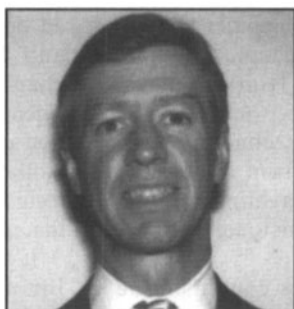


137TH SMPTE TECHNICAL CONFERENCE AND WORLD MEDIA EXPO

137th SMPTE Technical Conference and World Media Expo New Orleans Convention Center • New Orleans, La. September 6 - 9, 1995



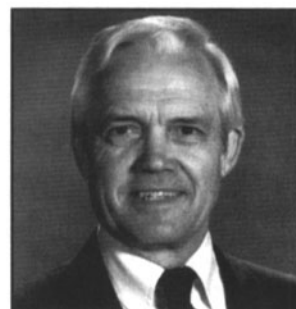
Conference Vice-President
Ed Hobson



Editorial Vice-President Tom
Bentsen



Program Chair Cecil Smith



Local Arrangements Chair
Blaine Baker

Are you ready for the 137th SMPTE Technical Conference and World Media Expo in New Orleans? This year's theme, "Moving Images — Meeting the Challenges," will explore the world of image technologies and where it is leading us.

"Everything is coming together nicely," assures General Arrangements Chair Blaine Baker, MPL Film & Video. "The facilities at the New Orleans Convention Center are outstanding, and the conference and its activities promise to be very entertaining."

It's not too late...don't let this wonderful opportunity pass you by!

Technical Sessions

"This committee worked really hard to establish a theme for this conference," said Conference Vice-President Ed Hobson, Graham-Patten Systems. "The technical program follows a path from the acquisition of images, through their storage and manipulation, and finally to their distribution and projection. We have exciting sessions on disk and tape formats, MPEG delivery systems, and the challenges that face the industry today."

Program Chair Cecil Smith, consultant, agrees. "The conference program provides users, researchers, and

manufacturers with the tools with which they can deal with the technology issues facing the television, film, and computer imaging fields," he said. "The papers that have been accepted for presentation provide a glimpse into the products, technologies, and techniques of creating visual products. As we have discovered in the transition from the analog to the digital domain, there are many challenges that must be addressed to achieve the full potential of high-quality images."

The technical program, which is overseen by Editorial Vice-President Tom Bentsen, NASA, will get under way with the opening session, featuring remarks from SMPTE officials. Also part of the session is the keynote address, which will be presented this year by Edwin Catmull, Pixar Animation Studios. James McKinney, Advanced Television Systems Committee, will also provide opening comments.

A complete list of papers to be presented appears in this Special Conference Preview issue.

Joint ACVL/SMPTE Session and Workshop

This year will feature another collaboration between the Society and the Association of Cinema and Video Laboratories (ACVL). The "Film in the Digital Age" session will be held on Friday afternoon, September 8. In



This year's technical program will take attendees on a continuous journey from the acquisition of images to their manipulation and storage and finally to their distribution.

137TH SMPTE TECHNICAL CONFERENCE AND WORLD MEDIA EXPO

addition, the *ACVL Handbook* will be available at the SMPTE Membership Booth; the price is \$20 for SMPTE and ACVL members, \$25 for non-members.

Professional Seminars

The four half-day seminars planned for Saturday, September 9, are expected to attract large audiences. "Internet for the New User," scheduled for the morning, is an in-depth, interactive training program for computer users with an interest in the information superhighway. "Video Compression and Concatenation" will also run in the morning, concentrating on the challenges of video compression.

In the afternoon, "Publishing on the Internet" will explain how to get information onto the World Wide Web, while "Principles of Digital Video" presents the theory and practical applications of this medium in a manner that is easy to understand.

Decoder Demonstration Planned

A special demonstration, sponsored by Hitachi, is scheduled to run throughout the four-day conference. It will feature a scalable decoder capable of effectively decoding a picture from HDTV main profile at main level (MP@ML) bit stream. The methodology used in the demonstration and its results will potentially



SMPTE's luncheons and other social events are integral parts of the technical conferences.

have an impact on the introduction of HDTV advanced television (ATV) services. This technology is currently under study by an Ad-Hoc Group on MPEG Liaison, a working group of the SMPTE Television Production Technology Committee.

World Media Expo

Every conference registrant receives complimentary admission to the exhibit floor at World Media Expo. The event is jointly sponsored by the SMPTE, the National Association of Broadcasters (NAB) Radio Show, the Society of Broadcast Engineers (SBE), and the Radio and Television News Directors Association (RTNDA), and these four organizations are again promising to pre-

sent another successful exhibit of the latest developments in both digital production and digital transmission technology.

"Once again, we will be sharing the event with our colleagues from other organizations," said Conference Vice-President Ed Hobson. "It's important for news directors and engineers to compare notes."

The first World Media Expo last year attracted more than 400 exhibitors and nearly 18,000 industry executives. This year, the membership service area will have a new and exciting look: it will be a unified and color-coordinated display, with all signs and booths featuring a new logo combining the symbols of all four organizations.

Exhibit Hours:

Thursday, Sept. 7

9:00 a.m. - 6:00 p.m.

Friday, Sept. 8

9:00 a.m. - 6:00 p.m.

Saturday, Sept. 9

9:00 a.m. - 4:00 p.m.

Cross-Over Registration

Through a special arrangement with the other World Media Expo participants, everyone registered for the full SMPTE Conference will receive a free pass to attend one papers session at each of the SBE and RTNDA conferences as well as the NAB Radio Show.



Some 400 exhibitors are expected at this year's World Media Expo.

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Information Booths

The International Television Symposium (Montreux) and the International Broadcasting Convention (IBC) will both have information booths at the conference.

Social Activities

No SMPTE Technical Conference would be complete without its social events. Take advantage: use the time outside of the papers sessions to catch up with old friends as well as make new ones. SMPTE's social activities provide excellent networking opportunities.

All full-conference registrants are invited to attend the SMPTE Honors and Awards Reception and Luncheon on Wednesday, September 6. The scheduled speaker is John D. Abel, the NAB's executive vice-president of operations.

On Thursday, September 7, Fellows and Life Fellows (only) will be able to join in honoring those who have attained this distinguished level of membership in the Society at the annual Fellows Luncheon. Laurence J. Thorpe, vice-president of Broadcast Camera/HDVS for Sony Corp., will address the audience.

This Special Conference Preview issue contains a complete listing of those who will be honored at these luncheons, as well as information about the gentlemen who will be the featured guests.

The annual SMPTE Gala Reception will be held on Friday evening, September 8, at the Hotel Inter-Continental and is included in the price of full-conference registration.



