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AES 120th Convention

2006 May 20 – 23

Paris, France



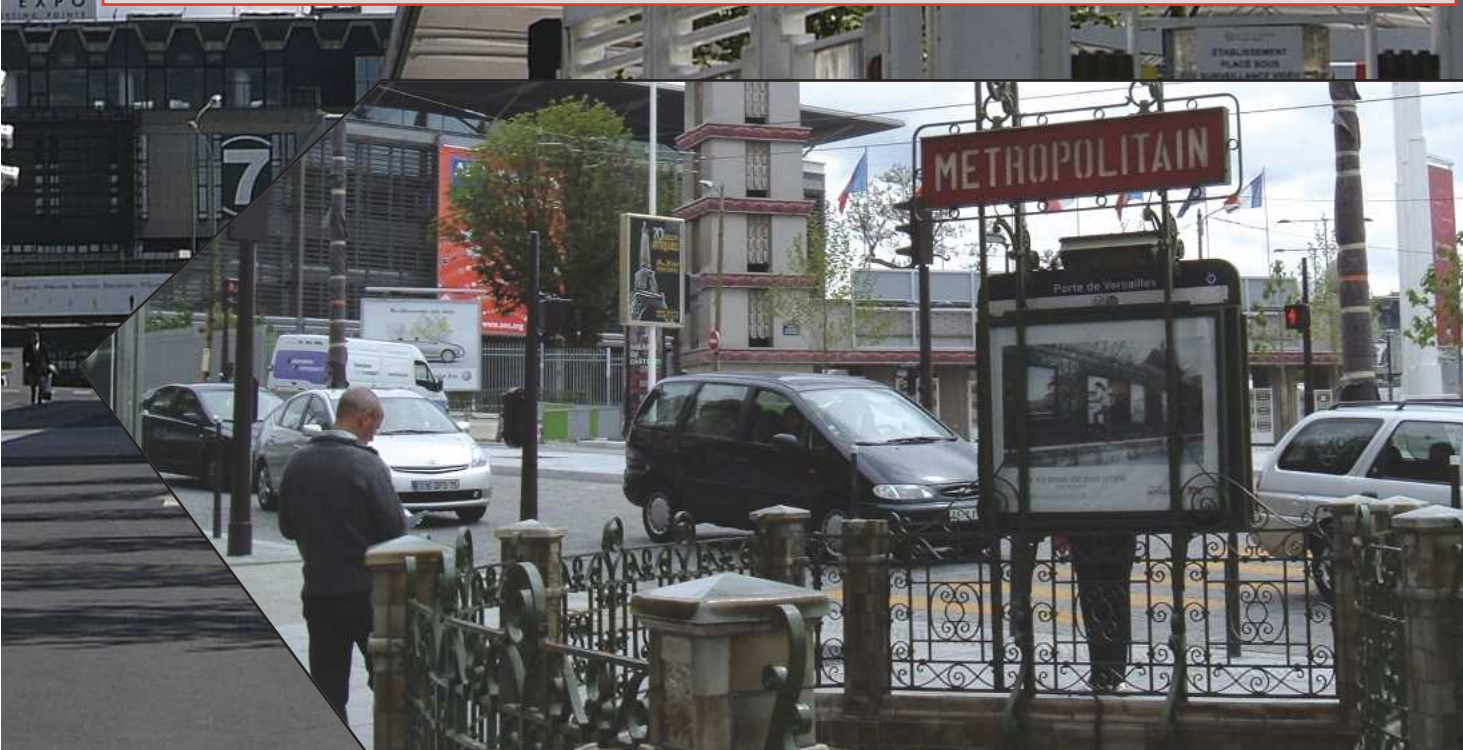
Paris, in a varied and stormy spring-time, played host to the 120th Convention of the Audio Engineering Society, chaired by Klaus Blasquiz. The last time the AES had been in Paris for such a convention, six years before, it had occupied the more northerly Palais de Congrès, but this time the venue was the larger Paris Expo situated on the southern side of the city near to the Port de Versailles.

OPENING CEREMONY

Opening the convention officially, Roger Furness, AES executive director, welcomed a packed hall of delegates to Paris, which had already shown all seasons of the year in one morning. Here, he was proud to say, was the biggest technical program ever and many new products to discover

in the exhibition hall. Neil Gilchrist, AES president, reinforced the importance of the convention as a place to meet old and new friends. He introduced Klaus Blasquiz, convention chair, who was pleased to see the AES back in Paris, home of such pioneers as Clement Ader, one of the first implementers of stereo sound. Blasquiz thanked his hard-working convention committee for their work over the past year in preparing for the event.

