RF frequency spectrum allocations.

**5 MSOs commit to test TV On-Line** (CED), Dec. 1996, p. 14. Five major cable TV network operators are planning to field trial the "TV On-Line" data service WorldGate Communications.

**56 kilobit modems more a boon than a threat to cable (article originally titled erroneously: High-speed access tech may give telcos a hand)** (CED), Fred Dawson, Jan. 1997, p. 86. The pending introduction of two non-compatible 56-kbps analog modems may

play to cable's advantage in its high-speed data service deployments.

### ADSL technology: Dead in its tracks?

(CED), Alan Stewart, Dec. 1996, p. 92. Once seen as the telco's secret weapon against cable TV, asymmetrical digital subscriber line (ADSL) seems to have been sidelined by the baby Bells as they scramble to maintain their local loop monopolies.

**ATV channel numbering and navigation** (CED), Jeffrey Krauss, Telecommunications and Technology Policy, April 1997, p. 24.

Krauss discusses the implications of digital TV that carry multiple standard definition programs, how to name or number the digital channels and how to navigate among them.

**Back to the (converging?) future** (CED), Michael Lafferty, Jan. 1997, p. 64. A panel of cable industry technology professionals offer up their predictions for the coming year.

**Bailey's wish list for the cable industry** (CED), Wendell Bailey, NCTA, Dec. 1996, p. 22. Bailey puts a technological spin on the traditional holiday gift list.

**Barco acquires digital video company** (CED), Oct. 1997, p. 14. Barco expands its video and audio transport product line with the acquisition of Denmark-based RE Group.

**Beddow plans own fireworks show** (CED), Dana Cervenka, Aug. 1997, p. 18. Profile of David Beddow, senior vice president at TCI Technology Ventures Inc.

**Broadband CDMA gets tryout over phone** (CED), Aug. 1997, p. 14. InterDigital Communications Corp. announces the successful completion of its first live demonstration of Broadband-Code Division Multiple Access (B-CDMA) wireless local loop technology.

**Broadcom delivers MCNS-compliant modem prototype gear for testing** (CED), Aug. 1997, p. 12. Broadcom Corp. delivers the first MCNS-compliant cable modem prototype equipment to CableLabs for evaluation.

**Building an efficient headend for data** (CED), Adrian Jones, Terayon Corp., Aug. 1997, p. 76. The first of a two-part article to discuss the issues in deploying data services over a broadband cable network.

**C-Cor allies with Bay; adds suite of services** (CED), Nov. 1996, p. 12. C-Cor Electronics signs non-exclusive agreement with Bay Networks to support the delivery of data over cable networks.

**Cable data modem schedule on track** (CED), Sept. 1997, p. 12. CableLabs conducts three-day test of cable modem interoperability and MSOs feel plentiful supply of interoperable cable modems will be available early next year.

**Cable moves ahead in high-speed data race** (CED), Fred Dawson, Feb. 1997, p. 76. With the Data Over Cable Service Interface Specifications (DODSIS) effort nearing com-

pletion, the cable industry has taken the lead in the high-speed data race over the telco xDSL effort.

**Cable telephony: Ready to take off?** (CED), Compiled by CED Staff and written by Michael Lafferty, May 1997, p. 34. Overview of cable telephony efforts in the United States and abroad.

**Characterizing return path transmitters** (CED), John J. Kenney, Antech Technology Center, May 1997, p. 26. Understanding how over-driven optical transmitters degrade digitally modulated carriers.

**Charting a course for interoperability** (CED), Robert B. Russell, 802.14 Working Group, May 1997, p. 52. An explanation of the Institute of Electrical and Electronic Engineers' (IEEE) 802.14 committee, its vision and an update on the status of its work as the "other" data-over-cable standardization effort.

**Computer trio take TV angle** (CED), June 1997, p. 14. PC heavyweights-Compaq Computer Corp., Microsoft Corp. and Intel Corp.-announce plans to work cooperatively with broadcasting and cable industries to exploit potential of digital television.

**Data and network management on menu at Western** (CED), CED staff, Jan. 1997, p. 74. Summary of the events, announcements and new products that debuted at the 1996 Western Show.

**Data modem spec inches closer to reality** (CED), CED staff, Apr. 1997, p. 60. A review of the major events, new products and seminars held at NCTA's '97 Cable Show in New Orleans, La.

**Data services gear up; modem std. a year away** (CED), Nov. 1996, p. 14. The three top MSOs debut high-speed data services, while CableLabs announces the industry is "likely" to see interoperable cable modems by the end of 1997.

**The dawning of a new day for data over cable** (CED), CED staff, Feb. 1997, p. 66. Review of SCTE's Conference on Emerging Technologies in Nashville, TN as well as the 1997 Polaris Award winner.

**Digging deeper into network management** (CED), Leslie Ellis, July 1997, p. 44. What's a MIB (management information bases) and what they can do to make or break a network management system?

**Digital delivers multi services over long distances** (CED), Tim Wilk, Scientific-Atlanta Inc., Sept. 1997, p. 46. As broadband operators strive to reduce costs while expanding services, fiber ring digital interconnects will play a key role.

**Digital insertion: Can we all work together?** (CED), Robert Wells, May 1997, p. 42. A look at the digital ad insertion landscape and what CableLabs is doing to generate standards for

this revenue-intensive service.

**Digital TV now close to reality** (CED), Jan. 1997, p. 14. Broadcast, computer and consumer electronics industries reach final agreement to press the FCC to adopt a digital television standard.

**Digital video and transport connectivity options** (CED), Jay Shuler, Nortel, Nov. 1996, p. 80. A discussion on the structure and benefits of creating a video operations center (VOC) network.

**The DTV process has begun-Where are cable operators?** (CED), Andy Paff, Integration Technologies, June 1997, p. 62. A discussion considering the potentially weighty effects the FCC's recent digital television implementation ruling will have on the cable industry.

**The effect of bits on baud demystified** (CED), Jim Farmer, Antec, Oct. 1997, p. 22. An explanation of the difference between bit-per-second and a baud.

**Effects of analog and digital signals** (CED), M. Stephen McConnell, Scientific-Atlanta Inc., Dec. 1996, p. 116. A discussion of the various situations that operators face when adding a digital tier of channels in an analog network.

**FCC slates deput of digital broadcast** (CED), May 1997, p. 14. FCC announces schedule for broadcasters to "go digital."

**Gaining momentum using two-way coax plant for data** (CED), Alon Carmeli, Terayon Corp., April 1997, p. 54. A comparison of S-CDMA access systems running over two-way, pure coaxial plants with telephony-return cable modem solutions.

**Getting ready for cable's digital era** (CED), Roger Brown, March 1997, p. 60. Operators are now rolling out fully featured digital boxes that promise to rewrite the way systems roll out new services.

**GI and S-A agree on key points of set-top interoperability specs** (CED), Nov. 1996, p. 12. General Instruments and Scientific-Atlantic reach historic agreement on digital set-top interoperability arrangement.

**GI offers turnkey data solutions** (CED), April 1997, p. 12. GI's NextLevel Satellite Data Networks Group forges new alliances with companies like Community Networks Inc. (CNI) to provide turnkey high-speed data solutions.

**GI to build VSB-to-QAM device** (CED), Aug. 1997, p. 12. General Instrument Corp. announces plans to develop and manufacture a VSB-to-QAM transcoder to facilitate the integration of digital broadcast signals into existing cable channel lineups.

**GI, Rogers test 256-QAM in field** (CED), Dec. 1996, p. 12. General Instrument and Rogers CableSystems successfully test 256-QAM, a higher-order quadrature amplitude

modulation method that gives 44 percent more channel capacity.

**Government regulation & intellectual property** (CED), Jeffrey Krauss, Telecommunications and Technology Policy, Feb. 1997, p. 24. Krauss maps out how and why intellectual property rights will take on increasing importance for professionals in cable TV, video and telecommunications.

**Grafting WDM onto existing cable systems** (CED), Venk Mutalik, Philips Broadband Networks Inc., Feb. 1997, p. 54. An examination of the theory and practice of wavelength division multiplexing (WDM) techniques in modern cable TV networks.

**The great Sonet debate: Primed for video?** (CED), Dana Cervenka, Sept. 1997, p. 30. While the Sonet (synchronous optical network) platform has been embraced by some for high-speed data and voice transport, there's still some question whether it will make the grade for video transport.

**Hiding data: Compatible digital upgrades** (CED), Walter S. Ciciora, April 1997, p. 94. Cable operators need a practical digital rollout plan that would employ digital technology in applications that pay dividends, and avoid it where it simply raises costs.

**The high-speed data race is on; cable and MMDS ops do battle** (CED), April 1997, p. 12. The race to provide high-speed data heats up as several cable TV and MMDS operators commit to modem purchases and roll out customized services.

**How about a data guide clearing-house?** (CED), Wendell Bailey, NCTA, Aug. 1997, p. 22. With digital video and potentially hundreds of channels in the offing, Bailey asks how subscribers are going to find their way around this plethora of programming.

**Hybrid WDM systems for video trunking** (CED), Chinlon Lin, Keang-Po Ho, Hongxing Dai & Jinyi Pan, Bellcore/Hermann Gysel, Mani Ramachandran, Synchronous Communications, Nov. 1996, p. 30. Simulation results indicate high-performance trunking of both digital and analog video channels can be achieved with proper design of a hybrid WDM system.

**Implementing redundant fiber architecture** (CED), Dr. Eric Schweitzer, Harmonic Lightwaves, Feb. 1997, p. 28. Advanced services such as VOD, Internet access and telephony are escalating the demand for "interrupt free" service which features both power and route redundancy.

**Is HDTV doomed from the beginning?** (CED), Jeffrey Krauss, Telecommunications and Technology Policy, Aug. 1997, p. 24. Continued disagreement over the digital baseband interface that's supposed to connect digital TVs, VCRs and cable boxes could endanger the HDTV rollout.

**Is it premature for analog requiem?** (CED), Walter S. Ciciora, June 1997, p. 154. Ciciora argues that even with the increased emphasis on digital television, the news of analog television's imminent death is quite premature.

**Keeping Continental on the fast track** (CED), Roger Brown, Jan. 1997, p. 40. Profile of CED's Man of the Year award recipient, David Fellows, Continental Cablevision's senior vice president of engineering.

**Keeping up with the big guys** (CED), Michael Lafferty, July 1997, p. 76. Innovative software developers and small and medium-sized operators are joining forces to catapult their cable customers onto the information superhighway.

**Kelso: Capturing cable's fair share** (CED), Dana Cervenka, May 1997, p. 18. Profile of James Kelso, cable video systems manager at SeaChange International Inc.

**Lab focuses on modem interoperability** (CED), Robert Wells, CableLabs, Sept. 1997, p. 26. An overview of CableLabs' latest project-interoperability testing-now that the modem specification writing phase is winding down.

**Lessons from the pioneers of cablephone** (CED), Bob Stanzone, Arris Interactive, an Antec/Nortel joint venture, July 1997, p. 26. Making a case for the cable industry's ability to provide telephone.

**Low-power TV and digital channels** (CED), Jeffrey Krauss, Telecommunications and Technology Policy, Jan. 1997, p. 22. The case is made that low-power television stations should not get digital channels.

**LSI Logic develops digital chips for BBC** (CED), Aug. 1997, p. 16. LSI Logic reaches agreement with BBC to develop a single-chip digital terrestrial television solution.

**MediaOne unveils national backbone** (CED), Oct. 1997, p. 16. MediaOne activates a new national data network to ensure reliability and performance.

**Modems, test gear, return path hot at Expo** (CED), CED staff, July 1997, p. 46. Summary of the products, seminars and important developments at SCTE's 1997 Cable-Tec Expo in Orlando, Fla.

**Monet group shows off WDM** (CED), Apr. 1997, p. 16. The Multiwavelength Optical Networking (Monet) consortium unveils an eight-wavelength, configurable network linking high-capacity testbeds in three New Jersey locations.

**MSOs: IP telephony plan no longer stuck on 'hold'** (CED), Fred Dawson, Oct. 1997, p. 72. IP (Internet protocol) telephony has moved to the front burner with MSOs rethinking their strategies for voice services and data networking.

**New modems appear on the scene; supported by range of new products** (CED), Jan.

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1997, p. 12. Overview of pre-Western Show announcements of new modems, new components for modems, field tests and back office support.

**Operational issues for digital have arrived** (CED), Wendell Bailey, NCTA, May 1997, p. 20. The FCC's digital TV mandate for broadcasters generates a host of issues for cable operators to deal with.

**PCS and cable: A natural complement** (CED), Yvette C. Hubbel/John Sabat, Jr., Sanders, a Lockheed-Martin Co., Aug. 1997, p. 58. A description of a network architecture and system solution (PCS-Over-Cable system) that will make the "anywhere, anytime" PCS vision a reality.

**PCS may be true road to cable telephony** (CED), Fred Dawson, Nov. 1996, p. 92. A possible option to the all-wireline approach for cable telephony is discussed.

**Real-time reverse: An upgradable architecture for HFC** (CED), William E. Wall, Scientific-Atlanta, March 1997, p. 68. A description and discussion of a new approach (real-time reverse) for the deployment of two-way digital technologies.

**Return systems 102: what goes around...** (CED), Thomas J. Staniec, The Excalibur

Group, A Time Warner Co., Dec. 1996, p. 62. As more networks are being activated with operational two-way signal flow, not only do new questions arise, but past solutions may need some refinement as well.

**Round and round the testing goes** (CED), Michael Lafferty, Aug. 1997, p. 44. An panel of engineering professionals give their opinions on the common concerns, solutions and crystal ball predictions they have on improving their system's performance.

**S-A and GI chart new courses** (CED), July 1997, p. 12. Scientific-Atlanta Inc. and General Instruments introduce new products (Sonet transmissions products and digital loop carrier products respectively) to attract new customers.

**S-A enters high-speed data market, offering telco return unit for \$199** (CED), Dec. 1996, p. 12. Convinced the time is right, Scientific-Atlanta Inc. announces its plans to build a low-cost (\$199), telephone return data modem.

**S-A system chosen for postal network** (CED), Jan. 1997, p. 14. Scientific-Atlanta Inc.'s PowerVu digital compression system has been chosen to upgrade the Postal Satellite Training Network.

**SeaChange, IPC team for VOD** (CED), Jan. 1997, p. 16. SeaChange International and IPC Interactive Inc. will jointly develop new digital platform to deliver network-based video-on-demand services.

**Security in hybrid fiber/coax base networks** (CED), Gerry White, Bay Networks Inc./Chet Birger, Apr. 1997, p. 26. Part one of a two-part discussion of the unique security issues that HFC networks must deal with and the modern cryptographic technology that can be used to provide the security that operators and their customers need.

**Sinclair Group intends to multi-cast** (CED), Oct. 1997, p. 12. Sinclair Broadcast Group decides to go against the HDTV grain and announces it will use its new spectrum allowance to multi-cast digital, standard definition TV and data services.

**So you want to cash in on high-speed data?** (CED), Michael Lafferty, April 1997, p. 42. The industry is going to need some help in deploying datacom services and system integrators may have what it takes to get some operators up and running on the information superhighway.

**Spectrum waste and digital must-carry** (CED), Walter S. Ciciora, Aug. 1997, p. 102. Cicora views must-carry applicability for digital TV as a waste of spectrum and a slap in the face to viewer's programming prerogatives.

**Standards, strategic value and the SCTE** (CED), Jeffrey Krauss, Telecommunications and Technology Policy, March 1997, p. 24. Krauss discusses the strategic value to the

cable industry of the standards activities of the Society of Cable Telecommunications Engineers (SCTE).

**Statmux boosts digital channels** (CED), April 1997, p. 14. General Instrument upgrades its digital compression system to transmit 16 video channels on a single 26-MHz satellite transponder.

**Stretching the HDTV envelope with a standard** (CED), Michael Lafferty, March 1997, p. 42. While the HDTV standard has finally been "set" by the FCC, nagging regulatory and technical issues still exist.

**Survey-said! Focus on purchaser preference** (CED), Thomas Robinson, River Oaks Communications Corp., Sept. 1997, p. 114. Robinson details his conclusions on key trends in the industry after culling survey work on subscriber preferences.

**Taking broadband service into the home** (CED), Thomas E. Chapuran/Ronald C. Menendez/Stuart S. Wagner, Bellcore, Jan. 1997, p. 28. Results from a series of experimental and analytical studies of coaxial-cable premises-wiring impairments for digital broadband signals.

**TCI begins rollout of digital video** (CED), Dec. 1996, p. 12. After of years of hype and delayed rollouts, TCI finally begins deploying digital video in Connecticut.

**TCI launches telephony through Japanese partner** (CED), Aug. 1997, p. 12. Tele-Communications Inc.'s Japanese subsidiary, Jupiter Telecommunications, launches "CablePhone" service in Tokyo suburbs.

**TCI names digital box 2nd source** (CED), May 1997, p. 12. S-A licenses Sun's chip technology; After a long wait, things are starting to bubble in the digital set-top box cauldron.

**TCI redefines itself (again), charts new upgrade path** (CED), Leslie Ellis, June 1997, p. 74. TCI shows signs of renewed vigor in upgrade efforts and quarterly financial results.

**Unicom develops return modulation** (CED), April 1997, p. 14. Ultracom Communications is developing a new higher-order modulation (Variable Constellation/Multi-Tone Modulation) to overcome excessive noise in the return path.

**Video perks give data a sharper image** (CED), Fred Dawson, Sept. 1997, p. 90. New software tools enhance the prospects for adding innovative and highly advanced types of video content to high-speed data channels.

**Video servers to get facelift** (CED), Jan. 1997, p. 16. Summary of recent video server developments by Oracle, Digital Equipment Corp. and IBM.

**Videophone: After 40 years, an emerging service** (CED), Greg Hutterer/Todd Schieffert, ADC Telecommunications Inc.,

**1996-1997**  
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June 1997, p. 108. Videophone services are finally on the verge of widespread personal, educational and business use.

**Vyvx upgrades to digital platform** (CED), Oct. 1997, p. 16. Vyvx Advertising Distribution Services announces it has converted its extensive satellite network to digital.

**Will digital roll-out speed ITV, HDTV deployment?** (CED), Fred Dawson, Aug. 1997, p. 82. Recent developments on several fronts that are opening up opportunities for two-way multimedia may accelerate digital TV roll-out.

**Wrapping up management solutions with OSS** (CED), Michael Lafferty, Dec. 1996, p. 38. Operators have to be able to deliver both new and old services to the customer in a seamless, effortless manner without a glitch, and that means establishing an effective operational support system.

### Distortions and interference

**Are HFC networks at the breaking point?** (CED), Roger Brown, Dec. 1996, p. 30. A discussion of some the problems operators may run into as they try make their analog video networks a reliable pipeline for new services like high-speed data and telephony.

**Audio levels scream for attention** (CED), Linc Reed-Nickerson, Tektronix Inc., Oct. 1997, p. 54. Part three of series on headend maintenance that deals with audio levels, the biggest area for improvement in a cable system.

**Characterizing return path transmitters** (CED), John J. Kenney, Antech Technology Center, May 1997, p. 26. Understanding how over-driven optical transmitters degrade digitally modulated carriers.

**Curing common path distortion** (CED), Jim Farmer, Antec, Feb. 1997, p. 22. Farmer discusses an all too common problem in the return path - common path distortion (CPD).

**Digital delivers multi services over long distances** (CED), Tim Wilk, Scientific-Atlanta Inc., Sept. 1997, p. 46. As broadband operators strive to reduce costs while expanding services, fiber ring digital interconnects will play a key role.

**EDFA-based video lightwave trunking systems** (CED), Dr. Shlomo Ovadia, General Instrument Corp./Dr. Hongxing Dai, and Dr. Chinlon Lin, Bellcore, June 1997, p. 32. A review of the performance characteristics and applications of Erbium-doped optical fiber amplifier-based, multichannel AM/M-QAM video lightwave trunking systems.

**Effects of analog and digital signals** (CED), M. Stephen McConnell, Scientific-Atlanta Inc., Dec. 1996, p. 116. A discussion of the various situations that operators face when adding a digital tier of channels in an analog network.

**EMF: The invisible headend plague** (CED PMR), J. Terry Turner, VitaTech Engineering Inc., July 1997, p. 30. For many cable engineers, electromagnetic fields (EMFs) are unwelcome guests that occupy a variety of critical production spaces.

**Feedforward fine tunes fiber transmitters** (CED), Jim Farina, ADC Telecommunications Inc., Sept. 1997, p. 54. Recent developments have given new life to the idea that a feedforward approach for true error correction may work for cable television applications.

**How to calculate availability for HFC telephony** (CED), Farr Farhan & Lee Thompson, Scientific-Atlanta, Nov. 1996, p. 70. A discussion of the various elements involved in providing telephone service and its impact on the availability of network services.

**Making two-way work** (CED), Nov. 1996, p. 96. Respondents express their views on upgrading their systems to two-way.

**Noise and ingress performance in the return path** (CED), Bill Morgan, Hewlett-Packard, March 1997, p. 76. Third article in three-part series on the return path that discusses several ingress measurements to use in monitoring the return path.

**Optimizing reverse path loss in tree-and-branch architectures** (CED PMR), Tim Block, Cable System Services, Oct. 1997, p. 14. Temperature is often overlooked when trying to track down return path ingress in lengthy cascade tree-and-branch architectures.

**Plant managers walk tightrope: New services, old plant** (CED PMR), James Careless, Oct. 1997, p. 18. The ins and outs of balancing old plant performance in order to offer two-way services.

**Proactive return path maintenance** (CED), Bill Morgan, Hewlett-Packard, Nov. 1996, p. 86. Part II of three-part series on the return path, its characteristics and how to monitor and maintain it. (Part I/Oct. 1996; Part III/)

**Proper care and feeding of the headend** (CED), Linc Reed-Nickerson, Tektronix Inc., Sept. 1997, p. 72. The second report in a four-part series which discusses ways to assure that picture and sound quality will be competitive with DBS services.

**Pumping up the headend with preventive maintenance** (CED), Linc Reed-Nickerson, Tektronix Inc., Aug. 1997, p. 34. Part one of a four-part series on how operators can optimize headend performance through a dedicated preventive maintenance program.

**Rain and its effect on microwave spectrum** (CED), Jeffrey Krauss, Telecommunications and Technology Policy, May 1997, p. 24. Krauss discusses how to calculate the rain attenuation in the LMDS spectrum that's about to be auctioned off.

**Return path noise: Testing tool aids diagnosis** (CED), Robert Wells, Cable Television

Laboratories Inc. (CableLabs), Jan. 1997, p. 24. CableLabs' testing system, CW Tester, is reviewed.

**Return systems 102: what goes around...** (CED), Thomas J. Staniec, The Excalibur Group, A Time Warner Co., Dec. 1996, p. 62. As more networks are being activated with operational two-way signal flow, not only do new questions arise, but past solutions may need some refinement as well.