On-site registration is available for those who missed the advance registration deadline.



All technical sessions will be taking place at the New Orleans Convention Center.

Partners Program

Those accompanying conference attendees are invited to participate in the Partners Program developed by Partner/Visitor Information Chair Judi Fibush. The four-day program includes a daily breakfast, as well as lunch on three days. You will find an itinerary for the Partners Program in this Special Conference Preview issue.

Event Locations

All technical sessions, workshops, and seminars are being held at The New Orleans Convention Center, 900 Convention Center Blvd., New Orleans, LA 70130, phone: (504) 582-3027, fax: (504) 582-3088.

The location of the SMPTE Conference headquarters is The Hotel Inter-Continental New Orleans, 444 St. Charles Ave., New Orleans, LA 70130.

Hotel Accommodations

All hotel arrangements must be made by contacting Rogal America/SMPTE Housing Bureau, 313 Washington St., Newton, MA 02158, phone: (800) 722-0504, fax: (617) 630-6900.

SMPTE Travel Discounts To New Orleans

Carlson Travel Network/Media Travel USA, the official travel agent for the 137th SMPTE Technical Conference and World Media Expo, is granting an exclusive SMPTE discount rate on United and Delta

Airlines for travel to New Orleans. Also offered is a free beverage coupon with your United ticket purchase, plus complimentary \$100,000 flight insurance. A special SMPTE discount is also available for Alamo car rentals. To make reservations, call **800-283-8747**.

Shuttle Service

Round trip shuttle service will be provided to and from the downtown hotels and the New Orleans Convention Center. Some of the hotels will provide limited shuttle service, including the Inter-Continental, Windsor Court Hotel, Embassy Suites, Le Meridien, Chateau Sonesta, The Monteleone, Omni Royal Orleans, Doubletree New Orleans, Royal Sonesta New Orleans, and the Holiday Inn Crowne Plaza.

For More Information...

If you want to know more about the 137th SMPTE Technical Conference and World Media Expo, you have two options:

- *Call the SMPTE Fax-on-Demand Service* at (301) 216-1850. Fax-on-demand provides details on hotels, airlines, car rentals, educational sessions, and SMPTE membership. Calls must be made from the touch-tone handset of a fax machine and a voice on the other end will tell you how to access one or more documents.

- *Contact SMPTE Headquarters* at 595 W. Hartsdale Ave., White Plains, NY 10607, phone: (914) 761-1100, fax: (914) 761-3115.

— Aileen Moroney

PROGRAM AT A GLANCE



























137th SMPTE Technical Conference and World Media Expo

September 6 to 9, 1995

New Orleans Convention Center • New Orleans, La.

“Moving Images — Meeting the Challenges”



WEDNESDAY September 6, 1995		THURSDAY September 7, 1995		FRIDAY September 8, 1995		SATURDAY September 9, 1995		
MORNING SESSIONS		MORNING SESSIONS		MORNING SESSIONS		MORNING SESSIONS		
Opening Session and Keynote Address Keynote Speaker: Edwin Catmull, President Pixar Animation Studios  		Putting the Images in Order Transfer of acquired images for editing Linear, nonlinear, and hybrid editing systems  	Transporting the Images Indexing schemes for film and tape MPEG II and its impact on film production and post-production  	Delivering the Images External distribution of moving images and sound Compression and its impact on cable, telco, DBS, and terrestrial broadcast 	Converting the Pixels: Film and Video Production and Post-Production (Part II) Tape and disc-to-film transfers Film projection  	SMPTE Professional Seminars Internet for the New User  		Video Compression and Concatenation 
MIDDAY Honors & Awards Reception Honors & Awards Luncheon Speaker: John Abel, Ph.D. Executive V.P., NAB		MIDDAY Fellows Luncheon (Fellows Only) Speaker: Laurence Thorpe V. P., Sony						
AFTERNOON SESSIONS		AFTERNOON SESSIONS		AFTERNOON SESSIONS		AFTERNOON SESSIONS		
Capturing the Images Advances in image acquisition for film and tape Disc and tape-based acquisition formats and advances in the technology Challenges and solutions for the user of new acquisition formats  	Authoring for Digital TV Software and hardware solutions for the developer of multimedia images and sound Digital interfaces for the multimedia suite 	Image Storage Disc-based storage of images and sound Video and audio servers and architecture Interfacing disc-based systems in the production and post-production environment 	Manipulating Pixels: Film and Video Production and Post-Production (Part I) Film-based post-production Production for special venues Film post-production on standard and proprietary platforms  	Displaying Pixels Display issues affecting the convergence of film, video, computers, and consumer devices Frame rates, line rates, gamma, and aspect ratios  	Film in the Digital Age Joint SMPTE and ACVL Session and Workshop 	SMPTE Professional Seminars Publishing on the Internet  		Principles of Digital Video 
				FRIDAY EVENING SMPTE RECEPTION				



Indicates sessions of particular interest to the film community.



Indicates sessions of particular interest to the television/video community.

CONFERENCE TECHNICAL PROGRAM

The papers and sessions listed below are firm as of July 31, 1995. However, changes are possible between press time and the conference. For the most up-to-date program information, call or fax Marilyn Waldman, SMPTE Program Coordinator, Phone: (914) 761-1100; Fax: (914) 761-3115.

WEDNESDAY MORNING, SEPTEMBER 6

OPENING SESSION

Introduction: General Arrangements Chair Blaine Baker, MPL Film and Video

Program Introduction: Program Chair Cecil Smith, consultant

President's Welcome: SMPTE President Stanley N. Baron, NBC, Inc.

Opening Speech: James McKinney, Advanced Television Systems Committee

Keynote Speech: Edwin Catmull, Ph.D, Pixar Animation Studios

Closing Remarks: Stanley N. Baron

WEDNESDAY AFTERNOON

CAPTURING THE IMAGES

SESSION CHAIR: Tom Bentsen, NASA

A New 3-CCD HDTV Camera for Field and Studio Use, Neil Neubert, JVC Professional Products Co., Elmwood Park, N.J.; and Isao Takahashi and Takatoshi Kaneko, Victor Co. of Japan, Ltd., Tokyo, Japan

Future Chip Technologies for Electronic Image Capture, William D. Hunt and Kevin F. Brennan, Georgia Institute of Technology, Atlanta, Ga.

Digital Triaxial Transmission Provides Totally Digital Studio Camera System, N. Murata, N. Sakuraba, F. Ukigaya, and Y. Eto, Hitachi Denshi, Ltd., Tokyo, Japan; and A. Delp, Hitachi Denshi America, Ltd., Woodbury, N.Y.

