

Section Meetings

Australia

August 13, 1998

More than 50 people turned up to hear Peter Dare's presentation during the FACTS Conference and Exhibition held at the Manly Pacific Hotel in Sydney.

In a repeat of the paper he presented to the FACTS Chief Engineers, Dare (Sony Corp. USA) provided an update on the progress of DTV in the U.S. The new television standard is scheduled to start on November 1, 1998. Dare was promptly nicknamed "Dismal Dare," which summed up the tone of his presentation.

November 1998 is not a mandated date by the FCC, but rather an agreed date from some of the major networks. Although everything isn't ready, DTV will go to air on November 1— but there might not be any proof, as there are no HDTV sets as yet. Many retailers claim that their sets are "DTV ready," but this can't be proven until after November. Some of the TV set manufacturers have announced three to four month delays in their production of digital TV sets.

The first stations scheduled to transmit are located in San Francisco, Philadelphia, Dallas, New York, and two to three other cities. In New York, for example, the stations that have antennas on the roof of the World Trade Center will require an estimated extra 53 MW of mains power. Due to the changes in the frequency allocations, there are worries about interference with heart monitors in local hospitals and broadcasters losing their radio mic frequencies.

The networks have announced that they will support the following standards: ABC—480i, 480p, and 720p; CBS—480i and 1080i; NBC—480i and 1080i; and FOX— 480i and 480p. 480i is of course standard definition NTSC, as we know it today; i stands for interlace scan and p for progressive scan.

An estimated four to five hours of HDTV per week will be broadcast, and mostly SDTV upconverted. There will be no data broadcasting, as there are no documentary standards.

Approximately ten manufacturers are supporting receiver manufacturing, but there are still many issues to be resolved including the use of separate or integrated tuners. Native or converted display formats? Aspect ratio? Set top box? The fate of the epg (electronic program guide) and how it will be handled must also be resolved. There is no cable standard, and up to 70% of people receive their TV via cable. A date has yet to be set for cable to carry the HDTV signals. There are still



From left to right: Robert Davis, Lisa Macky, Scott Cyphers, Ryan Hill, and Jassen Hansken.

questions about strengthening transmitting towers, closed captioning, multichannel audio, and so on.

Transmitting the data via the Telcos or satellite still poses many questions. The Telcos say they have data lines of 44 Mbits/sec available and satellites have approximately 68 Mbits/sec available. But this availability is subject to errors, they talk of "errored seconds"— the number of seconds with errors. These errors could be as high as 10^{-3} , whereas the broadcasters are looking for errors of 10^{-14} . It would appear that the Telcos will provide some error correction, but this comes out of the 44 Mbits/sec available.

What will be the studio interface standard? SDI is covered by SMPTE 259M and SMPTE 274M. SDTI is covered by SMPTE 305M; then there is HDSDTI, 1080p being transmitted at 24 frames/sec. Obviously, there is still a lot of work to be done to sort out all of these details, and this is true of Australia as well. However, Australia still has two years to go and will be the first country in the world going HDTV at 50 Hz.

010101? Yes, it can be a suitable symbol for anything digital, it can be the binary expression for decimal 21 and it is also the date for Australia to introduce digital transmission: January 1, 2001.—

Napa Valley

The 1997-98 school year was another successful one for Napa Valley College Telecommunication graduates. Just as in past years, 100% of the class found employment before graduation.

Chapter 11 would like to announce a new cabinet for the up-coming year. The new officers are as follows: Jassen Hansken, President, Lisa Macky, Vice-President, Ryan Hill, Treasurer, Scott

Cyphers, Secretary, and Robert Davis, Webmaster. Be sure to check out the improvements on the chapter's web site at <http://www.napanet.net/~smpte-11/>.

A Getris Venice commercial level animation system was donated to the Telecom department. We would like to thank David Web for adding to the high level of equipment at the NVC facility.

