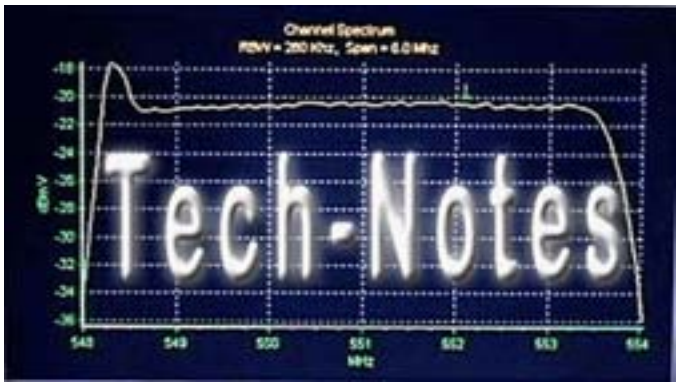

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Our purpose, mission statement, this current edition, archived editions and other relative information is posted on our website: WWW.Tech-Notes.TV
This is YOUR forum!

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Note: All **Blue** underscored items in this PDF newsletter are working links.
(Click on the Link below to navigate to that section of Tech-Notes)

Editor's Comments

With only a few days to NAB 2007, the question is: “What’s there to see?” The founders of Tech-Notes brought this on line newsletter into being with the intention of tracking the transition from analog to digital television. There are those who say that it’s almost “A done deal!” Perhaps that’s not the case.

If anyone thinks that **all** of the over 1700 full power television stations are anywhere close to being ready for the February 2009 deadline, think again. Most all stations, large market and small, have spent a bundle of money getting ready, but that doesn’t address many of the “last minute” changes.

During a recent webcast that featured representatives of the FCC, NAB, MSTV, and APTS, we all got a glimpse into the daunting task that is the DTV Transition in the next, now less than, two years. While the FCC has yet to publish the final DTV table of allotments, it would appear that we are already behind schedule. As an example, a recent survey of 165 MSTV members indicates the extent that new transmission equipment will be required between now and February of 2009.

Association for Maximum Service TV (MSTV) president David Donovan says that a significant amount of work must be done between now and Feb. 17, 2009, to make the DTV transition a success. During the webcast, Donovan outlined the magnitude of the remaining work and the potential complications of preventing stations from interfering with one another as the transition unfolds.

The size of the transition is making effective coordination difficult among stations in the same and adjacent markets as well as with cable, satellite, telephone and SMATV operators and international broadcasters for stations along the Mexican and Canadian borders.

To illustrate the extent of interference that will be caused without effective planning and coordination, Donovan laid out the numbers. According to the MSTV chief, of the stations that will relocate from their temporary DTV channel assignment:

Let’s take a look:

- 35% (about 600 stations) will be changing channels on Feb. 17, 2009;
- 28% will be going from their temporary DTV channel back to their old analog channel assignment;
- 6% will move to a new DTV channel.

If the 600 move to their final channel assignment early — in other words, if all stations that are moving don't do so at once — 181 of the 600 stations would cause interference to roughly 300 stations, he said.
For the estimated 500 stations moving back to their analog channels, 72 will cause interference to existing neighboring analog and digital stations if the neighboring stations do not move on time. Those 72 stations will cause interference to 95 surrounding stations.

The 109 stations getting new channels will cause interference to 205 existing neighboring analog and digital stations if the neighboring stations do not move on time.

A well-coordinated transition will require the sufficient availability of transmitters, antennas, transmission line and tower rigging service, Donovan said. Unfortunately, there appears to be "some basic supply side issues."

Based on an informal survey of 165 MSTV members and engineers, Donovan presented an estimated table of the equipment and services needed to make the DTV transition. (on the next page)

According to Donovan, on the supply side, there are three to four major transmitter manufacturers, three major sources of RF systems, antennas and transmission line, and seven major installer/riggers that do the high-tower work necessary for broadcast.

The estimate showed:

Equipment	Estimated Demand (units)
Transmitter	550-600
Mask/filter	600-650
Exciter	700-750
ATSC encoder	450-500
Generator	250-300
TX line	400-450
Antenna	350-400
STL	150-200

Matching up the estimated demand with the supply, Donovan underscored the urgency with which broadcasters must begin to acquire DTV transmission equipment. His supply and demand chart showed:

Build and/or install	Est. No. of Units	No. of Manufacturers	Total No. of	
			1 wk sched.	2 wk sched.
Transmitter	575	3	192	383
Mask/filter	625	3	208	416
Antenna (build only)	375	3	125	250
TX line/Ant. (install)	425	7	61	122

To advance the transition and assist with channel coordination and timing, the MSTV will begin a "Rubber Meets the Road" tour, Donovan said. The tour will put MSTV in close contact with state associations to assist with the transition.

Donovan hosted and was one for four presenters of "The Digital Transition: The Rubber Meets the Road Webcast." The others included Andrew Long, associate chief, Media Bureau, FCC; John Lawson, president and CEO of the Association of Public Television Stations; and Marcellus Alexander, executive VP, National Association of Broadcasters.

The webcast can be viewed in its entirety at the MSTV Web site: www.mstv.org

This is just the RF side of the business where it pertains to main transmitters. This does NOT address the plethora of translator/LPTV facilities that need to address the transition. Many of the small market stations haven’t even begun to think about digital infrastructure in their studios.

The biggest issue we see is the education of the public. It is imperative that everyone in this business needs to make a concerted effort to let the general public, who, for the most part, don't have a clue about what's going on, about the transition. To date, that is just not being done!

The sad part about most of this transition is the misinformation that abounds. We've seen signs on large screen television sets, in major nation wide retail stores, which say things like: "HD ready. You must subscribe to cable or satellite to receive High Definition programming." I asked one salesman, "What about free over the air TV that our local stations are transmitting?" The dumbfounded look on his face was classic. He had no clue.

It would seem to me that local stations should take the time to generate and distribute signs to TV set retailers that say things like: "See many of our programs NOW in High Definition FREE! No subscriptions necessary." This would certain help in the sales of digital equipped televisions sets and there is no question that the sooner more viewers are watching in HD, the sooner stations will be able to get advertisers to plunk down the extra bucks for HD commercials.

The fact that HD TV is an enhancement to digital television is only one thing the public doesn't seem to understand and that there are many other things like second and third channels that may be available as well. The irony of all this is that many of the cable companies do not, and have no plans to, carry things like the additional channels of stations doing multicasting. There's no question that the enhancements that digital television brings to our industry are numerous and many broadcast facilities haven't even begun to explore them.

Since many broadcast facilities only look upon their engineers and the engineering department as a money pit, it is an up-hill battle for us to convince the bean-counters and other parts of management that we can help in recovering some of the revenue spend during this transition with our input and ideas. The term "Return on Investment" (ROI) is something they all seem to understand. If you can get their attention long enough to convince them you can help get some return by exploiting this digital transition and the enhancements it brings with it, you just might get a pat on the back, but don't count on it.

Engineers attending this year's National Association of Broadcaster's convention will be quite busy between the plethora of seminars and all the exhibits. Just remember, the Taste of NAB 2007 Road Show is not a substitute or replacement for the real thing, but if you can't or don't make it to the one in Las Vegas, perhaps you can join us at one of the venues we'll be at across this great land of ours.

(The Real Thing!)
From NAB

NAB2007, held April 14 to 19 in Las Vegas, highlights the newest technologies from the entire spectrum of content creation, management and delivery. Featuring 1,500 exhibitors in 860,000 square feet of expanded and redesigned exhibit space, and attended by more than 100,000 broadcasters, carriers,

telecoms, next-gen creators, production gurus, engineers and programming professionals, NAB2007 is the world's largest electronic media show.

In preparation for NAB2007, NAB SmartBrief offers show attendees and SmartBrief subscribers a glimpse into the emerging technologies, trends, announcements, products and events that will be featured at this year's convention. If this kind of timely, relevant news is what you need, sign up to receive our daily industry news summary: NAB SmartBrief. Like over-the-air broadcasting, it's FREE.

What follows are some things from NAB they though would be of interest:

Engineers prep for DTV countdown at NAB2007 The Broadcast Engineering Conference, held under the NAB2007 umbrella, will feature sessions with engineers designed to help share information about issues relating to the February 2009 switchover to digital broadcasting. Topics include broadcast tower prep, HD news production and more. TVTechnology.com

Shooting in HD? Watch the light TV Technology

FCC Commissioners to speak at NAB2007 FCC Commissioners Michael Copps, Jonathan Adelstein and Deborah Taylor Tate will appear at the Broadcast Regulatory & Legislative Conference on Tuesday, April 17, during NAB2007 in Las Vegas. Radio Ink

Sling Media co-founder to deliver NAB2007 keynote Blake Krikorian, co-founder and CEO of Sling Media, talks about taking your television programming to go, in an April 16 keynote at the NAB2007 Super Session titled, "Portable! -- Digital Media Content Anywhere Anytime." Broadcast Engineering

Google's Eric Schmidt to headline Super Session Google CEO Eric Schmidt will headline the "Innovator Spotlight" Super Session at NAB2007, on Monday, April 16. Schmidt, who is serving as chairman of the NAB2007 executive committee, will discuss Google's impact on the future of radio, television, advertising and the public. Click here for more from NAB.

NAB taps Robison for keynote speech Shane Robison, EVP and chief strategy & technology officer at HP, will be the keynote speaker at April 16's "Digital Content: The Race Is On" Super Session at NAB 2007 in Las Vegas.

NAB2007 to open with expanded space, more exhibits NAB has unveiled an expanded and reorganized exhibit floor for NAB2007, the world's largest electronic media show. The redesigned show floor will now encompass all halls of the Las Vegas Convention Center, including two additional halls in the North Building, spanning nearly 860,000 square feet in all. Radio World

Who's buying at NAB2007? Broadcasting & Cable profiles the studio equipment needs of television production giants ABC, NBC Universal, ESPN, Fox, TBS and HBO. Broadcasting & Cable

NAB2007: Going mobile Mobile TV is coming of age, and NAB2007 is giving this new medium its due, with an all-day event on April 17, called "MoTV: Mobile Video & TV Forum." TVTechnology.com

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NAB2007 to feature telecom sessions Telecom@NAB2007 is a new series of events for telecom professionals and network operators, set for April 16 to 18, during the NAB2007 convention in Las Vegas. The sessions are intended to meet "the needs of telecom professionals, telecom business entrepreneurs and network operators who are deploying next generation video networks or who plan to do so in the future," according to NAB. TVNEWSDAY (free registration), Broadcast Engineering

NAB2007 hosts sixth annual Digital Cinema Summit The April 14 program will feature expert discussion of topics in digital cinema, including digital 3-D techniques and a keynote from Chris Cookson, chief technology officer for Warner Bros. Entertainment. Broadcast Engineering

The Road Show - A Taste of NAB 2007

According to the previous NAB report, there are "1,500 exhibitors spending a bundle of money going to NAB 2007 and will exhibit in 860,000 square feet of expanded and redesigned exhibit space." There is NO SUBSTITUTE for the real thing! Projections are that more than 100,000 broadcasters, carriers, telecoms, next-gen creators, production gurus, engineers and programming professionals" will be in attendance. Unfortunately there are a significant number of folks who should be going who can't go for one reason or another.

Permit me to ask all those exhibitors two questions: When NAB 2007 is over, what will you do to reach those folks who didn't make it to the convention and secondly how are you going to get to those who did attend and missed seeing what you have to offer?

Our Tech-Notes Taste of NAB Road Show has and can fill that niche! For the past five years, after NAB, we've taken a "Taste of NAB" out to the grassroots engineers so they can have the opportunity to see what they've missed. Granted! As we have said: "There is no substitute for the real thing – The NAB Convention," We can't bring everything with us, but we can offer up to twenty-one exhibitors an affordable way to extend their presence beyond the Las Vegas experience.

What our Taste of NAB 2007 Road Show does is a very successful educational effort unequaled by anything currently available and it is less costly than any one doing it by themselves or the cost of most print advertising. There is no argument: there is no substitute for seeing technology in person and we bring it to the grassroots technical folks.

The "Taste of NAB" (http://www.tech-notes.tv/Taste_of_NAB.html) presentations are normally done during Society of Broadcast Engineers (SBE) and/or Society of Motion Picture and Television Engineers meetings. John Poray, the Executive Director of the SBE recently

informed us that there are currently 112 active SBE chapters and the membership is currently divided as 60% television and 40% radio with 10% within these numbers that do both.

Of the 52 venues we have scheduled, all but one will be for SBE chapters. In Nashville, we will be doing a joint venture with two SBE chapters and in the Washington, DC – Baltimore, MD area, we will be doing a joint venture with three SBE chapters – so the total of SBE chapters we'll be presenting to will be 56 - exactly 50% of all active SBE chapters. Since what we do is representative of the SBE membership, we draw a 60-40 split. It must go without saying that at some chapters, there tends to be more Radio than TV and the reverse at others. In some cases the presentations will be a joint SBE – SMPTE event.

Since we contribute financially toward the purchase of refreshments at each of the venues and provide door prizes in addition to presenting cutting edge technology, the Road Show attracts a larger than normal attendance and makes it a win-win situation for all concerned. Some locations say we get the largest turn out of the year.