**Rhapsody in network management** (CED), Van Macatee, WTCI Inc.; Mitch Matteau, Arris Interactive, Oct. 1997, p. 62. A discussion on mastering the subtleties of network management.

**Round and round the testing goes** (CED), Michael Lafferty, Aug. 1997, p. 44. An panel of engineering professionals give their opinions on the common concerns, solutions and crystal ball predictions they have on improving their system's performance.

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**Testing 256 QAM transmission of data over HFC** (CED), Mark Ryba and Paul Matuszak, General Instrument Corp., Dec. 1996, p. 78. General Instrument Corp. has developed a 256 QAM transmission system that provides far more efficient use of cable system bandwidth and expands channel capacity.

### Emerging technologies

**The 1996 Western Show** (CED), Dec. 1996, p. 138. Booth guide listings

**5 MSOs commit to test TV On-Line** (CED), Dec. 1996, p. 14. Five major cable TV network operators are planning to field trial the "TV On-Line" data service WorldGate Communications.

**ADSL technology: Dead in its tracks?** (CED), Alan Stewart, Dec. 1996, p. 92. Once seen as the telco's secret weapon against cable TV, asymmetrical digital subscriber line (ADSL) seems to have been sidelined by the baby Bells as they scramble to maintain their local loop monopolies.

**An end to battery maintenance?** (CED PMR), Dana Cervenka, Oct. 1997, p. 26. New maintenance technologies, as well as new service offerings, can free up personnel to concentrate on more pressing matters.

**An interdiction play** (CV), Simon Applebaum, Feb. 17, 1997, p. 38. Chambers Communications rolls out interdiction.

**Apple, Showtime team on ITV technology** (CED), Jan. 1997, p. 14. Showtime Networks and Apple announce agreement to collaborate in several areas to jump-start the fledgling

interactive TV and multimedia industry.

**Are HFC networks at the breaking point?** (CED), Roger Brown, Dec. 1996, p. 30. A discussion of some of the problems operators may run into as they try make their analog video networks a reliable pipeline for new services like high-speed data and telephony.

**ATM sends multiple services via same HFC pipe** (CED), Staffan Nilsson, Broadband Services/Ingemar Dahlqvist, Ericsson Inc., June 1997, p. 102. A discussion on the advantages of using ATM (asynchronous transfer mode) as a transmission technology for multiple services via HFC.

**ATV channel numbering and navigation** (CED), Jeffrey Krauss, Telecommunications and Technology Policy, April 1997, p. 24. Krauss discusses the implications of digital TV that carry multiple standard definition programs, how to name or number the digital channels and how to navigate among them.

**Back to the (converging?) future** (CED), Michael Lafferty, Jan. 1997, p. 64. A panel of cable industry technology professionals offer up their predictions for the coming year.

**Barco acquires optical technology** (CED), Sept. 1997, p. 14. Barco expands its video product line by acquiring technology associated with digital optical transmission products from C-Cor Electronics.

**Beddow plans own fireworks show** (CED), Dana Cervenka, Aug. 1997, p. 18. Profile of David Beddows, senior vice president at TCI Technology Ventures Inc.

**Broadband CDMA gets tryout over phone** (CED), Aug. 1997, p. 14. InterDigital Communications Corp. announces the successful completion of its first live demonstration of Broadband-Code Division Multiple Access (B-CDMA) wireless local loop technology.

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the Data Over Cable Service Interface Specifications (DODSIS) effort nearing completion, the cable industry has taken the lead in the high-speed data race over the telco xDSL effort.

**Cable telephony: Ready to take off?** (CED), Compiled by CED Staff and written by Michael Lafferty, May 1997, p. 34. Overview of cable telephony efforts in the United States and abroad.

**Cable/telco co-op on new telephony gear** (CED), Nov. 1996, p. 14. Century communications and Citizens Telecom have jointly deployed an HFC-based system for a wide-ranging service trial.

**CableNET '96 zeroes in on data, net management** (CED), Dana Cervenka, Dec. 1996, p. 76. A preview of CableNET '96 and its more than 35 participants who will focus attendee attention on high-speed data and network management.

**Canadian cable ops band together, set to roll with data** (CED), James Careless, Jan. 1997, p. 70. Despite the absence of cable modem standards, three Canadian operators launch a nationally-branded Internet service provider product.

**CAI given OK for wireless lab** (CED), June 1997, p. 16. The FCC approves CAI Wireless Systems Inc.'s request to create a "wireless laboratory" to test two-way voice, video and data services in Pittsburgh, Pa.

**CAI given OK to operate in Boston** (CED), March 1997, p. 14. CAI Wireless Systems Inc. receives permanent authorization from the FCC to use its spectrum for fixed two-way video, voice and data services in Boston.

**CellularVision plans to offer data services** (CED), March 1997, p. 14. CT&T (formerly CellularVision Technology and Telecommunications) announces purchase of 100,00 internal PC modems and plans to begin high-speed wireless Internet service via its LMDS network.

**Chambers Cable to deploy interdiction** (CED), March 1997, p. 16. Chambers Communications Corp. announces decision to install consumer-friendly interdiction technology in two of its five cable systems undergoing rebuilds.

**Changing hats: Managing an HFC upgrade** (CED PMR), Walter T. Colquitt, OpTel, April 1997, p. 6. A discussion of the tools and expertise needed to make plant upgrades easier and more manageable.

**Closing the backdoor on signal theft** (CED), Kenneth Higgins, Backdoor Group Inc., June 1997, p. 52. The second of two winning papers from the NCTA's 10th Annual Signal Security Ideas Competition.

**Computer trio take TV angle** (CED), June 1997, p. 14. PC heavyweights-Compaq Computer Corp., Microsoft Corp. and Intel

Corp.-announce plans to work cooperatively with broadcasting and cable industries to exploit potential of digital television.

**Consumers, the DVD and copy protection** (CED), Wendell Bailey, NCTA, Feb. 1997, p. 20. Bailey discusses the varied ramifications of digital video devices (DVD) and digital signals and their impact on copyright laws and regulations.

**Cracking into the lucrative commercial marketing** (CED), Leo Wrobel, Premiere Network Services Inc., Sept. 1997, p. 78. First part in a series of articles dealing with how operators can position themselves to reap new revenues as they do battle with telecommunication competitors.

**Cracking the commercial telecom market** (CED), Leo Wrobel, Premiere Network Services Inc., Oct. 1997, p. 44. Part two of a series dealing with the right and wrong things to do in raiding the telco markets, ways to exploit the small or home office markets, and how to address big company service needs.

**Data and network management on menu at Western** (CED), CED staff, Jan. 1997, p. 74. Summary of the events, announcements and new products that debuted at the 1996 Western Show.

**Data modem spec inches closer to reality** (CED), CED staff, Apr. 1997, p. 60. A review of the major events, new products and seminars held at NCTA's '97 Cable Show in New Orleans, La.

**Data over cable? Just do it, says Cotter** (CED), Frank Cotter, Feb. 1997, p. 18. Cotter discusses his philosophy ("Just do it!") for entering the data-over-cable business.

**Data services gear up; modem std. a year away** (CED), Nov. 1996, p. 14. The three top MSOs debut high-speed data services, while CableLabs announces the industry is "likely" to see interoperable cable modems by the end of 1997.

**The dawning of a new day for data over cable** (CED), CED staff, Feb. 1997, p. 66. Review of SCTE's Conference on Emerging Technologies in Nashville, TN as well as the 1997 Polaris Award winner.

**Developing a GIS-based engineering toolkit** (CED), Brian Wade, SNET/Peter Batty, Smallworld Systems Inc., March 1997, p. 86. A discussion of how Southern New England Telecommunications (SNET) is overhauling its OSS infrastructure to deal with expanding broadband services.

**Digging deeper into network management** (CED), Leslie Ellis, July 1997, p. 44. What's a MIB (management information bases) and what they can do to make or break a network management system?

**Digital TV now close to reality** (CED), Jan. 1997, p. 14. Broadcast, computer and consumer electronics industries reach final agree-

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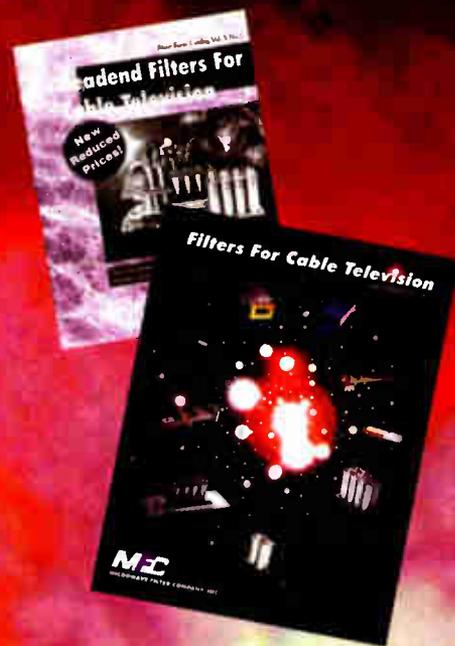
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ment to press the FCC to adopt a digital television standard.

**Digital video and transport connectivity options** (CED), Jay Shuler, Nortel, Nov. 1996, p. 80. A discussion on the structure and benefits of creating a video operations center (VOC) network.

**The DTV process has begun-Where are cable operators?** (CED), Andy Paff, Integration Technologies, June 1997, p. 62. A discussion considering the potentially weighty effects the FCC's recent digital television implementation ruling will have on the cable industry.

**EDFA-based video lightwave trunking systems** (CED), Dr. Shlomo Ovardia, General Instrument Corp./Dr. Hongxing Dai, and Dr. Chinlon Lin, Bellcore, June 1997, p. 32. A review of the performance characteristics and applications of Erbium-doped optical fiber amplifier-based, multichannel AM/M-QAM video lightwave trunking systems.

**Effects of analog and digital signals** (CED), M. Stephen McConnell, Scientific-Atlanta Inc., Dec. 1996, p. 116. A discussion of the various situations that operators face when adding a digital tier of channels in an analog network.

**FCC finally sets LMDS auctions** (CED), Sept. 1997, p.16. After months of delay, the FCC sets December 10 as the date it will begin auctioning spectrum to be used for local multipoint distribution service (LMDS).

**FTTH: Are telcos headed back to the future?** (CED), Fred Dawson, Mar. 1997, p. 105. RBOC leaders predict aggressive fiber-to-the-home (FTTH) strategy is taking shape in the telephone industry.

**Gaining momentum using two-way coax plant for data** (CED), Alon Carmeli, Terayon Corp., April 1997, p. 54. A comparison of S-CDMA access systems running over two-way, pure coaxial plants with telephony-return cable modem solutions.

**Getting ready for cable's digital era** (CED), Roger Brown, March 1997, p. 60. Operators are now rolling out fully featured digital boxes that promise to rewrite the way systems roll out new services.

**GI offers turnkey data solutions** (CED), April 1997, p. 12. GI's NextLevel Satellite Data Networks Group forges new alliances with companies like Community Networks Inc. (CNI) to provide turnkey high-speed data solutions.

**GI to build VSB-to-QAM device** (CED), Aug. 1997, p. 12. General Instrument Corp. announces plans to develop and manufacture a VSB-to-QAM transcoder to facilitate the integration of digital broadcast signals into existing cable channel lineups.

**GI, Rogers test 256-QAM in field** (CED), Dec. 1996, p. 12. General Instrument and Rogers CableSystems successfully test 256-QAM, a higher-order quadrature amplitude modulation method that gives 44 percent more channel capacity.

**Grafting WDM onto existing cable systems** (CED), Venk Mutalik, Philips Broadband Networks Inc., Feb. 1997, p. 54. An examination of the theory and practice of wavelength division multiplexing (WDM) techniques in modem cable TV networks.

**The great Sonet debate: Primed for video?** (CED), Dana Cervenka, Sept. 1997, p. 30. While the Sonet (synchronous optical network) platform has been embraced by some for high-speed data and voice transport, there's still some question whether it will make the grade for video transport.

**The high-speed data race is on; cable and MMDS ops do battle** (CED), April 1997, p. 12. The race to provide high-speed data heats up as several cable TV and MMDS operators commit to modem purchases and roll out customized services.

**How about a data guide clearing-house?** (CED), Wendell Bailey, NCTA, Aug. 1997, p. 22. With digital video and potentially hundreds of channels in the offing, Bailey asks how subscribers are going to find their way

around this plethora of programming.

**HOH: A new money saving idea** (CED), Jim Farmer, Antec, April 1997, p. 22. Farmer discusses the advantages of developing a cooling system using hydrogen hydroxide (HOH).

**Hughes debuts new satellite dish** (CED), Sept. 1997, p. 14. Hughes Network Systems unveils newly designed satellite dish that is capable of receiving both video and data over satellites.

**Hybrid WDM systems for video trunking** (CED), Chinlon Lin, Keang-Po Ho, Hongxing Dai & Jinyi Pan, Bellcore/Hermann Gysel, Mani Ramachandran, Synchronous Communications, Nov. 1996, p. 30. Simulation results indicate high-performance trunking of both digital and analog video channels can be achieved with proper design of a hybrid WDM system.

**Implementing security for data-over-cable** (CED), Gerry White, Bay Networks Inc./Chet Birger, May 1997, p. 66. Part two of a two-part article on the unique security issues that HFC networks must deal with and the modern cryptographic technology that can be used to provide the security that operators and their customers need.

**Interdiction enjoys comeback** (CED), April 1997, p. 14. It's deja vu as Motorola and Scientific-Atlanta announce significant enhancements and upgrades to video signal transport systems through new interdiction systems.

**Internet security system offered to cable MSOs** (CED), March 1997, p. 16. TimeStep Corp. launches an Internet security program designed for Internet Service Providers (ISPs), cable TV systems and telcos.

**Iridium now has 17 birds flying** (CED), Sept. 1997, p. 16. Progress on the Iridium satellite system is proceeding as expected.

**Is HDTV doomed from the beginning?** (CED), Jeffrey Krauss, Telecommunications and Technology Policy, Aug. 1997, p. 24. Continued disagreement over the digital base-band interface that's suppose to connect digital TVs, VCRs and cable boxes could endanger the HDTV rollout.

**The issue: DBS competition** (CED), Aug. 1997, p. 88. Reader poll finds that while most operators discount DBS penetration rates, at least half of them report they've either lowered prices or offered special promotions to combat DBS competition.

**Keeping nature at bay during the summer** (CED PMR), Michael Lafferty, July 1997, p. 6. Ways to allieviate the havoc that summer weather can reek on men and machines in the cable network.

**Keeping up with the big guys** (CED), Michael Lafferty, July 1997, p. 76. Innovative software developers and small and medium-sized operators are joining forces to catapult

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their cable customers onto the information superhighway.

**Lab focuses on modem interoperability** (CED), Robert Wells, CableLabs, Sept. 1997, p. 26. An overview of CableLabs' latest project-interoperability testing-now that the modem specification writing phase is winding down.

**Leading-edge software drives systems to new heights** (CED), Craig Kuhl, Oct. 1997, p. 36. An overview of the software available that can assist operators in dealing with dispatching, billing, customer care, marketing and overall plant management.

**Lessons from the pioneers of cablephone** (CED), Bob Stanzone, Arris Interactive, an Antec/Nortel joint venture, July 1997, p. 26. Making a case for the cable industry's ability to provide telephone.

**LMDS auction rules shut out cable MSOs** (CED), May 1997, p. 16. The FCC's newly proposed rules for upcoming auction of LMDS spectrum excludes participation of local MSOs and telcos.

**LSI Logic develops digital chips for BBC** (CED), Aug. 1997, p. 16. LSI Logic reaches agreement with BBC to develop a single-chip digital terrestrial television solution.

**Microsoft plots TV entrance strategy** (CED), Feb. 1997, p. 16. Microsoft Corporation announces partnerships with 50 consumer electronics companies, TV distribution companies and content developers to "make PCs more interactive."

**Modems, test gear, return path hot at Expo** (CED), CED staff, July 1997, p. 46. Summary of the products, seminars and important developments at SCTE's 1997 Cable-Tec Expo in Orlando, Fla.

**Monet group shows off WDM** (CED), Apr. 1997, p. 16. The Multiwavelength Optical Networking (Monet) consortium unveils an eight-wavelength, configurable network linking high-capacity testbeds in three New Jersey locations.

**MSOs: IP telephony plan no longer stuck on 'hold'** (CED), Fred Dawson, Oct. 1997, p. 72. IP (Internet protocol) telephony has moved to the front burner with MSOs rethinking their strategies for voice services and data networking.

**National data net could be the key to new services** (CED), Fred Dawson, June 1997, p. 116. Cable MSOs have come to the realization that they can create a truly competitive nationwide network infrastructure for data-based communications.

**Navio's software found to be seamless** (CED), Oct. 1997, p. 14. Navio Communications and Interactive Cable Communications Inc. announce successful field tests in Japan of Navio's TV Navigator, which provides viewers Internet access with-

out personal computers.

**Nebraska op cashes in on educational data** (CED), Leslie Ellis, Oct. 1997, p. 68. Case study of Galaxy Cablevision and how they turned their upgrade into a revenue generating opportunity and partnership for distance learning.

**Necessity drives small ops to new technologies** (CED), Craig Kuhl, June 1997, p. 92. Small cable operators are becoming more innovative, and inventive, in their use of advancing technologies.

**Network management: Creating a virtual presence** (CED), Alan Gordon, Superior Electronics Group Inc., July 1997, p. 38. Network management systems provide operators a virtual presence, or the ability to view the status of their systems anywhere in the plant at any time.

**New automated software debuts for cable MSOs** (CED), Aug. 1997, p. 14. Columbine JDS announces the release of software package touted as the first totally integrated management information system that electronically links all critical business processes.

**New fiber optic start-up company puts Dense WDM onto a chip** (CED), Mar. 1997, p. 12. Lightwave Microsystems has achieved breakthroughs in polymer optical technology which will enable new dense wavelength division multiplexing products.

**New modems appear on the scene; supported by range of new products** (CED), Jan. 1997, p. 12. Overview of pre-Western Show announcements of new modems, new components for modems, field tests and back office support.

**New optical components introduced by S-A** (CED), July 1997, p. 16. Scientific-Atlanta Inc. introduces new 1550 and 1310 nm products.

**New trend: Traffic control times two** (CED), Tom Robinson, River Oaks Communications Corp., Nov. 1996, p. 114. Local governments are looking at traffic signaling infrastructure to provide transport for other types of data, voice and video communications.

**Next-generation FSS may prove formidable** (CED), Fred Dawson, May 1997, p. 76. The next generation Ka-band fixed satellite services (FSS) slated to launch in '99 and beyond promise to alter the parameters for satellite participation in broadband communications.

**NextLevel invest in ACTV, WorldGate** (CED), Sept. 1997, p. 16. NextLevel Systems Inc. makes major investments in ACTV Inc. and WorldGate Communications to spur development of applications for advanced analog and digital set-tops.

**Noise and ingress performance in the return path** (CED), Bill Morgan, Hewlett-Packard, March 1997, p. 76. Third article in three-part

series on the return path that discusses several ingress measurements to use in monitoring the return path.

**Operators look at back-door telephony service** (CED), April 1997, p. 48. Internet telephony, or voice over IP services, could open the door to a variety of telephony services for operators who don't want to invest the time or money in more traditional lifeline telephony service.

**Optical network technology** (CED), John Holobinko/Bill Hartman, ADC Telecommunications Inc., July 1997, p. 28. A discussion of how optical networks and dense WDM (Wave Division Multiplexing) technology can serve the economic interests of cable operators.

**Optical receiver stubs fit today's networks** (CED), Dean Yamasaki, Siecor Corp., Feb. 1997, p. 44. Factory pre-connectorized cable assemblies (aka: "stubbed" assemblies) can help meet the demands associated with fiber deployment deeper into system.

**Ortel offers new EDFAs** (CED), Sept. 1997, p. 16. Ortel Corp. introduces four new erbium-doped fiber amplifiers for OEM manufacturers and system integrators.

**PCS and cable: A natural complement** (CED), Yvette C. Hubbel/John Sabat, Jr., Sanders, a Lockheed-Martin Co., Aug. 1997, p. 58. A description of a network architecture and system solution (PCS-Over-Cable system) that will make the "anywhere, anytime" PCS vision a reality.

**PCS may be true road to cable telephony** (CED), Fred Dawson, Nov. 1996, p. 92. A possible option to the all-wireline approach for cable telephony is discussed.

**Plant managers walk tightrope: New services, old plant** (CED PMR), James Careless, Oct. 1997, p. 18. The ins and outs of balancing old plant performance in order to offer two-way services.

**Power distribution cables in HFC networks** (CED), Dan Kerr, Continental Cablevision/Mark Alrutz, CommScope Inc., Dec. 1996, p. 108. The pros and cons of centralized versus distributed powering systems.

**Power migration strategies for future-proofing** (CED), Rick Marcotte, Exide Electronics' Communications Group, June 1997, p. 96. Considerations to take into account when planning or upgrading a cable system's powering architecture.

**Putting the interactive platform in place** (CED), Dana Cervenka, March 1997, p. 50. Panel of MSO engineers discuss their progress on activating the return path and increasing their system's reliability.

**RCN, Boston agree on OVS arrangement** (CED), Aug. 1997, p. 14. RCN Corp. reaches agreement with the City of Boston to provide video services under the Open Video System

(OVS) provision of the 1996 Telecom Act.

**Real-time reverse: An upgradable architecture for HFC** (CED), William E. Wall, Scientific-Atlanta, March 1997, p. 68. A description and discussion of a new approach (real-time reverse) for the deployment of two-way digital technologies.

**Return systems 102: what goes around...** (CED), Thomas J. Staniec, The Excalibur Group, A Time Warner Co., Dec. 1996, p. 62. As more networks are being activated with operational two-way signal flow, not only do new questions arise, but past solutions may need some refinement as well.

**Revealing the mystical 'S' curve** (CED), Jim Farmer, Antec, Sept. 1997, p. 22. Farmer explains his 'S' curve concept that he uses to track the progression of particular technology.

**Round and round the testing goes** (CED), Michael Lafferty, Aug. 1997, p. 44. A panel of engineering professionals give their opinions on the common concerns, solutions and crystal ball predictions they have on improving their system's performance.

**S-A and GI chart new courses** (CED), July 1997, p. 12. Scientific-Atlanta Inc. and General Instruments introduce new products (Sonet transmissions products and digital loop carrier products respectively) to attract new customers.

**S-A enters high-speed data market, offering telco return unit for \$199** (CED), Dec. 1996, p. 12. Convinced the time is right, Scientific-Atlanta Inc. announces its plans to build a low-cost (\$199), telephone return data modem.

**SatCon gets order from electric utility** (CED), March 1997, p. 12. SatCon Technology Corp. gets the chance to demonstrate and evaluate its unique flywheel technology in trial with San Diego Gas and Electric and Time Warner Cable.