Transmission Test Using a 42-GHz-Band HDTV Digital FPU, H. Tanaka, F. Suginoshi, H. Nakakita, H. Fujio, and H. Mizuno, NHK, Tokyo, Japan

Imax Space Film Images — The Technical Challenges, John H. Shaw, Imax Corp., Mississauga, Ont., Canada

A Digital Solution for Cost-Effective ENG, R. Biesemeyer, J. Safar, and M. Higuchi, Panasonic Broadcast & Television Systems Co., Secaucus, N.J.

New Technology in Field Image Acquisition: Capturing Images Directly to Disk Using CamCutter™, an In-Camera, Disk-Based Recording and Editing System, Peter Fasciano, Avid Technology, Inc., Tewksbury, Mass.

AUTHORING FOR DIGITAL TV

SESSION CHAIR: Craig Birkmaier, Professional Products and Promotions

Professional Video Under 32-bit Microsoft Windows, A. Legault, J. Lapierre, L. Dionne, and T. Cherna, Matrox Electronic Systems, Dorval, Que., Canada

Video Applications in the Era of Computer Networks — Computer & Video = Multimedia?, Norbert Gerfelder, Fraunhofer IGD, Darmstadt, Germany

Authoring Tools, Frank O'Mahony, Oracle (company location unavailable)

Video-on-Demand Architecture, Karen Mills, White Light Video, Springfield, Pa.

Stream-Based Computing and Future Television, V. Michael Bove, Jr. and John A. Watlington, Media Laboratory, MIT, Cambridge, Mass.

(title to come), Norm Hurst, David Sarnoff Research Center, Princeton, N.J.

THURSDAY MORNING, SEPTEMBER 7

PUTTING THE IMAGES IN ORDER

SESSION CHAIR: Linda Young, DuArt Film and Video

VICE-CHAIR: Timothy Spitzer, DuArt Film and Video

Editing Without Limits: Future Dream or Present Reality?, Simon Bartlett, Quantel, Ltd., Newbury, U.K.

A Server-Based Post-Production System, Bob Pank, Quantel Ltd., Newbury, U.K.

Nonlinear Editing and Its Impact on the Post-Production Process, C. P. Carbonara, M. F. Korpi, J. K. Barge, and V. Young, Baylor University, Waco, Tex.

Optimizing the Digital Video Publishing Process: Coupling MPEG Encoding to Video Editing, Mauro Bonomi, Minerva Systems, Santa Clara, Calif.

Pixel Manipulation: Even VTRs Do It!, Stephen M. Mahrer, Panasonic Broadcast & Television Systems Co., Secaucus, N.J.

A Hybrid Editing Control System Using an RISC Technology Workstation, Jay Coley, Grass Valley Group, Grass Valley, Calif.

Hybrid Editing in an Integrated Environment, Chris Young and David Clement, The Brughetti Corp., Montreal, Que., Canada

TRANSPORTING THE IMAGES

SESSION CHAIR: Ronald E. Uhlig, Eastman Kodak Co.

Moving Uncompressed Video Faster than Real Time, D. Deel, M. Friedmann, and H. Green, Prisa Networks, San Diego, Calif.

Timing and Synchronization Using MPEG-2 Transport Streams, David K. Fibush, Tektronix, Inc., Beaverton, Ore.

Digital Video and Audio Transmission Alternatives, Keith Y. Reynolds, Grass Valley Group, Grass Valley, Calif.

Practical Implementation of an Optical Routing Network in Broadcast Stations, C. Kamise and S. Ando, Fuji Television Network, Inc., Tokyo, Japan; and T. Shiozawa, N. Shimosaka, and M. Fujiwara, NEC Corp., Tokyo, Japan

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LAN-Based Signal Routing: The Inevitable Future?, Chris J. Loberg, Dynatech Video Group, Salt Lake City, Utah

Factors in Preserving Video Quality in Post-Production When Cascading Compressed Video Systems, Katie Cornog, Avid Technology, Tewksbury, Mass.

Objective Assessment of Single and Concatenated Compression Codecs, Chris J. Dalton, Independent Television Association, London, U.K.

A Study on the Distribution of Picture Quality for Digital TV Employing MPEG-2 Video Standard, E. Nakasu, K. Aoki, R. Yajima, Y. Kanatugu, and K. Kubota, NHK, Tokyo, Japan

THURSDAY AFTERNOON

IMAGE STORAGE

SESSION CHAIR: Edward Hobson, Graham-Patten Systems

A New Digital Videotape Recorder for Professional Applications, Neil Neubert, JVC Professional Products Co., Elmwood Park, N.J.; and Hisashige Fujiwara, Victor of Japan, Hachioji, Japan

DVCPRO: A Comprehensive Format Overview, H. Uchida, H. Isaka, and T. Yoshida, Matsushita Electric Industrial Co., Ltd., Osaka, Japan; and J. Safar, Panasonic Broadcast & Television Systems Co., Secaucus, N.J.

W-VHS, A New HDTV Video Recording Format, Neil Neubert, JVC Professional Products Co., Elmwood Park, N.J.

High-Density Multimedia Compact Disc, Rick Clancy, Sony Corp. (company location unavailable)

High-Density Compact Disc: System Requirements and Channel Coding, Kees A. Schouhamer Immink, Philips Research Laboratories, Eindhoven, The Netherlands

A Dockable Digital Disk Recorder, Mark J. Norton, Avid Technology, Inc., Tewksbury, Mass.

Multichannel RAM and Disk Recorder for Sports Coverage, Laurent Minguet, EVS Broadcast Equipment S.A., Liege, Belgium

Special Update: SMPTE Recommendation of Compression-Based Television Recording Formats, Mikhail Tsinberg, Toshiba, Princeton, N.J.

MANIPULATING PIXELS: FILM AND VIDEO PRODUCTION AND POST-PRODUCTION (PART I)

SESSION CHAIR: Neil Feldman, Video Post and Transfer

Control of the Telecine Transfer Process, A. Masson, W. Snyder II, C. Lurin, and M. Bogdanowicz, Eastman Kodak Co., Rochester, N.Y.

Scanning the Old, Scanning the New, Peter Owen, Quantel Ltd., Newbury, U.K.

High Resolution Film Scanners — Importing Scan Lists and EDLs, Ronald E. Uhlig, Eastman Kodak Co., Rochester, N.Y.

Conforming Film to Nonlinear Edit with Automated Picture Matching, Nigel Varian, Film & Video Systems Inc., Burbank, Calif.

Dramatic Efficiency Improvements in Post-Production, M. Inchalik, B. Hendy, and G. Kennel, Eastman Kodak Co., Rochester, N.Y.

Intelligent Image Processing Improves Post-Production Efficiency, David R. Cok, Eastman Kodak Co., Rochester, N.Y.