You'll have to go a long way to get someone who will exceed the qualifications of our Taste of NAB presenters. Your editor/publisher and chief presenter is a former Chief Engineer at both large and small market broadcast facilities, wrote for Broadcast Engineering magazine for five years and we are celebrating Tech-Notes' tenth anniversary (http://www.tech-notes.tv/Archive/Archive_Main.htm) this May. ***So what!*** This adds up to having the qualifications to talk technical to technical people – to teach them about our sponsor's technology and our track record for the past five years speaks for itself: http://www.tech-notes.tv/Taste_of_NAB.html. Please take the time to look at it. When you have, you're sure to have questions. E-mail us at: RoadShow@Tech-Notes.TV if interested in joining us.

So who is going with us, so far, this year (alphabetically)?

- AJA Video Systems - WWW.AJA.com,
- Blackmagic Design - WWW.BlackMagic-Design.com,
- ESE - WWW.ESE-web.com,
- Henry Engineering - WWW.henryeng.com,
- InPhase Technologies - WWW.InPhase-Technologies.com,
- Leader Instruments - WWW.LeaderUSA.com,
- Omneon Video Systems - WWW.Omneon.com,
- Patchamp - Network Electronics - WWW.Patchamp.com & WWW.Network-Electronics.com/us,
- Streambox - WWW.Streambox.com
- Telecast Fiber Systems - WWW.Telecast-Fiber.com

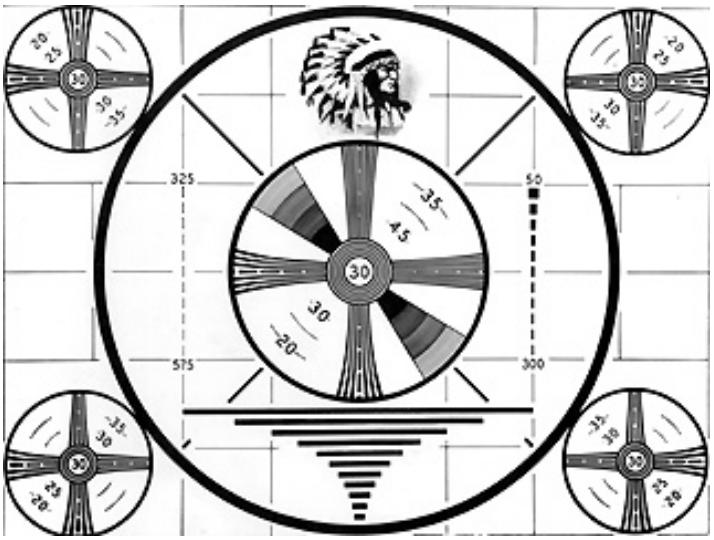
Each of our returning sponsors tell us they will have new and different technology for us to present this year. As in the past, we will make every effort to have all the gear working as a system so that you can actually see it in operation.

To assist us in our efforts, we've have an associate joining us this year, Jonathan Haase. Jonathan is a recent graduate of the University of Oregon and has a Bachelor's degree in Journalism: Electronic media. In addition to helping in all aspects of the Road Show, it is our intention to make a video documentary of this year's Taste of NAB Road Show.

Jonathan, Jim Mendrala, John Silva and your editor will be at NAB. Stop us and say hi!

THE TV TEST PATTERN
As adapted from “ABC'S of TELEVISION” by LEN BUCKWALTER

For a brief period of time before starting the broadcast day, many TV stations transmit a test pattern. To the casual viewer it appears to bear little information except that the circles may not be perfectly round or the lines may be compressed to one side of the picture. Test patterns, however, contain a wealth of useful technical information. An actual test pattern is shown in left. Although it may differ slightly from patterns transmitted by some TV stations, many of the elements about to be described can be observed and compared with the one received on the home screen.



The various circles, bars, and lines are readily related to how well or how poorly the TV receiver circuits are performing. The diagnosis of the test pattern is best accomplished by extracting each major element and considering it individually.


RCA Monoscope tube

A CHECK OF THE SWEEP CIRCUITS

Several of the circles of the pattern are shown in Fig. 10-2. Their chief use is to check on the horizontal and vertical deflection circuits. Any distortion from top to bottom of the large circle a squeezing of the upper or lower portion is generally caused by a problem or misadjustment in the vertical sweep section. (Although the vertical height and linearity controls of the receiver usually correct this, an absolutely perfect circle may be impossible to attain.)

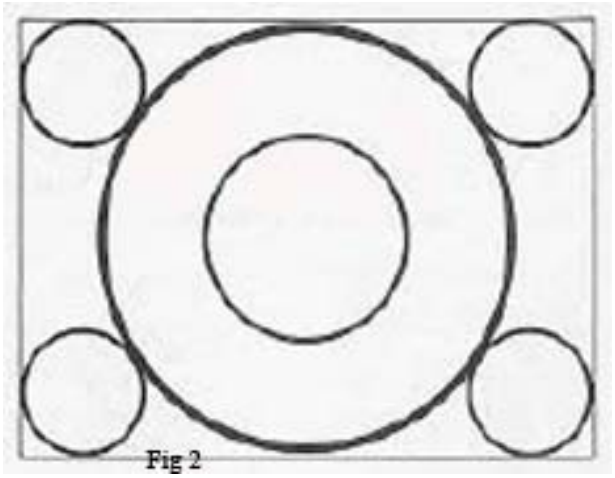


Fig 2

Improper horizontal deflection produces distortion along the sides of the circle, which may not be equally distant from the center. The controls associated with this are the width, horizontal linearity, and drive.

CHECKING THE FREQUENCY RESPONSE

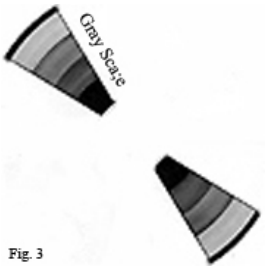


Fig. 3

Identical wedges that reveal correct contrast between black and white are shown in Fig. 10-3. Notice that each wedge has four segments that range from black (near center) to dark gray, medium gray, and light gray. If the receiver is operating properly with the brightness and 'contrast controls adjusted correctly, the difference in shading should be obvious. Excessive contrast causes a black-white effect, while too little contrast yields an overall gray effect.

Fig 4

The ability of the receiver to work well at low video frequencies (corresponding to the large objects in a picture) is shown by the bars in Fig. 10-4. The beginning and end of each bar should be sharply squared off. Any sign of trailing or leading edges indicates poor low-frequency response. The length of the bar indicates the frequency region; the longest bar at the top represents the lowest frequency (19 kc), and the bars near the bottom are the higher frequency ranges (600 kc)

The diagonal lines in Fig. 10-5 help determine the interlacing. Jaggedness along the length of the line suggests that the electron beam is not positioned properly as it sweeps from top to bottom.

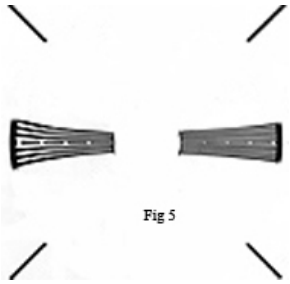


Fig 5

Two horizontal wedges are also shown in the same figure; these wedges show the vertical resolution, or the amount of detail produced in the vertical direction. The lines should remain separate and distinct as they approach the center of the pattern. Interlace also affects these lines. Good interlace enables them to remain sharp for about halfway along the wedge length.


Fig 6

The vertical wedges in Fig. 10-6 are used for observing horizontal resolution, or detail. If the lines remain clear and apart until just before the narrow part of the wedge, the receiver is capable of excellent reproduction of small detail. This corresponds to video information at approximately 4 mc

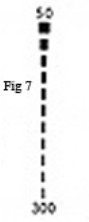
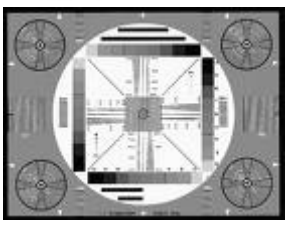
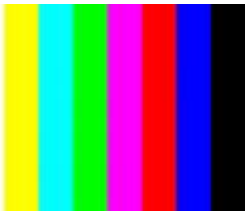


Fig 7

The vertical row of bars in Fig. 10-7 can help to detect problems in the video amplifier of the receiver. The varying width of the bars corresponds to the different video frequencies. Thus, an indistinct or repeated bar will pinpoint the frequency at which the problem (usually instability) occurs. The top bar is equivalent to frequencies just below 1 mc, while the bottom bar is in the 4-mc range



The Society of Motion Picture and Television Engineers developed a “standard” test pattern that was used for many years. A copy of it is to the right. Today, “color bars” has all but taken the place of these old standbys.



Editor's Note:
Our good friend and associate, Chuck Pharis (frequent contributor to the Tech-Notes and supporter of the Taste of NAB Road Show as a door prize provider), was able to obtain the original artwork (signed by the artist in 1938) used by RCA in their Monoscopes. You can see this on his website by clicking here.

100 years ago

By John Lyles jtml@losalamos.com

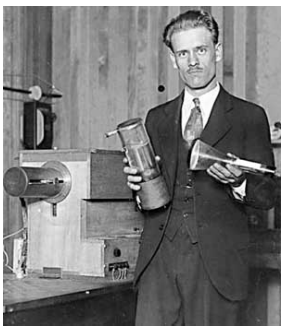
In December of 1906, Lee DeForest applied for the patent on the Audion, a three element tube. Fleming had already demonstrated the 2 element valve (diode) a few years earlier - after intense study of the 'Edison effect' of darkening lamp bulbs. Applications of the tube (such as for amplification and oscillator) didn't really become widely known until a few years later, and have been a source of patent contention (4 people claimed discoveries). I prefer to believe that Edwin Armstrong, the young ham, first understood the actual working of the vacuum tube enough to apply feedback and make an oscillator. I just finished reading a scholarly but small book on the interactions of Marconi, Fleming, and DeForest, "From Marconi's Black Box to the Audion", by Sungook Hong. It was published by MIT Press in 2001.

From everything I have read, DeForest was quite the tinkerer, but he didn't really understand that electrons, not ions, were the functioning mechanism in his tubes. He also made a few missteps along the way in business with some unscrupulous partners. It took others to improve his device (with better vacuum) to really make tubes work well. And Marconi, well, he was hung up on spark transmission, ignored the Poulsen/Federal arc (close to CW) and didn't jump on HF alternators either (like GE did). He complete missed the boat for broadcasting too. Tubes became the equalizer eventually, as they became the WAY to make, detect and amplify RF, and eventually apply voice modulation, and voila....

Born a century ago, Philo Farnsworth changed your life

By Frazier Moore

Fish don't know they're living in water, nor do they stop to wonder where the water came from.



Humans? Not much better, as we share a world engulfed by television. And the deeper our immersion becomes, the less likely it seems we'll poke our heads above the surface and see there must have been life before someone invented TV.

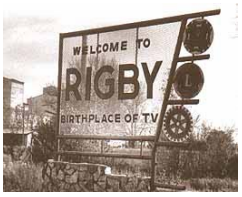
That invisible someone was Philo T. Farnsworth, who was fated to live and work, then die, in sad obscurity. Now, on the centennial of his birth on Aug. 19, 1906, his invention plays an increasingly powerful role in our lives - with less chance than ever of his being recognized.

How ironic! In this media-savvy age, not only should his name be as widely known as Alexander Graham Bell's or Thomas Edison's, but his long, lean face with the bulbous brow should be as familiar as any pop icon's. He should be the patron saint of every couch potato.

Instead, we regard TV not as a man-made contraption, but a natural resource.

Nonetheless, it was Philo Farnsworth who conducted the first successful demonstration of electronic television.

The setting: Farnsworth's modest San Francisco lab, where, on Sept. 7, 1927, the 21-year-old self-taught genius transmitted the image of a horizontal line to a receiver in the next room.



It worked, just like Farnsworth had imagined as a 14-year-old Idaho farm boy and math whiz already stewing over how to send pictures, not just sound, through the air. He had been plowing a field when, with a jolt, he realized an image could be scanned by electrons the same way: row by horizontal row.

The prodigy at his plow had already made a fundamental breakthrough, charting a different course from others' ultimately doomed mechanical systems that required a spinning disk to do the scanning.

Yet Farnsworth would be denied credit, fame and reward for developing the way TV works to this day.

Even TV had no time for him. His sole appearance on national television was as a mystery guest on the CBS game show I've Got a Secret in 1957. He fielded questions from the celebrity panelists as they tried in vain to guess his secret ("I invented electronic television").

In 1971, Philo Farnsworth died at age 64. But his wife, Elma "Pem" Farnsworth, who had worked by her husband's side throughout his tortured career, continued fighting to gain him his rightful place in history, until her death this year at 98.

Fleeting tribute was paid on the 2002 Emmy broadcast to mark TV's 75th anniversary. Introduced by host Conan O'Brien as "the first woman ever seen on television," Pem Farnsworth stood in the audience for applause on her husband's behalf.

It was a skimpy challenge to the stubborn misconception that the Radio Corporation of America was behind TV's creation. This is a version of history that RCA was already promulgating as its president, David Sarnoff, plotted to crush the lonely rival who stood in his way.

Sarnoff waged a war not just of engineering one-upmanship, but also dirty tricks, propaganda and endless litigation. In 1935, the courts ruled that Farnsworth was the inventor of electronic television. But that didn't stop Sarnoff, who courted the public by erecting a wildly popular RCA Television Pavilion at the 1939 New York World's Fair and, after announcing that the RCA-owned National Broadcasting Co. would expand from radio into TV, transmitted scenes from the fair to the 2,000 TV receivers throughout the city.