**Satellite plans pose new competition** (CED), Jeffrey Krauss, Telecommunications & Technology Policy, Sept. 1997, p. 24. A review of two recent developments in satellite communications—a new low earth orbit (LEO) system; and a proposal to carry local TV stations to home dishes at Ka-band.

**SeaChange, IPC team for VOD** (CED), Jan. 1997, p. 16. SeaChange International and IPC Interactive Inc. will jointly develop new digital platform to deliver network-based video-on-demand services.

**Security in hybrid fiber/coax based networks** (CED), Gerry White, Bay Networks Inc./Chet Birger, Apr. 1997, p. 26. Part one of a two-part discussion of the unique security issues that HFC networks must deal with and the modern cryptographic technology that can be used to provide the security that operators and their customers need.

**Setting up a sting to snag cable crooks** (CED), Harry Maxwell, Cablevision Systems

Corp., June 1997, p. 46. First of two winning papers from the NCTA's 10th Annual Signal Security Ideas Competition.

**Signs point to broadband wireless onslaught** (CED), Fred Dawson, July 1997, p. 82.

Technology has pushed ahead to where the means of wireless attack are available across many frequency zones.

**So you want to cash in on high-speed data?** (CED), Michael Lafferty, April 1997, p. 42.

The industry is going to need some help in deploying datacom services and system integrators may have what it takes to get some operators up and running on the information superhighway.

**Sorting out the satellite confusion** (CED), Jeffrey Krauss, Telecommunications and Technology Policy, July 1997, p. 24. A summary of the new satellite systems recently authorized by the FCC.

**Spectrum waste and digital must-carry** (CED), Walter S. Ciciora, Aug. 1997, p. 102. Ciciora views must-carry applicability for digital TV as a waste of spectrum and a slap in the face to viewer's programming prerogatives.

**Statmux boosts digital channels** (CED), April 1997, p. 14. General Instrument upgrades its digital compression system to transmit 16 video channels on a single 26-MHz satellite transponder.

**Stretching the HDTV envelope with a standard** (CED), Michael Lafferty, March 1997, p. 42. While the HDTV standard has finally been "set" by the FCC, nagging regulatory and technical issues still exist.

**Swiss test shows cellular TV works** (CED), Oct. 1997, p. 14. A successful 10-month trial of LMDS (local multipoint distribution services) technology in Switzerland prompts a commercial rollout by Swiss Telecom.

**Taking back-up power underground** (CED), Roger Brown, Dec. 1996, p. 114. Once a technological curiosity, it seems continuing development of high-speed flywheel technology could make it a viable option as a backup electrical power source.

**TCI begins rollout of digital video** (CED), Dec. 1996, p. 12. After years of hype and delayed rollouts, TCI finally begins deploying digital video in Connecticut.

**TCI launches telephony through Japanese partner** (CED), Aug. 1997, p. 12. Telecommunications Inc.'s Japanese subsidiary, Jupiter Telecommunications, launches "CablePhone" service in Tokyo suburbs.

**TCI names digital box 2nd source** (CED), May 1997, p. 12. S-A licenses Sun's chip technology; After a long wait, things are starting to bubble in the digital set-top box cauldron.

**Telco guy finds a home in cable** (CED), Dana Cervenka, Oct. 1997, p. 18. Profile of Mark Davis, Cox Communications' director of

engineering for telephony.

**Telco video plans becoming clearer all the time** (CED), CED Staff, Nov. 1996, p. 42.

Annual review of individual telco plans, trials and technology being used in deploying broadband services.

**Testing 256 QAM transmission of data over HFC** (CED), Mark Ryba and Paul Matuszak, General Instrument Corp., Dec. 1996, p. 78. General Instrument Corp. has developed a 256 QAM transmission system that provides far more efficient use of cable system bandwidth and expands channel capacity.

**These days, Craddock is digging in bigger bins** (CED), Dana Cervenka, Sept. 1997, p. 18. Profile of cable veteran and Comcast Corporation's vice president of New Media Development, Steve Craddock.

**TWC issues RFP for interactive TV** (CED), June 1997, p. 16. Time Warner Cable issues a request for proposal and request for quote for its "Pegasus" digital set-top, i.e., software and hardware solutions to support full video-on-demand and the addition of its RoadRunner high-speed data service over the television.

**TWC, Wink team to enhance programs** (CED), Sept. 1997, p. 14. The Weather Channel signs on to add interactive Wink technology to its national signal, 24 hours a day, seven days a week.

**Uncle Sam wants you for EAS** (CED PMR), Dana Cervenka, July 1997, p. 26. After a recent postponement, several issues still need to be resolved before the FCC is able to establish a final compliance schedule for its new Emergency Alert System (EAS).

**Unicom develops return modulation** (CED), April 1997, p. 14. Ultracom Communications is developing a new higher-order modulation (Variable Constellation/Multi-Tone Modulation) to overcome excessive noise in the return path.

**Vendors launch new ADSL equipment** (CED), Nov. 1996, p. 16. A variety of vendors announce new ADSL product offerings.

**Video perks give data a sharper image** (CED), Fred Dawson, Sept. 1997, p. 90. New software tools enhance the prospects for adding innovative and highly advanced types of video content to high-speed data channels.

**Video servers to get facelift** (CED), Jan. 1997, p. 16. Summary of recent video server developments by Oracle, Digital Equipment Corp. and IBM.

**Videophone: After 40 years, an emerging service** (CED), Greg Hutterer/Todd Schieffert, ADC Telecommunications Inc., June 1997, p. 108. Videophone services are finally on the verge of widespread personal, educational and business use.

**Web giants hope to bridge a multimedia gap** (CED), Fred Dawson, Dec. 1996, p. 124. Two powerful camps in the Silicon Valley

landscape are slugging it out over a video streaming standard that will have a direct impact on cable's high-speed data future.

**Whole-house service gets a face lift** (CED), Roger Brown, June 1997, p. 68. The set-top less whole-house service paradigm, using inter-diction and broadband scrambling schemes, is getting a new look from companies that dismissed the idea just a few years ago.

**Will digital roll-out speed ITV, HDTV deployment?** (CED), Fred Dawson, Aug. 1997, p. 82. Recent developments on several fronts that are opening up opportunities for two-way multimedia may accelerate digital TV roll-out.

**Wink gets thumbs-up from NBC and HITS** (CED), Aug. 1997, p. 16. Wink Communications forges encoding deals with NBC and TCI's Headend In The Sky.

**Wrapping up management solutions with OSS** (CED), Michael Lafferty, Dec. 1996, p. 38. Operators have to be able to deliver both new and old services to the customer in a seamless, effortless manner without a glitch, and that means establishing an effective operational support system.

**Zenith works deals for 'Net TVs and boxes** (CED), Feb. 1997, p. 14. Zenith Electronics Corp. and Navio Communications Inc. announce plans to collaborate on consumer-based Internet software and services.

### Engineering management

**Cable's drug and alcohol policies mature** (CED), Craig Kuhl, Sept. 1997, p. 84. Drug and alcohol testing, as well as rehabilitation programs have become a staple in the industry over the last five years.

**Changing hats: Managing an HFC upgrade** (CED PMR), Walter Colquitt, Optel, April 1997, p. 6. A discussion of the tools and expertise needed to make plant upgrades easier and more manageable.

**Composite power and reverse clipping** (CED), Lamar E. West, Scientific-Atlanta Inc., Aug. 1997, p. 26. A discussion of multi-tone intermodulation distortion testing and an alternative technique to determine the upper limits for signal handling capacity.

**Developing a GIS-based engineering toolkit** (CED), Brian Wade, SNET/Peter Batty, Smallworld Systems Inc., March 1997, p. 86. A discussion of how Southern New England Telecommunications (SNET) is overhauling its OSS infrastructure to deal with expanding broadband services.

**Fleet management: Weighing the alternatives** (CED PMR), Michael Lafferty, Oct. 1997, p. 22. A discussion on the pros and cons of outsourcing fleet management services.

**How to insure a healthier bottom line** (CED PMR), Craig Kuhl, July 1997, p. 14. Discussion on how operators can improve their

insurance plans.

**Justifying funding for tomorrow's network** (CED PMR), Leo Worbel, Premiere Network Services Inc., Oct. 1997, p. 6. A discussion of how one can influence financial executives to fund expensive system upgrades.

**Keeping the lines of communications open** (CED PMR), Michael Lafferty, April 1997, p. 12. The do's and don'ts that make today's operator/contractor relationships work better and more efficiently.

**Operational issues transformed by perspective shift** (CED), Andy Paff, Integration Technologies, Dec. 1996, p. 56. Operators contemplating entry into the brave new world of transactional telecommunications services also face new and critical operational and management issues.

**Taking control of materials management** (CED PMR), Laird Simons, Sprint North Supply, July 1997, p. 22. Outsourcing materials management can help improve project efficiency and boost bottom-line performance.

**What comes first? The human or the machine?** (CED), Michael Lafferty, Sept. 1997, p. 62. CED's annual Salary and System Survey details industry worker concerns and system activity.

### Farmer's Market

**Cable and the mumpsimus syndrome** (CED), Jim Farmer, Antec, Jan. 1997, p. 20. Competition is forcing the cable industry to question its "immutable" principles and concepts.

**The comet is here: Are you ready to see it?** (CED), Jim Farmer, Antec, March 1997, p. 22. Farmer describes the lessons that can be learned from the example of the comet, Hale-Bopp.

**Curing common path distortion** (CED), Jim Farmer, Antec, Feb. 1997, p. 22. Farmer discusses an all too common problem in the return path - common path distortion (CPD).

**The effect of bits on baud demystified** (CED), Jim Farmer, Antec, Oct. 1997, p. 22. An explanation of the difference between bit-per-second and a baud.

**The fall-out from one really dirty word** (CED), Jim Farmer, Antec, May 1997, p. 22. Farmer warns against assuming too much in any situation.

**HOH: A new money saving idea** (CED), Jim Farmer, Antec, April 1997, p. 22. Farmer discusses the advantages of developing a cooling system using hydrogen hydroxide (HOH).

**In a stew about using precise language** (CED), Jim Farmer, Antec, June 1997, p. 26. Getting sloppy with language, especially the precise language of engineering, reduces its utility and beauty.

**The more things in cable change** (CED), Jim Farmer, Antec, Aug. 1997, p. 22. There have

been a lot of changes in the cable industry, but Farmer believes the fun and the challenges in the industry are unchanged.

**Resolution and bandwidth: The twins** (CED), Nov. 1996, p. 22. Interlace and progressive scan formats and their relation to HDTV are discussed.

**Revealing the mystical 'S' curve** (CED), Jim Farmer, Antec, Sept. 1997, p. 22. Farmer explains his 'S' curve concept that he uses to track the progression of particular technology.

**Seasonal colors and bandwidth reduction** (CED), Jim Farmer, Antec, Dec. 1996, p. 24. Getting sloppy with language, especially the precise language of engineering, reduces its utility and beauty.

**Still brewing about using precise language** (CED), Jim Farmer, Antec, July 1997, p. 22. When are communications engineers going to learn to communicate?

### Fiber optics

**1997-98 CED Cable TV Fiber Topologies Comparison Chart** (CED), CED staff, Sept. 1997, insert between pages 90-91. Special pull-out wall chart detailing "typical" fiber optic network designs used to solve most operator's needs.

**Barco acquires optical technology** (CED), Sept. 1997, p. 14. Barco expands its video product line by acquiring technology associated with digital optical transmission products from C-Cor Electornics.

**Cablevision wins NESC battle with SNET** (CED), Mar. 1997, p. 12. Cablevision Systems scores win over SNET in Connecticut court battle over safety code violations.

**Characterizing return path transmitters** (CED), John J. Kenney, Antech Technology Center, May 1997, p. 26. Understanding how over-driven optical transmitters degrade digitally modulated carriers.

**Cities find that "The plan's the thing"** (CED), Thomas G. Robinson, River Oaks Communications Corp., Jan. 1997, p. 106. The benefits of creating local telecommunications master plans is discussed.

**Composite power and reverse clipping** (CED), Lamar E. West, Scientific-Atlanta Inc., Aug. 1997, p. 26. A discussion of multi-tone intermodulation distortion testing and an alternative technique to determine the upper limits for signal handling capacity.

**Cooking up a recipe for fiber reliability** (CED), Fred Slowik, NextLevel Systems Inc., Oct. 1997, p. 30. Discussion and explanation of 'BLASTER,' a fiber optic design concept developed to enhance overall network reliability.

**Data and network management on menu at Western** (CED), CED staff, Jan. 1997, p. 74. Summary of the events, announcements and new products that debuted at the 1996 Western

Show.

**Data modem spec inches closer to reality** (CED), CED staff, Apr. 1997, p. 60. A review of the major events, new products and seminars held at NCTA's '97 Cable Show in New Orleans, La.

**Digital delivers multi services over long distances** (CED), Tim Wilk, Scientific-Atlanta Inc., Sept. 1997, p. 46. As broadband operators strive to reduce costs while expanding services, fiber ring digital interconnects will play a key role.

**EDFA-based video lightwave trunking systems** (CED), Dr. Shlomo Ovadia, General Instrument Corp./Dr. Hongxing Dai, and Dr. Chinlon Lin, Bellcore, June 1997, p. 32. A review of the performance characteristics and applications of Erbium-doped optical fiber amplifier-based, multichannel AM/M-QAM video lightwave trunking systems.

**Feedforward fine tunes fiber transmitters** (CED), Jim Farina, ADC Telecommunications Inc., Sept. 1997, p. 54. Recent developments have given new life to the idea that a feedforward approach for true error correction may work for cable television applications.

**Fiber preventive maintenance** (CED PMR), Wayne Pope, Tele-Communications Inc./John Chamberlain, Norscan Inc., April 1997, p. 18. A new product increases plant reliability by monitoring its highest revenue-carrying portion.

**From the first splice to the cutting-edge** (CED), Wendell Bailey, NCTA, Sept. 1997, p. 20. The increasing use of fiber optics in today's cable plant presents a whole new set of problems.

**FTTH: Are telcos headed back to the future?** (CED), Fred Dawson, Mar. 1997, p. 105. RBOC leaders predict aggressive fiber-to-the-home (FTTH) strategy is taking shape in the telephone industry.

**Grafting WDM onto existing cable systems** (CED), Venk Mutalik, Philips Broadband Networks Inc., Feb. 1997, p. 54. An examination of the theory and practice of wavelength division multiplexing (WDM) techniques in modem cable TV networks.

**The great Sonet debat: Primed for video?** (CED), Dana Cervenka, Sept. 1997, p. 30. While the Sonet (synchronous optical network) platform has been embraced by some for high-speed data and voice transport, there's still some question whether it will make the grade for video transport.

**How to migrate from HFC to a Sonet network** (CED), Gary Briggs, Fujitsu Network Communications, Sept. 1997, p. 40. Migrating from an HFC to a Sonet network isn't as difficult or expensive as it was a short time ago, and makes a great deal of sense for those looking to expand service offerings.

**Hybrid WDM systems for video trunking**

(CED), Chinlon Lin, Keang-Po Ho, Hongxing Dai & Jinyi Pan, Bellcore/Hermann Gysel, Mani Ramachandran, Synchronous Communications, Nov. 1996, p. 30. Simulation results indicate high-performance trunking of both digital and analog video channels can be achieved with proper design of a hybrid WDM system.

**Implementing redundant fiber architecture** (CED), Dr. Eric Schweitzer, Harmonic Lightwaves, Feb. 1997, p. 28. Advanced services such as VOD, Internet access and telephony are escalating the demand for "interrupt free" service which features both power and route redundancy.

**The issue: 1997 construction plans** (CED), Apr. 1997, p. 80. Reader poll confirms industry rumblings that 1997 will see a lot of plant upgrades, new headends and fiber optic deployments.

**Keeping Continental on the fast track** (CED), Roger Brown, Jan. 1997, p. 40. Profile of CED's Man of the Year award recipient, David Fellows, Continental Cablevision's senior vice president of engineering.

**Modems, test gear, retrun path hot at Expo** (CED), CED staff, July 1997, p. 46. Summary of the products, seminars and important developments at SCTE's 1997 Cable-Tec Expo in Orlando, Fla.

**Monet group shows off WDM** (CED), Apr. 1997, p. 16. The Multiwavelength Optical Networking (Monet) consortium unveils an eight-wavelength, configurable network linking high-capacity testbeds in three New Jersey locations.

**National data net could be the key to new services** (CED), Fred Dawson, June 1997, p. 116. Cable MSOs have come to the realization that they can create a truly competitive nationwide network infrastructure for data-based communications.

**Nebraska op cashes in on educational data** (CED), Leslie Ellis, Oct. 1997, p. 68. Case study of Galaxy Cablevision and how they turned their upgrade into a revenue generating opportunity and partnership for distance learning.

**New fiber optic start-up company puts Dense WDM onto a chip** (CED), Mar. 1997, p. 12. Lightwave Microsystems has achieved breakthroughs in polymer optical technology which will enable new dense wavelength division multiplexing products.

**New optical components introduced by S-A** (CED), July 1997, p. 16. Scientific-Atlanta Inc. introduces new 1550 and 1310 nm products.

**New trend: Traffic control times two** (CED), Tom Robinson, River Oaks Communications Corp., Nov. 1996, p. 114. Local governments are looking at traffic signaling infrastructure to provide transport for other types of data, voice

and video communications.

**Optical network technology** (CED), John Holobinko/Bill Hartman, ADC Telecommunications Inc., July 1997, p. 28. A discussion of how optical networks and dense WDM (Wave Division Multiplexing) technology can serve the economic interests of cable operators.

**Optical receiver stubs fit today's networks** (CED), Dean Yamasaki, Sicc Corp., Feb. 1997, p. 44. Factory pre-connectorized cable assemblies (aka: "stubbed" assemblies) can help meet the demands associated with fiber deployment deeper into system.

**Ortel offers new EDFAs** (CED), Sept. 1997, p. 16. Ortel Corp. introduces four new erbium-doped fiber amplifiers for OEM manufacturers and system integrators.

**Producing optimum link performance** (CED), Lamar E. West, Scientific-Atlanta, Mar. 1997, p. 26. A discussion of the optimum modulation index for the reverse path.

**RCN teams with Washington utility to offer bundled cable, telephony** (CED), Oct. 1997, p. 12. Potomac Electric Power Co. and RCN Corp. team up to provide local and long distance telephone, cable TV and Internet services in Washington D.C. suburbs.

**S-A acquires Danish manufacturer** (CED), Apr. 1997, p. 16. Scientific-Atlanta Inc. completes purchase of Arcoden A/S, a Danish manufacturer of headend systems, opto-electronics and RF distribution equipment.

**Security in hybrid fiber/coax based networks** (CED), Gerry White, Bay Networks Inc./Chet Birger, Apr. 1997, p. 26. Part one of a two-part discussion of the unique security issues that HFC networks must deal with and the modern cryptographic technology that can be used to provide the security that operators and their customers need.

**Taking broadband service into the home** (CED), Thomas E. Chapuran, /Ronald C. Menendez/Stuart S. Wagner, Bellcore, Jan. 1997, p. 28. Results from a series of experimental and analytical studies of coaxial-cable premises-wiring impairments for digital broadband signals.

**World fiber market due for high growth** (CED), June 1997, p. 14. Published report says fiber optic market will post double digit gains annually between now and 2002.

## Frontline

**Bailey's wish list for the cable industry** (CED), Wendell Bailey, NCTA, Dec. 1996, p. 22. Bailey puts a technological spin on the traditional holiday gift list.

**Consumers, the DVD and copy protection** (CED), Wendell Bailey, NCTA, Feb. 1997, p. 20. Bailey discusses the varied ramifications of digital video devices (DVD) and digital signals and their impact on copyright laws and

regulations.

**From the first splice to the cutting-edge** (CED), Wendell Bailey, NCTA, Sept. 1997, p. 20. The increasing use of fiber optics in today's cable plant presents a whole new set of problems.

**How about a data guide clearing-house?** (CED), Wendell Bailey, NCTA, Aug. 1997, p. 22. With digital video and potentially hundreds of channels in the offing, Bailey asks how subscribers are going to find their way around this plethora of programming.

**How to build a stainless steel house** (CED), Wendell Bailey, NCTA, Nov. 1996, p. 20.

Two-way services revive discussion on just how much and what kind of information service providers can collect on their customers.

**It's time to take the blinders off** (CED), Wendell Bailey, NCTA, Jan. 1997, p. 18.

Bailey underscores the need to innovate citing an interesting book he recently read.

**Operational issues for digital have arrived** (CED), Wendell Bailey, NCTA, May 1997, p. 20. The FCC's digital TV mandate for broadcasters generates a host of issues for cable operators to deal with.

**Outside of the service comfort zone** (CED), Wendell Bailey, NCTA, July 1997, p. 20.

When it comes to overstatement in the past, the RBOCs and cable companies are expert, but it seems the cable companies have a little more to show for their efforts recently.

**The people behind the National Show** (CED), Wendell Bailey, NCTA, March 1997, p. 20. Bailey gives a behind-the-scenes look at the people at the NCTA who organize the NCTA National Show.

**Set the bar high, and raise it constantly** (CED), Wendell Bailey, NCTA, June 1997, p. 22. Bailey asserts that in the face of looming competition, cable operators and the industry in general should get their business practices act together and focus on improving customer service.

**Signing off as NCTA VP, looking to the future** (CED), Wendell Bailey, NCTA, Oct. 1997, p. 20. Wendell Bailey bids adieu to NCTA and ponders his future.

**Supplying too much of the wrong thing?** (CED), Wendell Bailey, NCTA, April 1997, p. 20. Bailey questions whether the idea that provisioning a broadband, switched, two-way network for every single person and place in the United States is a laudable goal.

## Headend issues

**1997-1998 Frequency Allocation Chart** (CED), Aug. 1997, insert between p. 84 and p. 85. Special pull-out wall chart diagramming RF frequency spectrum allocations.

**Audio levels scream for attention** (CED), Linc Reed-Nickerson, Tektronix Inc., Oct. 1997, p. 54. Part three of series on headend

maintenance that deals with audio levels, the biggest area for improvement in a cable system.

**Building an efficient headend for data** (CED), Adrian Jones, Terayon Corp., Aug. 1997, p. 76. The first of a two-part article to discuss the issues in deploying data services over a broadband cable network.

**Building an efficient headend for data** (CED), Adrian Jones, Terayon Communication Systems, Sept. 1997, p. 86. The second part of a series dealing with the major headend architectural and operational issues in deploying data services over a broadband cable network.

**CED Orbital Arc Chart** (CED), CED staff, May 1997, insert (between pages 92-93). Special pull-out wall chart depicting positioning of C-, Ku- and C/Ku-band video satellites, along with lists on polarization and cable programming transponder assignments of applicable satellites.