High Resolution Real-Time Scanning — Why It is Necessary, Mike Christmann, BTS, Weiterstadt, Germany

FRIDAY MORNING, SEPTEMBER 8

DELIVERING THE IMAGES

SESSION CHAIR: Tom Gurley, ATSC

Computer Bus, Coax, and Fiber Media Utilization in Multiple Function, Multiformat Digital Facility Design, B. Bilbrey, Intelligent Resources, Arlington Heights, Ill.; D. Powell, Intelligent Resources, Cupertino, Calif.; and C. R. Paulson, OmniMedia Communications, Westborough, Mass.

Broadcasting Digital Video: Transmitting MPEG-1 Video Over a Microwave Relay System, Mark Koz, FutureTel, Inc., Sunnyvale, Calif.

Effects of ATM Transmission Errors on MPEG-2 Quality of Service, Ji Zhang and Mike Perkins, DiviCom, Milpitas, Calif.

Delivering the Image Electronically, Doyle Sturms, Alcatel Network Systems, Raleigh, N.C., and Bob Stewart, Pacific Bell, San Ramon, Calif.

Integrated Network Architecture, M. Kerr et al., Southwestern Bell Telephone, St. Louis, Mo.

Video Applications on LANs, CANs, MANs, and WANs, Richard A. Mizer, Pacific Bell, San Ramon, Calif.

PBS Delivers Digital Compressed Video, Audio, and Data, C. Scott Birdwell, PBS, Alexandria, Va.

CONVERTING THE PIXELS: FILM AND VIDEO PRODUCTION AND POST-PRODUCTION (PART II)

SESSION CHAIR: René Villeneuve, National Film Board of Canada

Advanced Approach to Universal Video Format Conversion, Clarence J. Hau, Panasonic Technologies, Inc., Matsushita Applied Research Laboratory, Burlington, N.J.

Computer Images Implemented, Displayed, and Re-Edited in Post-Production, Reinhard E. Wagner, MAP TV & Video Post-Production, Cologne, Germany

Manipulating the Pixels — What For?, David Scammell, Quantel Ltd., Newbury, Berkshire, U.K.

Utilizing "Synthe-Vision" for Drama Production, Masashi Kumagai, NHK TD Div., Tokyo, Japan; and Kiyotaka Aoki, NHK Video Engineering Div., Tokyo, Japan

A New Digital Film-Video Transfer System Designed for Dailies, Nigel Varian, Film & Video Systems Inc., Burbank, Calif.

Virtual Audio Sources in the Total Surround Sound System, Tomislav Stanojevic, Minel Vision, Belgrade, Yugoslavia

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FRIDAY AFTERNOON

DISPLAYING PIXELS

SESSION CHAIR: Joe Kane, Joe Kane Productions

Local Visual Composition at the Display Using Macroblocks, Craig Birkmaier, Professional Productions and Promotions, Gainesville, Fla.

An SDTV Decoder with HDTV Capability: An All-Format ATV Decoder, Larry Pearlstein, Hitachi Denshi America, Ltd., Princeton, N.J.

Analysis of Electronic Cinema Projection with the Texas Instruments Digital Micromirror Device™ Display System, Greg Hewlett and Bill Werner, Texas Instruments, Inc., Dallas, Tex.

High-Efficiency Light Valve Projectors and High-Efficiency Laser Light Sources, William Glenn and Carvel Holton, Florida Atlantic University, Boca Raton, Fla.; G. J. Dixon, CREOL, University of Central Florida, Orlando, Fla.; and Phil Box, Kent State University, Kent, Ohio

The History of the Perfect Aspect Ratio, Mark I. Schubin, consultant, New York, N.Y.

Display Gamma Characteristics, Charles Poynton, consultant, Toronto, Ont., Canada

Progress Toward High-Quality Imaging in Consumer Products, Craig V. Eggers, Toshiba America Consumer Products, Inc., Wayne, N.J.

Panel Discussion

FILM IN THE DIGITAL AGE

JOINT SMPTE/ACVL SESSION

SESSION CHAIR: Paul Bourque, Agfa/Div. of Miles, Inc.

SESSION CHAIR: Frank Ricotta, Technicolor, Inc.

Dolby Digital Sound, Ioan Allen, Dolby Laboratories, San Francisco, Calif.

DTS, Terry Beard, Nuoptix Associates, Westlake Village, Calif.

SDDS, Ray Callaghan, Sony Corp. (company location unavailable)

A New Sound Camera Based on Laser-Beam Exposure, J. P. Mönch and J. Ristow, Optronik GmbH Potsdam, Potsdam, Germany; and P. Stroetzel, Albrecht Studio Equipment, Potsdam, Germany

Shedding New Light on Darkroom Illumination, J. P. Pytlak, L. H. Cox, M. R. Bernazzani, and M. Delettera, Eastman Kodak Co., Rochester, N.Y.

Water Savings (The Nanofiltration Technique) and Silver Recovery (The Toulouse Electrolytic Cell), Alain Enon and Guy Manas, Eastman Kodak Co., Rochester, N.Y.

Environmental Process Development, K. Cirulli, D. Harrington, E. Kurz, and F. Petrone, Eastman Kodak Co., Rochester, N.Y.

New Type Fuji Color Intermediate Film, Katsumi Makino and Noboru Sasaki, Fuji Photo Film Co., Ltd., Minami-ashigara, Japan

An Ozone-Friendly Alternative to Methylchloroform in Film Cleaning Applications, Katy Wolf, IATA, Los Angeles, Calif.; Abid N. Merchant, DuPont Co., Wilmington, Del.; Edward Kurz, Eastman Kodak Co., Rochester, N.Y.; and Thomas Tisch, Lipsner-Smith, Wilmington, Del.