Because of Sarnoff, money woes, and the lost years of World War II (which put TV broadcasting on hold), the clock ran out on Farnsworth's patents before he could profit from them. Now, few know who Farnsworth was - even those working in the industry he sparked.

News

NAB2007
THE WORLD'S LARGEST ELECTRONIC MEDIA SHOW

FCC Commissioners Copps, Adelstein And Tate

From: NAB

FCC Commissioners Michael Copps, Jonathan Adelstein and Deborah Taylor Tate will speak on Tuesday, April 17 during NAB2007 in Las Vegas.

The Commissioners will participate in the Broadcast Regulatory & Legislative Conference where attendees can interact with federal regulators, Capitol Hill insiders and legal experts on a number of governmental issues that will impact the broadcast industry.


Commissioner Copps

Michael Copps was sworn in for a second term as a member of the FCC in 2006. Prior to coming to the FCC in 2001, he served as Assistant Secretary of Commerce for Trade Development at the U.S. Department of Commerce. In that role, Copps worked to improve market access and market share for nearly every sector of American industry, including information technologies and telecommunications.

Copps moved to Washington in 1970, joined the staff of Senator Fritz Hollings (D-SC) and served for over a dozen years as administrative assistant and chief of staff. From 1985 to 1989, he served as director of government affairs for a Fortune 500 company. From 1989 to 1993, he was senior vice president for legislative affairs at a major national trade association.


Commissioner Adelstein

Jonathan Adelstein became an FCC commissioner in 2002 and was sworn in for a new term in 2004.

Before joining the FCC, Adelstein served for fifteen years as a staff member in the Senate, serving as a senior legislative aide to Senate Majority Leader Tom Daschle (D-SD) for seven of those years. In that position, he advised Sen. Daschle on telecommunications, financial services, transportation and other key issues. Previously, he served as professional staff member to Senate Special Committee on Aging Chairman David Pryor (D-AR), including an assignment as a special liaison to Senator Harry Reid (D-NV), and as a legislative assistant to Senator Donald W. Riegle, Jr. (D-MI).
Prior to public service, Adelstein held a number of academic positions. He originally hails from Rapid City, South Dakota.

Deborah Taylor Tate was sworn in as an FCC commissioner in early 2006. She is the Federal Chair of the Federal-State Joint Board on Universal Service, as well as Federal Chair of the Federal-State Joint Board on Jurisdictional Separations.


Commissioner Tate

Before being appointed to the Commission, Tate was a director of the Tennessee Regulatory Authority. In that position, she was appointed to the Federal-State Joint Board on Advanced Telecommunications Services.

Prior to her service at the TRA, Tate served as an attorney and senior policy advisor to two former Tennessee governors, with special expertise in the areas of mental health and juvenile justice. She is certified as a mediator by the Tennessee Supreme Court, and has served in several positions at Vanderbilt University in her native Tennessee.

New NAB2007 Super Session to Explore IPTV

NAB2007 will feature a new Super Session focusing on Internet-protocol television, IPTV. The session, entitled "IPTV: Market Outlook 2010," will take place Tuesday, April 17 at the Las Vegas Convention Center during NAB2007.

Jimmy Schaeffler, chairman & chief service officer for The Carmel Group, a California-based telecom consultancy, will moderate the 90-minute panel discussion examining the impact of IPTV on broadcast businesses.

"IPTV presents many new and advanced opportunities in the future of video delivery," said Schaeffler. "It's importance to the telecom community and the consumers they serve should not be underestimated."

The session will examine the future of IPTV at a time when phone companies offering video program delivery continue to push new content and bandwidth down to the end-user, resulting in new competitive revenue streams for the multichannel TV industry.

Six executive panelists will participate in the "IPTV: Market Outlook 2010" Super Session:

- -James Goodmon, president and CEO, Capitol Broadcasting Company, Inc.
- -Alan Guggenheim, CEO, OpenTV
- -Ed Horowitz, CEO, SES Americom
- -Omar Javaid, vice president of business development, QUALCOMM MediaFLO Technologies
- -Shawn Strickland, vice president of FiOS TV product management, Verizon Communications
- -Dan York, executive vice president of programming, AT&T, Inc.

The session takes place Tuesday, April 17 from 9:00-10:30 in room S222/223 at the Las Vegas Convention Center.

What to see at NAB 2007
And more!

From: David Sparks
(Excerpts from his newsletter, Prompt!)

The MPEG Industry Forum (MPEGIF) has announced the "Advanced Video Services in Next Generation Video Ecosystems" full-day Master Class at NAB on Sunday, 15 April. This special event will explore how new technologies are changing the way digital multimedia is created, compressed, delivered and monetized. A number of business and technology leaders at the forefront of next-generation networks will share their experiences and unique industry insights at this year's Master Class. Featured keynote speakers include senior executives from Alcatel-Lucent, MobiTv, Telekom Austria and Professor Tim Wu from Columbia Law School, best known for popularizing the concept of network neutrality.

The keynote speakers will be joined by panelists from programmers such as CBS and Turner Broadcasting, service operators such as AT&T and Tiscali and other leading technology pioneers and industry analysts. Together they will examine the state of advanced video services and the role of open standards in the ecosystem. The morning session begins at 10:00am and will discuss consumer trends, content creation and protection. The afternoon sessions will focus on "content on the move" and new technologies. Each session will also include an interactive roundtable panel with the keynote speaker and other panelists. MPEGIF will also provide an update of the Forum's work in developing and promoting open MPEG standards and the MPEGIF Logo Qualification Program. www.MPEGIF.org - www.nabshow.com

Things to see: The Omneon MediaDeck integrated media server delivers the broadcast quality and mission-critical reliability of the world's leading transmission server in a convenient and cost-effective package. Omneon MediaDeck packs up to six video channels, Gigabit Ethernet connectivity and dual-parity RAID storage into a compact 2RU chassis. With MediaDeck, even the smallest broadcast and programming operations can implement server-based ingest and playout operations or sophisticated file-based workflows in a broad range of video formats. By leveraging the Omneon Spectrum architecture, MediaDeck is immediately deployable with Omneon MediaTools and over a hundred third-party automation and production applications. See the new Omneon MediaDeck at NAB2007 - Booth SU-1326 www.omneon.com

NAB 2007 EXHIBITION PREVIEW

- Abaltat - www.abaltat.com
- Advent Communications - www.adventcomms.com
- Anchor Bay - www.anchorbaytech.com
- Autocue - www.autocue.com
- Autodesk - www.autodesk.com
- Autoscript - www.autoscript.tv
- Avitech International- www.avitechvideo.com
- Blue Order - www.blue-order.com
- Brick House Video - www.brickhousevideo.com
- Broadcast Electronics - www.bdcast.com
- Broadcast Pix - www.broadcastpix.com
- Calrec - www.calrec.com
- Claratech - www.claratech.com
- Crystal Vision - www.crystalvision.tv
- Custom Consoles - www.customconsoles.com
- da Vinci - www.davsys.com
- Dayang - www.dayang.com

- Dielectric Communications - www.dielectric.com
- Digital Vision - www.digitalvision.se
- DK-Technologies - www.dk-technologies.net
- DNF Controls - www.dnfcontrols.com
- DVC - www.digitalvideo.de
- DVS - www.dvs.de

- ENPS - www.enps.com
- Euphonix - www.euphonix.com
- Eyeheight - www.eyeheight.com

- Fast Forward Video (FFV) - www.ffv.com
- Fjord Media - www.fjordmedia.com
- The Foundry - www.thefoundry.co.uk
- Front Porch Digital - www.fpdigital.com
- Global Security Systems (GSS) - www.gssnet.us

- Hamlet - www.hamlet.co.uk
- Harris - www.harris.com

- IBIS - www.ibis.tv
- IDX - www.idx.tv
- IRIDAS - www.iridas.com

- Jampro Antennas - www.jampro.com

- Linear -. www.LinearAcoustic.com
- Link Research - www.linkres.co.uk
- LYNX Technik - www.lynx-technik.com

- Media3 - www.liveshots.com
- Miranda Technologies - www.miranda.com

- NETIA - www.netia.com
- Network Electronics - www.network-electronics.com
- OmniBus - www.omnibus.tv
- OmniTek - www.omnitek.tv
- Orad Hi-Tec Systems - www.orad.tv

- Panasonic - www.panasonic-broadcast.com
- Pharos - www.pharos-comms.com
- Pixel Power - www.pixelpower.com
- Portaprompt - www.portaprompt.co.uk
- Pro-Bel - www.pro-bel.com
- Radio Frequency Systems (RFS) - www.rfsworld.com
- Reflecmedia - www.reflecmedia.com
- Riedel - www.riedel.net

- Sachtler - www.sachtler.com
- SAMMA - www.sammasystems.com
- ScheduALL - www.scheduall.com
- Scopus Video Networks - www.scopus.net
- SeaChange International - www.schange.com
- SGL - www.sgluk.com
- Shotoku - www.shotoku.tv
- SintecMedia - www.sintecmedia.com
- Snell & Wilcox - www.snellwilcox.com
- Sonic Solutions - www.sonic.com
- Sonifex - www.sonifex.co.uk
- SpectSoft - www.spectsoft.com
- Strategy & Technology (S&T) - www.s-and-t.com
- Streambox - www.streambox.com
- Sundance Digital - www.SundanceDigital.com
- SysMedia - www.sysmedia.com
-
- Telairity - www.telairity.com
- Tektronix - www.tektronix.com
- Telecast Fiber Systems - www.telecast-fiber.com
- Towerswitch - www.towerswitch.com
- TSL - www.tsl.co.uk
- TV Magic - www.TVMagic.tv
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Utah Scientific - www.utahscientific.com

- ViewCast - www.viewcast.com
- Vizrt - www.vizrt.com
- Volicon - www.volicon.com
- wondertouch - www.wondertouch.com
- X2O Media - www.x2omedia.com
- Zandar Technologies - www.zandar.com
- Zaxcom - www.zaxcom.com

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EXHIBITIONS/EVENTS LISTING: For a more comprehensive listing, I recommend the IABM's - go to: www.theiabm.org/events

NAB STOP PRESS: DATELINE 1ST APRIL: LAS VEGAS: Just received; latest news from my special correspondent:- (the humor is from the UK)

- There will be a dedicated MonoRail for all attendees of NAB - but only going from the airport to the LVCC and back. Who needs to eat and sleep?
- The LVCC soda machines will now offer caffeine injections. The machines are still trying to work out the 'low fat, mocha cappuccino' version though...
- There will be a new 'speed sleep capsule' available for hire at a secret location: you will need to provide your own sheets and pillow.
- Thinking about partnerships and understanding the popularity of "Dancing on Ice"/"Dancing with the Stars", the latest craze from LA will be available and demonstrated in the car park in front of the South Hall - pole dancing!
- There will be a foot counseling session - but only if you walk for ten miles or more a day. Free pedometers will be handed out every morning.
- There will be "actually boiling" water available in the Press Room for a decent cup of tea!
- All exhibitors will be forced to keep their booth sound volume down (pardon...?)
- The famous "Brit's Bar" of the '80s and '90s will be resurrected and located somewhere in Death Valley.
- AND... All Las Vegas casinos have agreed to cover all bets made by all NAB attendees.
- AND FINALLY...: The next edition of 'Prompt!' (160 - 10 April) will be the last before the great and the good head for Nevada. Please e-mail any last minute updates/info by Wednesday 04 April. Thanks.

David Sparks
Published by Hard Image Limited
15 Rickman Close, Woodley, Reading, Berks
RG5 3LL, UK
tel: +44 118 935 2044
mobile: +44 77 481 85907
e-mail1 (plain text only):
David_J_Sparks@compuserve.com
e-mail2: djsparks@ntlworld.com

Digital Evolution Demos at NAB & ATSC's Hot Spot2007

From: SCRI info@scri.com

The Advanced Television Systems Committee and the National Association of Broadcasters will demonstrate the most sophisticated technologies in digital television at the ATSC DTV Hot Spot2007. The theme of this year's demonstration area is "Digital Evolution."

The DTV Hot Spot will be showcased at NAB2007, the world's largest electronic media show, April 16 - 19 in Las Vegas.

"2007 DTV HotSpot attendees will be rewarded with previews of a wide array of new DTV applications," said NAB Senior Vice President of Science & Technology Lynn Claudy. "The ongoing advancement of standards-based broadcast technologies is critical for the continued vitality of the digital broadcast service, and we are excited to partner again with ATSC at the NAB Convention to highlight DTV progress."

Hot spot technology demonstrations will include ATSC ACAP Standard application development tools and CE solutions, A-VSB for indoor and mobile reception, ATSC receiver software and development tools, distributed transmission test generator and analyzer, an advanced DTV multicasting service, D-ENG return channel capabilities, ATSC Software Data Download Standard and broadcast monitor, and home networking. Companies demonstrating these technologies in the DTV Hot Spot include AMD, BitRouter, ETRI, HANA, Harmonic/KBS, Microwave Radio Communications, Samsung, Unisoft, UpdateLogic, and Zenith/LG.

Also featured this year is a special demonstration of the ACAP Field Trial Project and its participating organizations, and an NAB/MSTV demonstration of high performance, easy-to-use DTV converter boxes for consumers.