The keynote speech at the opening ceremony was given by Emilie Simon and Cyrille Brissot. Simon is a composer and innovative stage artist who experiments with novel ways of processing live sound, while Brissot, a specialist in electronic music processing, acts as her studio and live sound engineer. Emilie Simon wrote the music for the Oscar-winning film, *Le Marche de l'Empereur* (*The March of the Penguins*). She also puts on live shows that involve new instruments and ➔





Opening Ceremonies and Awards



Roger Furness,
AES executive
director



Neil Gilchrist,
AES president



Klaus Blasquiz,
convention chair



Emilie Simon and Cyrille Brissot, keynote speakers



Ron Streicher,
awards chair



Ivan Stamac, left, accepts Citation for Konstantin Kounov from AES President Neil Gilchrist



Fabio Blasizzo, left, receives Publications Award from John Vanderkooy, *Journal* editor



Malcolm Hawksford receives Silver Medal



Matti Karjalainen receives Silver Medal



Clockwise from bottom left, Jan Abildgaard Pedersen, Hrvoje Domitrovic, Eloi Batlle, Luis Ortiz Berenguer, and Ben Bernfeld Jr. (accepting for his father) receive Board of Governors Awards



Fellowship Award recipients: from left, David Murphy, Schulyer Quakenbush, and Mike Williams



Large crowds attended the 120th technical sessions. Among the authors presenting papers were, from left, Kimio Hamasaki, Lars Risbo, and Adrian Freed.



The 120th papers sessions were unique in that authors were given 3 presentation options: lecture only, poster only, or lecture followed by a poster presentation. The result was a very busy posters area throughout the convention. Poster presentations gave authors an opportunity for in-depth, hands-on demos (above left). Adrian Freed was among the many authors who gave lecture presentations (see photo at top of page) followed by a poster presentation (above right).

sound effects, enabling interaction between the musicians. Brissot explained that the writing of music for digital instruments is complicated because of the problem of control of those instruments. Almost any object can be used as an inter-

face and this can give rise to “happy accidents” that have creative value. Stage design becomes particularly important, and the means of control of novel musical devices are not hidden from the audience in their shows. BRAAHS, for example, is a vocal extension device that enables the performer to introduce different effects as required, with a controller mounted on the arm. CADRE and BOBBI are designed as controllers for gestural interaction. He also described a screen interface and a virtual clarinet controller, demonstrating the remarkable way in which a touch screen can be used to control a rhythmic generator patch in Max MSP (a MIDI and audio software package). Brissot concluded by putting in a plea for greater use of the Open Sound Control protocol as an alternative to MIDI.

The opening ceremony is also an opportunity to present awards to those who have rendered conspicuous service to the Society or who have made notable achievements in audio engineering. Following the illuminating talk given by Emilie Simon and Cyrille Brissot, Ron Streicher, chair of the AES Awards Committee, introduced John Vanderkooy, editor of the *Journal*, to present the Publications Award to Fabio Blasizzo for his paper “A New Thermal Model for Loudspeakers,” published in the 2004 Jan/Feb issue.

The AES Silver Medal is given in recognition of outstanding development or achievement in the field of audio engineering. At this ceremony this prestigious medal was awarded to Malcolm Hawksford for major contributions to engineering research in the advancement of audio reproduction systems. A Silver Medal was also awarded to Matti Karjalainen for outstanding scientific contributions to the audio industry in acoustics, auralization, digital signal processing, and synthesis.

Fellowship Awards typically recognize those who have made conspicuous service, or are recognized to have made a valuable contribution to the advancement in or dissemination of knowledge of audio engineering, or in the promotion of its application in practice. Fellowship Awards were presented to David Murphy for dedication to audio education and service to the Adelaide section, to Schuyler Quackenbush for significant contributions to the development and standardization of perceptual audio coding, and to Michael Williams in recognition of exemplary service and dedication to the AES's dissemination of engineering knowledge.

A Citation was given to Konstantin Kounov for service to the Bulgarian section. Board of Governors Awards went to Eloi Batlle and Luis Ortiz Berenguer for cochairing the 118th Convention, Benjamin Bernfeld for chairing AES papers committees for decades, Hrvoje ➡



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Exhibitor seminars were a very popular with attendees, as seen here at a Digidesign seminar.



Domitrovic for dedicated service to the AES Croatian section and as faculty advisor to the Croatian student section, and Jan Abilgaard Pedersen for chairing the 27th International Conference.

EXHIBITION

Located in Hall 5 next to the entrance of the Paris Expo, the exhibition, organized by Thierry Bergmans, offered the opportunity to find out about the latest in audio hardware and software. The buzzing atmosphere in the hall was enhanced by a comprehensive program of application and exhibitor seminars, offered to visitors at no additional cost, some of which took place in a special auditorium built with the assistance of Radio France on the exhibition floor.

Of particular note was the ever-increasing dominance of audio processing in branded “plug-in” form, with traditional audio manufacturers porting their classic designs to a form that can be used easily with digital audio workstation software. AMS Neve, for example, teamed up with Universal Audio to offer the sought-after Neve 1073 studio equalizer, found originally in the company’s analog mixers from the late 1960s and early 1970s. Similarly, a small company called Chandler Limited was offering a plug-in of the classic EMI TG 12413 limiter, used originally at Abbey Road Studios for albums such as Pink Floyd’s *Dark Side of the Moon*. Digidesign had a strong presence on the convention floor, and announced the sale of its 1000th ICON mixing and editing system as well as previewing the forthcoming ProTools HD 7.2 software.

