



## Mark Richer and Steve Church to Receive 2010 NAB Engineering Achievement Awards

NAB presents its Radio and Television Engineering Achievement Awards each year at the NAB Show in Las Vegas. The awards, first established in 1959, are given to individuals for their significant contributions which have advanced the state of the art of broadcast engineering. This year's winners, Mark Richer (Television and Steve Church (Radio)) will be honored at the Technology Luncheon on Wednesday, April 14.

### Television Engineering Achievement Award Winner Mark Richer



Mark Richer is the President of the Advanced Television Systems Committee (Washington, D.C., [ATSC](#)), the international, non-profit organization that develops voluntary standards for digital television (DTV), as adopted for DTV broadcasting in North America, South Korea, and several other countries. ATSC member organizations represent the broadcast, broadcast equipment, motion picture, consumer electronics, computer, cable, satellite and semiconductor industries.

Mark has led the ATSC through the last decade, navigating a complex and sometimes difficult period in the transition from analog to digital television. Under his leadership, the organization has responded to the needs of members and allied industries to produce important standards for digital television. He has been instrumental in maintaining the rapid pace of DTV standards development, keeping the ATSC moving forward as an organization, relevant and the leader in over-the-air DTV. Most recently the development of the ATSC Mobile DTV standard is a major accomplishment and important opportunity for the continuing success of

broadcasting in the United States.

Previously, Mark was Vice President and General Manager at CDS, a division of Thomcast Communications. While at Thomcast, he created and managed Comark Digital Services, providing consulting, design and turnkey services for broadcast television stations making the conversion to digital technology.

Mark first joined the ATSC after 16 years with the Public Broadcasting service (PBS) where, as Vice President of Engineering and Computer Services, he was responsible for development of new technologies for PBS and its member stations, design of audio/video systems and management of computer operations. He was instrumental in the development of technological innovations, including Line 21 closed captioning for the deaf, for which he was awarded an Emmy for Engineering Development. He was also responsible for the selection and implementation of digital video compression and transmission technology and led PBS efforts in the area of digital and high definition television. Prior to joining PBS in 1979, Mr. Richer worked in various engineering positions in both commercial and instructional television as well as for a major video/film production facility.

Mark played a major role in the early planning for advanced television in the United States, serving as Chair of the System Subcommittee Working Party on Test and Evaluation for the FCC Advisory Committee on Advanced Television Service. In this position, he was responsible for testing proponent ATV systems, including that of the digital HDTV Grand Alliance, which ultimately formed the basis for the ATSC DTV standard.

Mark is a Fellow of the Society of Motion Picture and Television Engineers (SMPTE) and a Senior Member of the Institute of Electrical and Electronics Engineers (IEEE). He holds two patents and has a Bachelor of Science degree from the Rochester Institute of Technology.

## Radio Engineering Achievement Award Winner Steve Church



Steve Church is the founder and Chief Executive Officer of Telos Systems (Cleveland, Ohio, [www.telos-systems.com](http://www.telos-systems.com)), a leading manufacturer of ISDN, coded audio and telephone interface products for talk shows, teleconferencing, audio production, remote broadcasts, and intercom applications. Described as "...a brilliant, primarily self-taught engineer," Steve is perhaps most renowned for inventing in 1984 the world's first broadcast studio product using digital audio technology, the famous Telos 10 telephone hybrid.

Prior to the Telos 10, the primary method used for putting callers on the radio was with a speakerphone, a crude, one-way approach at best due to the one-way audio path that resulted in the caller's audio disappearing anytime the radio announcer spoke. Steve was a station chief engineer back then (he worked at WFBQ, Indianapolis, and WMMS, Cleveland), and became determined to find a better way to support call-in talk radio. His development of the Telos 10 digital signal processor (DSP)-based hybrid essentially turned radio into a two-way medium and opened up the industry to numerous new formats based on interactive talk.

The Telos 10 was to be but the first of many ground-breaking broadcast technology innovations pioneered by Steve. In 1993 Steve unveiled the Zephyr, the first single product to combine MP3 audio and ISDN telephone technology, allowing for high-quality audio to be transmitted without dedicated data circuits or satellite paths. He was responsible for Zephyr NET, the first ISDN-based program distribution network and the first low-cost alternative "ad-hoc" audio distribution system in the world. For streaming audio, Steve invented the hardware MP3 encoder with a built-in audio server, the Audioactive Hardware Streaming Encoder, which for the first time enabled streaming for radio stations as we know it today.

Steve has made significant contributions in other areas, as well. In 1997, Steve and his partner Frank Foti co-invented the Omnia.fm audio processor. Steve and Frank perfected the DSP-based stereo generator and composite limiter which made it possible to build this fully-digital implementation. In 2003, Steve invented the first standards-based audio-over-Ethernet transmission system for broadcast, a protocol that became known as "Livewire." The use of standard Ethernet as a transmission backbone allowed the use of inexpensive, off-the-shelf switching components from the computer industry to create a real-time, uncompressed audio routing system for broadcast at a fraction of the cost of equivalent systems.

Besides being an innovator, Steve is an author as well, having written chapters in the past two NAB Engineering Handbooks on broadcast telephony, and dozens of papers on different facets of broadcast technology from audio coding to audio wiring.

### 2010 NAB Broadcast Engineering Conference Summary of Presentations

Check out the papers that will be presented at the 2010 NAB Broadcast Engineering Conference in Las Vegas, April 10 –15, 2010. Find registration, housing or additional information on the NAB Show at <http://www.nabshow.com/2010/default.asp>.



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