the ADVANCED TELEVISION SYSTEMS COMMITTEE

the STANDARD

News from the ATSC
Volume ten, Issue Three
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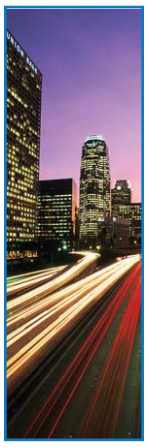
ATSC Approves Mobile Digital Television Standard (more on page 5)



The Advanced Television Systems Committee (ATSC) is pleased to announce the approval of A/153 ATSC Mobile DTV Standard. The ballot, tallied at midnight Oct. 15, was approved with overwhelming support by the full ATSC membership.

The ATSC Mobile DTV Standard defines the technical specifications necessary for broadcasters to provide new services to mobile and handheld devices using their digital television (DTV) transmissions. The new services for mobile and handheld devices are carried along with current DTV services without any adverse impact on legacy receiving equipment. ATSC Mobile DTV was developed to support a variety of services including free (advertiser-supported) television and interactive services delivered in real-time, subscription-based TV, and file-based content download for playback at a later time. The standard can also be used for transmission of new data broadcasting services. (Continued...)

Loudness Recommended Practice

Loudness Seminar Wrap-Up, Page 3

The ATSC is pleased to announce the approval of the ATSC Recommended Practice: Techniques for Establishing and Maintaining Audio Loudness for Digital Television. The ballot was approved by the ATSC membership on November 4, 2009; the same day the ATSC hosted a seminar on the topic of Audio Loudness at the Wiley Rein Conference Center in Washington, DC.

The Recommended Practice (RP) provides guidance to broadcasters and creators of audio for high-definition (HD) or standard definition (SD) television content, and also recommends production, distribution, and transmission practices needed to provide the highest quality audio soundtracks to the digital television audience. The document focuses on audio measurement, production and postproduction monitoring techniques, and methods to effectively control loudness for content delivery or exchange. Additionally, the RP recommends methods to effectively control program-to-interstitial loudness, discusses metadata systems and use, and describes modern dynamic range control. It also includes specific information on loudness management at the boundaries of programs and interstitial content.

"High quality multichannel sound is an important element of the digital television experience" said ATSC President Mark Richer. "The new Recommended Practice provides the industry with uniform operating strategies that will optimize the audience listening experience by eliminating large changes in sound levels."

"Adoption of a Recommended Practice for implementing audio loudness culminates years of work by the ATSC. These efforts will benefit American consumers by resolving problems associated with 'loud commercials'. We look forward to working with ATSC to help television stations across the country implement this important decision," said David Donovan, President of Maximum Service Television (MSTV).

The new RP is available online at *http://members.atsc.org/standards* ♦

in this issue:

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ADVANCED TELEVISION SYSTEMS COMMITTEE

update: FROM THE PRESIDENT

As you may notice in this issue of the Standard, the ATSC is celebrating two incredibly significant milestones – the creation and approval of a Mobile DTV standard, and the completion of the Recommended Practice Techniques for Establishing and Maintaining Audio Loudness for Digital Television. What's truly amazing about these recent achievements is the way in which we, as an industry, have worked together. Success in creating the mobile standard and loudness RP isn't something that occurred by accident – it was part of the strategic plan created and honed by the ATSC Board of Directors, and I consider the results to be "right on the money."

Not only have we achieved the mobile standard in record time, but the industry in parallel has been developing products, services and concepts; conducting trials and demonstrations; and testing applications for this new technology. The Open Mobile Video Coalition (OMVC) has energetically supported the ATSC's work, themselves focused on developing a clear business opportunity for broadcasters.

In my 35 years in the industry, I have never witnessed the level of collaboration and commitment that has occurred for mobile digital television.

Like mobile, audio loudness has been a very difficult issue to tackle, but the industry once again is coalescing. The ATSC has been able to attract and assemble audio experts who are willing to diligently tackle the creation of an excellent RP… one that is very timely.

With mobile and loudness, the ATSC has successfully harnessed the knowledge and enthusiasm of our members; while also bringing in new organizations and individuals with different talents, perspectives, and interests.