Despite the onward march of plug-ins and workstations, there was still no shortage of substantial dedicated audio

hardware at the 120th Convention, with a number of recent mixing consoles making their debut. Studer’s Vista 5 has been created using circuit boards manufactured for the first time at the joint Studer/Soundcraft facility, marking Studer’s move into a lower price region of the market. Making its first major European appearance was Fairlight’s Dream Constellation-Anthem, which can be configured either as a split-mode console or in-line form, with facilities for up to 7.1 surround mixing. The console can also be configured for postproduction and editing work, hence it’s billing as a multiconfigurible digital audio console. On the live sound front Allen & Heath was showing its latest iLive digital mixing system, based on a rack-mounted modular mix engine that can be connected using Ethernet to a variety of control surfaces. Fraunhofer, entering the mixer market as a relative newcomer, introduced its RIMI spatial mixing desk, based on delta-stereophony, that is designed for automated interactive control of large-area sound-reproduction applications such as live events and stage shows. Building on the concept of the “totally redundant” mixing console, Lawo launched its brand new mc290 console at the convention, incorporating a highly intuitive control surface and a new graphical layout. Totally redundant in this case is intended to mean that the console can continue to work if parts of it fail, making it suitable for OB trucks and other such applications. Here the console is doubly redundant, meaning that there is a backup signal processor for every part of it.

There was no shortage of novel and retro-styled microphones in the line-up of products being exhibited. Among the unusual and stylish offerings was one from a relative newcomer to ➡



Design, Process and Function in High-Resolution Audio was one of 16 workshops at the 120th. The panel included, from left, moderator Vicki Melchior, Mike Story, Bill Miller, John Dawson, Malcolm Hawksford, and Neil Harris.



From left, Jan Voetman, chair of *Hearing Loss—Causes, Preventative Measures, and Effects on Sound Professionals and the Audience* (one of 21 tutorials at the 120th), Dorte Hammershoi, Kim Kahari, and Anne-Mette Mohr.

ApX585

Rethinking Audio Test

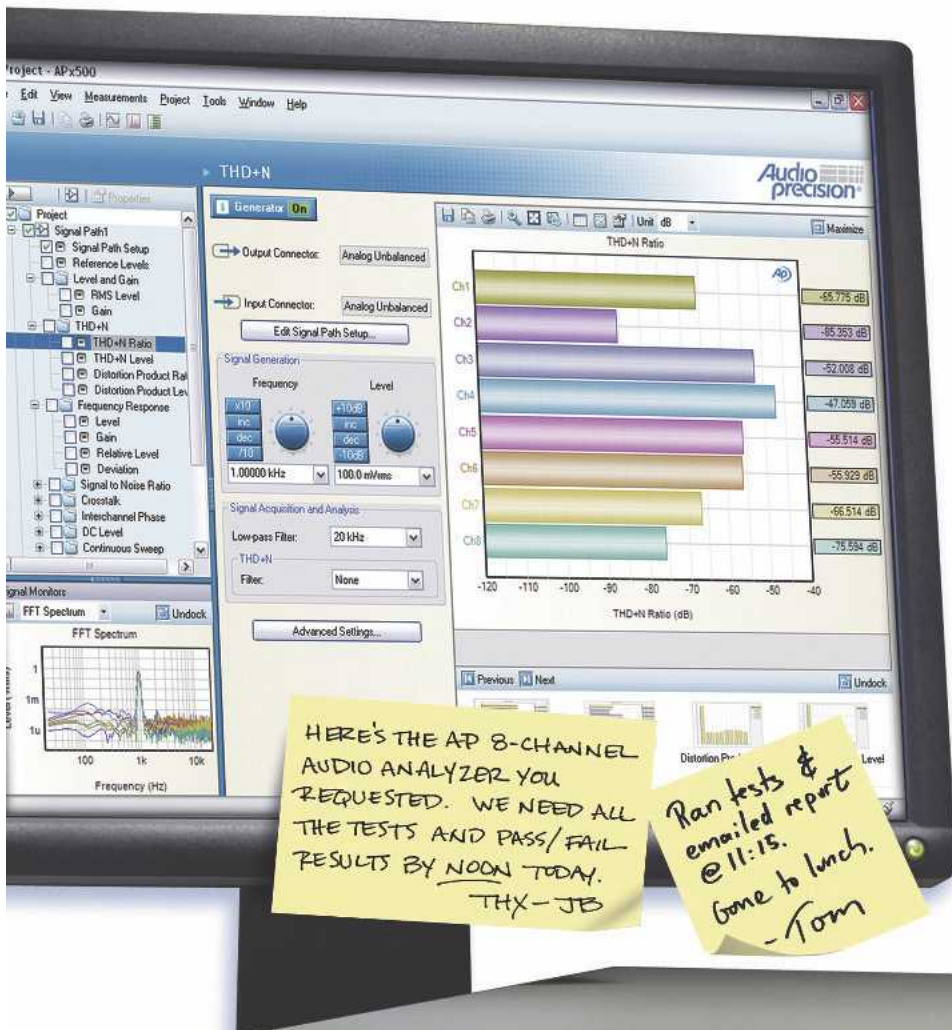
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From left, Gisèle Clark, 120th promotion; Klaus Blasquiz, convention chair; Cyrille Brissot and Emilie Simon, keynote speakers; Stefani Renner, press relations; and Roger Furness, AES executive director