The Light at the End of the Tunnel...

By Pete Putman

Peter Putman
Roam Consulting

...is probably an oncoming train, according to Bob Ross, vice president for CBS' east coast operations. Ross spoke at New Jersey Network's facilities in Trenton, NJ last Thursday night during the Philadelphia SMPTE chapter's monthly meeting, and his subject was the fast-approaching terrestrial analog TV shutdown date of February 17, 2009.

More specifically, Ross provided some interesting statistics that show there just isn't enough time left until "D-Day" to (a) install upgraded and back-up antennas and (b) order new and/or backup transmitters.

Given that there are a limited number of qualified tower crews to perform the "high-wire" work and only two summers left in which to do it, there is going to be a mad scramble for manpower. The problem is exacerbated by the fact that there are only three manufacturers of DTV transmitters serving the US market, and they simply won't be able to fill all of the orders in time.

There are numerous other problems below the radar of TV station general managers that must be resolved over the next 24 months. One big one is the lack of technical training in monitoring 8VSB signals and MPEG program streams, something many stations simply ignore in the current dual-cast environment.

You'd be surprised how many stations don't have a simple DTV receiver ($179) and transport stream monitoring software (about $400) in their master control rooms. Perhaps that's understandable - many stations don't even have full-time engineering staffs anymore (too expensive!).

How about closed captions? NTSC uses EIA608-standard captions; ATSC uses EIA708 captions. How will local stations convert and feed those captions for cable and DBS head-ends? For that matter, how will local stations take an SDTV network feed and get it to those same head-ends, when CBS and other networks plan to shut down SDTV feeds later in 2009 in favor of a single HD feed? (Hey, transponders are expensive!)

Another big headache is digital audio. You'll find as many different settings for dialogue normalization ("dial-norm") as there are DTV stations in a given market, so when will everyone get on the same page technically? How about converting Dolby Digital 5.1 to ProLogic 2.0 for SD feeds? How many stations are using the Dolby-E digital audio transport protocol correctly, or even at all?

What about metadata embedded in TV programs and commercials- will it be handled and passed along correctly? Will all DTV stations ever transmit full Program and System Information Protocol (PSIP) data, including captions, program ratings, and electronic program guide with extended text descriptions?

Right now, DTV operations seem to be an afterthought to many TV stations - a light that someone left on in a utility shed, way out back on the property. If it burns out, so what? Where's the harm? Who's really watching, anyway?

According to Ross, any "harm" will become glaringly evident to general managers after 2/17/09 when a given station experiences a DTV transmitter malfunction, MPEG transport stream screw-up, or dropped/incorrectly-mixed audio, all of which will force advertising "make goods" that cost plenty of money.

The most discouraging thing about his presentation is that it will probably require 3+ years to fill all of the hundreds of yet-to-be-placed orders for DTV transmitters and antenna work. (CBS has one rigging crew booked for a full year, just to do antenna work on San Francisco's Sutro antenna tower!)

In the good old days, the most important person at any TV station was the chief engineer (CE). Even GMs deferred to whatever the CE asked for. Today, CE's are often paid lip service, or largely ignored - that is, if there even is a CE on staff any more and the station's engineering functions haven't been outsourced.

Are we headed for a train wreck in two years? Sure looks like it, unless the FCC and Congress extend the cut-off date one more time, an eventuality Ross said is extremely unlikely to happen. The DTV Express is just going too fast to stop now...

Consumers Turning To PC In Quest For More Digital Content, CEA Research Finds

New Studies Show High HDTV Satisfaction Rates and Broader Set of Video Content Sources

From: CEA

High-definition television (HDTV) households are very satisfied with their HDTV, and they are demanding more content to feed their appetite for high-resolution images, according to two new studies from the Consumer Electronics Association (CEA®). Increasingly, these households are turning to a broader set of video sources, such as the Internet.

The first CEA study, Video Content Consumption and The Rise of PC Based Video, found that 39 percent of consumers in the home view video content streamed from a website. Overall in 2006, consumers spent more time watching video content and expect to spend even more in 2007.

"Consumers are finding and consuming enormous amounts of content each year," said CEA Director of Research Joe Bates. "In 2006, consumers reported watching a total of 2.5 billion hours of video content at home each week with movies and TV shows being reported as most watched. Consumers acquire their content from the traditional paid services, but the study also revealed that an increasing number are connecting PCs in order to watch Internet videos and to view digital photos. This is particularly true of LCD TV owners."

Another new CEA video study, HDTV: From Niche to Ubiquity, found that 28 percent of households now own at least one HDTV equaling about 35 million HD sets in all U.S. homes. The vast majority (86 percent) of HDTV owners are highly satisfied with their purchase. CEA expects another 16 million HD sets to ship into the marketplace in 2007. CEA also found more than half of the HD sets fit into the big screen category of 40" and larger.

CEA's Video Content Consumption and the Rise of PC Based Video (March 2007) and HDTV: From Niche to Ubiquity (March 2007) were designed and formulated by CEA Market Research, the most comprehensive source of sales data, forecasts, consumer research and historical trends for the consumer electronics industry. "Video Content" was administered via Internet Web form to an online national sample of 2,910 U.S. adults between December 27, 2006 and January 3, 2007. "HDTV" was also administered via Internet Web form to an online national sample of 2,090 U.S. adults between December 6 and December 18, 2006. Please cite any information to the Consumer Electronics Association (CEA®). The complete study is available free to CEA member companies. Non-members may purchase the studies for $599 at www.ebrain.org/crs/crs_all.asp.

Whatever happened to...

From: Mark Schubin

The multiplication of media at the Metropolitan Opera happened. If you're at the PBS Technology Conference, come to my Friday presentation, subtitled "My Life Since September."

In brief, we are transmitting live HD cinemacasts to sold-out movie theaters around the world. How sold out? The live transmission of "Barber of Seville" on March 24 ranked well within the top-20 in U.S. weekend grosses, despite the fact that it was shown only once.

Why is it taking so much of my time?

Here are a few highlights from "Barber" (just one of the series):

- 16 transponders on 13 satellites as well as three transoceanic fiber cables
- Multiple motion-compensating HD frame-rate converters
- One-hour HD delays to compensate for the different starts of Summer Time in North America and Europe
- 14 HD cameras and 30 recorders
- five robotic mounts, including two extendable towers and a track, all of which had to be deployed in minutes
- a 600-foot live, backwards Steadicam move (ending at a live burro)
- shooting multicamera live in the control room itself (one intermission was shot live in five different venues)
- live subtitling in multiple languages
- stereo, 5.1, and LT/RT sound, discrete and encoded
- coordinating live commercial U.S. radio, non-commercial U.S. radio, global radio, and the HD cinemacasts, all of which sometimes share and sometimes use different production elements
- coordinating the parking of production vehicles on three Manhattan blocks with the fire department, the police, and local security

Wheeee!

TTFN, Mark

Search Turns Up Google Execs at NAB2007

Two of the executives behind the Google juggernaut will share some of their insights at NAB2007 Super Sessions, and attendees won't even have to sort through 8,375,631 links.

Eric Schmidt, chairman of the executive committee and CEO of Google, will headline the Super Session "Innovator Spotlight: View from the Top" on Monday, April 16 in Las Vegas. Schmidt will give attendees insights into Google's achievements and the company's future impact on radio, television, advertising and the public.

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At Google, Schmidt focuses on building the corporate infrastructure needed to maintain the company's growth and works to ensure that quality remains high while product development cycle times are kept to a minimum. Schmidt also shares responsibility for the company's day-to-day operations with Google founders Larry Page and Sergey Brin.

Schmidt came to Google from Novell, where he led the company's strategic planning, management and technology development as chairman and CEO. Prior to Novell, Schmidt was chief technology officer and CEO at Sun Microsystems.

David Eun, vice president of content partnerships at Google, will give the keynote speech at the Super Session, "The Revolutionizing Impact of Broadband Video" on Tuesday, April 17.

Eun will discuss how startups are capitalizing on inexpensive technologies that give consumers greater control of their video experiences. The session will also focus on how changes in content delivery are impacting both copyright laws and local broadcasters' territorial exclusivity agreements. The Super Session will provide a broad view of these changes, with a panel of experts sharing strategies for success, lessons learned and insights for the future.

At his current post, Eun directs the business development and operational execution of deals with Google's video, print, and local content partners. Eun previously worked at NBC, where he led the network's first cross-media initiatives involving television programming, the Internet and retail consumer products.

Solar Activity Could Harm Satellites

Reports are circulating reminding the satellite industry just how vulnerable it may be to abnormal activities surrounding the planet's sun. Because not only does the sun have a direct and immediate effect on our weather and climate, solar flares could potentially set the world's technological advancements back decades if the right (or wrong) conditions exist.

According to David Johnson, director of the National Weather Service, “Our increasingly technological dependent society is becoming increasingly vulnerable to space weather.”

Advancements like GPS - which has become heavily relied upon for everything from navigating vehicles and airplanes to simple banking transactions - could become casualties of powerful solar flares. What has the scientific community talking was an unexpected flare a few months back that affected nearly every GPS receiver on half of the planet. According to the pros, some receivers had a significant reduction in accuracy while others completely shut down.

The scientists say solar activity rises and falls in 11-year cycles - the next expected in 2011, but protecting satellite systems like GPS (and DBS, for that matter) is no simple task. According to Paul Kintner Jr., professor of electrical engineering at Cornell University, there are two possible ways to shield

the technology, both of which are not cheap: either alter all GPS antennas to screen out solar signals, or replace all of the satellites with ones that broadcast a stronger signal.

Google trials Google TV ads

Internet search giant Google is to begin selling television ads on the 125 national satellite programming channels distributed by US digital satellite broadcaster EchoStar Communication's DISH Network.

The agreement is Google's latest foray into offline media, and it underscores the company's ambition to bring its successful online advertising technology and auction-based pricing to new markets to continue fuelling the company's rapid growth.

Google's online advertising technology has appealed to advertisers in large part because it allows them to aim ads effectively at specific audiences and users, and to measure the performance of those ads quickly. The company hopes it can bring those forces to old-line media.

"We think we can add value to this important medium by delivering more relevant ads to viewers, providing better accountability for advertisers and better monetize inventory for TV operators and programmers," said Google's chief executive, Eric Schmidt.

IMS Research predicts 446M viewing TV on cell phones by 2011

From: Craig Birkmaier craig@pcube.com

Not sure why this continues to be hyped so much. If I had to guess based on current fads, I'd say that real-time reception of broadcasts, including radio, is not nearly as fashionable as sporting the latest iPod. Maybe downloading video clips will similarly be more in demand than receiving broadcasts (although technically and in every other way, I find receiving broadcasts infinitely more interesting than playing back a recording).

Not sure why some think that the Internet will only be good for downloading pre-recorded video clips. I view real-time events frequently via the Internet, and as web access becomes more pervasive, I expect that watching real-time content will be just as normal as turning on a radio or TV.

And I do not understand why some thinks that PDAs and cellphones will continue to sport 4:3 screens. Virtually all of these devices are rectangular, so adding a wide screen display is simply a design exercise. Perhaps the picture (right) of a video enabled Nokia phone will help to clear up this misconception

Here is my latest take on mobile video in the July issue of BE.

http://broadcastengineering.com/beyond_the_headlines/broadcasting_mobile_madness/

Notes from….

Craig Birkmaier craig@pcube.com

Upton Predicts Converter Subsidy Is Sufficient

For the record, my guesstimate on the number of subsidized set-top DTV converters that will be purchased under the NTIA program will be in the range of 7-12 million. I think the public is looking forward to being rid of big bulky CRT displays and that they will invest in flat panels rather than upgrading their existing TVs.

http://www.broadcastingcable.com/article/CA6428657.html?display=Breaking+News&referral=SUPP&nid=2228
Hot Spectrum Draws Cash, and Ideals
http://www.nytimes.com/2007/03/26/technology/26spectrum.html?_r=1&th&emc=th&oref=slogin

Regards
Craig

Shapiro: no panic on switch

Form the CEA

US Consumer Electronics Association chief Gary Shapiro says there's too much scaremongering over the digital switchover in February 2009. "Less than 15 per cent of homes will really be shut out totally," by the transition to digital, he said, "and of those, some of them want to be shut out," he said. "There is fear-mongering going on, and frankly, it has become a political issue."

Sahpiro was talking at his organizations seminar on switchover where National Cable & Telecommunications Association President Kyle McSlarrow said he thought the difference between this and other transitions was that it was a government-mandated 'flash-cut' to the new technology, which could require a pretty large education campaign to get right.

John Lawson, president of the Association of Public Television Stations who was on the DTV panel called the $5 million (set aside by government as an education fund) grossly inadequate. PBS had asked for $86 million. He said he didn't think he had been fear-mongering. "We've been consistent from day one. We think the government needs to do its part as a major stakeholder in the success of the transition and invest a little bit more in outreach."

Bill to protect wireless mics advances DTV protection effort

Congressman Bobby Rush, who introduced legislation to protect wireless mics, is from a congressional district that neighbors the home district of microphone and audio electronics manufacturer Shure.

Congressman Bobby Rush, D-IL, introduced a bill March 5 aimed at protecting users of wireless mics from harmful interference that could be generated by proposed unlicensed consumer electronics devices that would share TV channel spectrum.