SMPTE SECTION CALENDAR

Rocky Mountain

For further information contact Section Chair Fred Baumgartner, TCI, tel: (303) 486-3946, fax: (303) 486-3891, e-mail: baumgartner.fred@tcinc.com

Dates for future meetings

November 18: SBE Elections at the Video Accessories Corp. (VAC)

November 19: Real Coverage Mapping

January 20, 1999: Back-up Power Systems

Toronto

For further information contact Promotions Adviser Brad Fortner, Rogers Communications Center, Ryerson Polytechnic University, tel: (416) 237-0625, fax: (416) 979-5203, e-mail: bfortner@acs.ryerson.ca

Dates for future meetings

November 10: 16x9 Television Studio Tour.

December 8: 3-D production Systems Featuring SoftImage
January 12, 1999: Satellite Meeting

This year's graduating class looks forward to the same success as the previous ones and is excited about the prospects awaiting them in the future.—Scott Cyphers, (Secretary)

New England

March 18, 1998

The March meeting was held jointly with the Boston Chapter of the Society of Broadcast Engineers (SBE) at WHDH-TV, Channel 7.

The first presentation was a brief orientation by the NVision Corp. regarding current AES and EBU audio systems and standards. This issue merits an in-depth meeting event, which will be planned during the 1998-99 section meetings.

The second and main presenter was Tim Hilson, Dolby Laboratories, whose topic was on the use of Dolby technologies for broadcast, DVD, music recording, and motion pictures. Hilson explained the intricacies of all the different ways digital audio can be coded. Dolby Labs has been doing a lot of work on sensurround type of audio setups such as those found in motion picture theaters. Although these started out as analog systems with various channels multiplexed on existing movie film in various ways, they have evolved into sophisticated digital systems which are popular with home entertainment centers.

Hilson explained that the most common configuration is called "5.1," which includes five discrete active channels: left main, right main, center, left rear, and right rear. The .1 stands for the "effects speaker" which can be placed low in the front/center, and is specifically designed for enhanced bass and "magic fingers" acoustic presence. Successfully setting these systems up in a satisfactory way is a bit of an art form. One of the cardinal rules for setup states that speakers should be carefully matched, so the sound does not change as it is panned from left through center, to right. According to Hilson, it is always good practice to put the dialog channel on the center track, leaving the peripheral speakers for nondialog material. This also prevents those who are not sitting in the center of the room from getting inconsistent dialog. He cited examples of tests which revealed that the spatial separation between the dialog and effects sounds, as it is produced by different speakers, appears to make it much easier for the audience to distinguish between the two. It also allows for a bit more volume on the effects channels, without swamping the speech intelligibility.

The modest downside of this approach is that the projects created with a 5.1 soundtrack cannot be mixed down to basic two-channel stereo without a careful rebalancing of the five tracks, or the effects tracks will overpower the dialog. Using the

powerful Gelelec Speakers, Jim Shultis, WHDH director of engineering, played several DVD examples with modern vocal and instrumental music. Some were examples of good mixing for monitoring in conventional two-channel stereo, and some seemed to be examples of very poor mixing choices, with the stereo "imaging" being badly impaired by unbalanced mix-down.

The section would like to thank Shultis for providing the meeting venue, Genelec Corp. for the speakers, and Sony Corp. for the loudspeakers. Thanks also goes out to Section Managers Robin Shahid and Bob Lamm for helping to coordinate the meeting and Bob Hess and the Boston Chapter of the SBE for allowing this joint-society meeting.—Paul R. Beck, (Secretary/Treasurer), Emerson College

New England

April 29, 1998

The annual post-NAB analysis wrap-up meeting between SMPTE, SBE, AFS, and ITVA was held at CBS, Boston, in the main studios of WBZ-TV.

Past-Chairman Philip A. Ozek served as host/moderator and general master-of-ceremonies for the lively exchange of views and comments made by both panelists and audience members.

Panel participants included Bob Doyle, manager of The New Media Lab and contributing editor at New Media Magazine; Bob Hess, director of engineering at CBS Boston, WBZ-TV; Bob Peirce, engineering manager and principle at Pisces Productions in Boston; Wilson Chao, Cambridge Television Productions; Michael Z. Goodman, assistant chief engineer, WLVI-TV, Tribune Broadcasting, WB56; and Bob Turner, Videography Magazine and independent post-production specialist.