SATURDAY MORNING, SEPTEMBER 9 SMPTE PROFESSIONAL SEMINARS

Internet for the New User

SESSION CHAIR: Charles Poynton, consultant

Video Compression and Concatenation

SESSION CHAIR: James Wilkinson, Sony Broadcast and Professional Europe

SATURDAY AFTERNOON SMPTE PROFESSIONAL SEMINARS

Publishing on the Internet

SESSION CHAIR: Charles Poynton, consultant

Principles of Digital Video

SESSION CHAIR: David Jockheck, Advanced Audio Visual Systems



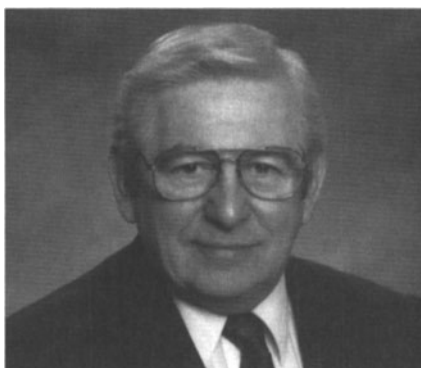
Society Announces 1995 Honors and Award Recipients

The Society has announced the 1995 winners of its prestigious Honors and Awards. The various medals and plaques will be presented at the annual Honors and Awards Luncheon on Wednesday, September 6, 1995, during the 137th SMPTE Technical Conference and World Media Expo at the New Orleans Convention Center. The following awards will be given for outstanding achievements in the industry:

- Honorary Membership in the Society will be awarded to **Kerns H. Powers**, retired from RCA, Princeton, N.J. For over 40 years as a communications engineer, Kerns created an ongoing series of ideas, inventions, and research projects directed toward theoretical and applied improvements in television. Honorary Membership is also granted to **Roland J. Zavada**, retired from Eastman Kodak Co., Rochester, N.Y., who has dedicated his life's work to the advancement of motion-picture and television technology. Zavada was instrumental in the development of an international standard for digital television resulting in CCIR Rec. 601; in 1983, the SMPTE received its first Emmy for this work.

- The Presidential Proclamation recognizes individuals of established and outstanding status and reputation in the motion-picture and television industries worldwide. This year, the award will go to **Dan Castles**, Grass Valley Group, Grass Valley, Calif., for his leadership in the television industry and his support of SMPTE and its standards work; to **Leo J. Thomas**, Eastman Kodak Co., Rochester, N.Y., for his dedication to the Society and to motion pictures; and to **Akio Morita**, Sony Corp., Tokyo, Japan, for his vision and contribution to the electronics industry.

- The Agfa-Gevaert Gold Medal Award, which recognizes an individual's outstanding leadership, inventiveness, and/or other achievements in the research, development, or engineering of new techniques and/or equipment that result in a significant improvement



Roland J. Zavada

to the interface between motion-picture film and television imaging systems, where the combined advantages contribute to the further development of visual communications systems, will be awarded to **Arthur J. Cosgrove**, Eastman Kodak Co., Rochester, N.Y., for his contribution to the use of motion-picture film in high-definition television systems.

- The Progress Medal, which honors an individual by recognizing outstanding technical contributions to the progress of engineering phases of the motion-picture and/or television industries, will be awarded to **David K. Fibush**, Tektronix, Inc., Beaverton, Ore., in recognition of over 30 years of contributions to the progress of technology in the television industry in both the analog and digital video recording and digital transmission areas.

- The Citation for Outstanding Service to the Society, which recognizes individuals for dedicated service to the Society over a sustained period of time, particularly at the Section level, will be given to **Glen Pensinger**, San Jose State University, San Jose, Calif., for his more than 18 years of continuous service to the San Francisco Section.

- The Eastman Kodak Gold Medal Award recognizes outstanding contributions that lead to new or unique educational programs utilizing motion pictures, television, high-speed, and instrumentation photography or other photographic sciences. This year, the award will be given to **Frederick M. Remley**, retired from



Kerns H. Powers

the University of Michigan, Ann Arbor, Mich., for his leadership in the integration of video recording and distribution as tools within higher education, educational video facility design, and his work in the standardization of video recording advanced television systems.

- The Fuji Gold Medal Award, which recognizes outstanding engineering achievements in the design and development of new or enhanced techniques and/or equipment that have contributed significantly to the advancement of photographic or electronic image orientation, will be presented to **Jonathan Erland**, Composite Components Co., Los Angeles, Calif., for his contributions to image compositing systems and materials.

- The John Grierson International Gold Medal Award, which recognizes significant technical achievements related to the production of documentary motion-picture films, will be presented to **Marcel Carrière**, National Film Board of Canada, Montreal, Que., Canada, for his continued involvement in the furthering of the documentary film genre through the use of creative technical means.

- The Journal Award is presented to the author(s) of the most outstanding paper originally published in the *Journal* during the previous year. The 1995 award will be given to **David K. Fibush**, Tektronix, Inc., Beaverton, Ore., for "Integrating Digital Audio into the Serial Digital Video Signal," which appeared in the September 1994 issue.

- A Journal Certificate will be awarded to **Tomlinson Holman**, TMH Corp., Fairfax, Calif., for "System Performance: New Studies of the B-Chain," which appeared in the March 1994 issue.

- The Technicolor/Herbert T. Kalmus Gold Medal Award, which recognizes outstanding contributions in the development of color films, processing techniques, or equipment useful in making color motion pictures for television use, will be given to **Frederick J. Kolb, Jr.**, consultant, Rochester, N.Y.

- The David Sarnoff Medal Award recognizes an individual's outstanding contributions in the development of new techniques or equipment that have contributed to the improvement to the engineering phases of television, including theater television. The 1995 award will be given to **S. Merrill Weiss**, consultant, Edison, N.J., for his leadership role in the creation and adoption of SMPTE's digital television standards, his active participation in numerous advanced television standardization committees, and for his many contributions to the proliferations of the art and knowledge of television engineering.

- The Samuel L. Warner Memorial Award, which recognizes outstanding

contributions in the design and development of new and improved methods and/or apparatus for sound-on-film motion pictures, or any step in the process, will be presented to **Lynn A. McCroskey**, Sonics Associates, Inc., Birmingham, Ala., for his achievements in the development of sound systems for theatrical and special venue motion-picture systems.

- The Alexander M. Poniatoff Gold Medal Award for Technical Excellence honors an individual for outstanding technical excellence of contributions in the research or development of new techniques and/or equipment that have contributed significantly to the advancement of audio or television magnetic recording and reproduction. This year, the award will be presented to **James H. Wilkinson**, Sony Corp., Basingstoke, U.K., for the work he has done in the area of digital videotape recording culminating in the D-1 digital VTR standard.

Twelve to Become New Fellows

The Society also announced the elevation of 12 of its members to Fellow status. A Fellow is an individual who has, by proficiency and contributions, attained an outstanding rank among engineers or executives

in the motion-picture, television, or related industries. The new Fellows of the Society will be honored by their peers at the annual Fellows Luncheon, to be held Thursday, September 7, 1995, at the New Orleans Convention Center.

The following have been named as new Fellows: Dominic Case, consultant, Eastwood, NSW, Australia; Michael H. Cox, Vistek Electronics, Ltd., Twickenham, England; Christopher J. Dalton, Independent Television Association, London, England; Hugo P. Gaggioni, Sony Advanced Systems, Montvale, N.J.; C. Peter Laidlaw, Imagineering, Ltd., Toronto, Ont., Canada; William C. Miller, Capital Cities/ABC, New York, N.Y.; Frank J. Ricotta, Technicolor, Inc., N. Hollywood, Calif.; Lynette Robinson, SMPTE, White Plains, N.Y.; Mark I. Schubert, consultant, New York, N.Y.; Stephen W. Spakowsky, Eastman Origination Film Manufacturing, Eastman Kodak Co., Rochester, N.Y.; Lasse Svanberg, MEDIA Desk, Svenska Filminstitutet, Stockholm, Sweden; and David Wood, European Broadcasting Union, Geneva, Switzerland.