Francis Rumsey (center), tutorial seminars chair, flanked by Gilbert Soulodre (left) and Karlheinz Brandenburg



Philippe Herzog and Claire Mérienne, workshops cochairs



Amaury Foy (left), facilities cochair, and Almiric Chauvier on the board



Thierry Bergmans (center) exhibit organization, flanked by Roel Krook (left) and Ben Bernfeld Jr.

the field, Violet Design, which introduced its so-called “Black Hole” microphone with switchable polar patterns and a body having a large hole in the center making it easy to carry. It was also showing some additional designs in its trademark purple color, such as the Flamingo and the Amethyst. Neumann was sporting the latest addition to its range in the form of the TLM 49, a modern implementation of a classic 1950s design, the M49. JLLabs previewed a radical new design—the novel Ehrlund Triangle Condenser microphone. The triangular capsule is said to be an industry first, combining the properties of both large and small membranes, by virtue of the fact that the diaphragm is supposed to work as four membranes in unison (one large in the middle, and three smaller ones in the corners). At the other end of the signal chain, Focal brought out its new SM6 line of active nearfield loudspeakers—the Solo6 Be and the Twin6 Be, as well as an active subwoofer, the

Sub6. Unlike the other models in its range, which are partly digital, the SM6 range is entirely analog.

APPLICATION AND EXHIBITOR SEMINARS

A series of application seminars, organized by Gisèle Clark, together with exhibitor seminars organized by Martin Wöhr, provided excellent opportunities for exhibition visitors to learn more about recent products and technologies in convenient auditoriums on or directly below the show floor. Exhibitor seminars included sessions from Digidesign, which organized a marathon series of 23 events on topics ranging from film mixing to the “AVID workflow” in both English and French. Further sessions were organized by ADAM, D.A.V.I.D., Studer, APT, Voiceage, SAATI, and Radio France. The application seminars, also supported by Radio France in a specially equipped auditorium on the



Roelien Gorter (center), assisted Mike Williams (left) and Geoff Martin, papers cochairs, with the large number of poster presentations during the 120th.



Céline Grangey and Daniel Hojka, education events cochairs



Philippe Bouchon, facilities cochair, and Han Tendeloo, program coordinator

show floor, were designed to focus on a particular topic each day, related to the daily work of audio engineers, including sessions on broadcasting, such as *Getting Ready for 5.1 Broadcast*, and postproduction, *Choosing the Right DAW* and *Digital Cinema*. Monday was devoted entirely to the topic of installation, with coverage of such diverse sessions as *Building a Studio* and *Ethernet Standards for Audio Applications*; Tuesday's sessions, included *The Wireless Concert* and *Digital Console Operation for Live Events*.

TECHNICAL PROGRAM

The record-breaking technical program at the 120th Convention consisted of more papers (225) than ever previously presented. Michael Williams and Geoff Martin, papers cochairs, tried a new format at the 120th in which presenters were given shorter slots to present their work, followed by an option ➔

We Thank...

Klaus Blasquiz
chair

Michael Williams and Geoff Martin
papers cochairs

Philippe Herzog and Claire Mérienne
workshops cochairs

Francis Rumsey
tutorial seminars chair

Céline Grangey and Daniel Hojka
student events cochairs

Martin Wöhr
exhibitor seminars chair

Philippe Bouchon and Amaury Foy
facilities cochairs

John Rutledge
technical tours chair

Aurélié Martin
volunteers chair

Han Tendeloo
program coordinator



John Rutledge, technical tours chair, greeted attendees as they boarded the bus for a tour.



Aurélié Martin, coordinated the volunteers

Martin Wöhr, exhibitor seminars chair





James Flanagan (2nd from right), 120th Heyser lecturer, receives certificate of appreciation from, from left, Bob Schulein, Technical Council chair, and Jürgen Herre and Markus Erne, vice chairs.

for a longer poster discussion in the area outside the lecture halls. The busy poster area buzzed with lively discussions of the authors' work and proved a particularly successful feature of the papers program. Papers devoted to multichannel sound formed a large segment in the line-up of papers; there were presentations on novel recording techniques involving such factors as height information and unusual arrangements of musicians, as well as signal processing for microphone arrays and aspects of subjective and objective quality assessment. The second multichannel papers sessions concentrated primarily on advances in wavefield synthesis and multichannel echo cancellation. Low bit-rate coding continued to attract considerable interest, with a variety of novel techniques being explained relating to low-delay codecs and spatial audio coding, as well as approaches to high-definition lossless coding. Further sessions included coverage of topics such as loudspeakers and microphones, psychoacoustics and listening tests, signal processing and high-resolution audio, and the design and engineering of auditory displays.