The meeting event was slightly changed this year, as Bob Turner, our most noted and most loquacious participant, was not able to attend in person. Instead, Bob Doyle took the time and extraordinary effort to videotape Turner's responses to prepared questions. These were recorded on a miniature DVC palmcorder, firewire coupled to a MAC G3 computer, and displayed Turner's edited and concise remarks on a neat 600 x 800 portable video projector, on cue, and with crystal clarity. (For once, Technology served man, not the other way around.)

It would be impossible to chronicle all the subjects and various topics which were addressed during this three-hour meeting. The questions flew and subjects changed with amazing speed. As with all joint-society meeting events, it was a standing-room only situation, with seating for over 120 people. There were at least 30 additional standees, mostly huddled around the tradi-

tional three-table spread of finger sandwiches, beverages and soft drinks, and light veggie snacks.

Of special note was a group of distinguished student visitors who traveled from Southern Maine Technical College in South Portland, ME. Their presence, interesting questions, and vitality added much to the meeting.

Host and SBE Chairman Bob Hess stayed much later after the event ended to provide guided tours for the Southern Maine Technical College students and others who so desired, through the new Master Control and emerging Digital Facilities at WBZ-TV, CBS-TV in Boston.

Special thanks goes to Ozek for his considerable efforts in steering and executing this highly successful meeting. The section also thanks Bob Lamm for his behind-the-scenes work on the meeting. SMPTE New England also owes a great debt of appreciation to all the meeting presenters.—Paul R. Beck, (Secretary/Treasurer), Emerson College

New England

May 20, 1998

The May 20th section meeting was held at WLVI-TV, Tribune Broadcasting's WB-56 outlet in Boston. It was the first half-day seminar-type meeting the section hosted this year, and was entitled "Rebuilding WLVI-TV for the 21st Century."

More than 75 members and guests attended the event, which was configured in three major sections. The first section featured some introductory remarks by Section Secretary Paul Beck and background remarks presented by chief engineer Franco LaPietra, who chronicled the history of technical growth and expansion at WLVI-TV, through several corporate ownerships.

The second was a special technical presentation and demonstration by Vibrant Technologies, featuring their MPEG-2 Newsroom Server Solution. Main speakers were Steve L'Heureux and Calvin Rogers.

L'Heureux discussed and demonstrated all the technical attributes of the MPEG-2 file server system offered by Vibrant. A key feature of the company's approach is the use of dual workstations which allow continuous recording of a newsfeed or ongoing broadcast events, and the simultaneous ability for additional workstations to access the incoming data streams and "edit-on-the-fly," rather than having to wait until all the incoming material is acquired in-full by the main workstation. Vibrant's system provides simultaneous access such as this for several workstations, so multiple news stories could be simultaneously edited for different purposes, all from the same main server.

A unique application was also demonstrated for instant-access slow-motion

playback of multiple racetrack events, where images from many venues at different times could be randomly accessed for slow-motion analysis and subsequent display for large-screen presentation.

L'Heureux detailed the design criteria for Vibrint's systems as first easy to use and "streamlined" and able to eliminate "browser"-type video quality on the workstation display. The system is configured from "off-the-shelf" components in the most "standard" way possible.

The Vibrint system can be in 444 or 422, using a modern Windows NT platform. It is designed to integrate with many third-party file servers, video editing controllers, and video recorders. Its strength is that it is designed from the ground up to be a "Play-to-Air" system for broadcast, cable, or institutional/governmental applications.

The "standard" bit rate is currently 14 Mb/secs, yielding 2.9 hours of very high quality storage. Vibrint has conducted tests with 40 Mb/secs and higher, which obviously offers greater picture quality with less capture time.

Features which appeared to offer enormous benefit were the ability to fast-cue news stories and other segment "roll-ins," plus slo-motion capability, either forward or backwards, with seamless transitions to full motion.