**Data and network management on menu at Western** (CED), CED staff, Jan. 1997, p. 74. Summary of the events, announcements and new products that debuted at the 1996 Western Show.

**EMF: The invisible headend plague** (CED PMR), J. Terry Turner, VitaTech Engineering Inc., July 1997, p. 30. For many cable engineers, electromagnetic fields (EMFs) are unwelcome guests that occupy a variety of critical production spaces.

**Fortifying the headend through engineering and performance testing** (CED PMR), Harry Tankin, General Instruments Corp., April 1997, p. 30. New two-way services have put new demands on headends and that mean serious attention has to be paid to headend engineering and performance testing.

**GI to build VSB-to-QAM device** (CED), Aug. 1997, p. 12. General Instrument Corp. announces plans to develop and manufacture a VSB-to-QAM transcoder to facilitate the integration of digital broadcast signals into existing cable channel lineups.

**Grafting WDM onto existing cable systems** (CED), Venk Mutalik, Philips Broadband Networks Inc., Feb. 1997, p. 54. An examination of the theory and practice of wavelength division multiplexing (WDM) techniques in modem cable TV networks.

**How to migrate from HFC to a Sonet network** (CED), Gary Briggs, Fujitsu Network Communications, Sept. 1997, p. 40. Migrating from an HFC to a Sonet network isn't as difficult or expensive as it was a short time ago, and makes a great deal of sense for those looking to expand service offerings.

**The issue: Emergency alerting** (CED), Dec. 1996, p. 136. While most respondents to this reader poll are aware their systems will be an integral part of the new emergency alert sys-

tem, they remain concerned about the potential costs of implementing the system.

**Jones purchases modems from Hybrid** (CED), Oct. 1997, p. 16. Jones Intercable signs agreement to purchase Hybrid headend systems and cable modems as part of its Internet Channel high-speed Internet access service.

**Local telcos, cable companies partner for profit** (CED), Ken Pyle, E/O Networks, Nov. 1996, p. 62. A review of the opportunities that exist for local cable and telephone operators to share facilities.

**Modems, test gear, return path hot at Expo** (CED), CED staff, July 1997, p. 46. Summary of the products, seminars and important developments at SCTE's 1997 Cable-Tec Expo in Orlando, Fla.

**New fiber optic start-up company puts Dense WDM onto a chip** (CED), Mar. 1997, p. 12. Lightwave Microsystems has achieved breakthroughs in polymer optical technology which will enable new dense wavelength division multiplexing products.

**PCS and cable: A natural complement** (CED), Yvette C. Hubbel/John Sabat, Jr., Sanders, a Lockheed-Martin Co., Aug. 1997, p. 58. A description of a network architecture and system solution (PCS-Over-Cable system) that will make the "anywhere, anytime" PCS vision a reality.

**Proactive return path maintenance** (CED), Bill Morgan, Hewlett-Packard, Nov. 1996, p. 86. Part II of three-part series on the return path, its characteristics and how to monitor and maintain it. (Part I/Oct. 1996; Part III/

**Proper care and feeding of the headend** (CED), Linc Reed-Nickerson, Tektronix Inc., Sept. 1997, p. 72. The second report in a four-part series which discusses ways to assure that picture and sound quality will be competitive with DBS services.

**Pumping up the headend with preventive maintenance** (CED), Linc Reed-Nickerson, Tektronix Inc., Aug. 1997, p. 34. Part one of a four-part series on how operators can optimize headend performance through a dedicated preventive maintenance program.

**Return path noise: Testing tool aids diagnosis** (CED), Robert Wells, Cable Television Laboratories Inc. (CableLabs), Jan. 1997, p. 24. CableLabs' testing system, CW Tester, is reviewed.

**S-A and GI chart new courses** (CED), July 1997, p. 12. Scientific-Atlanta Inc. and General Instruments introduce new products (Sonet transmissions products and digital loop carrier products respectively) to attract new customers.

**Serving up Quality of Service** (CED), Mark Laubach, Com21 Inc., April 1997, p. 34. What is Quality of Service and why is it an increasingly important issue for operators?

**The issue: Interconnects (CED)**, Feb. 1997, p. 90. The issue: Interconnects; The launch of datacom services has respondents saying the industry ought to be doing more to determine the feasibility of interconnecting adjoining cable systems.

**Uncle Sam wants you for EAS (CED PMR)**, Dana Cervenka, July 1997, p. 26. After a recent postponement, several issues still need to be resolved before the FCC is able to establish a final compliance schedule for its new Emergency Alert System (EAS).

**Video servers to get facelift (CED)**, Jan. 1997, p. 16. Summary of recent video server developments by Oracle, Digital Equipment Corp. and IBM.

**Wrapping up management solutions with OSS (CED)**, Michael Lafferty, Dec. 1996, p. 38. Operators have to be able to deliver both new and old services to the customer in a seamless, effortless manner without a glitch, and that means establishing an effective operational support system.

### Interactive technologies

**5 MSOs commit to test TV On-Line (CED)**, Dec. 1996, p. 14. Five major cable TV network operators are planning to field trial the "TV On-Line" data service WorldGate Communications.

**56 kilobit modems more a boon than a threat to cable (article originally titled erroneously: High-speed access tech may give telcos a hand) (CED)**, Fred Dawson, Jan. 1997, p. 86. The pending introduction of two non-compatible 56-kbps analog modems may play to cable's advantage in its high-speed data service deployments.

**Apple, Showtime team on ITV technology (CED)**, Jan. 1997, p. 14. Showtime Networks and Apple announce agreement to collaborate in several areas to jump-start the fledgling interactive TV and multimedia industry.

**ATM sends multiple services via same HFC pipe (CED)**, Staffan Nilsson, Broadband Services/Ingemar Dahlqvist, Ericsson Inc., June 1997, p. 102. A discussion on the advantages of using ATM (asynchronous transfer mode) as a transmission technology for multiple services via HFC.

**Cable/telco co-op on new telephony gear (CED)**, Nov. 1996, p. 14. Century communications and Citizens Telecom have jointly deployed an HFC-based system for a wide-ranging service trial.

**Capacity planning for advanced services traffic (CED)**, Curtiss Smith, General Instrument Corp., Feb. 1997, p. 48. An investigation of the effects of system penetration rates on the sizing of serving areas and nodes.

**Data and network management on menu at Western (CED)**, CED staff, Jan. 1997, p. 74. Summary of the events, announcements and

new products that debuted at the 1996 Western Show.

**Fundy Cable prepares to go retail with modems (CED)**, July 1997, p. 14. Canadian Fundy Communications Inc. plans to offer Scientific-Atlanta telephone-return cable modems for sale directly to customers via local retail outlets.

**Getting ready for cable's digital era (CED)**, Roger Brown, March 1997, p. 60. Getting ready for cable's digital era; Operators are now rolling out fully featured digital boxes that promise to rewrite the way systems roll out new services.

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**GTE shuts down interactive TV unit (CED)**, Feb. 1997, p. 16. GTE Interactive Corp. shuts down claiming there is enough Internet content being created by other sources.

**How to build a stainless steel house (CED)**, Wendell Bailey, NCTA, Nov. 1996, p. 20.

Two-way services revive discussion on just how much and what kind of information service providers can collect on their customers.

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**Keeping Continental on the fast track (CED)**, Roger Brown, Jan. 1997, p. 40. Profile of CED's Man of the Year award recipient, David Fellows, Continental Cablevision's senior vice president of engineering.

**Keeping up with the big guys (CED)**, Michael Lafferty, July 1997, p. 76. Innovative software developers and small and medium-sized operators are joining forces to catapult their cable customers onto the information superhighway.

**LMDS auctions next: Place your bets (CED)**, Jeffrey Krauss, Oct. 1997, p. 24. An update on the LMDS auction plan with special focus on two problems: telco eligibility and installment payments for small businesses.

**MainStreet comes to Clearwater, FL (CED)**, Jan. 1997, p. 16. GTE launches its interactive video and high-speed data access service, MainStreet, in Clearwater, FL.

**Making two-way work (CED)**, Nov. 1996, p. 96. Respondents express their views on upgrading their systems to two-way.

**MediaOne unveils national backbone (CED)**, Oct. 1997, p. 16. MediaOne activates a new national data network to ensure reliability and performance.

**Microsoft hands Comcast \$1 billion to get high-speed data kick-started (CED)**, July

1997, p. 12. The country's fourth-largest MSO receives a \$1 billion check from Microsoft to accelerate construction of its HFC networks and support high-speed data services.

**Navio's software found to be seamless (CED)**, Oct. 1997, p. 14. Navio Communications and Interactive Cable Communications Inc. announce successful field tests in Japan of Navio's TV Navigator, which provides viewers Internet access without personal computers.

**New modems appear on the scene; supported by range of new products (CED)**, Jan. 1997, p. 12. Overview of pre-Western Show announcements of new modems, new components for modems, field tests and back office support.

**NextLevel invest in ACTV, WorldGate (CED)**, Sept. 1997, p. 16. NextLevel Systems Inc. makes major investments in ACTV Inc. and WorldGate Communications to spur development of applications for advanced analog and digital set-tops.

**Proactive return path maintenance (CED)**, Bill Morgan, Hewlett-Packard, Nov. 1996, p. 86. Part II of three-part series on the return path, its characteristics and how to monitor and maintain it. (Part I/Oct. 1996; Part III/ Putting the interactive platform in place (CED), Dana Cervenka, March 1997, p. 50. Panel of MSO engineers discuss their progress on activating the return path and increasing their system's reliability.

**Real-time reverse: An upgradable architecture for HFC (CED)**, William E. Wall, Scientific-Atlanta, March 1997, p. 68. A description and discussion of a new approach (real-time reverse) for the deployment of two-way digital technologies.

**S-A enters high-speed data market, offering telco return unit for \$199 (CED)**, Dec. 1996, p. 12. Convinced the time is right, Scientific-Atlanta Inc. announces its plans to build a low-cost (\$199), telephone return data modem.

**SeaChange, IPC team for VOD (CED)**, Jan. 1997, p. 16. SeaChange International and IPC Interactive Inc. will jointly develop new digital platform to deliver network-based video-on-demand services.

**Survey-said! Focus on purchaser preference (CED)**, Thomas Robinson, River Oaks Communications Corp., Sept. 1997, p. 114. Robinson details his conclusions on key trends in the industry after culling survey work on subscriber preferences.

**TCI begins rollout of digital video (CED)**, Dec. 1996, p. 12. After years of hype and delayed rollouts, TCI finally begins deploying digital video in Connecticut.

**Telco video plans becoming clearer all the time (CED)**, CED Staff, Nov. 1996, p. 42. Annual review of individual telco plans, trials and technology being used in deploying broad-

band services.

**The issue: Going interactive (CED)**, Oct. 1997, p. 82. Reader poll finds upgrading to two-way plant has become a standard operating procedure for most operators..

**TWC issues RFP for interactive TV (CED)**, June 1997, p. 16. Time Warner Cable issues a request for proposal and request for quote for its "Pegasus" digital set-top, i.e., software and hardware solutions to support full video-on-demand and the addition of its RoadRunner high-speed data service over the television.

**TWC, Wink team to enhance programs (CED)**, Sept. 1997, p. 14. The Weather Channel signs on to add interactive Wink technology to its national signal, 24 hours a day, seven days a week.

**Video perks give data a sharper image (CED)**, Fred Dawson, Sept. 1997, p. 90. New software tools enhance the prospects for adding innovative and highly advanced types of video content to high-speed data channels.

**Videophone: After 40 years, an emerging service (CED)**, Greg Hutterer/Todd Schieffert, ADC Telecommunications Inc., June 1997, p. 108. Videophone services are finally on the verge of widespread personal, educational and business use.

**Web giants hope to bridge a multimedia gap (CED)**, Fred Dawson, Dec. 1996, p. 124. Two powerful camps in the Silicon Valley landscape are slugging it out over a video streaming standard that will have a direct impact on cable's high-speed data future.

**Will digital roll-out speed ITV, HDTV deployment? (CED)**, Fred Dawson, Aug. 1997, p. 82. Recent developments on several fronts that are opening up opportunities for two-way multimedia may accelerate digital TV roll-out.

**Wink gets thumbs-up from NBC and HITS (CED)**, Aug. 1997, p. 16. Wink Communications forges encoding deals with NBC and TCI's Headend In The Sky.

**Wrapping up management solutions with OSS (CED)**, Michael Lafferty, Dec. 1996, p. 38. Operators have to be able to deliver both new and old services to the customer in a seamless, effortless manner without a glitch, and that means establishing an effective operational support system.

**Zenith selects OS for Americast box (CED)**, Dec. 1996, p. 16. Zenith Electronics chooses Microware Systems Corp.'s DAVIDLite operating system for the 3 million digital set-tops it's designing and will produce for the telco consortium, Americast.

**Zenith works deals for 'Net TVs and boxes (CED)**, Feb. 1997, p. 14. Zenith Electronics Corp. and Navio Communications Inc. announce plans to collaborate on consumer-based Internet software and services.

### In the Loop

**Cities find that "The plan's the thing" (CED)**, Thomas G. Robinson, River Oaks Communications Corp., Jan. 1997, p. 106. The benefits of creating local telecommunications master plans is discussed.

**In wireless world, hearing is believing (CED)**, Thomas G. Robinson, River Oaks Communications Corp., March 1997, p. 126. Contrary to popular belief, the wireless evolution/revolution is moving forward with the concerted efforts of both local governments and wireless providers.

**New trend: Traffic control times two (CED)**, Tom Robinson, River Oaks Communications Corp., Nov. 1996, p. 114. Local governments are looking at traffic signaling infrastructure to provide transport for other types of data, voice and video communications.

**Survey-said! Focus on purchaser preference (CED)**, Thomas Robinson, River Oaks Communications Corp., Sept. 1997, p. 114. Robinson details his conclusions on key trends in the industry after culling survey work on subscriber preferences.

**Taking a dip in a cool technology pool (CED)**, Thomas G. Robinson, River Oaks Communications Corp., July 1997, p. 102. Cable's high-speed data equipment and services are ideal for creating cost-effective I-Nets (institutional networks).

**Ultimately subscribers, like politics, are local (CED)**, Thomas G. Robinson, May 1997, p. 102. Robinson doesn't believe direct-to-home satellite industry has what it takes (i.e., the local programming) to dominate the multi-channel video services marketplace.

### Network architecture or design

**1997-98 CED Cable TV Fiber Topologies Comparison Chart (CED)**, CED staff, Sept. 1997, insert between pages 90-91. Special pull-out wall chart detailing "typical" fiber optic network designs used to solve most operator's needs.

**A role for ATM in managing local traffic? (CED)**, April 1997, p. 76. As the cable industry and other competitors to the local exchange carriers ponder how they will interface their networks with the networking world at large, the question comes down to figuring what, if any, role ATM (asynchronous transfer mode) should play.

**ADSL technology: Dead in its tracks? (CED)**, Alan Stewart, Dec. 1996, p. 92. Once seen as the telco's secret weapon against cable TV, asymmetrical digital subscriber line (ADSL) seems to have been sidelined by the baby Bells as they scramble to maintain their local loop monopolies.

**ATM sends multiple services via same HFC pipe (CED)**, Staffan Nilsson, Broadband Services/Ingemar Dahlqvist, Ericsson Inc. ,

June 1997, p. 102. A discussion on the advantages of using ATM (asynchronous transfer mode) as a transmission technology for multiple services via HFC.

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**Capacity planning for advanced services traffic (CED)**, Curtiss Smith, General Instrument Corp., Feb. 1997, p. 48. An investigation of the effects of system penetration rates on the sizing of serving areas and nodes.

**Changing hats: Managing an HFC upgrade (CED PMR)**, Walter Colquitt, Optel, April 1997, p. 6. A discussion of the tools and expertise needed to make plant upgrades easier and more manageable.

**Cooking up a recipe for fiber reliability (CED)**, Fred Slowik, NextLevel Systems Inc., Oct. 1997, p. 30. Discussion and explanation of 'BLASTER,' a fiber optic design concept developed to enhance overall network reliability.

**Cox steps up the plate with telephony in CA. (CED)**, Dave Woodrow, Cox Communications/Guy Gill, Nortel, May 1997, p. 58. An overview of Cox Communication's telephony initiative in Orange County, Calif.

**Data and network management on menu at Western (CED)**, CED staff, Jan. 1997, p. 74. Summary of the events, announcements and new products that debuted at the 1996 Western Show.

**Data modem spec inches closer to reality (CED)**, CED staff, Apr. 1997, p. 60. A review of the major events, new products and seminars held at NCTA's '97 Cable Show in New Orleans, La.

**Developing a GIS-based engineering toolkit (CED)**, Brian Wade, SNET/Peter Batty, Smallworld Systems Inc., March 1997, p. 86. A discussion of how Southern New England Telecommunications (SNET) is overhauling its OSS infrastructure to deal with expanding broadband services.

**Digital delivers multi services over long distances (CED)**, Tim Wilk, Scientific-Atlanta Inc., Sept. 1997, p. 46. As broadband operators strive to reduce costs while expanding services, fiber ring digital interconnects will play a key role.

**Digital video and transport connectivity options (CED)**, Jay Shuler, Nortel, Nov. 1996, p. 80. A discussion on the structure and benefits of creating a video operations center

(VOC) network.

**Feedforward fine tunes fiber transmitters** (CED), Jim Farina, ADC Telecommunications Inc., Sept. 1997, p. 54. Recent developments have given new life to the idea that a feedforward approach for true error correction may work for cable television applications.

**Fortifying the headend through engineering and performance testing** (CED PMR), Harry Tankin, General Instrument Corp., April 1997, p. 30. New two-way services have put new demands on headends and that means serious attention has to be paid to headend engineering and performance testing.

**FTTH: Are telcos headed back to the future?** (CED), Fred Dawson, Mar. 1997, p. 105. RBOC leaders predict aggressive fiber-to-the-home (FTTH) strategy is taking shape in the telephone industry.

**Grafting WDM onto existing cable systems** (CED), Venk Mutalik, Philips Broadband Networks Inc., Feb. 1997, p. 54. An examination of the theory and practice of wavelength division multiplexing (WDM) techniques in modem cable TV networks.

**How to calculate availability for HFC telephony** (CED), Farr Farhan & Lee Thompson, Scientific-Atlanta, Nov. 1996, p. 70. A discussion of the various elements involved in providing telephone service and its impact on the availability of network services.

**How to migrate from HFC to a Sonet network** (CED), Gary Briggs, Fujitsu Network Communications, Sept. 1997, p. 40. Migrating from an HFC to a Sonet network isn't as difficult or expensive as it was a short time ago, and makes a great deal of sense for those looking to expand service offerings.

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**Implementing redundant fiber architecture** (CED), Dr. Eric Schweitzer, Harmonic Lightwaves, Feb. 1997, p. 28. Advanced services such as VOD, Internet access and telephony are escalating the demand for "interrupt free" service which features both power and route redundancy.

**Local telcos, cable companies partner for profit** (CED), Ken Pyle, E/O Networks, Nov. 1996, p. 62. A review of the opportunities that exist for local cable and telephone operators to share facilities.

**National data net could be the key to new services** (CED), Fred Dawson, June 1997, p. 116. Cable MSOs have come to the realization that they can create a truly competitive nation-

wide network infrastructure for data-based communications.

**New fiber optic start-up company puts Dense WDM onto a chip** (CED), Mar. 1997, p. 12. Lightwave Microsystems has achieved breakthroughs in polymer optical technology which will enable new dense wavelength division multiplexing products.

**Optical network technology** (CED), John Holobinko/Bill Hartman, ADC Telecommunications Inc., July 1997, p. 28. A discussion of how optical networks and dense WDM (Wave Division Multiplexing) technology can serve the economic interests of cable operators.

**Optical receiver stubs fit today's networks** (CED), Dean Yamasaki, Siecor Corp., Feb. 1997, p. 44. Factory pre-connectorized cable assemblies (aka: "stubbed" assemblies) can help meet the demands associated with fiber deployment deeper into system.

**PCS and cable: A natural complement** (CED), Yvette C. Hubbel, /Sabat, Jr., Sanders, a Lockheed-Martin Co., Aug. 1997, p. 58. A description of a network architecture and system solution (PCS-Over-Cable system) that will make the "anywhere, anytime" PCS vision a reality.

**Power distribution cables in HFC networks** (CED), Dan Kerr, Continental Cablevision/Mark Alrutz, CommScope Inc., Dec. 1996, p. 108. The pros and cons of centralized versus distributed powering systems.

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**Putting the interactive platform in place** (CED), Dana Cervenka, March 1997, p. 50. Panel of MSO engineers discuss their progress on activating the return path and increasing their system's reliability.

**Real-time reverse: An upgradable architecture for HFC** (CED), William E. Wall, Scientific-Atlanta, March 1997, p. 68. A description and discussion of a new approach (real-time reverse) for the deployment of two-way digital technologies.

**Security in hybrid fiber/coax based networks** (CED), Gerry White, Bay Networks Inc./Chet Birger, Apr. 1997, p. 26. Part one of a two-part discussion of the unique security issues that HFC networks must deal with and the modern cryptographic technology that can be used to provide the security that operators and their customers need.

**Serving up Quality of Service** (CED), Mark Laubach, Com21 Inc., April 1997, p. 34. What is Quality of Service and why is it an increasingly important issue for operators?

**Taking broadband service into the home**

(CED), Thomas E. Chapuran, /Ronald C. Menendez/Stuart S. Wagner, Bellcore, Jan. 1997, p. 28. Results from a series of experimental and analytical studies of coaxial-cable premises-wiring impairments for digital broadband signals.

**The issue: Interconnects** (CED), Feb. 1997, p. 90. The issue: Interconnects: The launch of datacom services has respondents saying the industry ought to be doing more to determine the feasibility of interconnecting adjoining cable systems.

## Network management/OSS

**An end to battery maintenance?** (CED PMR), Dana Cervenka, Oct. 1997, p. 26. New maintenance technologies, as well as new service offerings, can free up personnel to concentrate on more pressing matters.

**Are HFC networks at the breaking point?** (CED), Roger Brown, Dec. 1996, p. 30. A discussion of some the problems operators may run into as they try make their analog video networks a reliable pipeline for new services like high-speed data and telephony.

**C-Cor allies with Bay; adds suite of services** (CED), Nov. 1996, p. 12. C-Cor Electronics signs non-exclusive agreement with Bay Networks to support the delivery of data over cable networks.

**Cable's fortunes revolve around training** (CED), Michael Lafferty, June 1997, p. 80. A cable engineering panel underscores the realization that it's not technology, but their people in the trenches that will determine cable's ultimate success or failure in the telecommunications battle.

**CableNET '96 zeroes in on data, net management** (CED), Dana Cervenka, Dec. 1996, p. 76. A preview of CableNET '96 and its more than 35 participants who will focus attendee attention on high-speed data and network management.

