



ATSC ADOPTS STANDARD FOR ADVANCED VIDEO CODING

Video compression, which reduces the bandwidth required to transport a digital video signal, was one of the key technologies that enabled the development of digital television (DTV). The state-of-the-art for video coding technology in the early 1990s was MPEG-2, and this became a fundamental part of the Advanced Television Systems Committee (ATSC) standard, as well as DTV standards in other parts of the world. The vast majority of DTV receivers worldwide, including many millions in the United States, now decode MPEG-2 video.

Due to "Moore's Law," the processing speed and memory capacity of hardware devices for video encoding and decoding has advanced greatly since MPEG-2 was developed. This has enabled increasingly sophisticated compression algorithms to be developed that take advantage of the increased hardware power now available at ever-lower price points. These new video encoding/decoding (codec) systems provide significant improvements in coding efficiency compared to MPEG-2 and can result in equivalent or better quality at lower bit rates. However, none of the new advanced codecs are backward-compatible with MPEG-2, which creates a challenge for their introduction into existing broadcast systems.

One of the new codecs that is receiving wide acceptance in deployment of new video services is Advanced Video Coding (AVC) and last week the ATSC published a standard to enable the use of AVC for ATSC DTV. One of the reasons for adding AVC to ATSC is that several countries that still have to decide on the DTV transmission standard to be adopted have asked for advanced codec capability, and this is needed for ATSC to be competitive with alternative systems under consideration. In the United States, AVC is unlikely to be used in the near future for regular DTV broadcasting because the large installed base of MPEG-2 integrated receivers and set-top boxes in this country would be unable to decode such programming. As mentioned in the ATSC press release (see below), standards for new mobile/handheld (M/H) and non-real-time (NRT) services are now being developed in ATSC that, by their nature, would require new receiver devices. These are obvious candidates to take advantage of the improved efficiency of AVC. In fact, a high-efficiency advanced codec is virtually essential for the M/H standard in order to preserve adequate DTV channel bandwidth for existing MPEG-2 services.

In their press release on AVC, for the first time in public, the ATSC refers to "ATSC 2.0." This concept for next generation services for fixed receivers is part of the ATSC long-term strategic plan for the future of DTV. ATSC 2.0 is currently in the development stage in the ATSC Planning Committee, chaired by NAB Science & Technology staff member Graham Jones, and is a separate effort from the mobile/handheld standard now in preparation. Various new capabilities are envisioned for ATSC 2.0, which is expected to trigger a new generation of receivers potentially including AVC.



Advanced Television Systems Committee

Moving Picture Experts Group, is also known as H.264 and MPEG-4 Part 10. The A/72 Standard defines constraints with respect to AVC, compression format restraints, low delay and still picture modes, and bit stream specifications. In addition it specifies how CEA-708 closed captions are to be carried in an AVC bit stream. The new standard is in two parts, Part 1 is titled "Video System and Characteristics of AVC in the ATSC Digital Television System," and "Part 2 "AVC Video Transport Subsystem Characteristics."

"WASHINGTON, September 2008 – The Advanced Television Systems Committee, Inc. has approved and published A/72 which details the methodology to utilize Advanced Video Coding (AVC) within an ATSC DTV transmission. AVC, which was developed by the ITU-T Video Coding Experts Group together with the ISO/IEC

"AVC compression provides increased efficiency and flexibility", said ATSC President Mark Richer. "The new standard will be especially important for those countries which have not yet implemented digital television. AVC

will also be used with standards in development such as ATSC-M/H for mobile and handheld applications and ATSC-NRT for non-real-time delivery of programming.”

***The Advanced Television Systems Committee** is an international, non-profit organization developing voluntary standards for digital television. The ATSC member organizations represent the broadcast, broadcast equipment, motion picture, consumer electronics, computer, cable, satellite, and semiconductor industries. ATSC creates and fosters implementation of voluntary Standards and Recommended Practices to advance terrestrial digital television broadcasting, and to facilitate interoperability with other media.*

***ATSC-M/H** is being developed to support a variety of services including free (advertiser-supported) television and interactive services delivered in real-time, subscription-based TV, and non-real-time content download for playback at a later time. The standard may also be used for transmission of new data broadcasting services such as real-time navigation data for in-vehicle use.*

***ATSC-NRT** addresses the new reality that consumers are increasingly in control and want information and entertainment content, when and where they want it. By leveraging the low cost of storage in receivers, broadcasters utilizing the ATSC-NRT Standard will be able download content to a new generation of products.*

***ATSC-2.0** will define a complete suite of “Next Generation” services for the conventional fixed DTV receiver viewing environment.”*

The A/72 standard is available for download at: <http://www.atsc.org/standards/a72.php>.

63rd NAB BROADCAST ENGINEERING CONFERENCE CALL FOR PAPERS



NAB Show will host the 63rd NAB Broadcast Engineering Conference on April 18 – 23 at the Las Vegas Convention Center in Las Vegas, Nevada.

The NAB Broadcast Engineering Conference is a highly technical conference where presenters deliver technical papers ranging over a variety of topics relevant to the broadcast and allied industries. We invite you to submit a proposal to present a technical paper at our conference. The deadline for submitting your proposal is **October 17, 2008**.

To submit a technical paper proposal, [click here and complete the electronic form](#). If you have questions regarding the NAB Broadcast Engineering Conference, please contact [John Marino](#).



2009 NAB Broadcast Engineering Conference Committee

The 2009 NAB Broadcast Engineering Conference Committee (BEC) met at NAB Headquarters to begin the process of planning the 2009 BEC Conference sessions. Shown in the photo to the left are (front row) Jeff Smith, Clear Channel Radio; Lew Zager, LZ Solutions and SBE Ennes Workshop coordinator; Dom Bordonaro, Cox Radio Connecticut; (Back row) Michael Cooney, Beasley Broadcast Group, Inc.; Joe Snelson, Meredith Broadcasting Group and NAB BEC Committee Chairman; John Poray, SBE Executive Director and Andy Laird, Journal Broadcast Group. Committee members not pictured are Michael Doback, The E.W. Scripps Station Group; David Folsom, Raycom Media Inc. and Thomas Hankinson, ABC.

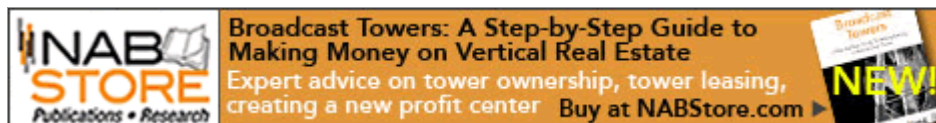
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429-5346 or go to [NAB Satellite Uplink Operators Seminar](#).



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