The third element of the Saturday morning event was presented by assistant chief engineer Michael Goodman. He gave a thorough analysis of the problems he faced in meeting the challenge of planning for an all-digital plant to support ATSC DTV and other evolving technologies as we approach the turn of the century.

Goodman explained that his task was made more difficult because his charge was to successfully integrate existing 25-year-old technology with the newer technologies during the "integration" phase, and plan for an organized shedding of the older components when newer technology assets were in position to replace them.

The first step was a centralization of the entire WLVI Engineering facility, and the all-important decision to move forward with a business plan which directly involved existing station personnel, rather than import an all-outsider "hired-gun" approach for the design/build phase. This was deemed the most appropriate way to achieve economy, project dedication, and loyalty, with the technical staff knowing they are major players and are making a significant contribution to the entire project.

The second step was a consolidation of useful space within the existing building footprint. The consolidation would be suitable for a "Digital Island" within the larger building shell, and configured in such a way that additional portions of the building which are adjacent could be "converted" and refurbished to support the all-digital facility as the project phases move for-

ward. The key step was to configure the first step to be the catalyst, as well as one which would correctly link to the future components and building elements, serving more as a central hub, rather than a decentralized series of islands.

Goodman emphasized that one space which had been an obvious target for such a major upgrade was one of the two production studios. After careful analysis and calculations, the decision was made to convert other spaces in another area of the main building, which would have far less future potential for a revenue stream, such as a high-bay space like a production studio.

Another key area was the protection and undergirding of the news operation, one which is a particular jewel in WLVI Boston's crown. In the planning for both digital production and satellite or local newsgathering, the new WLVI digital plant will be providing ample quality space and shared technologies which will support both the growing news operations and the field and studio production needs, and all post-production applications.

HVAC systems were carefully evaluated, with WLVI choosing a multiple-compressor redundant system which is a "blow down" system, using carefully designed overhead ducting with appropriate sound baffle controls.

The fire alarm systems were also carefully designed, selecting a "wet delayed system" for those areas which are mission-critical and not compatible with water unless there are active flames.

The building power distribution systems were also carefully evaluated, both for quality and capacity. Oversized neutrals and harmonic-suppression transformers were selected, as well as extra-heavy copper grounding straps. For the mission-critical air-chain path, a 200-A Uninterruptible Power System (UPS) was selected. This will provide adequate "clean power" for all critical-path station components.

Lighting for control and work spaces was also carefully examined, offering general operational lighting and specialized task lighting in all control spaces.

Cable pathways and conduits have been carefully planned, intersecting with all central rack-area spaces, providing full access to all racks and custom consoles. The new WLVI Master Control may be responsible for controlling up to four program streams, and will be designed to have the appropriate cable paths and access needed to support that ambitious undertaking.

The selection of all signal-path components in the new control center has specifically targeted the goal of a clean 1.5 GHz signal path throughout the entire facility. Thus, all patch panels, DAs, and other routing apparatus have been selected and tested to meet this challenging objective.

A computer-based station automation system is also planned, and currently

undergoing tests prior to installation. This will be coupled with existing file-server and tape playback systems for air operations, and must foster a user-friendly manual or automatic operational capability.

Goodman finished up his presentation on "Phase One" of the WLVI-TV upgrade for DTV with the promise to host future meetings at WLVI as their progress and success carries them further into the all-digital world, and into the 21st century.

Attendees were then escorted in groups of 15 throughout the entire station, with Goodman and LaPietra serving as guides. Upon returning from the facility tours, the Vibrint Technology staff continued their systems presentations and demonstrations.

Special thanks to Matt Dillon at WLVI Satellite/Receive Center for a stellar presentation on computerized satellite capture and recording operations at WLVI, and to Mike Bert, Larry Silverman, Goodman, and LaPietra for their generous hospitality and cordial welcome to WLVI-TV.—Paul R. Beck, (Secretary/Treasurer), Emerson College

New England June 17, 1998

This month's meeting was held at "High Speed Video," a division of Video Transfer, Inc., just a few miles west of Boston. Due to fierce thunderstorms, only 30 members and guests were in attendance.