The Society extends its congratulations to all of the award winners and new Fellows.

— Aileen Moroney

Top Industry Experts to Speak at Conference

Each year, the SMPTE Technical Conference abounds with informative sessions about the newest technological breakthroughs. But the education doesn't stop there; the Society plans a variety of opportunities for attendees to listen to top industry professionals discuss the changes that are occurring almost daily.

The 137th Technical Conference and World Media Expo is no different. The Arrangements Committees have lined up four well-known and respected individuals who promise to share their expertise.

Edwin Catmull, Pixar, to Present Keynote Address

Edwin E. Catmull, president of Pixar Animation Studios, Richmond, Calif.,

will present the keynote speech at the opening session, Wednesday morning, September 6.

Under Catmull's direction as the first director of the Computer Graphics Laboratory, the New York Institute of Technology (NYIT) developed the "alpha" channel, which has been fundamental in digital compositing of computer imagery with live action and performed the first research on solving the problem of motion blur for computer images.

While at Lucasfilm, first as manag-

ing director and then as vice-president, Catmull was the key developer on a project to write a software program for a computer image renderer to manage the complexity of feature film work. The result, RenderMan, was first used in the 1985 film *Young Sherlock Holmes* and has been in continuous development ever since.

Since Lucasfilm's computer division split off to form Pixar, the company has continued in the development of animation and rendering software, as well as become a major provider of commercial animation services. Among Catmull's accomplishments are a contract by Disney to write the graphics software for CAPS, which received an Academy Award in 1992;



two Academy Award nominations for production of a series of short films; and an Oscar for the movie *Tin Toy*. Pixar's software has been used in several major motion pictures, including *The Abyss*, *Terminator II*, *Beauty and the Beast*, and *Batman II*.

In 1993, the Society honored Catmull with the Fuji Gold Medal Award, which recognizes outstanding engineering achievements in the design and development of new or enhanced techniques and/or equipment that have contributed significantly to the advancement of photographic or electronic image origination. Catmull received the award for his accomplishments in the field of computer-generated imaging, and particularly for the development of RenderMan.

James McKinney, Advanced TV Systems, to Speak at Opening Session

James C. McKinney, chairman of the Advanced Television Systems Committee, Washington, D.C., has also been slated to address conference attendees during the opening session on Wednesday morning, September 6.

In his current position, which he has held since 1989, McKinney's function is to bring forth standards relating to high-definition television (HDTV), as well as to provide the U.S. State Department with the television industry's recommendations relating to the nation's negotiating postures in international conferences dealing with HDTV.

McKinney's government service dates back to 1963, when he first joined the Federal Communications Commission (FCC). He held a wide variety of engineering and management positions there, including serving as the head of three major bureaus encompassing field engineering, monitoring, land mobile, aviation, marine, radio and television broadcasting, cable television, and satellites. Immediately prior to working at the ATSC, McKinney spent two years as deputy assistant to the president of the U.S. His government work has earned him several awards, among

them the Presidential Rank Award for Distinguished Service (1985) and the



FCC's Gold Medal (1987). In 1990, the SMPTE honored him with the Presidential Proclamation in recognition of his years of dedicated service to the television industry.

McKinney has published articles on electronic data processing, radio broadcasting, HDTV, and satellite communications. He has served on and chaired numerous U.S. delegations to international conferences of the United Nations. While at the White House, he took part in various presidential delegations, including two U.S./USSR summits, NATO, the U.N. General Assembly, and the Economic Summit.

Laurence Thorpe, Sony, to Address Fellows

Laurence J. Thorpe, vice-president of Broadcast Camera/HDVS at Sony Corp., will be the guest speaker at the annual Fellows Luncheon, Thursday, September 7, at the New Orleans Convention Center. Thorpe began his engineering career in 1961, in the BBC's London-based Designs Department. Five years later, he joined the Broadcast Division of RCA, Camden, N.J., where held a number of executive positions until he left in 1982. Among his accomplishments there were the development of studio switchers, distribution equipment, telecines, and studio color cameras. In 1979, Thorpe was promoted to engineering unit manager and was responsible for new developments in studio cameras, for which he currently holds ten patents.



In 1982, he assumed the role of director of studio project management at the new Sony Broadcast Co., where he was responsible for market

development of the Sony HDVS system. Last year, he was elevated to his current position, and he now has overall accountability for product planning and marketing of Sony's studio and portable camera products.

A Society member since 1967, Thorpe is a frequent presenter at SMPTE conferences, and many of his papers have been published in the *SMPTE Journal*. He was the winner of the Journal Award in 1989 and 1991, and he was presented with a Journal Certificate in 1994.

John Abel, NAB, to Speak at Honors and Awards Luncheon

John D. Abel, executive vice-president of operations for the NAB, will give a speech at the annual Honors & Awards Luncheon, which will be held Wednesday, September 6, at the New Orleans Convention Center.



Abel joined the NAB in 1983, as senior vice-president of the Research and Planning Department. He assumed his current role in 1986, where he is responsible for seven departments and divisions, including Radio, Television, Public Affairs and Communications, Advertising and Services Group, Science and Technology, Research and Information Group, and Conventions and Exhibitions. He is also the executive vice-president of NAB Technologies, Inc., a wholly owned subsidiary of NAB. Abel had previously been chairman and professor at the Department of Telecommunication at Michigan State University, and from 1977 to 1978, he served as a consultant with the FCC.

The author of more than 50 journal articles, books, and research reports, Abel currently sits on the board of directors of the Advanced Television Test Center and has acted as consultant to numerous radio and television stations, cable systems, communications law firms, and other telecommunication industries.