In addition to the record-setting program of research papers, delegates could bring themselves up to date with recent developments in more practical fields as well as taking in some basic education. A comprehensive program of workshops was organized by Philippe Herzog and Claire Mérianne, and a full line-up of tutorial seminars was assembled by Francis Rumsey. It's hard to think of any subject of importance in the audio world today that was not covered in one way or another in this veritable smörgasbord of offerings. The theme of broadcasting was particular strong in the workshops program, with *Moving to 5.1 Broadcast* and *Audio via IP* representing important and popular topics in this field. The tutorial on the hot topic of binaural technologies for mobile applications, chaired by Jyri Huopaniemi, looked at a possible future for spatial sound on the move. A marathon session on human factors in the design of audio products and systems, chaired by Jeremy Cooperstock, combined a two-hour tutorial with a series of case studies. Tutorial seminars provided an opportunity for students to learn about some of the basic aspects of audio engineering, or for more seasoned professionals to revise what they might have looked at many years ago, as well as to find out about subjects outside their field of work. These included Floyd Toole's ever-popular *Loudspeakers and Rooms for Sound Reproduction* and a crowd-pleasing first-morning event on



Heyser reception: Chloe Cailleton on vocals with Maxime Fougères on guitar; above, from left, Theresa Leonard, Yu Jiao, Wiesław Woszczyk, and Yong Shen; right, James Flanagan and Kess Immink; everyone enjoyed the music, refreshments, music, and view of the Eiffel Tower and Paris skyline.



mastering for multichannel audio, led by Jeff Levison. Seats were scarce at John Strawn's standing-room-only tutorial on low bit-rate coding. Jörg Wuttke explained the principles of microphones in his entertaining and inimitable style. Jamie Angus did double duty, giving one tutorial on quantization effects and a second on digital signals, filters, and equalizers.

Particular mention should be made of the tireless efforts around the convention of the facilities team, led by Philippe Bouchon and Amaury Foy, who ensured the smooth running

THE MAIN REASONS FOR BUYING OUTLINE'S STATE OF THE ART ISOTROPIC GLOBE SOURCE RADIATOR

STANDARD COMPLIANCE	OUTLINE GLOBE SOURCE	BEST COMPETITOR
ISO 3382	Yes	Yes
ISO 354	Yes	Not stated
ISO 140-3	Yes	Yes
Din 52210	Yes	Yes
PHYSICAL CHARACTERISTICS		
Physical Shape	Sphere	Dodecahedron
Speaker types and number	12 - Double NdFeB magnet - 5" speakers	12 - 5" speakers
Special speaker features	Aluminium Phase Plug to extend high freq.	Standard paper dust dome
Max. Dimension / Diameter	31 cm	35 cm
Weight	13 kg	14 kg
Tripod stand receptacle	Integral	External
Handle / Eye Bolt	Interchangeable and detachable	Fixed handle no eye bolt option
Floor Stand	Included	Included
ACOUSTICAL & ELECTRICAL CHARACTERISTICS		
Standard Channels	4	1
Nominal Impedance	4 x 4 Ω	6 Ω
Minimal Impedance	4 x 3.9 Ω	Not stated
Power Handling - AES Continuous	900 WRMS (225 WRMS - Ch. x 4)	300 WRMS
Power Handling - Continuous Program	1800 WRMS (450 WRMS - Ch. x 4)	Not stated
Peak Power Handling - Short duration	3600 WPeak (900 WPeak - Ch. x 4)	1000 Peak
Narrow Operating Frequency Range	90 - 900 - AES Standard	Not stated
Max. Sound Power Level AES Narrow Band	128 dB re 1 pW (150 WRMS - Ch.)	Not stated
Max. Power Compression after two hours (AES Standard)	0.3 dB (narrow band operation)	Not stated
Wide Operating Frequency Range	90 - 9000 Hz (third octave)	100-5000Hz (third octave)
Full Range Operating Frequency Band (Equalized)	90 - 20000 Hz (third octave)	Not stated
Max. Sound Power Level - Equalized Wide Band	130 dB re 1 pW (570 WRMS - Ch.)	122 dB re 1 pW (300WRMS)
Max. Sound Power Level - Full Range with Dedicated Power Amp.	125.5 dB re 1 pW (400 WRMS - Ch.)	Not stated
Max. Power Compression Wide Band Equalized after 1 hour	0.3 dB (wide band equalized operation)	Not stated
Recommended High-Pass Filter for Driver Protection	90Hz Butterworth -12 dB/octave (in dedicated amp.)	Not stated
Input Connector	Neutrik SPEAKON - NL8	Neutrik SPEAKON - NL4
DEDICATED AMPLIFIER - NOISE GENERATOR		
Power requirements - European Model	AC 195, 250 V 50/60 Hz	AC 180, 240 V 50/60 Hz
Power requirement Others Model	AC 95, 125 V 50/60 Hz	90 - 120 V AC on request
EIAJ Power 4 Ω load - 1kHz 1% THD	4 x 500 W (2000 W Total)	320 W Bridged
Power Bandwidth	10 Hz - 30 kHz	12 Hz - 50 kHz
Damping Factor 100 Hz - 1 kHz - 10 kHz	>500 - >200 - >100	Not stated
Slew Rate (8 Ω)	50 V/ μ S	25 V/ μ S
Gain	32 dB	30 / 23 dB switchable
S/N Ratio	> 105 dBA full power	> 105 dBA below full power
Full Thermal protection	Yes	Not stated
Short-circuit / Overload output protection	Yes	Yes
Clip Limiter / High Frequency protection	Yes	Yes
Internal Generator - White/Pink Noise	Manual switch	No
Signal Correlated/Uncorrelated	Manual switch	No
External/Internal Signal	Manual switch	No
Levels Adjustment	4 Ch. calibrated + 1 aux/sub	2 Ch.
Built-in Wireless Receiver - Trasmitter included	Radio 8 channel	Optional radio 2 channel
Wireless Transmitter Commands		
On - Off	Radio	Radio
Internal Generator - White/Pink Noise	Radio	No
Signal Correlated/Uncorrelated	Radio	No
External/Internal Signal	Radio	No
MAIN ACCESSORIES		
Dedicated self powered Global Sub GSS - SP	Max. SPL Peak Half Space 132 dB	No
Frequency Response - 10dB	36 Hz - 1 kHz	No
Global Sub GSS - SP dimension WxHxD	450x550x550 mm	No
Global Sub GSS - SP weight	24 kg	No
Global Sub Patented Feature	Built-in space to allocate Globe Source dedicated 4 Ch. Power Amp., Globe Source itself and cable during transport.	No