This meeting is traditionally a "laid-back" and informal event, with professional and social components, including a barbecue. Harkening back to the early days of Film and Video, the New England Section has sporadically awarded "Distinguished Technology & Achievement Awards" to its members or respected members of the community.

This year, film historian Alan Kattelle received the first annual "Dysfunctional-Junction Award," in the form of a venerable (nonworking) Eastman Kodak VPI flying spot scanner 8mm film telecine.

Second, distinguished author, technologist, and SMPTE Technical Committee member Bob Paulson received the "High Connectivity Award" for his work on fiber-optic technical standards, in the form of a 25-in. section of perfectly good BIW TV-81 camera cable, with working connectors. Both recipients were pleased with their awards, accepting them with distinction, honor, and humility.

A third award ceremony for Peter Fasciano, Avid Technologies, was held just after the meeting. Fasciano received the coveted "Master Editor Award," in the form of an RCA/Smith editing microscope and splicing block for 2-in. quadruplex tape. Fasciano accepted his award with dignity and gave a brief anecdote about his first actual use of such a device at the age of 14.

By dusk, the events moved indoors to the spacious and modern videotape duplicating facility operated by High Speed Video.

Past SMPTE Regional-Governor Karl Renwanz served as host and guide for the in-depth tour, which revealed the magnitude of effort that his company has gone to in order to provide one of the fastest and highest-quality tape duplication facilities in the east.

In particular, the Sprint system and its carefully-controlled "clean room" were highlights of the tour and discussions. The total manufacturing, labeling, and packaging processes were discussed and demonstrated by Karl and his excellent staff at High Speed Video.

The barbecue event mingled with the various tour events, and SMPTE members and guests lingered well past 10:00 p.m., quite late for a mid-week meeting.

The Society thanks Andy Hauck, Renwanz, and the whole team at High Speed Video for a wonderful evening out at Southboro, MA.—Paul R. Beck, (Secretary/Treasurer), Emerson College

New York

June 9, 1998

The June meeting was a departure from the usual technical program. Members and guests met on the east side of Manhattan at Robert Tresboux's Veau D' Or restaurant for a buffet dinner with open bar. A highlight of this gala evening was the screening of the best television commercials from videotapes which were provided by the Association of Independent Commercial Producers. Door prizes were provided by ABC Television, Eastman Kodak Co., Leitch, Motion Picture Enterprises, NBC Sports, Panasonic, and Tektronix, all of which continuously support the New York Section programs. These companies were generous to the extent that nearly every person received multiple door prizes. It was a rare opportunity to socialize with old friends and business associates for an entire evening.—Ed Schuller, (Test Materials Advisor)

Rocky Mountain

April 19, 1998

William Zou, General Instruments, covered his company's approach to digital television encoding, transport (as in STL), and modulation. Special attention was paid to their architecture, AC-3, surround sound, and on-the-fly reconfiguration.

Wayne Freckley accepted the role as Denver's Frequency Coordinator. Wicks can be reached at (303) 486-3800. He'll be gathering any information from the various past instances of frequency coordination. Current data is available on the chapter web site: <http://www.broadcast.net/~sbe48>



SMPTE New York Governor Jay Ballard picks a door prize from Neil Pilzer at the Veau D'Or restaurant.

or look to <http://www.sbe.org> for a good route to this chapter's news and information.—Fred Baumgartner (Chair), TCI

Rocky Mountain

July 1998

An estimated 25 people gathered at the section's third annual picnic at the KWGN TV-2 transmitter patio on Lookout Mountain. Attendees were made up of professionals from radio, TV, cable, and associated industries.

Mother Nature provided a somewhat unwelcome shower a few minutes into lunch, but there turned out to be enough places to duck under for adequate protection. Several folks found out that the microwave mounts were not, however, good protection as they apparently filled up somewhere and then dumped a lot of rain at once.