Digital television is not really a revolution – it's a constant evolution. Thanks to the hard work of many individuals, the evolution continues.

upcoming: INDUSTRY EVENTS & SEMINARS

- ***ATSC Seminar on Mobile*** *- February 2009 (Date TBD) - Washington, DC*
- ***ATSC Seminar on Loudness at Hollywood Post***

AWARDS & RECOGNITIONS

Mr. Joseph Flaherty and Mr. Richard Wiley recognized at the CEA's Industry Forum, held in Phoenix, Arizona October 18-21, 2009

RICHARD E. WILEY, PAST CHAIRMAN OF THE FEDERAL COMMUNICATIONS COMMISSION (FCC), PLAYED A PIVOTAL ROLE IN THE DEVELOPMENT OF HDTV, SERVING AS CHAIRMAN OF THE FCC'S ADVISORY COMMITTEE ON ADVANCED TELEVISION SERVICE FOR NINE YEARS.

DR. JOSEPH FLAHERTY DEMONSTRATED HDTV TO THE SOCIETY OF MOTION PICTURE AND TELEVISION ENGINEERS IN 1981 AND ALSO GAVE DEMONSTRATIONS TO FCC AND OTHER OFFICIALS, WHO ESTABLISHED THE ADVISORY COMMITTEE ON ADVANCED TELEVISION SYSTEMS, LEADING TO THE ATSC STANDARD.

event: Seminar on Audio Loudness

Mr. Burke Moody, AICE

On November 4, 2009; the ATSC sponsored a Seminar on Audio Loudness at the Wiley Rein Conference Center in Washington, DC.

The November 4th seminar included presentations focused on ATSC's work on audio loudness. The seminar brought together broadcasters, cable professionals, and audio engineering experts to discuss the recently approved ATSC Recommended Practice on Loudness and it's practical implementation.

The program also discussed related legislative activities and key topics such as industry outreach, real-world applications in audio, loudness measurement, monitoring, program interchange, interstitial loudness, and metadata. The event was attended by members of the broadcasting, cable, and satellite industries; as well as equipment manufacturers and consulting engineers.

"The ATSC seminar was a great opportunity for the broadcast and cable industries to be briefed on recommended procedures to control audio loudness," noted Dr. William Check, Senior Vice President, Science and Technology of the National Cable & Telecommunications Association (NCTA). "The cable industry has been involved with the ATSC development effort and congratulates the ATSC on an excellent seminar."

The event was sponsored by the IEEE Broadcast Technology Society, DaySequerra, Dolby, Jünger Audio, Linear Acoustic, National Association of Broadcasters (NAB), National Cable & Telecommunications Association (NCTA), RTW, and Wiley Rein.

Select presentations from the event are available on the seminar website, *www.atsc.org/seminars/loudness09.php* ♦

Mr. Steve Lymna, Dolby; & Mr. Jim Starzynski, NBC Universal

Loudness in Congress

The Commercial Advertisement Loudness Mitigation (CALM) Act, sponsored by California Rep. Anna G. Eshoo, passed the House Telecommunications Subcommittee of the House Energy and Commerce Committee, moving it to the full committee for a vote. CALM aims to prevent those loud volume spikes often caused by disparities between television shows and the commercials inserted during breaks.

CALM would require the FCC to adopt volume standards within a year of passage and then gives broadcasters and cable operators another year to install equipment that will make sure programming and commercials meet those volume standards. The end goal of CALM is preventing television viewers from being blasted off the couch by dramatic changes in ad and program volume.

photos: Mobile DTV Press Tour

To celebrate the kickoff of the Mobile DTV standard, on Friday October 23, the ATSC and OMVC, along with partnering manufacturers and sponsors, held a bus tour around Washington, DC.

The bus tour of D.C. was the first such demonstration since the official adoption of the new standard.

"This is a historic day, and not just in the 26-year history of ATSC but for the entire broadcast industry," noted ATSC President Mark Richer.

"Live, Local, and on the Go!" was a fabulous success, and provided participants to see programming "in action." ♦

Photographs by Morris Semmiatin

feature: Mobile DTV Standard

"Development and adoption of the ATSC Mobile DTV Standard is a major milestone in the ongoing evolution of digital television," said ATSC President Mark Richer. "We have been fortunate to have strong and active industry support, including thousands of person-hours of technical volunteers, for this work which enabled us to develop the standard in an efficient manner."

The ATSC Mobile DTV Standard will enable broadcasters to provide new compelling services to consumers utilizing a wide array of wireless receiving devices including mobile phones, small handheld DTVs, laptop computers and in-vehicle entertainment systems.

Gary Shapiro, President and CEO of the Consumer Electronics Association, said, "As a founding ATSC member, CEA congratulates ATSC on achieving this new standard, which will help chipmakers and equipment manufacturers proceed with product development and deployment. With the successful digital television transition now behind us, the ATSC Mobile DTV standard gives broadcasters an opportunity to provide consumers with the next generation of compelling over-the-air content."