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From left, Phyl Pyatt, Clive Glover, Gisèle Clark, Ben Lily, Dave Harries, and David Stewart discuss the challenges involved in building British Grove, the studio of Dire Straits founder Mark Knopfler during one of the crowd-pleasing application seminars.



of the multitrack program; Aurélie Martin coordinated the efforts of the student volunteers from the Conservatoire de Paris. Han Tendeloo worked tirelessly with the convention committee to sort out the program so that key people could be where they needed to be at the right time; the result was a cohesive schedule that was rewarding for all.

A full listing of the entire 120th program starts on page 663. An order form with a complete list of the 120th papers is inserted with this issue. Papers can also be purchased online at www.aes.org/publications/preprints.

STUDENT ACTIVITIES

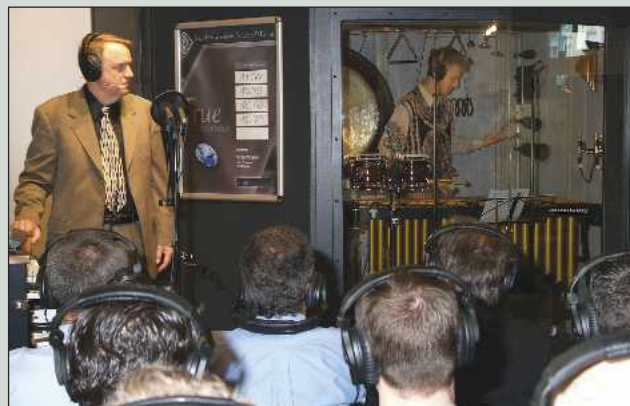
Running in parallel with the rest of the convention program, the student body of the Society was busy with a full schedule of activities supervised by Céline Grangey and Daniel Hojka, education cochairs. In addition to opening and closing student delegate assemblies, at which the main business of the student membership was carried out including the selection of officers and presentation of awards for the recording competition, a range of mentoring opportunities were available. These mentoring opportunities enabled students to have a one-on-one session with distinguished professionals from the audio industry, including renowned classical engineer Tony Faulkner. A career and job fair provided a place where students could discuss their futures with representatives from companies present at the convention. The education fair allowed representatives of many schools and universities to offer information on their audio programs. The recording competition had both stereo and multichannel tracks split into classical, jazz, folk/world, and pop/rock categories, as well as sound for picture in the multichannel class. A group of prominent recording engineers judged the entries in the competition: Jim

Anderson, François Eckert, Darcy Proper, Jean-François Pontefract, Jean Taxis, André Voltz, Werner Pensaert, Tony Faulkner, Florian Camerer, Gilles Pezerat, François Coynault, Loïc Prian, Pierre-Antoine Signore, Ronald Prent, and Jean-Pierre Halbwachs.

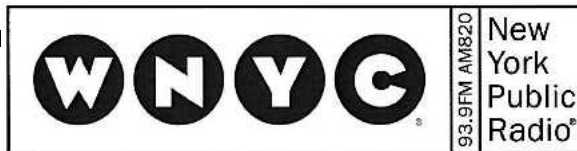
Students' scholarly work was also on display at a student poster session and a design competition judged by industry research and development professionals. Under the guidance of Jason Corey, chair of the Education Committee, an Education Forum panel met to discuss the issues of primary and continuing education in the audio industry.