— Aileen Moroney

137TH SMPTE TECHNICAL CONFERENCE AND WORLD MEDIA EXPO

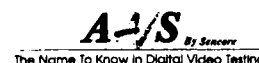
SMPTE WOULD LIKE TO THANK THE FOLLOWING SPONSORS FOR
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- *Eastman Kodak Co., Rochester, N.Y.*
- *Grass Valley Group, Grass Valley, Calif.*
- *Leitch, Inc., Chesapeake, Va.*
- *NBC, Inc., New York, N.Y.*
- *Panasonic Broadcast and Television Systems Co. Secaucus, N.J.*
- *Quantel, Darien, Conn.*
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- *Tektronix, Inc., Beaverton, Oreg.*
- *Twentieth Century Fox, Beverly Hills, Calif.*
- *Video Post and Transfer, Inc., Dallas, Tex.*



137TH SMPTE TECHNICAL CONFERENCE AND WORLD MEDIA EXPO

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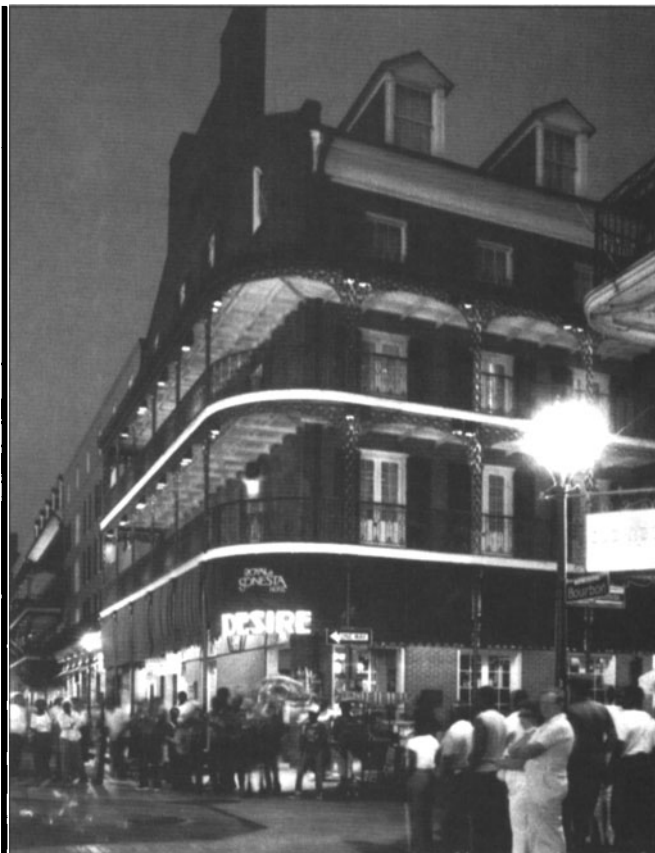
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PARTNERS PROGRAM

Wednesday, September 6

9:30 a.m. Breakfast at The Hotel Inter-Continental

11:30 a.m. Choice of the SMPTE Honors and Awards Reception and Luncheon at the Convention Center or Emeril's Restaurant

2:30 p.m. A Walking Tour of The French Quarter.

Thursday, September 7

8:15 a.m. Breakfast at The Hotel Inter-Continental

9:00 a.m. River Road Plantation Tour.

Friday, September 8

8:15 a.m. Breakfast at The Hotel Inter-Continental

9:00 a.m. A Tour of the Bayou

Saturday, September 9

8:15 a.m. Breakfast at Hotel Inter-Continental

This is a "free" day for you to pursue whatever you wish — shopping, more sightseeing, etc.

REMEMBER TO BRING COMFORTABLE WALKING SHOES.

Come Experience New Orleans!

New Orleans is one of the most unique locations in the world. Nestled into a bend of the Mississippi River, "The Crescent City" is full of culture and history, with something for everyone. It is a city that loves to celebrate its rich heritage, and it never goes to sleep.

The Fabulous French Quarter

The greater New Orleans area covers almost 365 square miles, less than 200 of which are dry land. The French Quarter, which lies on the high ground at the great bend of the Mississippi River, is the city's primary tourist attraction. At the very center of the Quarter is Jackson Square, which bustles with activity: Dixieland jazz bands and African drummers strut their stuff; artists peddle the



The cuisine of New Orleans is renowned throughout the world.



Enjoy a tour of New Orleans on one of the fabulous streetcars.

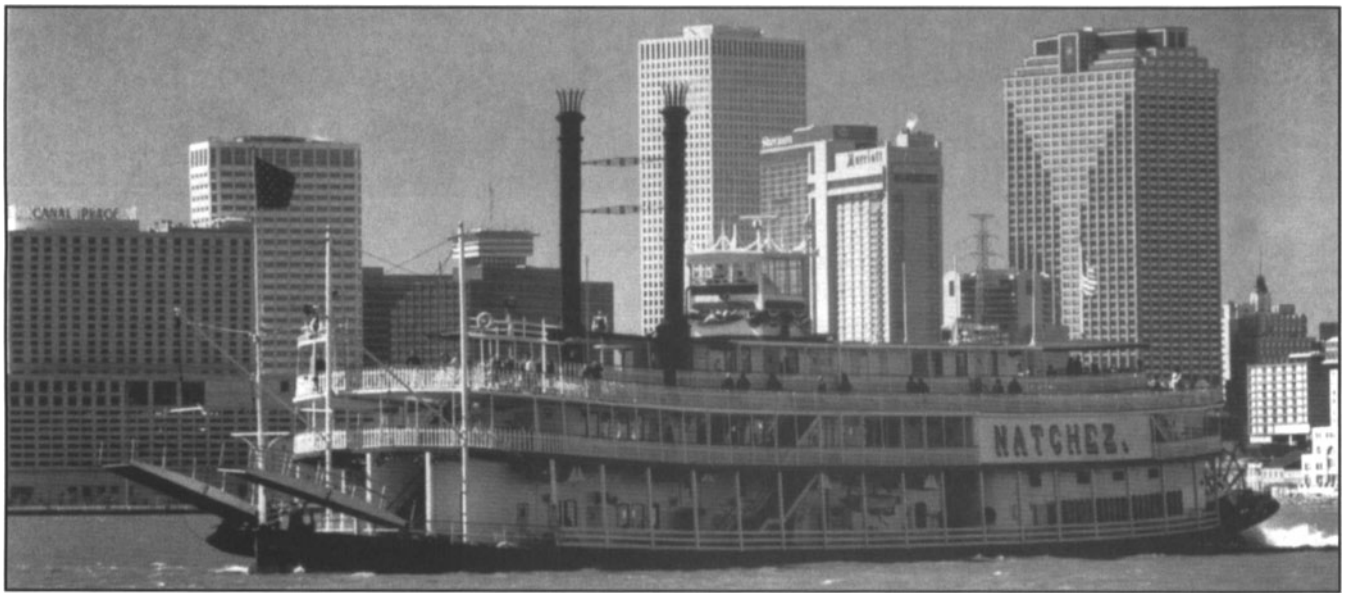
local scenes they have captured on canvas; mimes, jugglers, and tap dancers all perform to the delight of their audiences; and fortune tellers reveal your future.