"This milestone ushers in the new era of digital television broadcasting, giving local TV stations and networks new opportunities to reach viewers on the go," said Paul Karpowicz, NAB Television Board Chairman and President of Meredith Broadcast Group. "This will introduce the power of local broadcasting to a new generation of viewers and provide all-important emergency alert, local news and other programming to consumers across the nation."

ATSC Chairman Glenn Reitmeier added: "On behalf of the ATSC Board of Directors, I would like to congratulate all of the ATSC member companies that contributed to this major achievement. The ATSC Mobile DTV standard is flexible and robust, enabling a range of services business models that create new opportunities for broadcasters, device makers and consumers. It is particularly noteworthy that ATSC Mobile utilizes Internet Protocol (IP), which will enable broadcast services to be easily integrated with wireless broadband consumer devices and applications, further reinforcing the significant role of terrestrial television broadcasting in the media landscape for decades to come."

ATSC Mobile DTV is built around a highly robust transmission system based on Vestigial Side Band (VSB) modulation, with enhanced error correction and other techniques to improve robustness and reduce power consumption in portable receivers, coupled with a flexible and extensible Internet Protocol (IP) based transport system, efficient MPEG AVC (ISO/IEC 14496-10 or ITU H.264) video, and HE AAC v2 audio (ISO/IEC 14496-3) coding. ATSC Mobile DTV services are carried in existing digital broadcast channels along with current DTV services without any adverse impact on legacy receiving equipment.

In addition to live television, the new ATSC Mobile DTV standard provides a flexible application framework to enable new receiver capabilities. Receivers that make use of an optional Internet connection will enable new interactive television services, ranging from audience measurement and simple viewer voting to the integration of Internet-based applications and transactions with television content.

Formal development of the ATSC Mobile DTV system began in May 2007 with the issuance of a request for Proposals (RFP). The new standard document will be available online on the ATSC Standards page.

The new standard document will be available online at *http://members.atsc.org/standards* ♦

OMVC
OPEN MOBILE VIDEO COALITION

OMVC at CES

With final adoption of a Mobile DTV standard on Oct. 15, 2009 behind it, the OMVC heads into the 2010 International CES show with great excitement over a "Mobile DTV TechZone" planned for the central hall of the Las Vegas Convention Center. The TechZone will feature a wide variety of consumer electronics and television broadcasting companies who are behind the rollout of a new mobile TV platform and service. Extending over-the-air broadcast signals to mobile devices opens up a vast new audience for CE manufacturers and automakers.

Companies who manufacture or design infrastructure, middleware or device software solutions and applications for mobile phones, portable media players, laptops, netbooks, navigation devices and in-vehicle viewing systems are expected to participate. The TechZone will be a one-stop marketplace for the latest in products and services in the exciting new Mobile DTV ecosystem.

- Anne Schelle, OMVC

International CES 2010
PRODUCED BY CEA

profile: Jordan Cookman, Microtune

What is your educational background?

I received my Bachelor's degree in Electrical Engineering in 1994 from GMI Engineering & Management Institute (now Kettering University) in Flint, MI. As part of my undergraduate education, I worked as a co-op student for Delco Electronics in Kokomo, IN, which at the time was a subsidiary of General Motors. I alternated between work and school on a quarterly basis, and was able to rotate among a wide variety of departments at Delco, from Manufacturing to Advanced Development. Some of my more interesting projects involved electronic toll systems and in-vehicle navigation systems. After receiving my Bachelor's, I accepted a full-time position with Delco, and continued working in their Advanced Development department. Working with a group of highly talented and educated engineers, I soon realized that I needed to further my own education, and decided to pursue a Master's degree.

This decision led me to leave my Midwestern roots and move to Silicon Valley, where I received a Master's degree in Electrical Engineering from Stanford University in 1996. My focus was on digital signal processing and communications theory. My original plan was to return to Indiana after graduate school, but I found a high-tech job, met my future wife, and here I am, still in California!

Where was your first job in the broadcast industry?

My first job after getting my Master's was with ESS Technology, Inc., a semiconductor company supplying IC's for PC and consumer electronics applications. Most of my projects there involved non-broadcast digital communications. I developed and implemented signal processing algorithms for products like V.90 modems and DVD read channels, and participated in national and international standards development bodies including the Telecommunications Industry Association (TIA) and International Telecommunications Union (ITU).

My first project related to the broadcast industry was to design an NTSC/PAL TV Decoder. I was amazed at the longevity of the NTSC standard, and that there were still innovations happening in receiver design. But I knew that analog TV shutoff was looming, and the future was digital. Fortunately with my background in digital communications, it was a natural progression for me to move to the digital TV industry.