H.R. 1320 acknowledges that introduction of such devices "without adequate safeguards" would interfere with "other existing television band devices already operating on the unassigned, non-licensed television channels." It further states that these existing devices "require protection to preserve their important operation."

The bill outlines requirements for the FCC to follow in allowing such devices to be used, including:

- Limiting operation to fixed locations in rural areas;
- Allowing operation on unassigned, non-licensed TV channels between 54MHz and 698MHz; and
- Permitting no such use before Feb. 17, 2009.

It also spells out how the commission must protect wireless mics and other such devices from harmful interference generated by these new devices. Steps include:

- Certifying that these unlicensed devices have successfully completed lab and field tests by independent labs demonstrating that they do not cause interference to low-power auxiliary devices like wireless mics;
- Preventing these devices from operating on channels used by incumbent certified low-power devices; and
- Consideration of other ways to protect incumbent certified low-power devices, such as reserving TV channels for their exclusive use.

The bill gives those concerned about protection of wireless mics a voice in the debate in Congress over the unlicensed TV band devices, said Jeff Krull, VP of product development for Shure. The company, which has taken a leadership role on the issue, is “engaging” other Congressmen, seeking additional sponsors for the Rush bill.

Key to the argument of those wishing to allow the use of unlicensed TV band devices is the ability of “smart technologies” to detect the presence of other frequency users, like wireless mics, IFBs and DTV signals, before transmission. If a particular channel is being used, the TV band device looks for an unoccupied slice of the TV band to use before transmitting.

Smart technology doesn't yet exist, however, so it's not proven, Krull said. Additionally, even when it does, there's no guarantee that it will be effective in detecting wireless mic use. "Wireless mic operation is fairly intermittent," he said. As a result, smart technology could miss the presence of wireless mic operation, commence transmitting and cause interference. He also questions how good TV band devices will be at detecting the presence of wireless mics and other devices.

NBC Nightly News now in HD

NBC News began offering its "NBC Nightly News" in HD on March 26, "Nightly News" executive producer Alexandra Wallace said.

The network will also begin offering its NBC News Special Reports, including breaking news and political coverage, in HD.

While the current "Nightly News" studio and set are HD-ready, new studio cameras, updated HD graphics and 5.1 surround-sound will be added. "Nightly News" will also broadcast from NBC News' control room 1A, which was recently redesigned and will continue to broadcast "Today."

The network will offer "Nightly News" in 1080i HD. Field reports will continue to be presented in 4:3 aspect ratio with wings added. According to a statement from the network, NBC News expects to begin using HD gear for field acquisition later in the year. Reporting from the White House lawn, however, is currently available in widescreen HD with this move.

Know Your Privileges!
Misconceptions Abound Regarding Tech HF Privileges

Editor's Note: *Since many of our readers are also Amateur Radio operators, we thought it prudent to include this story.*

Some Technician licensees who gained new privileges February 23 remain unaware or uninformed as to what they may and may not do on the HF bands, says ARRL Regulatory Information Specialist Dan Henderson, N1ND. In addition to all Amateur Radio operating privileges above 50 MHz, Technicians who never passed a Morse code test now have CW privileges on certain segments of 80, 40 and 15 meters plus CW, RTTY, data and SSB privileges on certain segments of 10 meters. And that's it. "now your privileges www.arrl.org/FandES/field/regulations/bands.html," Henderson advises all Amateur Radio licensees. He says some Technicians apparently believe their new HF phone privileges go far beyond what they really have.

“Technicians have no phone privileges on any HF band other than 10 meters, period!” Henderson emphasizes. “That's the bottom line. If you want to operate phone on the other HF bands, you'll have to upgrade to General or Amateur Extra class.”

A lot of Technician licensees appear to have done just that, according to statistics compiled by Joe Speroni, AH0A http://ah0a.org/FCC/Licenses.html. So far in March, the number of General class licensees is up by more than 2700 over the February figure to 134,173, after hitting a 5-year low of just under 131,000 in January. The number of Technicians dropped by 4655 in the same period to 318,838. Speroni notes, however, that his mid-month figures tend to underestimate actual totals.

Most Technician license holders face a learning curve to take advantage of their new CW privileges on HF, but they no longer have to pass a Morse code examination. Technicians also may use their new HF privileges without having to apply for them first. No other license class automatically acquired additional privileges February 23. The "omnibus" rule changes effective last December 15 did not give Technician licensees without Morse code credit any additional privileges either.

Henderson further warns new Techs not to extrapolate additional phone privileges by misconstruing the FCC Part 97 rules to mean something they don't.

“Calls I've been getting lately indicate that some misinformed individuals believe Technicians may operate 'digital voice' on 80, 40 and 15, where they have only CW privileges,” he says. “Not true. Digital voice is really digitized voice, and it's not permitted in non-phone band segments.”

Henderson reiterates that Technicians do not have FM voice privileges on 10 meters -- or on any other HF band, for that matter.

The HF privileges all Technicians now have are equivalent to those that Novice licensees enjoy, Henderson notes. "This also means the 200 W maximum power limit still applies, regardless of where you operate in the HF bands," he says. Technicians may operate at up to the legal limit on VHF and UHF, however.

On 10 meters, Technician and Novice licensees have CW, RTTY and data privileges from 28.000 to 28.300 MHz, and CW and SSB privileges from 28.300 to 28.500 MHz. "We're sorry that the sunspots aren't favoring 10 meters at this point in the sunspot cycle, but they will in a few years," Henderson allowed.

In addition, Technicians and Novices have CW -- and only CW -- privileges on from 3.525 to 3.600 MHz on 80 meters, from 7.025 to 7.125 MHz on 40 meters and 21.025 to 21.200 MHz on 15 meters.

Henderson believes at least some of the confusion may have originated with a few brand-new or inexperienced Technician licensees who heard that the FCC deleted the Morse code requirement to obtain an Amateur Radio license, but paid little attention to the fine print.

“And we all know the devil's in the details,” Henderson says. “Remember, the FCC requires you to know where you may and may not operate and with what modes. Stick to the privileges your license allows or risk hearing from the FCC.”

Ericsson Purchases 70% Tandberg Television Shares

From: Ericsson Media Relations

In the voluntary public cash offer to acquire all outstanding shares in Tandberg Television, Ericsson has received acceptances regarding about 58 percent of the outstanding shares in Tandberg Television.

The received acceptances and the 9,880,050 shares already purchased by Ericsson represent about 70 percent of the outstanding shares in Tandberg Television. The number of acceptances may be altered due to possible corrections and changes following registration with the Verdipapier sentralen (VPS).

http://www.ericsson.com

Project aims for practical 3D television system

Three-dimensional television in the home could become a reality thanks to a multi-million-dollar project to develop a new system led by researchers at De Montfort University Leicester. The Multi-User 3D Television Display (MUTED) project aims to develop a practical 3D television system, which has not been achieved before. The project is worth Eur 4.5 million (roughly $6.04 million US) and is supported by Eur 3 million (about $4.02 million US) of funding from the European Commission's Framework 6 program.

This project will also investigate ways in which 3D technology can enhance medical scans, allowing doctors and scientists to explore the resulting images in greater detail using 3D displays.

Researchers at DMU's Imaging and Displays Research Group (IDRG) are leading the work to create a 3D viewing experience without the need for special glasses.

Several viewers will be able to watch the screen at the same time and will also be able to move around the viewing room and still see 3D wherever they sit.

No existing 3D display has successfully met all these requirements, which are considered essential for a practical 3D television system.

The project will also be investigating ways in which 3D technology can enhance medical scans, allowing doctors and scientists to explore the resulting images in greater detail using 3D displays.

There are six other participants in the consortium: Fraunhofer HHI, Germany; the Eindhoven University of Technology, the Netherlands; University of West Bohemia, Czech Republic; Sharp Laboratories of Europe; Biotronics3D; and Light Blue Optics.

The MUTED display will be the first system to use color lasers, holographic projection technology and a new design of optical system to produce the image.

The two-and-a-half-year project was conceived by the IDRG, which has been active at DMU for more than 10 years and has established an international reputation for excellence.

Dr Ian Sexton, leader of the IDRG, said: “Three-dimensional televisions have been developed before, but they have all had limitations”. “This project is a major advance in that we aim to produce a television that is, for the first time, practical.” “This will be a big step towards people being able to view three-dimensional television in the comfort of their own homes.” “It will also explore the potential of the technology to help medical professionals in the diagnosis and treatment of patients by using 3D displays to view MRI and CAT scans, allowing the images to be examined in greater depth”.

He added: “The team working on the scheme will contribute the equivalent of 30 person years of research effort between them to creating the new system over the course of the project.”

The MUTED funding from the European Commission is the latest in a string of projects which the IDRG have worked on over the past five years, worth more than $19.7 million US in total.

News In Brief

From: Lee Woods, Chief Engineer KOIN-TV

As of April 9, 2007 there are 680 Days Until the Scheduled End of Analog Television Broadcasting

Past DTV Newslinks can be found in a searchable archive on the HDTV Magazine website at:
http://www.hdtvmagazine.com/forum/viewforum.php?f=12

Summary of DTV Applications Filed
Updated to April 2, 2007 (Federal Communications Commission)
http://www.fcc.gov/mb/video/files/dtvsum.html

Top 10 Markets' DTV Status Updated to April 2, 2007 (Federal Communications Commission)
http://www.fcc.gov/mb/video/files/dtvstat.html

Top 11-30 Markets' DTV Status Updated to April 2, 2007 (Federal Communications Commission)
http://www.fcc.gov/mb/video/files/dtvstat11.html

Breakdown Chart of DTV On-The-Air Stations Updated to April 2, 2007 (Federal Communications Commission)
http://www.fcc.gov/mb/video/files/dtvonairsum.html

DTV Stations Presently On-The-Air (1215 Stations) Updated to April 2, 2007 (Federal Communications Commission)
http://www.fcc.gov/mb/video/files/dtvonair.html

Digital Television (DTV) Stations with Active Special Temporary Authorities (STAs) to Operate (388 Stations) Updated to April 2, 2007 (Federal Communications Commission)
http://www.fcc.gov/mb/video/files/dtvstas.html

A Guide to the 2009 DTV Transition
Let's call this one 2009: A TV Odyssey.(Yahoo Tech Advisors)
http://tech.yahoo.com/blogs/raskin/10389

Clearing the air on buying, using digital TV tuners
Readers on the digital TV rampage. (Philadelphia, PA Daily News via Chattanooga, TN Times Free Press)
http://www.tfponline.com/QuickHeadlines.asp?sec=e&URL=http%3A%2F%2Fepaper%2Etfponline%2Ecom%2FWebChannel%2FShowStory%2Easp%3FPath%3DChatTFPress%2F2007%2F04%2F03%26ID%3DAr03104

Millions may miss digital TV deadline
The shift from analog to the new format in 2009 might leave many viewers in the dark. (Los Angeles, CA Times)
http://www.calendarlive.com/tv/cl-fi-digital28mar28,0,5155171.story

Knowledge of DTV transition low, more education needed, Yager says
Speaking before the House Telecommunications Subcommittee, Barrington Broadcasting CEO Jim Yager said there was much to be done to educate viewers before February 2009. (Broadcast Engineering)
http://broadcastengineering.com/news/knowledge-dtv-transition-low-yager-0403/

Dingell predicts DTV transition as 'fine mess'
John Dingell said consumers deserve a clear picture of the DTV transition. (Broadcast Engineering)
http://broadcastengineering.com/news/dingell-dtv-fine-mess-0402/?r=1

ATI TV Wonder Digital Cable Tuner
AMD and Dell Bring CableCARD to PCs (AnandTech)
http://www.anandtech.com/video/showdoc.aspx?i=2959

Ulead MovieFactory 6 Plus Released With HD DVD and Blu-ray Support
Corel have announced the release of Ulead DVD MovieFactory 6 Plus, according to the company the consumer DVD authoring package is the first consumer entry-level product to offer HD DVD burning capability and is also the first new product to be launched since Corel completed its acquisition of InterVideo and Ulead last December. (DVD-Recordable)
http://www.dvd-recordable.org/Article3263.phtml

Telecast, Canon Join On HD Camera System
Telecast Fiber Systems and Canon U.S.A. Inc. announced a joint solution that allows broadcasters to overcome physical obstacles to the transmission of HD camera signals for production. (Sports Video Group)
http://www.sportsvideo.org/portal/artman/publish/article_4062.shtml

Little things 'sneak up' when converting to HD news, Suk says
Andrew Suk, director of broadcast engineering for Cordillera Communications, discusses the big and little considerations when converting a local newsroom to HD. (Broadcast Engineering)
http://broadcastengineering.com/hdtv/little-things-sneak-up-coverting-hd/?r=4

LG Mobile DTV System To Debut
Chicago — LG's Zenith Electronics unit and broadcast equipment manufacturer Harris has developed a system to extend over-the-air digital ATSC TV broadcasts for mobile reception. (This Week in Consumer Electronics)
http://www.twice.com/article/CA6430304.html

European Mobile Broadcasting Council issues final recommendations for mobile TV adoption in Europe
The council sees no need for new legislation pushing the adoption of mobile TV across the European Union. (Broadcast Engineering)
http://broadcastengineering.com/news/european-mobile-broadcasting-council-0403/