As Chapter 48 Chair Andre Smith could not attend, Vice-Chair and Rocky Mountain Section Chair Fred Baumgartner chaired from his vantage point in the middle of the picnic tables. The business was brief, then Baumgartner adjourned the meeting in favor of lunch.

Among the topics of conversation was the proposed new tower on Lookout Mountain. This is a joint effort largely spearheaded by a number of TV broadcasters on Lookout to consolidate not only TV systems including DTV facilities, but a large multistation FM antenna. While the details are many, we'll be watching how this project develops as it will affect a number of operations on Lookout and possibly some other nearby mountaintop transmitters.

Many thanks to the folks at TCI for the catered lunch. There were lots of burgers and other goodies, including some delicious cookies and brownies.

We are now working on 1999 programs. Please e-mail me with ideas, etc.—Fred Baumgartner (Chair), TCI

San Francisco

August 8, 1998

More than 56 members and guests gathered at Dolby Laboratories to hear Stephen Vernon, one of the co-developers of Dolby Digital, present "Dolby Digital (AC-3) Audio: Low Bit-Rate with High Perceived Quality."

Dolby Digital has been in cinemas since 1992, in two-channel DBS since 1994, in consumer laserdiscs since early 1995, and was selected to provide multichannel surround sound for digital broadcasts in the U.S. of both HDTV and standard-resolution television. Broadcasters in other countries are currently evaluating the AC-3 system. The multichannel audio format has also become the de-facto standard for DVD audio around the world.

Vernon left no doubts why this audio compression method has done so well. Each point he had to make, whether related to time domain, frequency domain, or signal complexity, was supported with an acoustical demonstration of the Dolby Digital technology. For example, the uncompressed "CD version" of a Beethoven clip was followed by the "multimedia" version and then the Dolby Digital version. The quantization noise in the multimedia version was obvious while

the Dolby Digital version was clean.

Then, using other clips to demonstrate various points, Vernon played the uncompressed original, the Dolby Digital version, and then the difference version (compression artifact noise signal without the masking), which was doubled in level to make it all the more obvious. The secret to audio compression is letting the noise corrupt the audio only where the audio is not heard.

Various instruments present different challenges and Dolby Digital errs on the side of caution—lowering the quantization noise from somewhat less to much less than a listener can perceive. In addition to a “Five Easy Pieces” demo and the various special clips, two film clips were also used to accentuate Vernon’s talk.

This was the last time Vernon will be available, as he is very busy with engineering work. However, Dolby Laboratories, Inc. has prepared a version of this presentation and has speakers that can present to other sections, with or without the film clips. (The film requires appropriately certified theatrical acoustics.) If your section is interested, please contact Dolby Laboratories via e-mail at Dolby@dolby.com. They need about 3 to 6 months to schedule a presentation.—Charles Hintz, (Past Chair), CSU-Hayward

Toronto

September 10, 1998

David Hunter, CTV, kicked off SMPTE Toronto’s 1998-99 Section Meetings season with an open house at CTV’s News1. News1 is a Canadian headline news specialty service. Of special interest to the 100 attending members was the implementation of file server technology along with the associated production methodology employed there. In the case of CTV’s News1, Tektronix Profile file servers are central to the operation and Hunter started the evening with a presentation on the engineering criterion that was employed in the design of the service. After the presentation, the section was treated to some refreshments courtesy of CTV and a tour of the News1 facilities.

The meeting also marked the introduction of Fred Benedikt as the section’s new chair. Newly elected Board members include Randy Conrod, Leitch Technologies, Bruce Cowan, City TV, Mike Demming, Sony of Canada, David Hunter, Baton/CTV, Roger Keay, Rogers Communications, Tony Meerakker, Magnetic North, and David Plant, Silicon Graphics of Canada. Carolyn Kinzie has also joined the board as SMPTE Student Chapter Advisor. Continuing with the Board will be Tom Allwood, Deluxe Toronto Ltd., who will assume the position of Secretary/Treasurer, Paul Thomas, Dome Audio Video and Effects, Reid Robertson, Panasonic Broadcast, Harvey

Rogers, Alliance Broadcasting, Bruce Wiseman, Imagineering Ltd., and Brad Fortner, Ryerson Polytechnic University. Loreto Leombruni, Kodak Canada, and Mark Ritchie, Heritage Resources Associates, will re-join the Board in Special Advisor roles as will Walter Zessner as Membership Chair.