While strolling the French Quarter, you will also encounter the legendary Bourbon Street as well as the numerous art galleries and antique shops along Royal Street. Cuisine ranges from the finest in French dining to down-home Cajun and Creole dishes. You can revel in the carnival-like atmosphere of the nightclubs and music halls or find restfulness in the peaceful, Old-World charm of the residential areas.

What Else?

But the French Quarter is not all there is to New Orleans. Just upriver is the central business district, home to the Superdome. Department stores and specialty shops line Canal Street, and the recently added Canal Place stretches the shopping experience all the way down to the river.

Further uptown is the posh Garden District, beyond which is the University Section, home of Loyola University and Tulane University; Audubon Park and Audubon Zoo, one of the nation's five best zoos; and the Carrollton and Broadmoor residential sections.



Take a riverboat ride on the majestic Mississippi River.

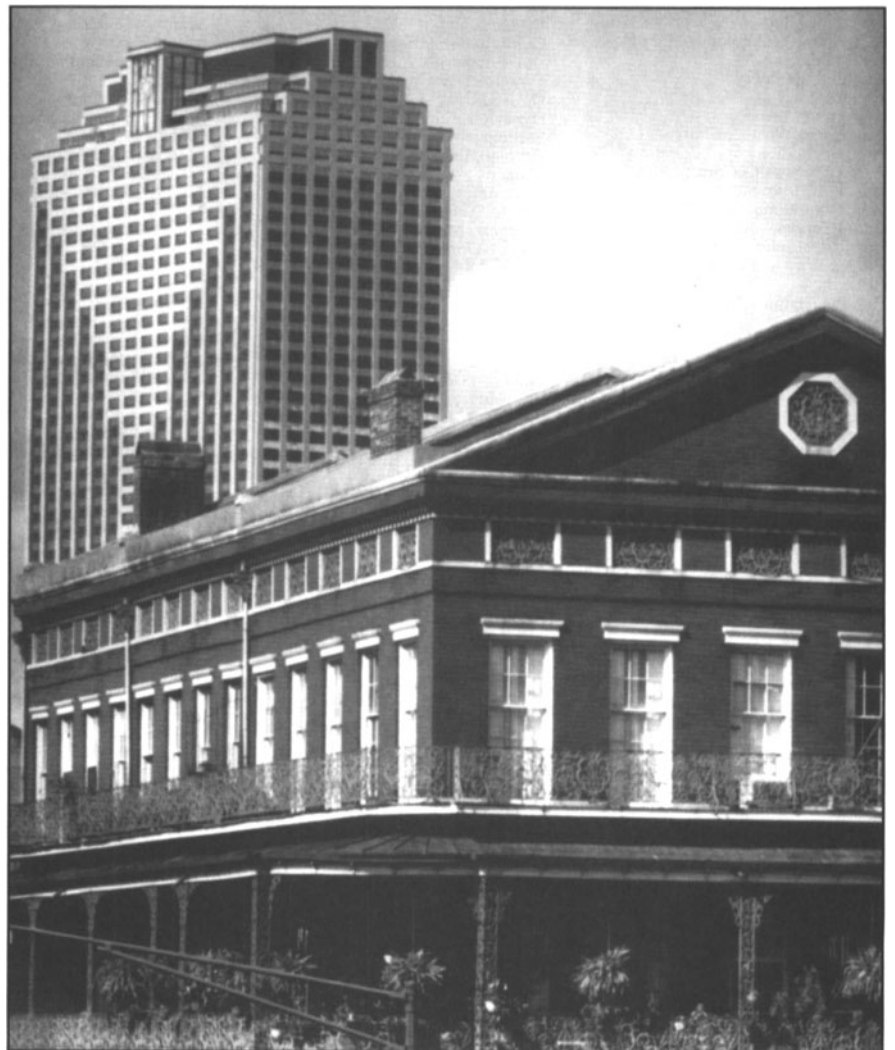
Mid-City, a predominately residential area, lies between the downtown area and Lake Pontchartrain. Mid-City houses City Park, one of the largest urban parks in the city. Within the park's 1,500 acres is the New Orleans Museum of Art, lagoons for boating and fishing, golf courses and tennis courts, a children's playground, an amusement park with an antique carousel, and botanical gardens. In Mid-City you'll also find the Fair Grounds Race Course, which is the home of thoroughbred racing as well as the main venue of the annual Jazz & Heritage Festival.

And don't forget the riverboats and streetcars — several paddlewheelers depart from downtown New Orleans on morning, afternoon, and evening excursions up and down the river, while the streetcars take you past the riverfront or the stately homes along St. Charles Avenue.

The Sights and Sounds of an Historic City

If you want to shop, if you want to eat, if you want to want to hear authentic blues or Dixieland jazz, or if you want to watch the dramatic results of mixing French, Spanish, African, Caribbean, and American cultures (the original "convergence"), then there's no other place to be than New Orleans. Don't let this opportunity pass you by.

— Aileen Moroney



The mixture of various cultures is apparent in New Orleans' eclectic architectural styles.

SMPTE
New Orleans
95

WORLD MEDIA EXPO '95

LIST OF EXHIBITORS

(as of 6/28/95)



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Advanced Audio Visual Systems
Advanced Designs Corp.
AGA Chemicals
Air Force News Agency
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Comrex Corp.
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ComStream Corp.
Consumer Reports TV News
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DBM Systems, Inc.
DCM, Inc.
Denon Electronics
DG Systems
Dielectric Communications
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DisneyLand Broadcast Publicity
Distilled Spirits Council of the U.S.
Di-Tech, Inc.
Divicom, Inc.
Dolby Laboratories, Inc.
Don Fitzpatrick Associates
Dow Jones & Co., Inc.
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Echolab, Inc.
Econco
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The Network Connection
Network Music, Inc.
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News in Motion, from KRT
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NewsMaker Systems
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Nova Systems
NPR Satellite Services
NS Microwave
Nucomm, Inc.
Odetics Broadcast
The Omnia Group
Orban
Orion Atlantic
Otari Corp.
Ozark Marketing Council
Pacific Radio Electronics
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Philips TV Test Equipment
Potomac Instruments, Inc.
Premiere Radio Network
Prime Image
Prime Sports Access
Prime Sports Radio
Pristine Systems
ProMusic
ProBel
Professional Sound/Norris Whitney
Prophet Systems, Inc.
QTV/O'Connor
Quantel
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- Radio Diner
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Telecast Fiber Systems, Inc.
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Telex
Telos Systems
TFT, Inc.
Thompson Creative
TM Century
Tron-Tek, Inc.
UPI-United Press International
U.S. Army Reserve
U.S. Space Camp
U.S. Tape & Label Corp.
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USA Radio Network
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Voice of America
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Weather Central, Inc.
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