**Changing hats: Managing an HFC upgrade** (CED PMR), Walter T. Colquitt, OpTel, April 1997, p. 6. A discussion of the tools and expertise needed to make plant upgrades easier and more manageable.

**Closing the backdoor on signal theft** (CED), Kenneth Higgins, Backdoor Group Inc., June 1997, p. 52. The second of two winning papers from the NCTA's 10th Annual Signal Security Ideas Competition.

**Cracking the commercial telecom market** (CED), Leo Wrobel, Premiere Network Services Inc., Oct. 1997, p. 44. Part two of a series dealing with the right and wrong things to do in raiding the telco markets, ways to exploit the small or home office markets, and how to address big company service needs.

**Data and network management on menu at Western** (CED), CED staff, Jan. 1997, p. 74. Summary of the events, announcements and

new products that debuted at the 1996 Western Show.

**Data modem spec inches closer to reality** (CED), CED staff, Apr. 1997, p. 60. A review of the major events, new products and seminars held at NCTA's '97 Cable Show in New Orleans, La.

**Developing a GIS-based engineering toolkit** (CED), Brian Wade, SNET/Peter Batty, Smallworld Systems Inc., March 1997, p. 86. A discussion of how Southern New England Telecommunications (SNET) is overhauling its OSS infrastructure to deal with expanding broadband services.

**Digging deeper into network management** (CED), Leslie Ellis, July 1997, p. 44. What's a MIB (management information bases) and what they can do to make or break a network management system?

**Digital video and transport connectivity options** (CED), Jay Shuler, Nortel, Nov. 1996, p. 80. A discussion on the structure and benefits of creating a video operations center (VOC) network.

**Fiber preventive maintenance** (CED PMR), Wayne Pope, Tele-Communications Inc./John Chamberlain, Norscan Inc., April 1997, p. 18. A new product increases plant reliability by monitoring its highest revenue-carrying portion.

**Fleet management: Weighing the alternatives** (CED PMR), Michael Lafferty, Oct. 1997, p. 22. A discussion on the pros and cons of outsourcing fleet management services.

**Fortifying the headend through engineering and performance testing** (CED PMR), Harry Tankin, General Instruments Corp., April 1997, p. 30. New two-way services have put new demands on headends and that mean serious attention has to be paid to headend engineering and performance testing.

**The great Sonet debate: Primed for video?** (CED), Dana Cervenka, Sept. 1997, p. 30. While the Sonet (synchronous optical network) platform has been embraced by some for high-speed data and voice transport, there's still some question whether it will make the grade for video transport.

**Hybrid WDM systems for video trunking** (CED), Chinlon Lin, Keang-Po Ho, Hongxing Dai & Jinyi Pan, Bellcore/Hermann Gysel, Mani Ramachandran, Synchronous Communications, Nov. 1996, p. 30. Simulation results indicate high-performance trunking of both digital and analog video channels can be achieved with proper design of a hybrid WDM system.

**The issue: Status monitoring** (CED), March 1997, p. 112. Reader poll indicates network monitoring has finally caught on as an issue to be dealt with in the cable TV industry.

**Leading-edge software drives systems to new heights** (CED), Craig Kuhl, Oct. 1997, p.

36. An overview of the software available that can assist operators in dealing with dispatching, billing, customer care, marketing and overall plant management.

**Modems, test gear, retrun path hot at Expo** (CED), CED staff, July 1997, p. 46. Summary of the products, seminars and important developments at SCTE's 1997 Cable-Tec Expo in Orlando, Fla.

**Network management: Creating a virtual presence** (CED), Alan Gordon, Superior Electronics Group Inc., July 1997, p. 38. Network management systems provide operators a virtual presence, or the ability to view the status of their systems anywhere in the plant at any time.

**New automated software debuts for cable MSOs** (CED), Aug. 1997, p. 14. Columbine JDS announces the release of software package touted as the first totally integrated management information system that electronically links all critical business processes.

**Operational issues transformed by perspective shift** (CED), Andy Paff, Integration Technologies, Dec. 1996, p. 56. Operators contemplating entry into the brave new world of transactional telecommunications services also face new and critical operational and management issues.

**Plant managers walk tightrope: New services, old plant** (CED PMR), James Careless, Oct. 1997, p. 18. The ins and outs of balancing old plant performance in order to offer two-way services.

**Return path noise: Testing tool aids diagnosis** (CED), Robert Wells, Cable Television Laboratories Inc. (CableLabs), Jan. 1997, p. 24. CableLabs' testing system, CW Tester, is reviewed.

**Rhapsody in network management** (CED), Van Macatee, WTCI Inc.; Mitch Matteau, Arris Interactive, Oct. 1997, p. 62. A discussion on mastering the subtleties of network management.

**Round and round the testing goes** (CED), Michael Lafferty, Aug. 1997, p. 44. An panel of engineering professionals give their opinions on the common concerns, solutions and crystal ball predictions they have on improving their system's performance.

**Serving up Quality of Service** (CED), Mark Laubach, Com21 Inc., April 1997, p. 34. What is Quality of Service and why is it an increasingly important issue for operators?

**So you want to cash in on high-speed data?** (CED), Michael Lafferty, April 1997, p. 42. The industry is going to need some help in deploying datacom services and system integrators may have what it takes to get some operators up and running on the information superhighway.

**Taking back-up power underground** (CED), Roger Brown, Dec. 1996, p. 114. Once a tech-

nological curiosity, it seems continuing development of high-speed flywheel technology could make it a viable option as a backup electrical power source.

**Taking control of materials management** (CED PMR), Laird Simons, Sprint North Supply, July 1997, p. 22. Outsourcing materials management can help improve project efficiency and boost bottom-line performance.

**Wrapping up management solutions with OSS** (CED), Michael Lafferty, Dec. 1996, p. 38. Operators have to be able to deliver both new and old services to the customer in a seamless, effortless manner without a glitch, and that means establishing an effective operational support system.

### Pay-per-view technology

**Making two-way work** (CED), Nov. 1996, p. 96. Respondents express their views on upgrading their systems to two-way.

**TWC issues RFP for interactive TV** (CED), June 1997, p. 16. Time Warner Cable issues a request for proposal and request for quote for its "Pegasus" digital set-top, i.e., software and hardware solutions to support full video-on-demand and the addition of its RoadRunner high-speed data service over the television.

### Personal communications

**1997-1998 Frequency Allocation Chart** (CED), Aug. 1997, insert between p. 84 and p. 85. Special pull-out wall chart diagramming RF frequency spectrum allocations.

**Evolution of the local phone market** (CED), Jeffrey Krauss, Telecommunications and Technology Policy, Nov. 1996, p. 24. While the 1996 Telecom Act was enacted to spur competition, the future lies in the consolidation of telecom competitors.

**In wireless world, hearing is believing** (CED), Thomas G. Robinson, River Oaks Communications Corp., March 1997, p. 126. Contrary to popular belief, the wireless evolution/revolution is moving forward with the concerted efforts of both local governments and wireless providers.

**Iridium now has 17 birds flying** (CED), Sept. 1997, p. 16. Progress on the Iridium satellite system is proceeding as expected.

**PCS and cable: A natural complement** (CED), Yvette C. Hubbel/John Sabat, Jr., Sanders, a Lockheed-Martin Co., Aug. 1997, p. 58. A description of a network architecture and system solution (PCS-Over-Cable system) that will make the "anywhere, anytime" PCS vision a reality.

**PCS may be true road to cable telephony** (CED), Fred Dawson, Nov. 1996, p. 92. A possible option to the all-wireline approach for cable telephony is discussed.

**Personality profiles/Spotlight**

**A few degrees of Chris Bowick** (CED), Dana Cervenka, June 1997, p. 18. Profile of Chris Bowick, president of Jones Intercable's subsidiary Jones Futurex and group vice president/technology and chief technical officer for Jones Intercable.

**Beddo plans own fireworks show** (CED), Dana Cervenka, Aug. 1997, p. 18. Profile of David Beddo, senior vice president at TCI Technology Ventures Inc.

**Bush sees nothing but clear skies** (CED), Dana Cervenka, July 1997, p. 18. Profile of Norrie Bush, TCI's technical operations manager of Southern Washington and SCTE's secretary and region 3 director.

**Data over cable? Just do it, says Cotter** (CED), Frank Cotter, Feb. 1997, p. 18. Cotter discusses his philosophy ("Just do it!") for entering the data-over-cable business.

**The dawning of a new day for data over cable** (CED), CED staff, Feb. 1997, p. 66. Review of SCTE's Conference on Emerging Technologies in Nashville, TN as well as the 1997 Polaris Award winner.

**Keeping Continental on the fast track** (CED), Roger Brown, Jan. 1997, p. 40. Profile of CED's Man of the Year award recipient, David Fellows, Continental Cablevision's senior vice president of engineering.

**Kelso: Capturing cable's fair share** (CED), Dana Cervenka, May 1997, p. 18. Profile of James Kelso, cable video systems manager at SeaChange International Inc.

**Kuska and the theory of relativity** (CED), Dana Cervenka, Nov. 1996, p. 18. Profile of Michelle Kuska, director of network technology for TCI Technology Ventures and head of the MCNS working group for cable modem specifications.

**Laubach: Solving the standards puzzle** (CED), Dana Cervenka, Dec. 1996, p. 20. Profile of Mark Laubach, ATM proponent and Com21's co-founder and vice president, chief technology officer.

**Medin: No more dumb pipes for cable** (CED), Dana Cervenka, April 1997, p. 18. Profile of Milo Medin, @Home Network's vice president of networks.

**Self-reliance is the father of invention** (CED), Dana Cervenka, March 1997, p. 18. Profile of John B. (Jack) Terry, assistant vice president, access architectures and technology for Northern Telecom.

**Telco guy finds a home in cable** (CED), Dana Cervenka, Oct. 1997, p. 18. Profile of Mark Davis, Cox Communications' director of engineering for telephony.

**These days, Craddock is digging in bigger bins** (CED), Dana Cervenka, Sept. 1997, p. 18. Profile of cable veteran and Comcast Corporation's vice president of New Media Development, Steve Craddock.

**Powering, outages and reliability**

**An end to battery maintenance?** (CED PMR), Dana Cervenka, Oct. 1997, p. 26. New maintenance technologies, as well as new service offerings, can free up personnel to concentrate on more pressing matters.

**Are HFC networks at the breaking point?** (CED), Roger Brown, Dec. 1996, p. 30. A discussion of some the problems operators may run into as they try make their analog video networks a reliable pipeline for new services like high-speed data and telephony.

**Cooking up a recipe for fiber reliability** (CED), Fred Slowik, NextLevel Systems Inc., Oct. 1997, p. 30. Discussion and explanation of 'BLASTER,' a fiber optic design concept developed to enhance overall network reliability.

**Cracking the commercial telecom market** (CED), Leo Wrobel, Premiere Network Services Inc., Oct. 1997, p. 44. Part two of a series dealing with the right and wrong things to do in raiding the telco markets, ways to exploit the small or home office markets, and how to address big company service needs.

**Data and network management on menu at Western** (CED), CED staff, Jan. 1997, p. 74. Summary of the events, announcements and new products that debuted at the 1996 Western Show.

**EMF: The invisible headend plague** (CED PMR), J. Terry Turner, VitaTech Engineering Inc., July 1997, p. 30. For many cable engineers, electromagnetic fields (EMFs) are unwelcome guests that occupy a variety of critical production spaces.

**The 'four 9s': More style than substance?** (CED), Roger Brown, March 1997, p. 36. As cable system reliability improves, do operators actually have to reach the lofty 99.99 percent reliability benchmark established and purportedly maintained by telcos?

**How to calculate availability for HFC telephony** (CED), Farr Farhan & Lee Thompson, Scientific-Atlanta, Nov. 1996, p. 70. A discussion of the various elements involved in providing telephone service and its impact on the availability of network services.

**HOH: A new money saving idea** (CED), Jim Farmer, Antec, April 1997, p. 22. Farmer discusses the advantages of developing a cooling system using hydrogen hydroxide (HOH).

**Hybrid WDM systems for video trunking** (CED), Chinlon Lin, Keang-Po Ho, Hongxing Dai & Jinyi Pan, Bellcore/Hermann Gysel, Mani Ramachandran, Synchronous Communications, Nov. 1996, p. 30. Simulation results indicate high-performance trunking of both digital and analog video channels can be achieved with proper design of a hybrid WDM system.

**Implementing redundant fiber architecture** (CED), Dr. Eric Schweitzer, Harmonic

Lightwaves, Feb. 1997, p. 28. Advanced services such as VOD, Internet access and telephony are escalating the demand for "interrupt free" service which features both power and route redundancy.

**The issue: Status monitoring** (CED), March 1997, p. 112. Reader poll indicates network monitoring has finally caught on as an issue to be dealt with in the cable TV industry.

**The issue: Outages** (CED), May 1997, p. 82. Reader poll finds that while respondents report their networks are significantly more reliable, there's still a lot to do.

**The issue: Powering** (CED), Sept. 1997, p. 104. Reader poll on powering strategies and technology use.

**Keeping nature at bay during the summer** (CED PMR), Michael Lafferty, July 1997, p. 6. Ways to alleviate the havoc that summer weather can wreak on men and machines.

**Lurid confessions of a beta tester** (CED), Jeffrey Krauss, Telecommunications and Technology Policy, June 1997, p. 30. Krauss relates his experiences (both good and not-so-good) as a cable modem beta tester.

**Modems, test gear, return path hot at Expo** (CED), CED staff, July 1997, p. 46. Summary of the products, seminars and important developments at SCTE's 1997 Cable-Tec Expo in Orlando, Fla.

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**Power migration strategies for future-proofing** (CED), Rick Marcotte, Exide Electronics' Communications Group, June 1997, p. 96. Considerations to take into account when planning or upgrading a cable system's powering architecture.

**Putting the interactive platform in place** (CED), Dana Cervenka, March 1997, p. 50. Panel of MSO engineers discuss their progress on activating the return path and increasing their system's reliability.

**Rhapsody in network management** (CED), Van Macatee, WTCI Inc.; Mitch Matteau, Arris Interactive, Oct. 1997, p. 62. A discussion on mastering the subtleties of network management.

**SatCon gets order from electric utility** (CED), March 1997, p. 12. SatCon Technology Corp. gets the chance to demonstrate and evaluate its unique flywheel technology in trial with San Diego Gas and Electric

and Time Warner Cable.

**Talking back-up power underground** (CED), Roger Brown, Dec. 1996, p. 114. Once a technical curiosity, it seems continuing development of high-speed flywheel technology will make it a viable option as a backup power source.

**Phone: After 40 years, an emerging technology** (CED), Greg Hutterer/Todd Schieffert, SBC Telecommunications Inc., June 1997, p. 108. Videophone services are finally on the verge of widespread personal, educational and business use.

### Rebuilds, upgrades and overbuilds

**Ameritech launches against Jones in Elgin** (CED), Oct. 1997, p. 14. Ameritech goes head-to-head with Jones in Elgin, Ill. with the launch of its americast cable television service.

**Back to the (converging?) future** (CED), Michael Lafferty, Jan. 1997, p. 64. A panel of cable industry technology professionals offer up their predictions for the coming year.

**C-Cor allies with Bay; adds suite of services** (CED), Nov. 1996, p. 12. C-Cor Electronics signs non-exclusive agreement with Bay Networks to support the delivery of data over cable networks.

**Cable/telco co-op on new telephony gear** (CED), Nov. 1996, p. 14. Century communications and Citizens Telecom have jointly deployed an HFC-based system for a wide-ranging service trial.

**Canadian cable industry is tightening its belt** (CED), James Careless, Dec. 1996, p. 106. Canadian cable companies are finding they have to balance their need for expansion against their bottom lines.

**Canadian cable ops band together, set to roll with data** (CED), James Careless, Jan. 1997, p. 70. Despite the absence of cable modem standards, three Canadian operators launch a nationally-branded Internet service provider product.

**Chambers Cable to deploy interdiction** (CED), March 1997, p. 16. Chambers Communications Corp. announces decision to install consumer-friendly interdiction technology in two of its five cable systems undergoing rebuilds.

**Changing hats: Managing an HFC upgrade** (CED PMR), Walter T. Colquitt, OpTel, April 1997, p. 6. A discussion of the tools and expertise needed to make plant upgrades easier and more manageable.

**Cracking into the lucrative commercial market** (CED), Leo Wrobel, Premiere Network Services Inc., Sept. 1997, p. 78. First part in a series of articles dealing with how operators can position themselves to reap new revenues as they do battle with telecommunication competitors.

**Curing common path distortion** (CED), Jim

Farmer, Antec, Feb. 1997, p. 22. Farmer discusses an all too common problem in the return path - common path distortion (CPD).

**Data modem spec inches closer to reality** (CED), CED staff, Apr. 1997, p. 60. A review of the major events, new products and seminars held at NCTA's '97 Cable Show in New Orleans, La.

**Developing a GIS-based engineering toolkit** (CED), Brian Wade, SNET/Peter Batty, Smallworld Systems Inc., March 1997, p. 86. A discussion of how Southern New England Telecommunications (SNET) is overhauling its OSS infrastructure to deal with expanding broadband services.

**Digging deeper into network management** (CED), Leslie Ellis, July 1997, p. 44. What's a MIB (management information bases) and what they can do to make or break a network management system?

**Digital delivers multi services over long distances** (CED), Tim Wilk, Scientific-Atlanta Inc., Sept. 1997, p. 46. As broadband operators strive to reduce costs while expanding services, fiber ring digital interconnects will play a key role.

**Effects of analog and digital signals** (CED), M. Stephen McConnell, Scientific-Atlanta Inc., Dec. 1996, p. 116. A discussion of the various situations that operators face when adding a digital tier of channels in an analog network.

**Getting ready for cable's digital era** (CED), Roger Brown, March 1997, p. 60. Operators are now rolling out fully featured digital boxes that promise to rewrite the way systems roll out new services.

**GI, Rogers test 256-QAM in field** (CED), Dec. 1996, p. 12. General Instrument and Rogers Cablesystems successfully test 256-QAM, a higher-order quadrature amplitude modulation method that gives 44 percent more channel capacity.

**Grafting WDM onto existing cable systems** (CED), Venk Mutalik, Philips Broadband Networks Inc., Feb. 1997, p. 54. An examination of the theory and practice of wavelength division multiplexing (WDM) techniques in modem cable TV networks.

**The great Sonet debate: Primed for video?** (CED), Dana Cervenka, Sept. 1997, p. 30. While the Sonet (synchronous optical network) platform has been embraced by some for high-speed data and voice transport, there's still some question whether it will make the grade for video transport.

**Hiding data: Compatible digital upgrades** (CED), Walter S. Ciciora, April 1997, p. 94. Cable operators need a practical digital rollout plan that would employ digital technology in applications that pay dividends, and avoid it where it simply raises costs.

**How to migrate from HFC to a Sonet net-**

**work** (CED), Gary Briggs, Fujitsu Network Communications, Sept. 1997, p. 40. Migrating from an HFC to a Sonet network isn't as difficult or expensive as it was a short time ago, and makes a great deal of sense for those looking to expand service offerings.

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**The issue: 1997 construction plans** (CED), Apr. 1997, p. 80. Reader poll confirms industry rumblings that 1997 will see a lot of plant upgrades, new headends and fiber optic deployments.

**The issue: Emergency alerting** (CED), Dec. 1996, p. 136. While most respondents to this reader poll are aware their systems will be an integral part of the new emergency alert system, they remain concerned about the potential costs of implementing the system.

**The issue: Data over cable** (CED), July 1997, p. 90. Reader poll finds that despite commonly recognized problems (i.e., modem costs, noisy return path), operators appear undeterred in their plans to deploy high-speed data services.

**The issue: Powering** (CED), Sept. 1997, p. 104. Reader poll on powering strategies and technology use.

**Justifying funding for tomorrow's network** (CED PMR), Leo Wrobel, Premiere Network Services Inc., Oct. 1997, p. 6. A discussion of how one can influence financial executives to fund expensive system upgrades.

**Keeping Continental on the fast track** (CED), Roger Brown, Jan. 1997, p. 40. Profile of CED's Man of the Year award recipient, David Fellows, Continental Cablevision's senior vice president of engineering.

**Keeping nature at bay during the summer** (CED PMR), Michael Lafferty, July 1997, p. 6. Ways to alleviate the havoc that summer weather can wreak on men and machines in the cable network.

**Keeping the lines of communications open** (CED PMR), Michael Lafferty, April 1997, p. 12. The do's and don'ts that make today's operator/contractor relationships work better and more efficiently.

**Keeping up with the big guys** (CED), Michael Lafferty, July 1997, p. 76. Innovative software developers and small and medium-sized operators are joining forces to catapult their cable customers onto the information superhighway.

**Leading-edge software drives systems to new heights** (CED), Craig Kuhl, Oct. 1997, p. 36. An overview of the software available that can assist operators in dealing with dispatching, billing, customer care, marketing and

overall plant management.

**Lessons from the pioneers of cablephone** (CED), Bob Stanzione, Arris Interactive, an Antec/Nortel joint venture, July 1997, p. 26. Making a case for the cable industry's ability to provide telephone.

**MediaOne kicks off branding; unveils Detroit control center** (CED), Sept. 1997, p. 12. MediaOne begins national branding campaign with the debut of its Master Control Center in Detroit, Mich.

**Nebraska op cashes in on educational data** (CED), Leslie Ellis, Oct. 1997, p. 68. Case study of Galaxy Cablevision and how they turned their upgrade into a revenue generating opportunity and partnership for distance learning.

**Network management: Creating a virtual presence** (CED), Alan Gordon, Superior Electronics Group Inc., July 1997, p. 38.

Network management systems provide operators a virtual presence, or the ability to view the status of their systems anywhere in the plant at any time.

**Power migration strategies for future-proofing** (CED), Rick Marcotte, Exide Electronics' Communications Group, June 1997, p. 96. Considerations to take into account when plan-

ning or upgrading a cable system's powering architecture.

**Proper care and feeding of the headend** (CED), Linc Reed-Nickerson, Tektronix Inc., Sept. 1997, p. 72. The second report in a four-part series which discusses ways to assure that picture and sound quality will be competitive with DBS services.

**Pumping up the headend with preventive maintenance** (CED), Linc Reed-Nickerson, Tektronix Inc., Aug. 1997, p. 34. Part one of a four-part series on how operators can optimize headend performance through a dedicated preventive maintenance program.

**Putting the interactive platform in place** (CED), Dana Cervenka, March 1997, p. 50. Panel of MSO engineers discuss their progress on activating the return path and increasing their system's reliability.

**RCN teams with Washington utility to offer bundled cable, telephony** (CED), Oct. 1997, p. 12. Potomac Electric Power Co. and RCN Corp. team up to provide local and long distance telephone, cable TV and Internet services in Washington D.C. suburbs.