Also recognized were those who served with the section over the past few years. They included Michael Martin, Comlink Systems Inc., Chris Bell, TMN Networks Inc., Gord Harris, Imax Corp., John Quanz, Sony of Canada Ltd., and Diane Cappelletto, Kodak Canada Inc. Ed Holmes, Global Television Network, who just completed serving as Toronto Section Chair, will remain on the Board as Past Chair, Toronto section. David Corley, DSC Laboratories, and Fung Lam, Sony of Canada, also sit on the Toronto Board.

A special ceremony took place at the beginning of the meeting recognizing the contributions of both the SMPTE members and sponsors who took part in organizing

and running the series of SMPTE Toronto Experiences. Rogers, who championed the concept, recently stepped down as Experience Chair. Rogers and Cappelletto managed to organize and run eight experiences over a six-year period. Topics of the Experience series included the Post Experience, the Television Experience, the Movie Experience, and the Non-Linear High-Definition Experience.

Section members recognized for their efforts with individualized glass plaques included Cappelletto, Fortner, Morrison, Quast, Ritchie, Rogers, Linda Grubb, Immad, John Howells, Sony of Canada. Sponsors receiving glass plaques included Deluxe Toronto, IBM, Kodak Canada, Panasonic Canada, and Sony of Canada. The sponsors were recognized because of their ongoing support of the various SMPTE Experiences throughout its six-year span.—Brad Fortner (Promotions Adviser), Rogers Communications Centre, Ryerson Polytechnical University

Books, Booklets, Brochures

The **Focal Encyclopedia of Electronic Media** by Christopher Sterling is an authoritative and comprehensive CD-ROM text directed to applications of electronic media technology. The text features over 4,000 entries from more than 50 leading experts offering comprehensive coverage of audio, video, TV, and computer based communications. Entry emphasis is placed on clear language, organization, illustrations, and ease of use. Applications, processes, definitions, and the use of equipment are described in detail. The search and retrieval and cross-referencing functions of the CD-ROM allows users to quickly locate information. With the query syntax and tools provided to help analyze search results, users can quickly find needed information. Hypertext links throughout the product point you to other locations where related information can be found. Illustrations, tables, and video and audio clips are also provided to support the information.

Nemal Electronics International has published a 20-page catalog of cable, connectors, and related products for broadcast applications. The catalog includes detailed engineering specifications on more than 500 hundred items, together with tooling and application information. The catalog is available in print form and online at <http://www.nemal.com>. For additional information or to request a copy, contact Nemal Electronics at (800) 522-2253, fax: (305) 895-8178, email: info@nemal.com.

Calendar

SMPTE Activities

ORLANDO, FL—33rd SMPTE Advanced Motion Imaging Conference, Omni Rosen Hotel, *February 25-27, 1999.*

SYDNEY, AUSTRALIA—SMPTE '99, *July 13-16, 1999.*

NEW YORK, NY—141st SMPTE Technical Conference & Exhibit, *November 19-22, 1999.*

For more information on these and other SMPTE activities contact SMPTE Headquarters: (914) 761-1100, Fax: (914) 761-3115

June 1999

TV Montreux 1999 International Television Symposium and Technical Exhibition, Montreux Switzerland, Info: Montreux International Television Symposium and Technical Exhibition, P.O. Box 1451, Rue du Theatre 5, CH-1820 Montreux, tel: +41 21 963 32 20, fax: +41 21 963 88 51, e-mail: message@symposia.ch, Internet: <http://www.montreux.ch/symposia>. *June 10-15, 1999*