SPECIAL EVENTS

On the opening evening of the convention the AES Mixer Party brought people together in an informal atmosphere to catch up on the latest changes in each others' lives and to



Mike Pappas discussing Neumann Solution-D digital mics. Product demos on the exhibition floor attracted crowds throughout the convention.



DIRECTOR OF ENGINEERING

WNYC FM & AM are America's most listened to public radio stations, heard by more than 1.2 million listeners each week in the New York Region. From popular local programs such as The Brian Lehrer Show, The Leonard Lopate Show, and Soundcheck to the award-winning national series On the Media, Studio 360, and Radio Lab, WNYC offers a unique service in the nation's most competitive and dynamic radio market. WNYC produces significant cultural reporting and classical music, concert and festival programs as rich and diverse as the city itself. In addition to broadcasting news from NPR and the BBC, WNYC also maintains an aggressive and growing news force focused on investigative journalism and community issues.

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WNYC seeks to fill the position of Director of our Engineering Department. Responsible for managing the Engineering Department broadcast engineers, as well as per diem workers and contractors involved with technical projects, repairs and improvements related to broadcast production and transmission within the WNYC Radio plant and all extraneous WNYC transmission facilities. Position reports to the Chief Technology Officer (CTO).

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- Maintain the quality and operation of the station's transmission mediums: FM & AM transmissions, digital audio delivery, NPR uplink and downlink systems and all associated broadcast-related microwave and telephony Studio-to-Transmitter (STL) systems. Ensure that FCC regulations are met and maintained on all such systems to the goal of ensuring a positive experience for the WNYC Radio listener.
- Manage engineering department staff: Set goals and priorities, manage performance and evaluate employees within the Engineering Department broadcast engineering staff. With CTO and HR department, recruit to fill positions as needed.
- Work with the CTO to outline and submit the Engineering Department budget based on Company-wide goals. Initiate, approve and recommend purchases based on this outline and goals throughout the course of the fiscal year.
- Research, design, implement and train personnel in new and existing equipment/technology/procedures for broadcast transmission and systems.
- Generate operational/technical guides, standards and procedures, for personnel involved in station broadcast transmission and systems.
- Participate as needed in Senior Staff leadership meetings, provide technical expertise, input and progress reports.

Qualifications:

- A degree in Electronics Technology, Engineering or a related field required.
- M. S. E. E. degree preferred.
- Senior SBE certification highly desirable.
- Minimum seven years progressively responsible engineering experience focusing on engineering personnel management and budget management.
- Demonstrated ability to effectively manage daily operations of an engineering department.
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AES MEETINGS



1 Conference Policy: from left, Neil Gilchrist, AES president; Ron Streicher; Jan Berg, chair of the AES 28th Conference (Sweden); and John Oh, chair of the 29th Conference (Korea)

2 Education: Jason Corey (top left corner), chair, leads discussion

3 Historical: Willie Aubert (left) chaired the meeting

4 Publications Policy: Søren Bech (wearing brown jacket), chair, leads the discussion

5 Regions and Sections: After reports were given, regions split into smaller groups for further discussions.

6 Technical Council: from left, Bob Schulein, chair, and Jürgen Herre and Markus Erne, vice chairs

7 Standards: Mark Yonge (left), standards manager, chairs meeting of SC-02-02

8 Strategic Advisory Group: Nick Zacharov (3rd from right), chair

discuss the current state of the industry. This was followed on the second evening by the the Richard C. Heyser Memorial Lecture. The 120th lecturer was James Flanagan, who was the director of Information Principles Research at AT&T Bell Laboratories. After 33 years at Bell Labs he

went into academia at Rutgers University, where he was vice president for research and director of the Center for Advanced Information Processing. He retired from Rutgers in 2005 as Board of Governors Professor Emeritus. His lecture concentrated on spatially selective sound capture and

EDUCATION EVENTS



- 1 Student Delegate Assembly:** a large group of students discussed the many activities at the 120th.
- 2 Student Recording Competition:** from left, Werner Pensaert, Darcy Proper, and Jean Taxis judged the Folk/World Music Stereo entries.
- 3 Education Fair:** the Konrad Wolf Academy of Film and Television was one of the numerous schools to participate in the 120th Education Fair.
- 4 Recording Competition Awards:** over 30 students were awarded prizes. Matthew Ermert (left photo) receives a DTS Pro Series Surround Encoder from Rodney Orpheus and a certificate for 1st Place in the Sound for Picture category from Jason Corey, Education Committee chair. Nathan Moore (right photo) receives an Audio-Technica 4033a microphone from Evangeline Perot and 1st Place certificate in the Non-Classical Surround category from Jason Corey.

showed how microphone arrays had been used to isolate sources in noisy or reverberant environments. He explained how large arrays of some 400 electret microphones could be processed using auto-directive delay-sum beamforming, and later how time-reversal matched filtering could be used to select wanted sources from the array output.

