CHAPTER TWENTY NEWS

society of broadcast engineers

pittsburgh chapter

May 2008 Volume 16 Number 5

Last Meeting ...

NAB Review

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Our April meeting was held on the 24th at Alexander's Restaurant. Paul Byers was the presiding officer. The meeting was delayed a week due to NAB. This was our annual NAB review meeting. Members who had attended the NAB convention in Las Vegas told us about the new products they saw at the show that impressed them. Dave Kasperek led the discussion. His highlights of the show included products involving memory cameras, 3DTV, VOIP, lip sync delays and aspect ratios.

Henry Lassige Sr. saw a device that uses facial recognition software to address lip sync issues.

Some of the things that John Humphrey saw included the NHK 8000 by 4000 pixel Ultra HD display and the Black Magic 72 x 144 "Studio Hub."

Bob Hoffman told us about a Field Emission Display which has picture quality that nearly matches that of a CRT.

Alexander's Pasta Express at 5104 Liberty Ave. provides us with a private dinning room.

Next Meeting ...

Challenges, We Have Challenges!

Dave Kasperek
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This month's topic will be presented by Karl Kuhn, Senior Video Systems Application Engineer for Tektronix supporting Analog/ Digital Video, MPEG, and RF. Karl will discuss the practical aspects and real life challenges in implementing MPEG over 8VSB for video, audio, and data distribution.

Specifically he will address challenges such as timing issues concerning PCR (Program Clock Reference) inaccuracies, PCR jitter/ drift, Frequency Offset, Error Vector Magnitude (EVM), Modulation Error Ratio (MER), Constellation Diagrams, and how they impact quality of compressed ATSC content delivery to viewers.

Multi layer monitoring techniques will be discussed based on TR101 290 measurement guidelines that are primarily designed to check the integrity of an MPEG-2 transport stream in an operational environment. The guidelines provide for three priority levels of ATSC compliance and decodability tests.

Karl has been with Tektronix for eight years. Previously he was lead Video Test Engineer for IBM in their Digital Video Development Laboratory in Bethesda, MD. Karl holds three U.S. patents and one International patent that cover in-service Testing of Digital Broadcast Video. He is Chairman and past Secretary and Treasurer for the Washington DC Section of SMPTE and a Certified Project Management Professional.

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March 1 to May 31.

Earn a $5 credit toward your annual dues for each new member you sign up!

Inside

Chairman's Corner

Paul Byers
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This month's meeting will once again be held at Alexander's on Liberty Avenue in Bloomfield. The date is Thursday, May 15th at 7:00 P.M. The program will feature a presentation on MPEG for DTV broadcast by Karl Kuhn from Tektronix. Please mark the date on your calendar and be sure to attend. Remember that dinner is provided courtesy of Chapter 20.

At last month's meeting we discussed highlights of the NAB Convention. There were many new technologies mentioned, but the one that caught my attention was DTV Mobile Transmission. Two of the leaders in developing this technology are Samsung/Rohde and Schwarz with their A-VSB (Advanced Vestigial Sideband) system and LG Electronics/Zenith/Harris with their MPH (Mobile Pedestrian Handheld) system. Both companies are vying for the right to be adopted as the ATSC standard and both had live mobile demonstration vans operating for the second year in a row on the streets of Las Vegas.

Both technologies, currently being considered by the ATSC for designation as its ATSC-M/H (mobile/handheld) standard, are so-called "in-band" systems, meaning their signals can be delivered using a portion (nearly 5 mbps) of a U.S. broadcaster's 19.4Mb/s digital signal allocation. This allows the broadcast of one or more mobile channels along with SD, HD or a combination of SD and HD channels. The systems are also both backward compatible with the ATSC broadcast standard, enabling broadcasters to use their existing digital TV towers to transmit the signal, using a MPH or A-VSB exciter at the head end. Preliminary tests of the systems performed last year demonstrated they could both reliably deliver mobile signals indoors and outdoors.

A group named the Open Mobile Video Coalition (OMVC) announced plans to test both technologies in separate trials this year, focusing primarily on consumer reactions. The OMVC represents nearly 800 stations.

The OMVC and its partners hope that by the end of the trial, they will be able to predict consumer usage patterns and system performance to support the launch of mobile digital television services targeted for 2009, when most U.S. broadcasters will be required to switch from analog to digital operations.

FCC Report

Paul Byers
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TOWER LIGHT OUTAGE REPORTING

I recently read about the top of a television tower that was clipped by a crashing military helicopter, knocking off the beacon light. In the aftermath of that tragic accident I realized that it would be a good idea to remind you of the current procedures for notification of the FAA of tower light outages. Under a change in procedures adopted last year, a contractor handles notifications on behalf of the FAA. The procedures are posted online at http://tinyurl.com/2qz6pe.