**Taking broadband service into the home** (CED), Thomas E. Chapuran/Ronald C. Menendez/Stuart S. Wagner, Bellcore, Jan. 1997, p. 28. Results from a series of experimental and analytical studies of coaxial-cable premises-wiring impairments for digital broadband signals.

**TCI redefines itself (again), charts new upgrade path** (CED), Leslie Ellis, June 1997, p. 74. TCI shows signs of renewed vigor in upgrade efforts and quarterly financial results.

**TCI, Antec form construction firm** (CED), July 1997, p. 16. Tele-Communications Inc. forms a 50/50 joint venture with Antec Corp. to provide design, engineering and construction services.

**Telco video plans becoming clearer all the time** (CED), CED Staff, Nov. 1996, p. 42. Annual review of individual telco plans, trials and technology being used in deploying broadband services.

**The issue: Going interactive** (CED), Oct. 1997, p. 82. Reader poll finds upgrading to two-way plant has become a standard operating procedure for most operators.

**Video servers to get facelift** (CED), Jan. 1997, p. 16. Summary of recent video server developments by Oracle, Digital Equipment Corp. and IBM.

**What comes first? The human or the machine?** (CED), Michael Lafferty, Sept. 1997, p. 62. CED's annual Salary and System Survey details industry worker concerns and system activity.

**Will digital roll-out speed ITV, HDTV deployment?** (CED), Fred Dawson, Aug. 1997, p. 82. Recent developments on several fronts that are opening up opportunities for

two-way multimedia may accelerate digital TV roll-out.

## Regulations and standards

**1997-1998 Frequency Allocation Chart** (CED), Aug. 1997, insert between p. 84-85. Special pull-out wall chart diagram of RF frequency spectrum allocations.

**Arch-rivals work together on telephony standards** (CED), James Careless, March 1997, p. 54. Canada's cable and telephone industries are quietly working together to develop standards for local competitive telephone service.

**Bailey's wish list for the cable industry** (CED), Wendell Bailey, NCTA, Dec. 1996, p. 22. Bailey puts a technological spin on the traditional holiday gift list.

**Cable moves ahead in high-speed data race** (CED), Fred Dawson, Feb. 1997, p. 76. With the Data Over Cable Service Interface Specifications (DODSIS) effort nearing completion, the cable industry has taken the lead in the high-speed data race over the telco xDSL effort.

**Cable telephony: Ready to take off?** (CED), Compiled by CED Staff and written by Michael Lafferty, May 1997, p. 34. Overview of cable telephony efforts in the United States and abroad.

**Canadian cable industry is tightening its belt** (CED), James Careless, Dec. 1996, p. 106. Canadian cable companies are finding they have to balance their need for expansion against their bottom lines.

**Canadian cable ops band together, set to roll with data** (CED), James Careless, Jan. 1997, p. 70. Despite the absence of cable modem standards, three Canadian operators launch a nationally-branded Internet service provider product.

**Charting a course for interoperability** (CED), Robert B. Russell, 802.14 Working Group, May 1997, p. 52. An explanation of the Institute of Electrical and Electronic Engineers' (IEEE) 802.14 committee, its vision and an update on the status of its work as the "other" data-over-cable standardization effort.

**Cities find that "The plan's the thing"** (CED), Thomas G. Robinson, River Oaks Communications Corp., Jan. 1997, p. 106. The benefits of creating local telecommunications master plans is discussed.

**Computer trio take TV angle** (CED), June 1997, p. 14. PC heavyweights-Compaq Computer Corp., Microsoft Corp. and Intel Corp.-announce plans to work cooperatively with broadcasting and cable industries to exploit potential of digital television.

**Consumers, the DVD and copy protection** (CED), Wendell Bailey, NCTA, Feb. 1997, p. 20. Bailey discusses the varied ramifications

**1996-1997**  
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of digital video devices (DVD) and digital signals and their impact on copyright laws and regulations.

**Data modem spec inches closer to reality** (CED), CED staff, Apr. 1997, p. 60. A review of the major events, new products and seminars held at NCTA's '97 Cable Show in New Orleans, La.

**Data services gear up; modem std. a year away** (CED), Nov. 1996, p. 14. The three top MSOs debut high-speed data services, while CableLabs announces the industry is "likely" to see interoperable cable modems by the end of 1997.

**Digital insertion: Can we all work together?** (CED), Robert Wells, May 1997, p. 42. A look at the digital ad insertion landscape and what CableLabs is doing to generate standards for this revenue-intensive service.

**Digital TV now close to reality** (CED), Jan. 1997, p. 14. Broadcast, computer and consumer electronics industries reach final agreement to press the FCC to adopt a digital television standard.

**The DTV process has begun—Where are cable operators?** (CED), Andy Paff, Integration Technologies, June 1997, p. 62. A discussion considering the potentially weighty effects the FCC's recent digital television implementation ruling will have on the cable industry.

**FCC finally sets LMDS auctions** (CED), Sept. 1997, p. 16. After months of delay, the FCC sets December 10 as the date it will begin auctioning spectrum to be used for local multi-point distribution service (LMDS).

**FCC slates debut of digital broadcast**

(CED), May 1997, p. 14. FCC announces schedule for broadcasters to "go digital."

**Finally, a cable/CE breakthrough** (CED), Walter S. Cicora, Dec. 1996, p. 158. A recent breakthrough (sort of) has the potential to break the logjam on cable/consumer electronics compatibility.

**GI and S-A agree on key points of set-top interoperability specs** (CED), Nov. 1996, p. 12. General Instruments and Scientific-Atlantic reach historic agreement on digital set-top interoperability arrangement.

**GI, Rogers test 256-QAM in field** (CED), Dec. 1996, p. 12. General Instrument and Rogers CableSystems successfully test 256-QAM, a higher-order quadrature amplitude modulation method that gives 44 percent more channel capacity.

**Government regulation & intellectual property** (CED), Jeffrey Krauss, Telecommunications and Technology Policy, Feb. 1997, p. 24. Krauss maps out how and why intellectual property rights will take on increasing importance for professionals in cable TV, video and telecommunications.

**Hybrid WDM systems for video trunking**

(CED), Chinlon Lin, Keang-Po Ho, Hongxing Dai & Jinyi Pan, Bellcore/Hermann Gysel, Mani Ramachandran, Synchronous Communications, Nov. 1996, p. 30. Simulation results indicate high-performance trunking of both digital and analog video channels can be achieved with proper design of a hybrid WDM system.

**In wireless world, hearing is believing** (CED), Thomas G. Robinson, River Oaks Communications Corp., March 1997, p. 126. Contrary to popular belief, the wireless evolution/revolution is moving forward with the concerted efforts of both local governments and wireless providers.

**The Internet and the telephone network** (CED), Jeffrey Krauss, Telecommunications and Technology Policy, Dec. 1996, p. 26. Phone companies just can't get it through their collective heads that when customer demand patterns change, for example with Internet access, the service has to change as well.

**Is HDTV doomed from the beginning?** (CED), Jeffrey Krauss, Telecommunications and Technology Policy, Aug. 1997, p. 24. Continued disagreement over the digital base-band interface that's supposed to connect digital TVs, VCRs and cable boxes could endanger the HDTV rollout.

**The issue: Emergency alerting** (CED), Dec. 1996, p. 136. While most respondents to this reader poll are aware their systems will be an integral part of the new emergency alert system, they remain concerned about the potential costs of implementing the system.

**Keeping Continental on the fast track** (CED), Roger Brown, Jan. 1997, p. 40. Profile of CED's Man of the Year award recipient, David Fellows, Continental Cablevision's senior vice president of engineering.

**Kuska and the theory of relativity** (CED), Dana Cervenka, Nov. 1996, p. 18. Profile of Michelle Kuska, director of network technology for TCI Technology Ventures and head of the MCNS working group for cable modem specifications.

**Lab focuses on modem interoperability** (CED), Robert Wells, CableLabs, Sept. 1997, p. 26. An overview of CableLabs' latest project—interoperability testing—now that the modem specification writing phase is winding down.

**Laubach: Solving the standards puzzle** (CED), Dana Cervenka, Dec. 1996, p. 20. Profile of Mark Laubach, ATM proponent and Com21's co-founder and vice president, chief technology officer.

**LMDS auction rules shut out cable MSOs** (CED), May 1997, p. 16. The FCC's newly proposed rules for upcoming auction of LMDS spectrum excludes participation of local MSOs and telcos.

**LMDS auctions next: Place your bets**

(CED), Jeffrey Krauss, Oct. 1997, p. 24. An update on the LMDS auction plan with special focus on two problems: telco eligibility and installment payments for small businesses.

**Loss of ally in D.C. signals end of era** (CED), Walter Cicora, Oct. 1997, p. 102. Cicora laments the industry's loss as Wendell Bailey departs the NCTA.

**Low-power TV and digital channels** (CED), Jeffrey Krauss, Telecommunications and Technology Policy, Jan. 1997, p. 22. The case is made that low-power television stations should not get digital channels.

**Mapping the cable industry's future** (CED), Roger Brown, Dec. 1996, p. 100. An in-depth interview with Dr. Richard Green, CableLabs' president and CEO.

**Marcus gains pole grief relief** (CED), Sept. 1997, p. 14. The FCC gives Marcus Cable Associates a favorable ruling in its complaint against Texas Utilities Electric Company and its unfair pole attachment policies.

**Operational issues for digital have arrived** (CED), Wendell Bailey, NCTA, May 1997, p. 20. The FCC's digital TV mandate for broadcasters generates a host of issues for cable operators to deal with.

**Operators look at back-door telephony service** (CED), April 1997, p. 48. Internet telephony, or voice over IP services, could open the door to a variety of telephony services for operators who don't want to invest the time or money in more traditional lifeline telephony service.

**Proper care and feeding of the headend** (CED), Linc Reed-Nickerson, Tektronix Inc., Sept. 1997, p. 72. The second report in a four-part series which discusses ways to assure that picture and sound quality will be competitive with DBS services.

**Pumping up the headend with preventive maintenance** (CED), Linc Reed-Nickerson, Tektronix Inc., Aug. 1997, p. 34. Part one of a four-part series on how operators can optimize headend performance through a dedicated preventive maintenance program.

**RCN, Boston agree on OVS arrangement** (CED), Aug. 1997, p. 14. RCN Corp. reaches agreement with the City of Boston to provide video services under the Open Video System (OVS) provision of the 1996 Telecom Act.

**SCTE achieves first ANSI standard** (CED), Feb. 1997, p. 14. SCTE gets its first standard (the specification for a female outdoor F port) approved by the influential American National Standards Institute.

**Serving up Quality of Service** (CED), Mark Laubach, Com21 Inc., April 1997, p. 34. What is Quality of Service and why is it an increasingly important issue for operators?

**Signs point to broadband wireless onslaught** (CED), Fred Dawson, July 1997, p. 82. Technology has pushed ahead to where the

develop standards for local competitive telephone service.

**Back to the (converging?) future** (CED), Michael Lafferty, Jan. 1997, p. 64. A panel of cable industry technology professionals offer up their predictions for the coming year.

**Cable moves ahead in high-speed data race** (CED), Fred Dawson, Feb. 1997, p. 76. With the Data Over Cable Service Interface Specifications (DODSIS) effort nearing completion, the cable industry has taken the lead in the high-speed data race over the telco xDSL effort.

**Cable telephony: Ready to take off?** (CED), Compiled by CED Staff and written by Michael Lafferty, May 1997, p. 34. Overview of cable telephony efforts in the United States and abroad.

**Cable/telco co-op on new telephony gear** (CED), Nov. 1996, p. 14. Century communications and Citizens Telecom have jointly deployed an HFC-based system for a wide-ranging service trial.

**Cox steps up the plate with telephony in CA.** (CED), Dave Woodrow, Cox Communications/Guy Gill, Nortel, May 1997, p. 58. An overview of Cox Communication's telephony initiative in Orange County, Calif.

**Cracking into the lucrative commercial market** (CED), Leo Wrobel, Premiere Network Services Inc., Sept. 1997, p. 78. First part in a series of articles dealing with how operators can position themselves to reap new revenues as they do battle with telecommunication competitors.

**Cracking the commercial telecom market** (CED), Leo Wrobel, Premiere Network Services Inc., Oct. 1997, p. 44. Part two of a series dealing with the right and wrong things to do in raiding the telco markets, ways to exploit the small or home office markets, and how to address big company service needs.

**Data modem spec inches closer to reality** (CED), CED staff, Apr. 1997, p. 60. A review of the major events, new products and seminars held at NCTA's '97 Cable Show in New Orleans, La.

**Digital delivers multi services over long distances** (CED), Tim Wilk, Scientific-Atlanta Inc., Sept. 1997, p. 46. As broadband operators strive to reduce costs while expanding services, fiber ring digital interconnects will play a key role.

**Evolution of the local phone market** (CED), Jeffrey Krauss, Telecommunications and Technology Policy, Nov. 1996, p. 24. While the 1996 Telecom Act was enacted to spur competition, the future lies in the consolidation of telecom competitors.

**FTTH: Are telcos headed back to the future?** (CED), Fred Dawson, Mar. 1997, p. 105. RBOC leaders predict aggressive fiber-to-the-home (FTTH) strategy is taking shape in

the telephone industry.

**GI breaks up into three new units** (CED), Feb. 1997, p. 12. General Instruments announces its latest reincarnation as NextLevel Systems Inc. and the spin-off of its CommScope and Power Semiconductor divisions.

**The great Sonet debate: Primed for video?** (CED), Dana Cervenka, Sept. 1997, p. 30. While the Sonet (synchronous optical network) platform has been embraced by some for high-speed data and voice transport, there's still some question whether it will make the grade for video transport.

**GTE expands ADSL trials for data services** (CED), July 1997, p. 16. GTE launches two trials using Asymmetric Digital Subscriber Line (ADSL) technology.

**GTE shuts down interactive TV unit** (CED), Feb. 1997, p. 16. GTE Interactive Corp. shuts down claiming there is enough Internet content being created by other sources.

**How to calculate availability for HFC telephony** (CED), Farr Farhan & Lee Thompson, Scientific-Atlanta, Nov. 1996, p. 70. A discussion of the various elements involved in providing telephone service and its impact on the availability of network services.

**How to migrate from HFC to a Sonet network** (CED), Gary Briggs, Fujitsu Network Communications, Sept. 1997, p. 40. Migrating from an HFC to a Sonet network isn't as difficult or expensive as it was a short time ago, and makes a great deal of sense for those looking to expand service offerings.

**Hybrid WDM systems for video trunking** (CED), Chinlon Lin, Keang-Po Ho, Hongxing Dai & Jinyi Pan, Bellcore/Hermann Gysel, Mani Ramachandran, Synchronous Communications, Nov. 1996, p. 30. Simulation results indicate high-performance trunking of both digital and analog video channels can be achieved with proper design of a hybrid WDM system.

**The Internet and the telephone network** (CED), Jeffrey Krauss, Telecommunications and Technology Policy, Dec. 1996, p. 26. Phone companies just can't get it through their collective heads that when customer demand patterns change, for example with Internet access, the service has to change as well.

**Iridium now has 17 birds flying** (CED), Sept. 1997, p. 16. Progress on the Iridium satellite system is proceeding as expected.

**The issue: 1997 construction plans** (CED), Apr. 1997, p. 80. Reader poll confirms industry rumblings that 1997 will see a lot of plant upgrades, new headends and fiber optic deployments.

**Keeping Continental on the fast track** (CED), Roger Brown, Jan. 1997, p. 40. Profile of CED's Man of the Year award recipient, David Fellows, Continental Cablevision's

senior vice president of engineering.

**Lessons from the pioneers of cablephone** (CED), Bob Stanzione, Arris Interactive, an Antec/Nortel joint venture, July 1997, p. 26. Making a case for the cable industry's ability to provide telephone.

**Local telcos, cable companies partner for profit** (CED), Ken Pyle, E/O Networks, Nov. 1996, p. 62. A review of the opportunities that exist for local cable and telephone operators to share facilities.

**MainStreet comes to Clearwater, FL** (CED), Jan. 1997, p. 16. GTE launches its interactive video and high-speed data access service, MainStreet, in Clearwater, FL.

**Making two-way work** (CED), Nov. 1996, p. 96. Respondents express their views on upgrading their systems to two-way.

**MCI to test suite of new services** (CED), May 1997, p. 14. MCI forms Pioneer Holdings with Iowa telephone company and electric utility to provide voice, video and data services on a turnkey basis.

**MediaOne unveils national backbone** (CED), Oct. 1997, p. 16. MediaOne activates a new national data network to ensure reliability and performance.

**Microsoft hands Comcast \$1 billion to get high-speed data kick-started** (CED), July 1997, p. 12. The country's fourth-largest MSO receives a \$1 billion check from Microsoft to accelerate construction of its HFC networks and support high-speed data services.

**Modems, test gear, return path hot at Expo** (CED), CED staff, July 1997, p. 46. Summary of the products, seminars and important developments at SCTE's 1997 Cable-Tec Expo in Orlando, Fla.

**Monet group shows off WDM** (CED), Apr. 1997, p. 16. The Multiwavelength Optical Networking (Monet) consortium unveils an eight-wavelength, configurable network linking high-capacity testbeds in three New Jersey locations.

**MSOs: IP telephony plan no longer stuck on 'hold'** (CED), Fred Dawson, Oct. 1997, p. 72. IP (Internet protocol) telephony has moved to the front burner with MSOs rethinking their strategies for voice services and data networking.

**National data net could be the key to new services** (CED), Fred Dawson, June 1997, p. 116. Cable MSOs have come to the realization that they can create a truly competitive nationwide network infrastructure for data-based communications.

**Nebraska op cashes in on educational data** (CED), Leslie Ellis, Oct. 1997, p. 68. Case study of Galaxy Cablevision and how they turned their upgrade into a revenue generating opportunity and partnership for distance learning.

**Necessity drives small ops to new technolo-**

gies (CED), Craig Kuhl, June 1997, p. 92.

Small cable operators are becoming more innovative, and inventive, in their use of advancing technologies.

**Next-generation FSS may prove formidable** (CED), Fred Dawson, May 1997, p. 76. The next generation Ka-band fixed satellite services (FSS) slated to launch in '99 and beyond promise to alter the parameters for satellite participation in broadband communications.

**NEC and H-P chosen as Telstra main suppliers** (CED), Nov. 1996, p. 14. Australian telco selects NEC and Hewlett-Packard as equipment and information technology suppliers for next round of broadband service deployment.

**Operators look at back-door telephony service** (CED), April 1997, p. 48. Internet telephony, or voice over IP services, could open the door to a variety of telephony services for operators who don't want to invest the time or money in more traditional lifeline telephony service.

**Outside of the service comfort zone** (CED), Wendell Bailey, NCTA, July 1997, p. 20.

When it comes to overstatement in the past, the RBOCs and cable companies are expert, but it seems the cable companies have a little more to show for their efforts recently.

**PCS may be true road to cable telephony** (CED), Fred Dawson, Nov. 1996, p. 92. A possible option to the all-wireline approach for cable telephony is discussed.

**RCN teams with Washington utility to offer bundled cable, telephony** (CED), Oct. 1997, p. 12. Potomac Electric Power Co. and RCN Corp. team up to provide local and long distance telephone, cable TV and Internet services in Washington D.C. suburbs.

**RCN, Boston agree on OVS arrangement** (CED), Aug. 1997, p. 14. RCN Corp. reaches agreement with the City of Boston to provide video services under the Open Video System (OVS) provision of the 1996 Telecom Act.

**Report details new opportunities** (CED), Feb. 1997, p. 14. Summary of study conducted by International Data Corp.'s Network Support and Integration Services program that questions vendors' perceptions of market growth in telcos, Internet service providers and cable TV companies.

**Return systems 102: what goes around...** (CED), Thomas J. Staniec, The Excalibur Group, A Time Warner Co., Dec. 1996, p. 62.

As more networks are being activated with operational two-way signal flow, not only do new questions arise, but past solutions may need some refinement as well.

**S-A and GI chart new courses** (CED), July 1997, p. 12. Scientific-Atlanta Inc. and General Instruments introduce new products (Sonet transmissions products and digital loop carrier products respectively) to attract new

customers.

**Signs point to broadband wireless onslaught** (CED), Fred Dawson, July 1997, p. 82.

Technology has pushed ahead to where the means of wireless attack are available across many frequency zones.

**SNET and Cablevision spar heatedly over alleged NESC safety violations** (CED), Feb. 1997, p. 12. SNET is battling it out in a Connecticut court over safety violation charges brought by Cablevision Systems.

**Sorting out the satellite confusion** (CED), Jeffrey Krauss, Telecommunications and Technology Policy, July 1997, p. 24. A summary of the new satellite systems recently authorized by the FCC.

**Stretching the HDTV envelope with a standard** (CED), Michael Lafferty, March 1997, p. 42. While the HDTV standard has finally been "set" by the FCC, nagging regulatory and technical issues still exist.

**Supplying too much of the wrong thing?** (CED), Wendell Bailey, NCTA, April 1997, p. 20. Bailey questions whether the idea that provisioning a broadband, switched, two-way network for every single person and place in the United States is a laudable goal.

**TCI launches telephony through Japanese partner** (CED), Aug. 1997, p. 12. Telecommunications Inc.'s Japanese subsidiary, Jupiter Telecommunications, launches "CablePhone" service in Tokyo suburbs.

**Telco guy finds a home in cable** (CED), Dana Cervenka, Oct. 1997, p. 18. Profile of Mark Davis, Cox Communications' director of engineering for telephony.

**Telco video plans becoming clearer all the time** (CED), CED Staff, Nov. 1996, p. 42. Annual review of individual telco plans, trials and technology being used in deploying broadband services.

**Texas hooks TWC as local phone op** (CED), June 1997, p. 16. The University of Texas announces that Time Warner Communications has become its largest local telephone access provider for its dial-up Internet service, "Telesys."

**The issue: Interconnects** (CED), Feb. 1997, p. 90. The issue: Interconnects; The launch of datacom services has respondents saying the industry ought to be doing more to determine the feasibility of interconnecting adjoining cable systems.

**These days, Craddock is digging in bigger bins** (CED), Dana Cervenka, Sept. 1997, p. 18. Profile of cable veteran and Comcast Corporation's vice president of New Media Development, Steve Craddock.

**US West poised for cable, telephony** (CED), Aug. 1997, p. 14. US West chairman and CEO Richard McCormick tells stockholders that the company plans on becoming a "one-stop shop" for telecommunications.

**Vendors launch new ADSL equipment** (CED), Nov. 1996, p. 16. A variety of vendors announce new ADSL product offerings.

**Video perks give data a sharper image** (CED), Fred Dawson, Sept. 1997, p. 90. New software tools enhance the prospects for adding innovative and highly advanced types of video content to high-speed data channels.