Free No More: Conversion to Digital TV Carries a Price Tag
Feb. 17, 2009 is DTV Day (ConsumerAffairs.Com)
http://www.consumeraffairs.com/news04/2007/04/digital_tv.html

Lawmakers Bicker Over Boxes
A crystal clear picture emerged from a recent House subcommittee hearing on the status of the digital television transition: No one can agree on how many analog TVs there are, much less how many signal converters will be necessary to keep them working after analog broadcasting ends Feb. 17, 2009.
http://www.tvtechnology.com/pages/s.0014/t.4139.html
http://www.multichannel.com/article/CA6429844.html?display=Top+Stories

SBCA Joins DTV Transition Group
The Satellite Broadcasting and Communications Association (SBCA) said Friday that it has joined the Digital Television (DTV) Transition Coalition. (This Week in Consumer Electronics)
http://www.twice.com/article/CA6429829.html

The Digital Race
How One Cable Operator Converted Its System In Four Months (Multichannel News)
http://www.multichannel.com/article/CA6429802.html

DirecTV Forges on With HD
DirecTV Group chief financial officer Michael Palkovic said that the direct-broadcast satellite giant is moving ahead with plans to launch 100 HDTV channels by the end of the year, but conceded some of those channels will be multiple feeds from sports packages such as "NFL Sunday Ticket." (Multichannel News)
http://www.multichannel.com/article/CA6429787.html?display=Finance

The transition to digital television
According to the Federal Communications Commission, Feb. 17, 2009, will bring to television "the biggest change since color was introduced in the 1950s." (Munster, IN Times)
http://www.nwitimes.com/articles/2007/04/01//business/business/docf69a81144778f383862572ae000187fb.txt

Don’t buy an HDTV without reading this first (ZDNet)
http://blogs.zdnet.com/Ou/?p=458

A Tale Of Two Switches [Peter Putman]
Not enough HDMI inputs on your new HDTV? Check out these new HDMI switches from Radiient and Key Digital.
(HDTVexpert)
http://www.hdtvexpert.com/pages_b/2switches.html

Dueling discs: Consumers again in middle of tech battle
(Wall Street Journal via Phoenix, AZ Republic)
http://www.azcentral.com/business/articles/0331biz-DVD0331.html

Power line conditioning for HD displays
A Parallel Power Delivery System ensures plasmas and other HD displays perform with laboratory precision (Digital TV Designline)
http://www.digitaltvdesignline.com/howto/showArticle.jhtml;jsessionid=UEOFZY0CTG4QQQSNDLPCKHSCJUNN2JVN?articleID=198700027

Advanced Television Systems and Their Impact Upon The Existing Television Broadcast Service
Order Granting Extension of Time For Filing Comments And Reply Comments (Federal Communications Commission)
http://hraunfoss.fcc.gov/edocs_public/attachmatch/DA-07-38A1.doc [MS Word File]
http://hraunfoss.fcc.gov/edocs_public/attachmatch/DA-07-38A1.pdf [MS Word File]

Revisions to Proposed New DTV Table of Allotments
Tentative Channel Designations To Be Added to the DTV Table of Allotments Proposed in the Seventh Further Notice of Proposed Rule Making in MB Docket No. 87-268 (Federal Communications Commission)
Public Notice
http://hraunfoss.fcc.gov/edocs_public/attachmatch/DA-07-20A1.doc [MS Word File]
http://hraunfoss.fcc.gov/edocs_public/attachmatch/DA-07-20A1.pdf [MS Word File]
Appendix A
http://hraunfoss.fcc.gov/edocs_public/attachmatch/DA-07-20A2.xls [MS Excel File]
http://hraunfoss.fcc.gov/edocs_public/attachmatch/DA-07-20A2.pdf [MS Word File]
Appendix B
http://hraunfoss.fcc.gov/edocs_public/attachmatch/DA-07-20A3.xls [MS Excel File]
http://hraunfoss.fcc.gov/edocs_public/attachmatch/DA-07-20A3.pdf [MS Word File]

Jim Yager Speaks, CEO of Barrington Broadcasting Before the House Telecom Subcommittee
http://www.broadcastingcable.com/article/CA6428679.html
http://www.tvnewsday.com/articles/2007/03/28/daily.4/
http://www.nab.org/AM/Template.cfm?Section=Digital_Broadcasting&CONTENTID=8531&TEMPLATE=/CM/ContentDisplay.cfm

Information & Education

DTV Training

From: Gary Sgrignoli

PLAY BALL !!! Yes, it's that time again folks - let the games begin !Another baseball season begins today. This is the best part of the season since at this point in time the Cubs are lossless, have a perfect record, and are tied for first place. If only they didn't have start playing real games today that will undoubtedly change this status, we could revel in this condition for quite some time. But in the mean time, I hopethat you will "revel" in one of the upcoming VSB seminars being offered around the country in 2007, and stay in "first place" when it comes to free, over-the-air terrestrial DTV! You can always check on the status of upcoming VSB seminars on the MSW website (www.MSWdtv.com).

The DTV transition continues to accelerate with over 1600 DTV stations on the air covering 211 markets containing about 99.95% of the TV households (about 91% of the households are in markets with 5 or more DTV signals). Behind us is the FCC tuner mandate (100% of all TV sets must have DTV tuners after March 1, 2007), the "plug & play" cable compatibility issue, the "broadcast flag" issue (kind of ...), and the DTV translator rules. NTIA has already issued an NPRM last fall asking for comments on their $40 coupon program to be used at the end of the transition, and has recently released the rules & the required minimum converter box performance specs. Besides that, there is a significant increase in HD programming, including live sports programs (such as the Super Bowl, the Olympics, March Madness), and even the local news. There are now many more models of lower-cost flat-panel DTV sets with integrated digital tuners on showroom floors (5th generation VSB chips have been out since spring 2005 & 6th generation chip sets were announced at the end of 2006), with retailers crying about reduced or minimal profits from all the great DTV sales prices! The D/A converter set-top boxes are just about ready to be sold, with costing for some as low as $60. Even mobile DTV with the VSB transmission system is being investigated seriously. And to top it all, broadcasters are talking about finally promoting their over-the-air DTV signals to the public (see the recent NAB/CEA/NCTA announcement in February) !!!

With the post-transition channel election and replication/maximization process almost complete (the channel allocation NPRM has been out for a while), and with Congress settling on February 17, 2009 as a hard analog "turn off" date, the last phase of the DTV transition is surely well under way !

These day-long digital VSB transmission seminars have been offered around the country for the last 8 years, with more on the way. Some of the cities across the country that have hosted seminars in the past have been: Albuquerque, Atlanta, Austin, Baltimore, Birmingham, Boise, Boston, Calgary (Canada), Chicago, Champaign (IL), Cincinnati, Columbia (SC), Dallas, Denver, Des Moines, Harrisonburg, Honolulu, Indianapolis, Kansas City, Knoxville, Lansing (MI), Los Angeles, Manchester (NH), Milwaukee, Minneapolis, New Orleans, New York City, Norfolk, Oakland, Orlando, Philadelphia, Phoenix, Pittsburgh, Portland (ME), Portland (OR), Raleigh, Reno, Sacramento, Salt Lake City, San Diego, San Francisco, San Jose, Seattle, Spokane, Tampa, Topeka, and Washington DC. The plan is to visit new cities as well as to revisit some of the ones mentioned above.

There are now three (3) types of VSB transmission seminars to consider. The original 1-day VSB Fundamentals course contains all the basics of data communication in general as well as the VSB System in particular, and is a pre-requisite to the 1-day VSB Measurements seminar that identifies and describes the pieces of test equipment needed for VSB testing in the laboratory, at transmitter sites, and at remote field sites. The third seminar is a 1-1/2 day VSB Combo course that combines both VSB Fundamentals and VSB Measurements together for a complete look at the system. This 3rd seminar includes a solid fundamentals review in the first 1/2 day, and then focuses on the measurements the following full day of the seminar.

All three seminars are operated in a similar manner, with corporate sponsors covering the majority of the costs and only modest registration fees for the attendees. Look carefully at the list below to see which of the three seminars is being offered in each city !!!

Upcoming all-day VSB seminars are currently scheduled for:

A.

Location: MGM-Grand Hotel in Las Vegas, NV (at the PBS Technology Conference just prior to NAB)
Topic: VSB Fundamentals (100 registrants already)
Date: WEDNESDAY, April 11, 2007 (week before NAB show)
Time: 8:00 am to 5:00 pm
Hosts: PBS
Sponsors: Belden, ERI, Rohde & Schwarz, Z-Technology, & TBD
NOTE: any interested sponsors should immediately contact Pamela Mills ppmills@pbs.org at PBS for further sponsorship information.

B.

SBE 78 & WVPT in Harrisonburg, VA
Topic: VSB Measurements
Date: THURSDAY, May 17, 2007
Time: 8:30 am to 5:45 pm
Hosts: SBE Chapter 78
Sponsors: Belden, BMS, DVG, Evertz, Rohde & Schwarz, Streambox, NuComm, ECS, WVPT

C.

Idaho Public Television in Boise, ID
Topic: VSB Measurements
Date: THURSDAY, September 27, 2007
Time: 8:30 am to 5:45 pm
Hosts:
SBE Chapter 115
Sponsors: Harris & TBD

D.

TBD in Los Angeles, CA
Topic: VSB Fundamentals
Date: SATURDAY, October 6, 2007
Time: 8:30 am to 5:45 pm
Hosts: SBE Chapter 47 and STE
Sponsors: TBD

In addition to the above confirmed dates, the Charleston SC, Orlando FL, Kansas City MO, Manchester NH, and Pittsburgh PA SBE chapters as well as the Washington DC WEBE/SPMTE groups are trying to schedule seminars some time later this year. These additional seminar dates should be forthcoming in the near future.

Corporate SPONSORS that are interested in being involved in any of the above upcoming seminars should contact me immediately so that I can put you in touch with the appropriate seminar host people before sponsorship opportunities close.

As usual, the modest registration fee for these seminars covers an updated 1-1/2" thick (800-page) detailed seminar notebook as well as lunch. The announcement flyers for the Las Vegas and Harrisonburg seminars are attached, which contain contact information and general logistics. If you know anyone wanting to attend such a seminar (e.g. any local station engineers or business clients in the area), please forward this e-mail to them.

As an FYI, local TV broadcasters often host these seminars in conjunction with local broadcast organizations such as SBE and SMPTE. These seminars are designed to be "break-even" events for the hosts with my travel expenses and speaker fees paid by corporate sponsors, while the cost of the handout books and refreshments are typically covered by the very modest registration fees (often between $60 - $75 per person) charged to the attendees. The seminars often draw between 30 - 60 people (and sometimes more), and one credit is given towards SBE re-certification. Also, the material in the "VSB Fundamentals", "VSB Measurement", and "VSB Combo" seminars will help those preparing to take the 8-VSB Specialist Certification test that is now offered by SBE. See the national SBE website for more details (www.sbe.org).

If you know of any broadcast-related groups that would want to co-host or co-sponsor any future VSB seminars in their cities, please let me know. The spring, summer, and fall seminar schedule is currently being planned. I believe that these educational seminars are well worth the time, energy, and money to attend, especially in this last phase of the DTV transition where there are so many requirements put on broadcasters.

As the DTV transition continues to roll out, the channel election comes closer to completion, the NTIA coupon program becomes finalized, DTV education of the public begins in earnest, and the final date for analog shutoff comes closer to reality (will the 2/17/09 date really "stick"???), let's all work towards continued success and increased consumer DTV education in 2007.

Gary Sgrignoli - DTV Transmission Consultant
Meintel, Sgrignoli, & Wallace
847-259-3352 Office phone
847-650-9878 Cell phone
gary.sgrignoli@IEEE.org www.MSWdtv.com

MPEG is on Fire in 2007

From: Rick Sizemore

MPEG see accelerated growth in a host of markets – MPEG is Everywhere

MPEG already has conquered the PC and consumer electronics worlds, with the video-compression technology integrated into 630 million devices shipped in 2006 alone. However, the technology is just

getting warmed up, as the rise of the MPEG-4 standard spurs its spread to mobile phones and expands its influence on the Internet, according to iSuppli.

“Just one of MPEG's greatest opportunities will be found in the mobile-phone market, where consumers' desire for superior video quality has become a driving force for mobile-phone features and differentiation,” said Rick Sizemore, who covers multimedia content and digital advertising at iSuppli. “With YouTube and other user-generated content sites serving as the distribution vehicle, and with content being generated spontaneously by mobile-phone users, the MPEG market is set to undergo accelerated growth in the coming years.”

The number of MPEG-4 (H.264/AVC/MPEG4 (Part 10)) codecs in mobile handsets will rise to 509 million units by 2010, expanding at a whopping Compound Annual Growth Rate (CAGR) of 206 percent from a mere 1.9 million units in 2005, according to iSuppli. The total market for handset video codecs is set to grow to 1.9 billion units by 2010, rising at a 13.6 percent CAGR from 836.5 million units in 2005.

Forecast of MPEG-4 Codec Shipments for Mobile Phones, 2004-2010 (Millions of Units)

	2005	2006	2007	2008	2009	2010
H.264/AVC/MPEG 4 (Part 10) Codecs	1.9	42.4	122.3	241.3	376.0	509.0

The Swiss Army phone

The mobile-phone market has become the "Swiss Army knife" of consumer electronics, integrating multiple features including PDA functionality, MP3 playback? and soon? streaming video. This video must be delivered via networks that have fairly limited bandwidth. This limitation will not be a problem for the bandwidth-stingy MPEG-4, which is one of the reasons it is replacing MPEG-2 in wireless-communications applications.