After 9 years at ESS, I left to join Auvitek, a startup company developing digital TV demodulator IC's, as their Director of Communications R&D. Thus began my career in digital TV, and my involvement with ATSC.

How long have you been at your current position?

I have been Director of DTV R&D for Microtune since their acquisition of Auvitek in July, 2009. Including the time with Auvitek, I have been in my current position for over 4 years. In this position, I am responsible for demodulator algorithm development for various digital TV standards worldwide.

As you may know, Microtune is a leading supplier of silicon tuner IC's. With the acquisition of Auvitek, we now have full range of receiver front-end products, and I am excited about my role in leveraging our combined capabilities.

What project /specialist groups within ATSC are you involved with? What about other organizations in the industry?

My involvement with ATSC has been primarily with the specialist groups on Mobile DTV (S4), RF Transmission (S9) and Receivers (S10). My interests are in the area of physical layer design and receiver performance. Microtune strongly supports receiver performance recommendations to ensure that end-users have a great experience watching digital TV.

Recently I agreed to be the Chair of S4-5, the ad hoc group on Scalable Full Channel Mobile DTV. We are working on an enhancement to the recently approved A/153 Mobile DTV standard that will allow increased capacity mobile usage and enable new applications. A Request for Proposals was recently sent out to the ATSC membership, and I encourage all interested proponents to submit their Proposal Overviews before the deadline on November 9th.

Through my involvement with ATSC, I have enjoyed meeting and interacting with the leaders of the digital TV broadcast industry. In my role as ad hoc group Chair, I am learning more about the ATSC process and about what it takes to make a good standard. I look forward to doing my part to make the Mobile DTV standard and its enhancements a success.

Any hobbies you'd like to share? Family information? Anything ATSC members might not know about you, or find surprising?

My wife and I celebrated our 10th wedding anniversary this year, and are blessed to have two wonderful daughters, ages 6 and 3. Most of our free time revolves around their activities, including soccer games, swimming lessons, dance classes, and school functions. Some day when the kids are older, I plan to have hobbies. ♦

ATSC Board of Directors Elections

The ATSC recently elected Mr. Anthony Caruso of the CBC, and Mr. James Kutzner of Public Broadcasting Service (PBS) to the Board of Directors.

Mr. Caruso is a professional Engineer who has been with Canadian Broadcasting Corporation for over 25 years. Tony is the Director of New Broadcast Technologies and has been involved with the ATSC and HDTV since the beginning organizing the first HDTV satellite transmission between Tokyo and Ottawa in the early 90's. He was an active member of the Canadian DTV (former CDTV) group and ABSOC (Advanced broadcasting systems committee) working in the early development of HDTV. Tony represents the CBC at the Engineering Committees at SMPTE, ATSC, NABA, WBU. He is currently the Vice-Chair of the NABA - Technical Committee and the Editor-in Chief of the "CBC Technology Review Magazine".

Mr. Jim Kutzner

James Kutzner is Chief Engineer at PBS where he oversees the Engineering and Technical Support groups within PBS, including technical planning, development, and support of current and future operational systems. Kutzner has held several roles in the development of television broadcast and production standards and facilities including at the Advanced Television Technology Center and Thales. Previous to that he was Vice President, Operations and Engineering at Twin Cities Public Television, and Associate Director of Engineering at PBS where he participated in various projects including the move to digital distribution via satellite.

Kutzner is the Vice Chair of the ATSC Planning Committee and has participated in DTV development activities since 1990. He is currently in a doctoral program in Systems Engineering at George Washington University and holds a Masters degree in Engineering Management from the same institution. He holds a Bachelor of Electrical Engineering degree from the University of Minnesota and is a Fellow of SMPTE and a member of the IEEE. ♦

Meeting Reminders:

Next PC:
December 3, 2009
9:00 AM
ATSC Offices

Next TSG:
December 3, 2009
1:00 PM
ATSC Offices

The ATSC Meetings Calendar is available online at *http://www.atsc.org*, and on the members website, *http://members.atsc.org*

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BTS IEEE Broadcast Technology Society

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zenith

welcome wagon: New Members

The following companies have recently become members. We eagerly anticipate their contributions to the DTV standards currently being developed in the ATSC, and we know their participation will have an immeasurable effect on the future of digital television.

I-Movee; Spika Inc.; CTB Inc; Decontis; Mark Harris (Observer); and SRS Labs

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The ATSC is an international, non-profit organization developing voluntary standards for digital television. The ATSC has member organizations representing the broadcast, broadcast equipment, motion picture, consumer electronics, computer, cable, satellite, and semiconductor industries.

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