**Videophone: After 40 years, an emerging service** (CED), Greg Hutterer/Todd Schieffert, ADC Telecommunications Inc., June 1997, p. 108. Videophone services are finally on the verge of widespread personal, educational and business use.

**Web giants hope to bridge a multimedia gap** (CED), Fred Dawson, Dec. 1996, p. 124. Two powerful camps in the Silicon Valley landscape are slugging it out over a video streaming standard that will have a direct impact on cable's high-speed data future.

**Will digital roll-out speed ITV, HDTV deployment?** (CED), Fred Dawson, Aug. 1997, p. 82. Recent developments on several fronts that are opening up opportunities for two-way multimedia may accelerate digital TV roll-out.

## Tests and measurements

**1997-1998 Frequency Allocation Chart** (CED), Aug. 1997, insert between p. 84 and p. 85. Special pull-out wall chart diagramming RF frequency spectrum allocations.

**An end to battery maintenance?** (CED PMR), Dana Cervenka, Oct. 1997, p. 26. New maintenance technologies, as well as new service offerings, can free up personnel to concentrate on more pressing matters.

**Are HFC networks at the breaking point?** (CED), Roger Brown, Dec. 1996, p. 30. A discussion of some the problems operators may run into as they try make their analog video networks a reliable pipeline for new services like high-speed data and telephony.

**Audio levels scream for attention** (CED), Linc Reed-Nickerson, Tektronix Inc., Oct. 1997, p. 54. Part three of series on headend maintenance that deals with audio levels, the biggest area for improvement in a cable system.

**Cable data modem schedule on track** (CED), Sept. 1997, p. 12. CableLabs conducts three-day test of cable modem interoperability and MSOs feel plentiful supply of interoperable cable modems will be available early next year.

**Capacity planning for advanced services traffic** (CED), Curtiss Smith, General Instrument Corp., Feb. 1997, p. 48. An investigation of the effects of system penetration rates on the sizing of serving areas and nodes.

**Characterizing return path transmitters** (CED), John J. Kenney, Antech Technology Center, May 1997, p. 26. Understanding how

over-driven optical transmitters degrade digitally modulated carriers.

**The comet is here: Are you ready to see it?** (CED), Jim Farmer, Antec, March 1997, p. 22. Farmer describes the lessons that can be learned from the example of the comet, Hale-Bopp.

**Composite power and reverse clipping** (CED), Lamar E. West, Scientific-Atlanta Inc., Aug. 1997, p. 26. A discussion of multi-tone intermodulation distortion testing and an alternative technique to determine the upper limits for signal handling capacity.

**Data and network management on menu at Western** (CED), CED staff, Jan. 1997, p. 74. Summary of the events, announcements and new products that debuted at the 1996 Western Show.

**Data services gear up; modem std. a year away** (CED), Nov. 1996, p. 14. The three top MSOs debut high-speed data services, while CableLabs announces the industry is "likely" to see interoperable cable modems by the end of 1997.

**Digging deeper into network management** (CED), Leslie Ellis, July 1997, p. 44. What's a MIB (management information bases) and what they can do to make or break a network management system?

**EDFA-based video lightwave trunking systems** (CED), Dr. Shlomo Ovadia, General Instrument Corp./Dr. Hongxing Dai, and Dr. Chinlon Lin, Bellcore, June 1997, p. 32. A review of the performance characteristics and applications of Erbium-doped optical fiber amplifier-based, multichannel AM/M-QAM video lightwave trunking systems.

**Effects of analog and digital signals** (CED), M. Stephen McConnell, Scientific-Atlanta Inc., Dec. 1996, p. 116. A discussion of the various situations that operators face when adding a digital tier of channels in an analog network.

**EMF: The invisible headend plague** (CED PMR), J. Terry Turner, VitaTech Engineering Inc., July 1997, p. 30. For many cable engineers, electromagnetic fields (EMFs) are unwelcome guests that occupy a variety of critical production spaces.

**Engineers: Don't overlook network management** (MCN), Leslie Ellis, June 16, 1997, p. 43. Solid network management plans are being recognized as a critical piece of any success or profits operators hope to realize in the future.

**The fall-out from one really dirty word** (CED), Jim Farmer, Antec, May 1997, p. 22. Farmer warns against assuming too much in any situation.

**Feedforward fine tunes fiber transmitters** (CED), Jim Farina, ADC Telecommunications Inc., Sept. 1997, p. 54. Recent developments have given new life to the idea that a feedfor-

ward approach for true error correction may work for cable television applications.

**Fiber preventive maintenance** (CED PMR), Wayne Pope, Tele-Communications Inc./John Chamberlain, Norscan Inc., April 1997, p. 18. A new product increases plant reliability by monitoring its highest revenue-carrying portion.

**Fortifying the headend through engineering and performance testing** (CED PMR), Harry Tankin, General Instrument Corp., April 1997, p. 30. New two-way services have put new demands on headends and that means serious attention has to be paid to headend engineering and performance testing.

**The 'four 9s': More style than substance?** (CED), Roger Brown, March 1997, p. 36. As cable system reliability improves, do operators actually have to reach the lofty 99.99 percent reliability benchmark established and purportedly maintained by telcos?

**How to calculate availability for HFC telephony** (CED), Farr Farhan & Lee Thompson, Scientific-Atlanta, Nov. 1996, p. 70. A discussion of the various elements involved in providing telephone service and its impact on the availability of network services.

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**The issue: Status monitoring** (CED), March 1997, p. 112. Reader poll indicates network monitoring has finally caught on as an issue to be dealt with in the cable TV industry.

**Keeping nature at bay during the summer** (CED PMR), Michael Lafferty, July 1997, p. 6. Ways to alleviate the havoc that summer weather can wreak on men and machines in the cable network.

**Lab focuses on modem interoperability** (CED), Robert Wells, CableLabs, Sept. 1997, p. 26. An overview of CableLabs' latest project-interoperability testing-now that the modem specification writing phase is winding down.

**Leading-edge software drives systems to new heights** (CED), Craig Kuhl, Oct. 1997, p. 36. An overview of the software available that can assist operators in dealing with dispatching, billing, customer care, marketing and overall plant management.

**Mapping the cable industry's future** (CED), Roger Brown, Dec. 1996, p. 100. An in-depth interview with Dr. Richard Green, CableLabs' president and CEO.

**Modems, test gear, return path hot at Expo** (CED), CED staff, July 1997, p. 46. Summary

of the products, seminars and important developments at SCTE's 1997 Cable-Tec Expo in Orlando, Fla.

**Network management: Creating a virtual presence** (CED), Alan Gordon, Superior Electronics Group Inc., July 1997, p. 38. Network management systems provide operators a virtual presence, or the ability to view the status of their systems anywhere in the plant at any time.

**Noise and ingress performance in the return path** (CED), Bill Morgan, Hewlett-Packard, March 1997, p. 76. Third article in three-part series on the return path that discusses several ingress measurements to use in monitoring the return path.

**Optimizing reverse path loss in tree-and-branch architectures** (CED PMR), Tim Block, Cable System Services, Oct. 1997, p. 14. Temperature is often overlooked when trying to track down return path ingress in lengthy cascade tree-and-branch architectures.

**Proactive return path maintenance** (CED), Bill Morgan, Hewlett-Packard, Nov. 1996, p. 86. Part II of three-part series on the return path, its characteristics and how to monitor and maintain it. (Part I/Oct. 1996; Part III/March 1997)

**Producing optimum link performance** (CED), Lamar E. West, Scientific-Atlanta, Mar. 1997, p. 26. A discussion of the optimum modulation index for the reverse path.

**Proper care and feeding of the headend** (CED), Linc Reed-Nickerson, Tektronix Inc., Sept. 1997, p. 72. The second report in a four-part series which discusses ways to assure that picture and sound quality will be competitive with DBS services.

**Pumping up the headend with preventive maintenance** (CED), Linc Reed-Nickerson, Tektronix Inc., Aug. 1997, p. 34. Part one of a four-part series on how operators can optimize headend performance through a dedicated preventive maintenance program.

**Return path noise: Testing tool aids diagnosis** (CED), Robert Wells, Cable Television Laboratories Inc. (CableLabs), Jan. 1997, p. 24. CableLabs' testing system, CW Tester, is reviewed.

**Return systems 102: what goes around...** (CED), Thomas J. Staniec, The Excalibur Group, A Time Warner Co., Dec. 1996, p. 62. As more networks are being activated with operational two-way signal flow, not only do new questions arise, but past solutions may need some refinement as well.

**Round and round the testing goes** (CED), Michael Lafferty, Aug. 1997, p. 44. An panel of engineering professionals give their opinions on the common concerns, solutions and crystal ball predictions they have on improving their system's performance.

**Taking broadband service into the home**

(CED), Thomas E. Chapuran/Ronald C. Menendez/Stuart S. Wagner, Bellcore, Jan. 1997, p. 28. Results from a series of experimental and analytical studies of coaxial-cable premises-wiring impairments for digital broadband signals.

**Testing 256 QAM transmission of data over HFC** (CED), Mark Ryba and Paul Matuszak, General Instrument Corp., Dec. 1996, p. 78. General Instrument Corp. has developed a 256 QAM transmission system that provides far more efficient use of cable system bandwidth and expands channel capacity.

### Trade show coverage

**The 1996 Western Show** (CED), Dec. 1996, p. 138. Booth guide listings

**The 1997 National Show** (CED), March 1997, p. 100. Index, booth guide and company listing of vendors attending Cable '97 in New Orleans, La.

**CableNET '96 zeroes in on data, net management** (CED), Dana Cervenka, Dec. 1996, p. 76. A preview of CableNET '96 and its more than 35 participants who will focus attendee attention on high-speed data and network management.

**Data and network management on menu at Western** (CED), CED staff, Jan. 1997, p. 74. Summary of the events, announcements and new products that debuted at the 1996 Western Show.

**Data modem spec inches closer to reality** (CED), CED staff, Apr. 1997, p. 60. A review of the major events, new products and seminars held at NCTA's '97 Cable Show in New Orleans, La.

**The dawning of a new day for data over cable** (CED), CED staff, Feb. 1997, p. 66. Review of SCTE's Conference on Emerging Technologies in Nashville, TN as well as the 1997 Polaris Award winner.

**Modems, test gear, return path hot at Expo** (CED), CED staff, July 1997, p. 46. Summary of the products, seminars and important developments at SCTE's 1997 Cable-Tec Expo in Orlando, Fla.

**NCTA tech sessions focus on return path, modems** (CED), Roger Brown, March 1997, p. 98. Preview of events and seminars to take place at Cable '97 in New Orleans, LA.

**The people behind the National Show** (CED), Wendell Bailey, NCTA, March 1997, p. 20. Bailey gives a behind-the-scenes look at the people at the NCTA who organize the NCTA National Show.

**SCTE Cable-Tec Expo '97 Booth Guide** (CED), June 1997, p. 123. Booth guide and exhibitor company listing for the 1997 Cable-Tec Expo.

### Training and education

**Back to the (converging?) future** (CED),

Michael Lafferty, Jan. 1997, p. 64. A panel of cable industry technology professionals offer up their predictions for the coming year.

**Cable's drug and alcohol policies mature** (CED), Craig Kuhl, Sept. 1997, p. 84. Drug and alcohol testing, as well as rehabilitation programs have become a staple in the industry over the last five years.

**Cable's fortunes revolve around training** (CED), Michael Lafferty, June 1997, p. 80. A cable engineering panel underscores the realization that it's not technology, but their people in the trenches that will determine cable's ultimate success or failure in the telecommunications battle.

**For cable, there are numbers in safety** (CED), Craig Kuhl, May 1997, p. 72. The costs for not implementing a serious safety program can add up quickly in today's lawsuit-happy environment.

**The issue: On-the-job safety** (CED), June 1997, p. 144. Reader poll finds that cable company approaches to safety issues varies widely.

**Museum names president, relocation progresses** (CED), March 1997, p. 14. The National Cable Television Center and Museum names Marlow Froke as its president as its Denver relocation continues.

**Nebraska op cashes in on educational data** (CED), Leslie Ellis, Oct. 1997, p. 68. Case study of Galaxy Cablevision and how they turned their upgrade into a revenue generating opportunity and partnership for distance learning.

**Overhauling the employee tool box** (CED PMR), Craig Kuhl, April 1997, p. 22. New training and education techniques are giving cable TV employees more of a stake in the business.

**Round and round the testing goes** (CED), Michael Lafferty, Aug. 1997, p. 44. An panel of engineering professionals give their opinions on the common concerns, solutions and crystal ball predictions they have on improving their system's performance.

**What comes first? The human or the machine?** (CED), Michael Lafferty, Sept. 1997, p. 62. CED's annual Salary and System Survey details industry worker concerns and system activity.

### Trials, case studies and launches

**5 MSOs commit to test TV On-Line** (CED), Dec. 1996, p. 14. Five major cable TV network operators are planning to field trial the "TV On-Line" data service WorldGate Communications.

**ADSL technology: Dead in its tracks?** (CED), Alan Stewart, Dec. 1996, p. 92. Once seen as the telco's secret weapon against cable TV, asymmetrical digital subscriber line (ADSL) seems to have been sidelined by the baby Bells as they scramble to maintain their

local loop monopolies.

**Are HFC networks at the breaking point?** (CED), Roger Brown, Dec. 1996, p. 30. A discussion of some the problems operators may run into as they try make their analog video networks a reliable pipeline for new services like high-speed data and telephony.

**Broadband CDMA gets tryout over phone** (CED), Aug. 1997, p. 14. InterDigital Communications Corp. announces the successful completion of its first live demonstration of Broadband-Code Division Multiple Access (B-CDMA) wireless local loop technology.

**Cable telephony: Ready to take off?** (CED), Compiled by CED Staff and written by Michael Lafferty, May 1997, p. 34. Overview of cable telephony efforts in the United States and abroad.

**Capacity planning for advanced services traffic** (CED), Curtiss Smith, General Instrument Corp., Feb. 1997, p. 48. An investigation of the effects of system penetration rates on the sizing of serving areas and nodes.

**CAI given OK for wireless lab** (CED), June 1997, p. 16. The FCC approves CAI Wireless Systems Inc.'s request to create a "wireless laboratory" to test two-way voice, video and data services in Pittsburgh, Pa.

**CAI given OK to operate in Boston** (CED), March 1997, p. 14. CAI Wireless Systems Inc. receives permanent authorization from the FCC to use its spectrum for fixed two-way video, voice and data services in Boston.

**CellularVision plans to offer data services** (CED), March 1997, p. 14. CT&T (formerly CellularVision Technology and Telecommunications) announces purchase of 100,00 internal PC modems and plans to begin high-speed wireless Internet service via its LMDS network.

**Chambers Cable to deploy interdiction** (CED), March 1997, p. 16. Chambers Communications Corp. announces decision to install consumer-friendly interdiction technology in two of its five cable systems undergoing rebuilds.

**Data modem spec inches closer to reality** (CED), CED staff, Apr. 1997, p. 60. A review of the major events, new products and seminars held at NCTA's '97 Cable Show in New Orleans, La.

**Data services gear up; modem std. a year away** (CED), Nov. 1996, p. 14. The three top MSOs debut high-speed data services, while CableLabs announces the industry is "likely" to see interoperable cable modems by the end of 1997.

**Effects of analog and digital signals** (CED), M. Stephen McConnell, Scientific-Atlanta Inc., Dec. 1996, p. 116. A discussion of the various situations that operators face when adding a digital tier of channels in an analog network.

**Fiber preventive maintenance (CED PMR)**, Wayne Pope, Tele-Communications Inc./John Chamberlain, Norscan Inc., April 1997, p. 18. A new product increases plant reliability by monitoring its highest revenue-carrying portion.

**The 'four 9s': More style than substance?** (CED), Roger Brown, March 1997, p. 36. As cable system reliability improves, do operators actually have to reach the lofty 99.99 percent reliability benchmark established and purportedly maintained by telcos?

**Fundy Cable prepares to go retail with modems (CED)**, July 1997, p. 14. Canadian Fundy Communications Inc. plans to offer Scientific-Atlanta telephone-return cable modems for sale directly to customers via local retail outlets.

**Getting ready for cable's digital era (CED)**, Roger Brown, March 1997, p. 60. Operators are now rolling out fully featured digital boxes that promise to rewrite the way systems roll out new services.

**GI a preferred choice for @Home data nets (CED)**, May 1997, p. 14. General Instrument's NextLevel Satellite Data Networks Group gets the nod as a "preferred" vendor for telephone-return modems and related equipment by @Home Network.

**GI offers turnkey data solutions (CED)**, April 1997, p. 12. GI's NextLevel Satellite Data Networks Group forges new alliances with companies like Community Networks Inc. (CNI) to provide turnkey high-speed data solutions.

**GI, Rogers test 256-QAM in field (CED)**, Dec. 1996, p. 12. General Instrument and Rogers Cablesystems successfully test 256-QAM, a higher-order quadrature amplitude modulation method that gives 44 percent more channel capacity.

**GTE expands ADSL trials for data services (CED)**, July 1997, p. 16. GTE launches two trials using Asymmetric Digital Subscriber Line (ADSL) technology.

**The high-speed data race is on; cable and MMDS ops do battle (CED)**, April 1997, p. 12. The race to provide high-speed data heats up as several cable TV and MMDS operators commit to modem purchases and roll out customized services.

**Hybrid WDM systems for video trunking (CED)**, Chinlon Lin, Keang-Po Ho, Hongxing Dai & Jinyi Pan, Bellcore/Hermann Gysel, Mani Ramachandran, Synchronous Communications, Nov. 1996, p. 30.

Simulation results indicate high-performance trunking of both digital and analog video channels can be achieved with proper design of a hybrid WDM system.

**Interdiction enjoys comeback (CED)**, April 1997, p. 14. It's deja vu as Motorola and Scientific-Atlanta announce significant

enhancements and upgrades to video signal transport systems through new interdiction systems.

**Keeping up with the big guys (CED)**, Michael Lafferty, July 1997, p. 76. Innovative software developers and small and medium-sized operators are joining forces to catapult their cable customers onto the information superhighway.

**MainStreet comes to Clearwater, FL (CED)**, Jan. 1997, p. 16. GTE launches its interactive video and high-speed data access service, MainStreet, in Clearwater, FL.

**Mapping the cable industry's future (CED)**, Roger Brown, Dec. 1996, p. 100. An in-depth interview with Dr. Richard Green, CableLabs' president and CEO.

**MCI to test suite of new services (CED)**, May 1997, p. 14. MCI forms Pioneer Holdings with Iowa telephone company and electric utility to provide voice, video and data services on a turnkey basis.

**Medin: No more dumb pipes for cable (CED)**, Dana Cervenka, April 1997, p. 18. Profile of Milo Medin, @Home Network's vice president of networks.

**Modems, test gear, return path hot at Expo (CED)**, CED staff, July 1997, p. 46. Summary of the products, seminars and important developments at SCTE's 1997 Cable-Tec Expo in Orlando, Fla.

**Monet group shows off WDM (CED)**, Apr. 1997, p. 16. The Multiwavelength Optical Networking (Monet) consortium unveils an eight-wavelength, configurable network linking high-capacity testbeds in three New Jersey locations.

**Nebraska op cashes in on educational data (CED)**, Leslie Ellis, Oct. 1997, p. 68. Case study of Galaxy Cablevision and how they turned their upgrade into a revenue generating opportunity and partnership for distance learning.

**New modems appear on the scene; supported by range of new products (CED)**, Jan. 1997, p. 12. Overview of pre-Western Show announcements of new modems, new components for modems, field tests and back office support.

**New trend: Traffic control times two (CED)**, Tom Robinson, River Oaks Communications Corp., Nov. 1996, p. 114. Local governments are looking at traffic signaling infrastructure to provide transport for other types of data, voice and video communications.

**NEC and H-P chosen as Telstra main suppliers (CED)**, Nov. 1996, p. 14. Australian telco selects NEC and Hewlett-Packard as equipment and information technology suppliers for next round of broadband service deployment.

**PCS may be true road to cable telephony**

(CED), Fred Dawson, Nov. 1996, p. 92. A possible option to the all-wireline approach for cable telephony is discussed.

**RCN, Boston agree on OVS arrangement (CED)**, Aug. 1997, p. 14. RCN Corp. reaches agreement with the City of Boston to provide video services under the Open Video System (OVS) provision of the 1996 Telecomm Act.

**SatCon gets order from electric utility (CED)**, March 1997, p. 12. SatCon Technology Corp. gets the chance to demonstrate and evaluate its unique flywheel technology in trial with San Diego Gas and Electric and Time Warner Cable.

**SeaChange, IPC team for VOD (CED)**, Jan. 1997, p. 16. SeaChange International and IPC Interactive Inc. will jointly develop new digital platform to deliver network-based video-on-demand services.

**Setting up a sting to snag cable crooks (CED)**, Harry Maxwell, Cablevision Systems Corp., June 1997, p. 46. First of two winning papers from the NCTA's 10th Annual Signal Security Ideas Competition.

**Signs point to broadband wireless onslaught (CED)**, Fred Dawson, July 1997, p. 82.

Technology has pushed ahead to where the means of wireless attack are available across many frequency zones.

**Swiss test shows cellular TV works (CED)**, Oct. 1997, p. 14. A successful 10-month trial of LMDS (local multipoint distribution services) technology in Switzerland prompts a commercial rollout by Swiss Telecom.

**TCI begins rollout of digital video (CED)**, Dec. 1996, p. 12. After years of hype and delayed rollouts, TCI finally begins deploying digital video in Connecticut.

**TCI launches telephony through Japanese partner (CED)**, Aug. 1997, p. 12. Tele-Communications Inc.'s Japanese subsidiary, Jupiter Telecommunications, launches "CablePhone" service in Tokyo suburbs.

**TCI redefines itself (again), charts new upgrade path (CED)**, Leslie Ellis, June 1997, p. 74. TCI shows signs of renewed vigor in upgrade efforts and quarterly financial results.

**Telco video plans becoming clearer all the time (CED)**, CED Staff, Nov. 1996, p. 42. Annual review of individual telco plans, trials and technology being used in deploying broadband services.

**Testing 256 QAM transmission of data over HFC (CED)**, Mark Ryba and Paul Matuszak, General Instrument Corp., Dec. 1996, p. 78. General Instrument Corp. has developed a 256 QAM transmission system that provides far more efficient use of cable system bandwidth and expands channel capacity.

**Texas hooks TWC as local phone op (CED)**, June 1997, p. 16. The University of Texas announces that Time Warner Communications has become its largest local telephone access

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**Wink gets thumbs-up from NBC and HITS** (CED), Aug. 1997, p. 16. Wink Communications forges encoding deals with NBC and TCI's Headend In The Sky.

### Video compression

**GI and S-A agree on key points of set-top interoperability specs** (CED), Nov. 1996, p. 12. General Instrument and Scientific-Atlanta reach historic agreement on digital set-top interoperability arrangement.