In brief, the entity that sponsors the tower is required to report immediately any failure or malfunction of a top light or flashing obstruction light, regardless of position, that lasts more than 30 minutes. (Failure of a steady burning side or intermediate light should be corrected as soon as possible, but notification is not required.) The report is made by calling the FAA contractor at 877-487-6867 so that a Notice to Airmen (NOTAM) can be issued. When reporting, you will need to provide:

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Chapter Twenty News is published monthly (except July & August) by

Society of Broadcast Engineers
Chapter 20
P.O. Box 16312
Pittsburgh, PA 15242-0312

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Television Subtleties at NAB 2008

Karl Paulsen, CPBE
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NAB was somewhat subdued in terms of finding many earth shattering changes aimed at revolutionizing the television broadcast industry. This year's 2008 show seemed to take the approach of showing stabilized applications for technologies as compared to some years where there was a plethora of new ideas aimed at changing industry direction forever.

While asset management was everywhere, the not so obvious category exhibited resourceful tools for the workflow management of network traffic in the media and entertainment space. These kinds of tools promote the management of not only the media asset itself (i.e., 'metadata about the asset'); but they specifically manipulate the network bandwidth and media file traffic with respect to the entire production life cycle - thus improving efficiencies throughout the program and distribution chain. There was increasing emphasis on program content assembly for alternative distribution, reinforced with solutions geared toward automated release and repurposing of programs for disaster recovery and the new dawn of the mobile broadcast era.

In some of the more obscure corners of the hall there was evidence of renewed solutions for fiber transport and fiber optic routing that was more broadcast centric than data oriented. The maturing of measurement kits for quality assurance and format compliance of compressed files continues to expand at both the hardware and the software level. Audio and video parameters can now be measured and in some systems corrected – removing the decode/re-encode process from the equation. New change over switches for real time compressed bit streams in an ASI transport are now available that look and act upon sets of parameters per the TR 290 Priority One conformance standards.

The issue of proper aspect ratio control is high on everyone's hit list. Most modular terminal equipment, converters and servers already or soon will provide this functionality. For the cable MSO, Tandberg showed a receiver that now responds and corrects the aspect ratio according to specifications of the new SMPTE 2016 AFD (active format description) tables.

And of course, there were those extensions of HDTV that go beyond 1920 x 1080 interlaced, e.g., UHDTV (ultra-high definition), 22.2 surround sound, digital cinema and 3D/stereographic - and those that go below, as in IPTV and mobile handheld.

The Open Mobile Video Coalition update breakfast on Monday morning had overflow attendance. OMVC consists of over 800 TV stations nationwide whose current mission is to accelerate industry development of Mobile DTV, to complete a standard in Q1-2009, and ready systems for launch by the February 17, 2009 analog sunset. Speakers at the meeting stated that an estimated US$2 billion in additional advertising revenues is expected to be realized by 2012 from Mobile DTV alone.

Quietly and somewhat unobtrusively, the quest for an accurate reproduction of images on flat-panel displays continues. A new high density next generation flat-panel display, called the nano-Spindt from Field Emission Technologies, rekindles the CRT-concept by employing 'nanocone emitters' that offer comparable color rendition and unrestricted viewing angles - while providing an alternative to LCD or plasma display technologies. This display meets both EBU-TECH and ARIB TR-B28 User Requirements with a stunning picture that rivals what Sony produced in their LCD-broadcast grade master monitor.

All in all, the maturity of the previous two years of technology development was evident at NAB 2008; despite the lack of truly revolutionary new devices or never before seen product concepts.

FCC Report

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- Name of person or organization reporting light failure, including any title, address and phone number
- Type of structure
- Location of structure (including latitude/longitude, if known, prominent structures, landmarks, etc.)
- Height of structure above ground level (AGL)/above mean sea level (AMSL), if known
- A return to service date
- FCC Antenna Registration Number, if any

The sponsor is required to call again when normal operation is restored. After 15 days, the NOTAM is automatically deleted from the system, so the sponsor is responsible for calling before the end of that period to extend the outage date if normal operation has not yet been restored.

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Next Meeting

Date: Thursday, May 15

Implementation Realities of MPEG over 8VSB for ATSC DTV Broadcast

Location: Alexander's Pasta Express, 5104 Liberty Ave., Pittsburgh

Phone: 412-687-8741

Time: 6:30 PM Gather and shoot the breeze

7:00 PM Dinner

Challenges, We Have Challenges!
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