For delegates who wanted to experience the delights of French cuisine aboard one of the famous River Seine cruise boats, the dinner cruise later on Sunday evening offered a rewarding experience, starting at the Île aux Cygnes. A gourmet menu featuring a five-appetizer course, followed by mouth-watering main courses and desserts, was served aboard the Capitaine Fracasse, a 250-seat boat with traditional wooden interiors. On Monday evening organ music lovers feasted on a gourmet recital served up by the trusty Graham Blyth at the church of St. Etienne du Mont in the center of Paris. It was in this notable church that composers and organists such as Marcel Dupré and Maurice Duruflé spent much of their working lives playing the massive Cavaillé Coll instrument in the role of titulaire. In the course of his recital, "master chef" Blyth offered tasty works by Bach, Franck, and Schumann, culminating in the Prélude and Fugue sur le Nom d'Alain by Duruflé, one of only six surviving works by this extremely self-critical composer who destroyed much of his output.

TECHNICAL TOURS

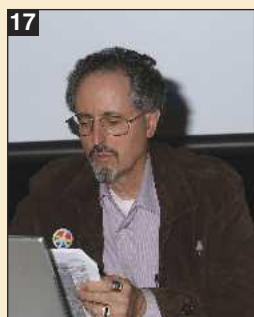
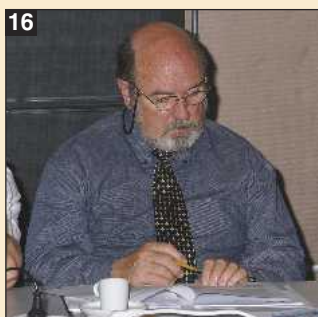
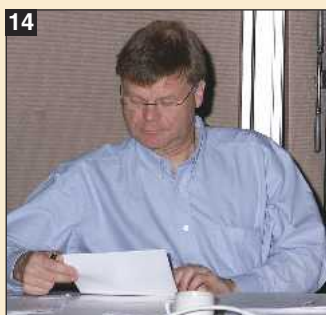
For those who wanted to see up close the operations of the major audio centers of Paris, John Rutledge coordinated a program of technical tours including visits to Radio France and IRCAM. Particularly popular was a visit to the School of Audio Engineering at its newly refurbished building in La Plaine St. Denis, which was accompanied by a chance to look round two of the busiest mobile trucks in France, presented by SILENCE! There were also trips to Studio Davout, where rockers such as The Rolling Stones and Prince have worked; to France Inter, a technically up-to-the minute radio station; and to INA, the National Audiovisual Institute.

AES MEETINGS

Throughout the convention a busy program of AES committee meetings went on behind the scenes, including the important work of the AES Standards Committee led by Richard Chalmers and Mark Yonge. The AES Technical Council held a number of meetings after key technical sessions, dealing with the planning of content for future events, including conferences and conventions, as well as possibilities for publications and tutorial material in their specialist fields. The Board of Governors (see next page), representing AES activities around the world, met on the day following the convention to debate the direction of the Society in a rapidly changing world.

Although the Parisian weather was fickle throughout the convention, the cultural and artistic attractions of the City of Light remained, as always, constantly delightful. Greeting old friends, meeting new people, and seeing and hearing the latest technical advances and product developments in the world of audio guaranteed the success of the 120th Convention. Mark your calendars for the dates (October 5-8, 2006) of the 121st Convention in San Francisco and the 122nd (May 5-8, 2007) in Vienna.





Board of Governors Meets

The AES Board of Governors met on May 24 to hear reports from AES officials and standing committees:

- 1** Neil Gilchrist, president
- 2** Han Tendeloo, secretary
- 3** Louis Fielder, treasurer and Finance Committee chair
- 4** Jay Fouts, legal counsel
- 5** Roger Furness, executive director
- 6** Ivan Stamac, Europe Southern Region vice president; Andres Mayo, Latin America Region vice president
- 7** Kees Immink, governor; Ulrike Schwarz, governor
- 8** Francis Rumsey, Membership Committee chair; Subir Pramanik, Conference Policy Committee chair
- 9** Richard Chalmers, Standards Committee chair; Bozena Kostek, Europe Central Region vice president
- 10** Bob Schulein, Technical Council chair
- 11** Ainslie Harris, student representative; Jason Corey, Education Committee chair
- 12** Daniel Orejuela, student representative; Daniel Hojka, student representative
- 13** Nick Zacharov, Strategic Advisory Group chair
- 14** Søren Bech, Europe Northern Region vice president and Publications Policy Committee chair
- 15** John Strawn, governor, Convention Policy Committee chair, and 121st Convention chair; Bob Moses, USA/Canada Western Region vice president; Steven Harris, governor; David Murphy, International Region vice president
- 16** Roy Pritts, Regions and Sections Committee chair
- 17** Ron Streicher, governor and Awards Committee chair
- 18** Wieslaw Woszczyk, president-elect and Laws and Resolutions Committee chair; Jim Anderson, USA/Canada Eastern Region vice president; Theresa Leonard, past president and Nominations Committee chair
- 19** John Vanderkooy, governor and editor; Ronald Aarts, governor