**The issue: 1997 construction plans** (CED), Apr. 1997, p. 80. Reader poll confirms industry rumblings that 1997 will see a lot of plant upgrades, new headends and fiber optic deployments.

**Mapping the cable industry's future** (CED), Roger Brown, Dec. 1996, p. 100. An in-depth interview with Dr. Richard Green, CableLabs' president and CEO.

**Operational issues for digital have arrived** (CED), Wendell Bailey, NCTA, May 1997, p. 20. The FCC's digital TV mandate for broadcasters generates a host of issues for cable operators to deal with.

**S-A system chosen for postal network** (CED), Jan. 1997, p. 14. Scientific-Atlanta Inc.'s PowerVu digital compression system has been chosen to upgrade the Postal Satellite Training Network.

**Statmux boosts digital channels** (CED), April 1997, p. 14. General Instrument upgrades its digital compression system to transmit 16 video channels on a single 26-MHz satellite transponder.

**Survey-said! Focus on purchaser preference** (CED), Thomas Robinson, River Oaks Communications Corp., Sept. 1997, p. 114. Robinson details his conclusions on key trends in the industry after culling survey work on subscriber preferences.

### Wireless technologies

**1997-1998 Frequency Allocation Chart** (CED), Aug. 1997, insert between p. 84 and p. 85. Special pull-out wall chart diagramming RF frequency spectrum allocations.

**Broadband CDMA gets tryout over phone** (CED), Aug. 1997, p. 14. InterDigital Communications Corp. announces the successful completion of its first live demonstration of Broadband-Code Division Multiple Access (B-CDMA) wireless local loop technology.

**Cable and the mumpsimus syndrome** (CED), Jim Farmer, Antec, Jan. 1997, p. 20. Competition is forcing the cable industry to question its "immutable" principles and concepts.

**CAI given OK for wireless lab** (CED), June 1997, p. 16. The FCC approves CAI Wireless Systems Inc.'s request to create a "wireless

laboratory" to test two-way voice, video and data services in Pittsburgh, Pa.

**CAI given OK to operate in Boston** (CED), March 1997, p. 14. CAI Wireless Systems Inc. receives permanent authorization from the FCC to use its spectrum for fixed two-way video, voice and data services in Boston.

**CellularVision plans to offer data services** (CED), March 1997, p. 14. CT&T (formerly CellularVision Technology and Telecommunications) announces purchase of 100,000 internal PC modems and plans to begin high-speed wireless Internet service via its LMDS network.

**Evolution of the local phone market** (CED), Jeffrey Krauss, Telecommunications and Technology Policy, Nov. 1996, p. 24. While the 1996 Telecom Act was enacted to spur competition, the future lies in the consolidation of telecom competitors.

**FCC finally sets LMDS auctions** (CED), Sept. 1997, p. 16. After months of delay, the FCC sets December 10 as the date it will begin auctioning spectrum to be used for local multipoint distribution service (LMDS).

**The high-speed data race is on; cable and MMDS ops do battle** (CED), April 1997, p. 12. The race to provide high-speed data heats up as several cable TV and MMDS operators commit to modem purchases and roll out customized services.

**Hughes debuts new satellite dish** (CED), Sept. 1997, p. 14. Hughes Network Systems unveils newly designed satellite dish that is capable of receiving both video and data over satellites.

**In wireless world, hearing is believing** (CED), Thomas G. Robinson, River Oaks Communications Corp., March 1997, p. 126. Contrary to popular belief, the wireless evolution/revolution is moving forward with the concerted efforts of both local governments and wireless providers.

**Iridium now has 17 birds flying** (CED), Sept. 1997, p. 16. Progress on the Iridium satellite system is proceeding as expected.

**The issue: DBS competition** (CED), Aug. 1997, p. 88. Reader poll finds that while most operators discount DBS penetration rates, at least half of them report they've either lowered prices or offered special promotions to combat DBS competition.

**LMDS auction rules shut out cable MSOs** (CED), May 1997, p. 16. The FCC's newly proposed rules for upcoming auction of LMDS spectrum excludes participation of local MSOs and telcos.

**LMDS auctions next: Place your bets** (CED), Jeffrey Krauss, Oct. 1997, p. 24. An update on the LMDS auction plan with special focus on two problems: telco eligibility and installment payments for small businesses.

**Next-generation FSS may prove formidable**

(CED), Fred Dawson, May 1997, p. 76. The next generation Ka-band fixed satellite services (FSS) slated to launch in '99 and beyond promise to alter the parameters for satellite participation in broadband communications.

**PCS and cable: A natural complement** (CED), Yvette C. Hubbel/John Sabat, Jr., Sanders, a Lockheed-Martin Co., Aug. 1997, p. 58. A description of a network architecture and system solution (PCS-Over-Cable system) that will make the "anywhere, anytime" PCS vision a reality.

**PCS may be true road to cable telephony** (CED), Fred Dawson, Nov. 1996, p. 92. A possible option to the all-wireline approach for cable telephony is discussed.

**Rain and its effect on microwave spectrum** (CED), Jeffrey Krauss, Telecommunications and Technology Policy, May 1997, p. 24. Krauss discusses how to calculate the rain attenuation in the LMDS spectrum that's about to be auctioned off.

**Satellite plans pose new competition** (CED), Jeffrey Krauss, Telecommunications & Technology Policy, Sept. 1997, p. 24. A review of two recent developments in satellite communications—a new low earth orbit (LEO) system; and a proposal to carry local TV stations to home dishes at Ka-band.

**Signs point to broadband wireless onslaught** (CED), Fred Dawson, July 1997, p. 82. Technology has pushed ahead to where the means of wireless attack are available across many frequency zones.

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**Telco video plans becoming clearer all the time** (CED), CED Staff, Nov. 1996, p. 42. Annual review of individual telco plans, trials and technology being used in deploying broadband services.

**Zenith selects OS for Americast box** (CED), Dec. 1996, p. 16. Zenith Electronics chooses Microwave Systems Corp.'s DAVIDLite operating system for the 3 million digital set-tops it's designing and will produce for the telco consortium, Americast.

### New products

**1550 nm transmitter** - Harmonic Lightwaves Inc., Oct. 1997, p. 90

**ACM fonts** - FrontLine Communications, Oct. 1997, p. 91

**Adaptor tool set** - Jensen Tools Inc., (CED-PMR) Oct. 1997, p. 32

**Aerial lift** - MTI Inc., (CED-PMR) July 1997, p. 38

**Amplifier and multitaps** - Toner Cable Equipment Co., Dec. 1996, p. 132

**BNC connector** - ITT Industries, Feb. 1997,

- p. 95
- Broadband HFC transmit platform** - Scientific-Atlanta Inc., Nov. 1996, p. 104
- Cable assemblies -3M**, July 1997, p. 87
- Cable blocks** - General Machine Products Company Inc., (CED-PMR) April 1997, p. 29
- Cable lashing machine** - General Machine Products Company Inc., (CED-PMR) July 1997, p. 36
- Cable management system** - Telect Inc., July 1997, p. 86
- Cable measurement system** - DCM Industries, Oct. 1997, p. 92
- Cable modem test set** - Hukk Engineering, April 1997, p. 84
- Cable organizers** - DataTel, April 1997, p. 84
- Cable tie tool** - Thomas & Betts, (CED-PMR) April 1997, p. 29
- Cable tie tools** -Panduit Corp., (CED-PMR) July 1997, p. 36
- Cable tray** - Thomas & Betts, (CED-PMR) Oct. 1997, p. 32
- Cable TV enclosure** - Alpha Technologies, Oct. 1997, p. 92
- Central splice enclosure** - AMP Inc., March 1997, p. 116
- Character generator** - Multidyne, Aug. 1997, p. 90
- Circuit breaker** - Performance Power Technologies, July 1997, p. 86
- Cleaning solution** - Tyton Hellermann Corp., Sept. 1997, p. 112
- Coax stripping tools** - The Remarcable Co., Nov. 1996, p. 105
- Communications cabinet** - Hennessy Products Inc., July 1997, p. 86
- Composite cables** - Belden Wire & Cable Company, April 1997, p. 85
- Cross-connect module** - Telect, Oct. 1997, p. 92
- Curb markers** - VIP Products, (CED-PMR) April 1997, p. 29
- Customer drop enclosures** - Siecor Corporation, Aug. 1997, p. 91
- Customer management** - CableData Inc., Aug. 1997, p. 91
- Decoders feature TDS** - TV/Com International Inc., Dec. 1996, p. 130
- Demodulator system** - Tektronix Inc./Jerry Conn Associates Inc., March 1997, p. 117
- Dense WDM** - Artel Video Systems, Oct. 1997, p. 91
- Dense WDM DFB laser transmitter** - Broadband Communications Products Inc., Feb. 1997, p. 94
- Dense WDM solutions** - E-TEK Dynamics Inc., Sept. 1997, p. 112
- Design & management tool** - Integration Technologies, Jan. 1997, p. 97
- Design software** - Technical Response Services, Jan. 1997, p. 97
- DFB laser diode module** - Mitsubishi Electronics America/Electronic Device Group, April 1997, p. 85
- Digital multimeter** - Wavetek Corp., Jan. 1997, p. 96
- Digital set-top architecture** - VLSI Technology Inc., Nov. 1996, p. 105
- Digital testing** - Cable AML Inc., Feb. 1997, p. 94
- Digital transport system** - Fiber Options Inc., June 1997, p. 147
- Digital waveform monitor** - Leader Instruments, Oct. 1997, p. 91
- DIN adaptor kit** - RF Industries, June 1997, p. 147
- Directional boring system** - Tripp Technologies Corp., (CED-PMR) April 1997, p. 28
- Disk recorder** - Hewlett-Packard Company, May 1997, p. 98
- Drop cable** - Trilogy Communications, (CED-PMR) Oct. 1997, p. 33
- Dual purpose stapler** - Arrow Fastener Company Inc., Nov. 1996, p. 104
- Ducting system** - Fiber Optic Network Solutions (FONS) Corp., July 1997, p. 87
- DVB transport stream processor** - Barco, June 1997, p. 146
- EAS encoder/decoder** - HollyAnne Corporation, March 1997, p. 116
- EDFA optical switch** - OptiVideo Corp., May 1997, p. 98
- Element management** - Harmonic Lightwaves Inc., June 1997, p. 147
- F-connector** - Trompeter Electronics Inc., Dec. 1996, p. 133
- Family of IRDs** - TV/Com International Inc., Feb. 1997, p. 95
- Fiber alignment system** - Exfo E.O. Engineering Inc., Nov. 1996, p. 105
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- Fiber identifier** - 3M, Jan. 1997, p. 97
- Fiber management system** - 3M Telecom Systems Division, Dec. 1996, p. 133
- Fiber management system** - 3M Telecom Systems Division, March 1997, p. 116
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- Fiber optic cables** - Siecor Corp., Jan. 1997, p. 96
- Fiber optic output modules** - MERET Communications Inc., March 1997, p. 117
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- Filter WDM** - DiCon Fiberoptics Inc., June 1997, p. 146
- Financial service product** - CSG Systems Inc., Oct. 1997, p. 92
- Frequency convertor** - Quintech Electronics, Dec. 1996, p. 132
- Fusion splicer** - Aurora Instruments Inc., Sept. 1997, p. 112
- Fusion splicer** - Siecor Corp., (CED-PMR) April 1997, p. 28
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- Handheld OTDR** - Boonton Electronics Corp., Dec. 1996, p. 132
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- Heat-shrink tubing** - 3M Telecom Systems Division, (CED-PMR) July 1997, p. 36
- Highpass filter** - Communications & Energy Corporation, Feb. 1997, p. 95
- Horizontal analyzer** - Sencore Inc., Oct. 1997, p. 90
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- Interface connector** - Bomar Interconnect Products, (CED-PMR) July 1997, p. 38
- Ladder caddy** - Sur-loc Inc., (CED-PMR) Oct. 1997, p. 32
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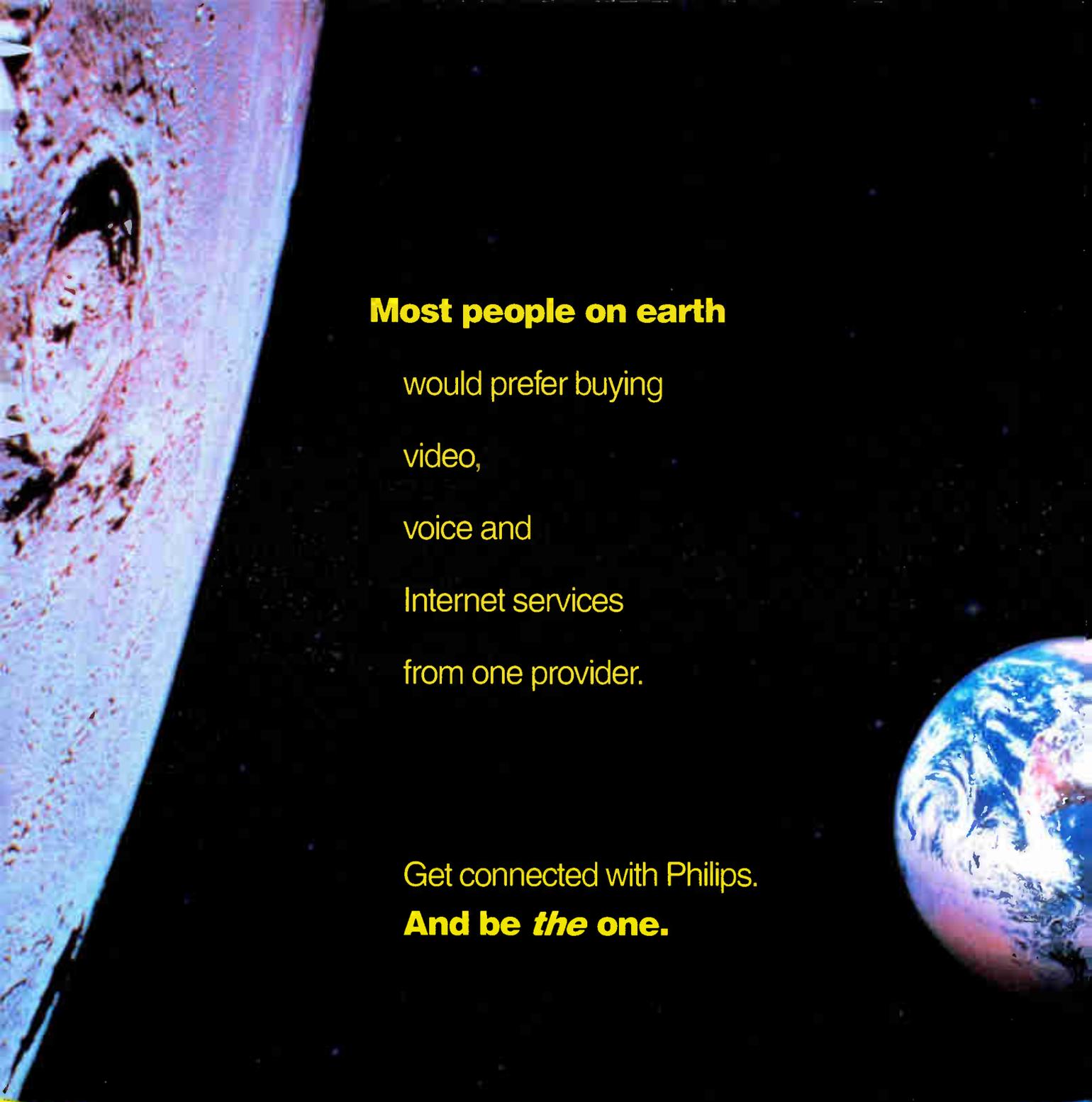


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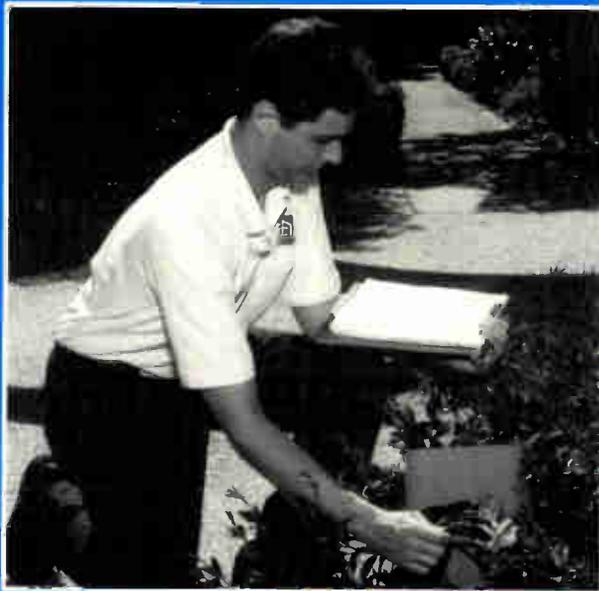
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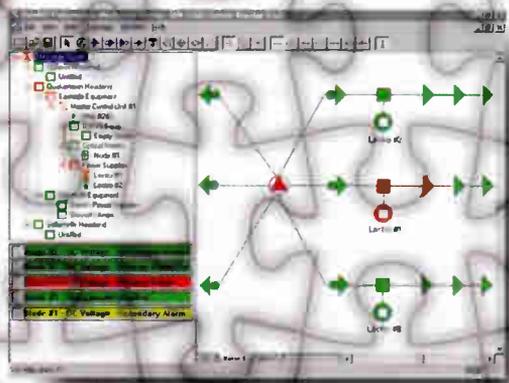
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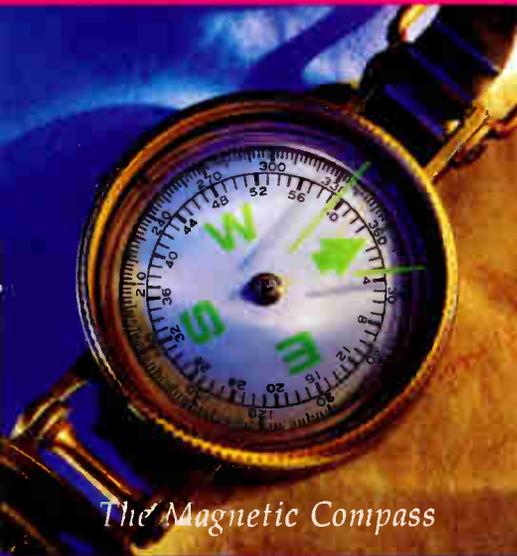


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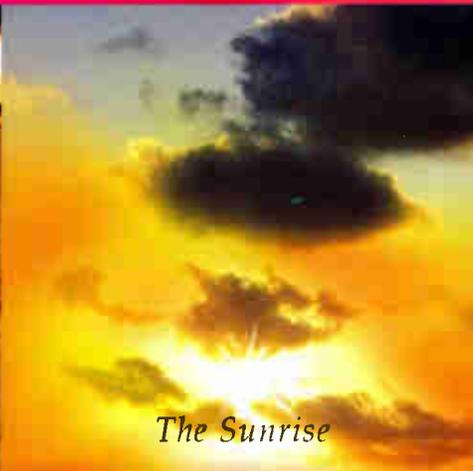
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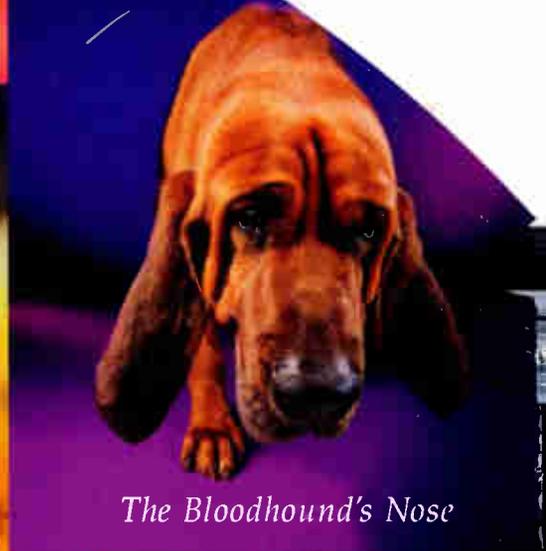
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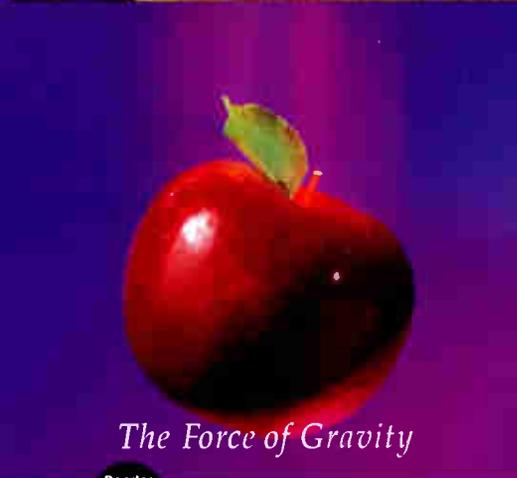
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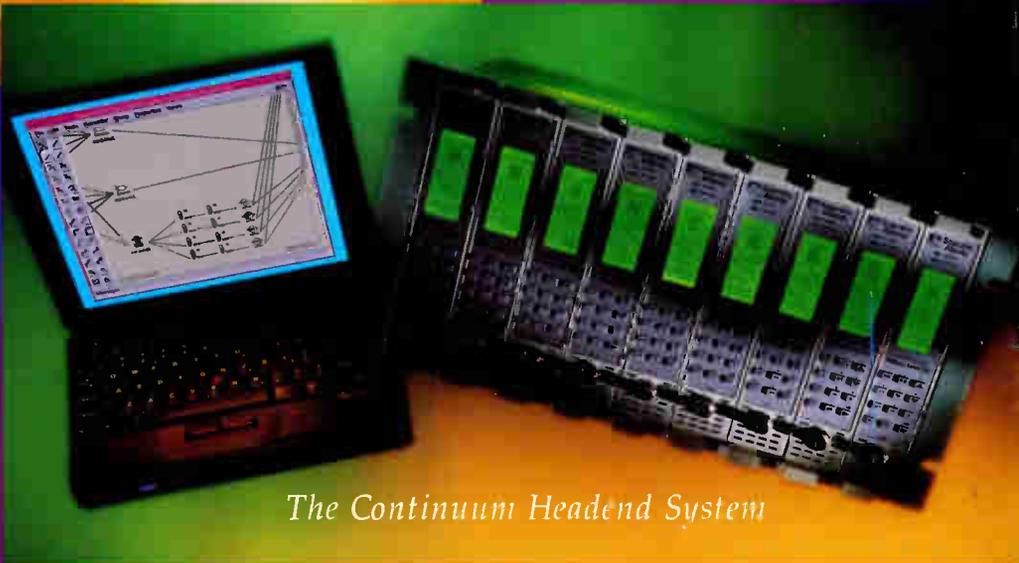
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