The growth of MPEG-4 usage in mobile phones is fueling the overall expansion of the MPEG codec market worldwide

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MPEG is everywhere

MPEG video compression technology can be found almost everywhere in the home and in professional environments. Products employing MPEG technology include digital cameras, Set-Top Boxes (STBs), Digital Televisions (DTVs), MP3 players, video-game consoles, DVD players and Digital Video Recorders (DVRs), Networked Video Recorders for Security (NVR). It's even used by YouTube.

iSuppli predicts by the end of this decade, more than 160 million STBs and 40 million game consoles will ship annually? and these represent only two of the myriad of platforms in which MPEG is deployed.

“Digital still cameras, camcorders, set-top boxes and now high-end phones will drive the need for compression and decompression at a fevered rate,” Sizemore added. “On top of that, with Apple on the verge of entering the mobile-phone market with the iPhone, Personal Media Players/Recorders could start appearing everywhere.”

Rick Sizemore - 480-922-4407

Return to Index

DVI & HDMI – Understanding the Alphabet Soup

The DVI interface uses a digital protocol in which the desired illumination of pixels is transmitted as binary data. When the display is driven at its native resolution, it will read each number and apply that brightness to the appropriate pixel. In this way, each pixel in the output buffer of the source device corresponds directly to one pixel in the display device, whereas with an analog signal the appearance of each pixel may be affected by its adjacent pixels as well as by electrical noise and other forms of analog distortion.

Previous standards such as the analog VGA were designed for CRT-based devices and thus did not use discrete time display addressing. As the analog source transmits each horizontal line of the image, it varies its output voltage to represent the desired brightness. In a CRT device, this is used to vary the intensity of the scanning beam as it moves across the screen.

However, when using digital displays (such as LCD) with analog signals (such as VGA), there is an array of discrete pixels and a single brightness value must be chosen for each. The decoder does this by sampling the voltage of the input signal at regular intervals. When the source is also a digital device (such as a computer), this can lead to distortion if the samples are not taken at the center of each pixel. There are also problems with crosstalk.

The High-Definition Multimedia Interface (HDMI) is an all-digital audio/video interface capable of transmitting uncompressed streams. HDMI is compatible with High-bandwidth Digital Content Protection (HDCP) Digital Rights Management technology. HDMI provides an interface between any compatible digital audio/video source, such as a set-top box, a DVD player, a PC, a video game console, or an AV receiver and a compatible digital audio and/or video monitor, such as a digital television (DTV). In 2006, HDMI began to appear as a feature on prosumer, HDTV camcorders and even high-end digital still cameras.
It is a modern replacement for older analogue standards such as RF - Coax, SCART, Composite Video, Component Video, VGA, DVI-D, and RCA connectors, and the consumer electronics replacement for older digital standards such as DVI (DVI-D & DVI-I). In the computer world, HDMI is already found on many peripherals and a few newer video cards, with adoption rapidly increasing.

For more information, visit:
http://www.siliconimage.com/presentations/hdmi/index.html
http://en.wikipedia.org/wiki/DVI
http://www.datapro.net/techinfo/dvi_info.html
http://www.interfacebus.com/Design_Connector_Digital_Visual_Interface_DVI_Bus.html

Measuring the Digital Age

According to research firm comScore Networks, there was a 10 percent increase of users worldwide in January 2007 from the same month a year ago. comScore estimates that 747 million people aged 15 and up were online in the first month of this year.

While the United States remains the No. 1 country in total Internet users (153.4 million in January, up only 2% from a year before), "Internet users outside the U.S. now account for 80 percent of the world's online population, with rapidly developing countries experiencing double-digit growth rates year-over-year," said Bob Ivins, comScore Europe managing director in a statement.

The No. 2 Internet user is China, with 86.8 million people 15 and older logging on in January. Rounding out the top 15 are:

Japan	France	Brazil
Germany	India	Spain
United Kingdom	Canada	Russian Federation
South Korea	Italy	Netherlands
		Mexico

The study also found, not surprisingly, that Internet users in countries with higher broadband penetration spend more time online.

More data from the study can be found http://www.comscore.com/press/release.asp?press=1242

The Cold Garage

From: John Willkie

Scene Setter – The "proverbial" Silicon Valley story is one or more folks doing a start up, working long hours, in a garage. I'm beginning to doubt that they work long hours in a garage.

That's because if us Southern Californians know anything about Northern California, it's that every night is chilly or cold. It is something that we can take, well, cold comfort in these last few days, which have been very cold, as goes California. At least, we know it is colder up North.

Here's how I've been working the last few days. Two pairs of socks, a jacket, t-shirt and shirt, pants, gloves, with my legs wrapped in a down comforter. It's mostly comfortable, but kind of funny typing with knit gloves, and a bit tingly when I take them off to make hot chocolate. And, I've been cutting my hours short, going to bed by midnight. Tonight, things are almost back to normal in Southern California.

Another milestone – Putting my PSIP output through a DVB-ASI interface has always been something to dread. Much less so now; last night, I achieved basic DVB-ASI output, using a DekTec DTA card, a handy and understandable Application Programming Interface manual, some helpful source code, and some helpful advice from Dektec technical support. I ran the output for 8 hours overnight. The only issue that I can see right now is that about 1/3 of the packet id 8187 tables are reporting CRC-32 issues. All day long, I've been trying to fix that, and I think that I've narrowed it down to how I'm handling buffers. Two days ago, I had never implemented a buffer.

Interface – KYES uses a non-standard traffic system based on MS-DOS. So, I've had to come up with a simple logical interface between that system and EtherGuide Emissary for the transfer of program schedules. In the future, I will probably extend the specification somewhat to include other elements.

This is not to replace PMCP; it's actually a simplified format that will not handle anything complicated.

Herewith, the format.

Fields are to be separated by a backslash "\" which can NEVER appear in any field.

Brackets <> are never to be transmitted; they are shown to make parsing the format easier on the eyes. Fields with double brackets <<>> are optional. If you need to use an optional field that is preceded by blank optional fields, simply mark the blank optional fields with backslashes.

No spaces between fields, and fields must not have double quotation marks '"' within them.

Double quotation marks cannot be used to delimit fields: use only the

<mode>\<PsipEvent>\<tsid>\<majorchannel-minorChannel>\<startDateTimeGmt>\durationSeconds>\<listingLanguage>\<program Title>\<rating>\<<programDescription>>\<<durationFrames>>\<<fromStarDatetTimeGmt>>\<<NewDuration>>\<<languageNumber>>

Where <mode> is either add, delete or update, read (may use first four letters instead of the entire word)

"PsipEvent" means this format pertains only to records that change, establish or read an event published in PSIP.

<tsid> is the transport stream id of the channel whose event is being described

<majorChannel-MinorChannel> is the combination, eg "<5-1>" that denotes the channel number of the event that is being published

<startDateTimeGmt> is the initially scheduled start date and time for the event. Until an event airs or is deleted, this it the time coordinate that retrieves the event.

<durationSeconds> is the length of the event in seconds

<listingLanguage> is the language that the listing is in. The form is ISO-639-3, where English is 'eng'. If the listing is to be in multiple languages, you must use the optional <languageNumber> field, where the first language the listing is to be in is '1' and each additional language is incremented by one.

<program Title> is a text string that gives the title of the program in a single language.

<rating> is the text string that pertains to the program, eg "TV-MA"

<programDescription> is a text string that gives the detailed description of the program

<<durationFrames>> is the amount of frames of the event, less durationSeconds.

<<NewStartDateTimeGmt>> is an optional field that gives the new start time for the event.

<<NewDuration>> is the new duration time for the event

<<listingLanguage>> is a sequence where 1 is the first language a listing is in, and each language listing for the event is incremented by one. If there are multiple language listings for an event, this field is effectively optional.

LG has industry's first dual-format HD DVD player

Blending the latest technologies and offering unprecedented flexibility to consumers seeking the convenience of playing both Blu-ray Disc and HD DVD high-definition content, LG Electronics has launched the "Super Multi Blue."

This dual-format high-definition disc player, LG model BH100, is the first player on the market with the capability to play both next-generation disc formats, addressing the challenge of the current format war.

"We've developed the Super Multi Blue Player to end the confusion caused by the current competition between Blu-ray Disc and HD DVD. Customers are no longer forced to choose between the two formats," said K. W. Kim, President, LG Electronics – Middle East and Africa.

"As Full HD TV is already gaining ground, we are hoping that the Super Multi Blue Player will play the trigger role in expanding and advancing both Full HD TV and high-definition DVD market volume together," he added.

LG Electronics also offers flexibility in optical disc drives for personal computers. The GGW-H10N, also now available, is compatible with both Blu-ray Disc and HD-DVD formats. The Super Multi Blue 50GB drive is compatible with Blu-ray Disc, DVD, CD read/write and HD-DVD-ROM (read). It is the most universal unit available.

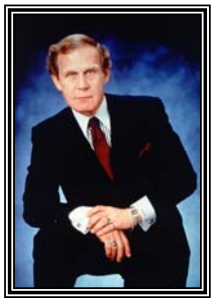
In addition to offering Full HD 1080p picture quality from high-definition discs, the player incorporates interactive functions based on BD-Java, which allows advanced menus and functions to be displayed over the video of Blu-ray discs. And, while the same level of advanced menu interactivity is not available while playing HD DVD discs, the powerful combination of Blu-ray Disc and HD DVD audio/video playback technologies is like no other on the market.

The unit supports various audio-video formats, including MPEG-2, VC-1, H.264 video, MPEG1/2 audio, Dolby Digital, Dolby Digital+, DTS and DTS-HD audio, and includes multiple inputs/outputs such as HDMI out, component / composite video outputs, and optical / coaxial / discrete 5.1 channel audio outputs, among others.

Clash of the Titans
By Andy Marken

"In my mind's eye, I see, three circles joined in priceless, graceful harmony. Two full as the moon, one hollow as a crown. Two from the sea, five fathoms down. One from the earth, deep under the ground. The whole, a mark of high renown. Tell me, what can it be?" – **Princess Andromeda (Clash of the Titans – 1981)**

The PC/CE industry has replaced the auto industry as the bellweather of world economy.



We're working on our second billion PCs. "Everyone" has or is buying an HDTV. People without cellphones held to their ears are viewed as people you wouldn't want to talk with anyway. Individuals without earbuds in their ears are so not with it!

It is worse than not having an email address…gasp!!!

It is easy to see the importance of the industry because suppliers – hardware/software – are now being sued with alarming regularity. That's how you tell how large you are in the industry – how many lawsuits you have on the table.

The industry is so important at retail that the last 45 days of the year mean the difference between red/black ink.

It is so important that it has completely eliminated Christmas and New Years for people who have to prepare for the huge events in January.

This year in three overstuffed, stress filled days the Titans of the industry held court on stage in two different cities – Las Vegas, San Francisco.

Imagine the dynamics of it all.

Members of the media had to decide how to best cover the three who would shape the coming year and possibly the future – Gary Shapiro, CEA; Bill Gates, Microsoft; Steve Jobs, Apple.

Zeus had to be amused as he watched them stride to center stage to hold court. Three dominant figures determined to hold sway over the audience. Equals but remarkably different.

We're probably lucky they are each so strong and independent because if you could put they together on the same venue – and get them to agree on a common set of goals – the gods would have reason to fear for their place in the firmament!

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Shapiro has all of the polish and tact you would expect for someone who walks the fine line of keeping more than 2,000 CEA members happy.

He not only holds court over the largest trade show event in the Americas but has vanquished some formidable enemies along the way. Comdex…gone. E3…he says he's not interested but did have a sizeable gaming venue. CEBIT Americas…not much a fight.

His keynotes are always interesting. He does a fantastic job of being upbeat for the industry highlighting its wins and its future while sliding past where he has been less than successful…major wins with Congress.

Of course he's a lawyer by training so Shapiro knows when to pick his battles.

Shapiro is polished. He's credible. He's focused. He does a pretty damn good job of making a global bunch of companies that don't play well together sound like a focused, consumer-centric, value-driven industry.

By the end of his keynote you feel remarkably upbeat about the industry. There's no call to action but you are willing to come back next year.

Gates for a techie is a pretty good speaker…not great but good.

Giving his keynote highlighting all of the "fun," "cool" things you can do with the Microsoft technology clearly thrills him. This time – for a change – all of the demos even worked. He was super happy.

It was probably his best keynote of all time. Still it is hard to get folks breathing heavy when your presentation covers the world.

Oh sure Ballmer was there along with a bunch of supporting minor gods that reinforced his message. Gates does a good job of putting positive spin on things ordinary folks shouldn't concern themselves with like DRM, work-in-progress Vista and MS goal of global domination.

His announcement that he was going to come back at least one more year to do a keynote received polite applause. Sort of like Barry Bonds saying he would do another season with the Giants.

As if these two industry pillars weren't enough for the first real work week of the year, some poor slobs had to trek north several hundred miles to the city by the Bay to hear Steve mesmerize his followers.

The guy is the best showman the industry has. He owns the stage he strides across. He grabs his audience by the throat at the outset and never lets go. He gets his fuel from the adoration of the Mac faithful.

He's gotta be like a tent show minister preaching to his flock.

You have to be jealous of the way Jobs whips his flock into a frenzy.

Gates would probably drop $100 million (kinda pocket change for him but…) to bathe in that type of adulation.

The cheering for Jobs was unbelievable. There was hardly a dry eye in the house. Everyone was ready to run out when he wound up his keynote and plunk down their credit card for a cup of Kool-Aid.

Ok so the iPhone only has 5 hour battery life. Is really great for web surfing, receiving some email, doing finger exercises and possibly making phone calls.

So what if it shares its name with Cisco? So what if it is only vaporware at this point? If he's excited…we're excited. If he believes…we believe.

If Jobs owned more than 4 percent of the PC market – added to his 60 percent of the mobile music player market – he could replace Zeus on Mt. Olympus.

If Shapiro was able to focus all of his persuasive talent and convince Steve that it would be great for him to be a part of CES we would have a helluva keynote event.

Imagine. Shapiro warms the crowd up. Gates feeds the minds. Jobs fires up the audience.

The crowds mob the floor looking at all the "insanely great" products.

Ok so that's never going to happen. But it would make for some fantastic presentations.

Since we'll probably never see three circles joined in priceless, graceful harmony all we can say is…"A titan against a titan!"

At least the two shows won't overlap next year (CES – Jan 7-10, MacWorld – Jan 14-18) so we can recover over the weekend.

Of course now that Steve Inc. is a CE company…

What is our business?

Burt I. Weiner biwa@earthlink.net

The answer is simple. We are in the technical side of show business. Plain and simple. Show business is all about content. It is our job to transport the content to the public. People do not tune in to listen to our transmitters. They tune in for the content - nothing more. If you doubt that, try putting a tone on for a day and see how many people write in about how nice and pure the tone is.

Burt

Burt I. Weiner Associates
Broadcast Technical Services
Glendale, California U.S.A.
K6OQK

How many more people will have to be fired to enable this compelling content to be created?

(Editor's Note: *Broadcasting, in particular radio, is retreating rather than pushing forward. It's not just engineers who are being required to do much more with much less.")*

Douglas B. Pritchett wbzq1300@verizon.net

As someone who was eliminated from the newspaper industry because I got in the way of their 40% profit margin that Wall Street demands, let me speak to this.

As circulation and readership declined, they simply fired staff and burdened the remaining people with more work. Rather than invest in making their product (CONTENT) more appealing and bringing in new readers, they started killing the goose. And they did the same on the editorial side. Fewer reporters, more reliance on wire stories, etc., all the while raising advertising rates with no new readers to justify it. When the customers finally figured it out and started finding alternative sources for content, the circ and readership numbers fell even further and Wall Street cried about the profits again. Then you saw what happened to my old outfit Knight Ridder. Wall Street (and their traditional expectations from publishing) forced the second largest operator of daily newspapers in the country out of business.

My point is that the, barring any innovative remedies (CONTENT) radio will fall the same way daily newspapers have. Worried more about delivery and less about content will kill the industry. And don't get me started on local TV news. That franchise is failing, too.

--
Douglas B. Pritchett
Fort Wayne, IN

What television ratings really mean

By Brian Trauring, News Director, 13abc

(**Editor's Note**: *Although ratings are not a very technical part of our business, they do drive what we technical types end up having to do to keep our facilities on top. We found this article most informative*.)

A lot of people don't really understand how ratings systems work. Yet the ratings often determine what you see on television.

The A.C. Nielsen Company measures the number of viewers watching a particular program. In the Toledo market, Nielsen sends little books called diaries to random viewers. The viewers record their television viewing for one week. Nielsen sends out diaries to four separate groups, one for each week of the ratings period. Viewers send the diaries back to Nielsen and the results are tabulated and printed in a thick ratings book which is sent to the television stations. By the way, it's the television stations that pay Nielsen for the cost of compiling the ratings.

The accuracy of the diary system depends on viewers filling out their daily log accurately. Ratings are important to television and radio stations because advertising rates are set depending upon how many people watch or listen. The bigger the audience, the more stations can charge for advertising.

For entertainment programming, there are "national" households that are measured to determine how many people watch a particular program on the major networks. On the local level, people are asked to record what they watch during the day or night. Traditionally, "sweeps" months are scheduled each May, November, February and July.

In the most recent ratings period (February 2007), the size of the audiences watching 13abc increased significantly. 13abc Action News Good Morning continues to be the dominant television newscast with 40% of the audience watching TV from 6:00-7:00 a.m. (weekdays). During that time, the household rating for 13abc increased 53% compared to February 2006!

The rating for our Noon newscast grew 68%, our 5:00 p.m. newscast increased 34% and the always-important 6:00 p.m newscast rating increased by 37% compared to one year ago. The rating for 13abc Action News at 11:00 p.m. went up by 32% compared against February 2006.

It's clear that healthy competition is good for the consumer. In the news profession, competition makes us all better. Our goal is to serve viewers with information that is first but accurate. In February, Toledo's television news stations were put to the test repeatedly. There were a number of huge weather stories including extremely cold weather, a blizzard and an ice storm.

The fact that so many viewers chose to watch our broadcasts is the highest honor we could receive. It humbles us to know that folks rely on us for information that they can trust. We will not take that trust for granted. All of us at 13abc will continue to work hard so that we earn that trust every day.

We thank those of you who watch our programs and your feedback is always welcome. You can write me at brian.trauring@abc.com.

Nielsen stats on TV in US households

From: Mark Schubin

Question: How much of the problems these days are just caused by this, directors and quality control with CRT or low rez monitors that do not match the eventual target?

It's never low-rez (at worst, Sony BVM HD monitors), and I question what "the eventual target" is. An NTSC show gets millions of viewers per rating point. How many points would be required to get even one million HD viewers?

As for the low-rez issue, I offer the following from two shows I worked on. One was a very early HD show (circa 1990). Production facilities were limited, so we shot in a small NHK vehicle that was purely HD. To make even a VHS viewing copy, we needed to stick a downconverter into a different truck.

The director framed a spectacular HD shot, with the two principal singers in right frame, the conductor in left frame, and the orchestra between, with the HD providing sufficient detail to see the appreciation of the moment on the musicians' faces. Because it was such a great shot, the director saw no need to cut away from it. We all agreed. We thought it was brilliant.

Then it aired in letterboxed NTSC, offering a third of the scanning lines, not to mention other detail reductions. What had been a spectacular view to savor for a long period became a mere establishing shot, in which case, why stay on it for so long? We received many viewer complaints.

So the next show I did with that director, I offered a letterboxed NTSC picture right next to the HD for the director to use to see what "the eventual target" would be getting. The result was a good HD show -- maybe not as spectacular as the other -- and a good NTSC show (not one that caused viewer complaints).

I adopted the two-monitor approach for many HD-shot shows. Then I did one with a different director. He framed what he thought was a nice HD shot and then glanced at the NTSC monitor. "What's that crap?" he asked. I said it was a best-case approximation of what the bulk of his audience would get. "Turn it off," he ordered.

TTFN, Mark

From PC to TV -- via Apple

From: Monty Solomon

By Walter S. Mossberg and Katherine Boehret

The race to connect your TV to your computer and the Internet is about to kick into high gear this week when Apple Inc., the company many believe is best positioned to pull off this feat, introduces a slender, wireless set-top box called Apple TV.

This silvery little $299 gadget is designed to play and display on a widescreen family-room TV set all the music, video and photos stored on up to six computers around the house -- even if they are far from the

TV, and even if they are all Windows PCs rather than Apple's own Macintosh models. It can also pull a very limited amount of music and video directly off the Internet onto the TV.

Apple TV is tiny, just about eight inches square and an inch high; far smaller than a typical DVD player or cable or satellite box, even though it packs in a 40-gigabyte hard disk, an Intel processor and a modified version of the Mac operating system. And it has a carefully limited set of functions. Yet, in our tests, it worked great, and we can easily recommend it for people who are yearning for a simple way to show on their big TVs all that stuff trapped on their computers. We tried it with various combinations of Windows and Mac computers, with movies, photos, TV shows, video clips and music. And we didn't even use the fastest wireless network it can handle. It performed flawlessly. However, it won't work with older TVs unless they can display widescreen-formatted content and accept some newer types of cables.

http://ptech.wsj.com/archive/solution-20070321.html

Why Apple TV Will Bomb

From: Albert E. Manfredi

I was amazed to see how many limitations this Apple TV box has. The most unacceptable is that it can't directly play streaming media content from the Internet. Nor can it directly download from iTunes. Nor will it play DVDs.

After reading the piece, I asked myself why not just buy a regular PC with TV card, and connect a large flat panel TV to it. That should avoid most of the limitations of this Apple box.

I'm also not surprised that a hefty $2.00 per TV show is too much to ask for iTunes. Even if they had not aired "free" originally, I just cannot believe that this level of "a la carte" TV viewing would ever be successful. FWIW, to all out there trying to come up with all these clever new "business models" that only a marketer or salesman could love.

It's nice to get some feedback from time to time, on the ideas that got so much media hype when they first appeared.

Bert

Way ON topic

From: Barry Wilkins & Cliff Benham

It has been widely commented that broadcasters in the USA have been unwilling to advertise the fact that the coming transition is imminent. What requirements have been set down to ensure broadcasters adequately inform the public of the impending change? What form will this take - will they be required to do blanket commercials stating the changeover to take place months or weeks before the event?

The broadcasters will not tell the viewers about the transition because their stations are carried by the cable companies who don't want the viewers to know, so they will think the only way to get digital TV is by subscribing to cable.

Some stations have been threatened with withdrawal of all cable advertising if they so much as mention or promote their over the air channel number or provide viewers with information about receiving 'free' DTV over the air.

I can imagine that the awareness campaign is not likely to be embraced by broadcasters until the very last minute.

Would you begin such a campaign if you stood to lose hundreds of thousands of advertising dollars?

I notice here that TVNZ are about to launch FTA DTV in early May but there has been very little marketing of this new platform. Nobody is promoting it - yet. Sounds familiar?

But probably for different reasons than here in the US.

Does the DTV transition in the US offer the majority of current analog OTA customers sufficient advantages to compel them to make the change willingly, i.e. how many of them will be impressed by the better picture quality, both from a resolution and interference aspect?

I am an early adopter, owning as many as 10 different set top boxes since the first DTV transmissions began in Philadelphia in the late 1990s. In the approximately 10 years that has elapsed, the same reception difficulties still persist since I lived in Boothwyn, north of Wilmington to the present day where I am living 12 miles from the Maryland border.

ATSC reception is full of audio dropouts and stalled pictures, breakups and in some cases no reception what ever from channels the boxes recognize and place on "it's list". I cannot receive any FOX DTV stations, either from Baltimore or Philadelphia. If you recorded what I can receive with an eye to playing it on another TV station over the air you could not do it. I Tivo all the news shows from the local ABC station through my Samsung 260 and watch them at my convenience. The picture quality is completely unairworthy. Period!

I have a 7 ft parabolic UHF antenna 28 feet in the air with a mast mounted preamp and I'm using 40 feet of RG-11 low loss coax cable to get to the Samsung. I am 400 feet above sea level and I can't get video you could rebroadcast from any channel I can receive. The ATSC system was supposed to make video look perfect without all the problems inherent in NTSC. IT DOES NOT IN ANY PRACTICAL SENSE DO THIS.

We as a nation have been sold a bill of goods and the truth hidden by legislators and the cable companies. Only when the analog broadcasts stop and people suddenly can't watch TV without paying for it will their clamber become loud enough to make something happen.

If the majority is not willing to change until pushed, you may as well do it now as wait. Why not?

Because they just don't know it's happening. No one in the gov't or in broadcasting has told them. Or will. I have never heard it mentioned on any network news show. Ever. Not even on PBS.

Once upon a time, when mains power changed from DC to AC, this must have happened with the blessing of all. The appliance dealers could supply a whole mess of new fangled gadgets and the customers wanted these. The electric power retailers would now sell a whole lot more energy and distribute it more efficiently. Everybody won.

In the 1930s, Los Angeles ran on 50 cycle power. When the change to 60 occurred, the gov't set up shops for people to bring in their electric clocks to be fitted with new 60 cycle motors for a few dollars so they would keep accurate time instead of gaining 12 minutes per hour. That would never happen today.

The transition to Color TV had similar popularity.

The transition to color did not require everyone to go out and buy new sets just to be able to keep watching television. Color TV was compatible with B&W. DTV is not compatible in any way. To keep watching television you must at least buy a new set top box. And, it has been my experience over the last 10 years that owning as many as 10 set top boxes and at least a half dozen indoor and outdoor antennas set up in two different communities is no guarantee of good reception; or of any reception in the case of FOX. As for the transition to Color TV in the UK, it began in 1967, and the last 405 line B&W transmitter was not finally turned off until 1984 or 1985, two or three years short of two decades after it began.

So if ATSC receivers are now viable and relatively cheap, and HDTV would be embraced by all once educated, who is paying who to not promote OTA HDTV?

Again it's the cable companies. This has been mentioned several times over the years. I also have heard this from speaking with a few engineers I know who work for the local network affiliates. Some of them worked for me.

I have been in broadcasting since 1967 and for most of the last 20 years was Chief Engineer of QVC, the cable shopping channel. Before that I worked for Hubbard Broadcasting and several local network affiliate stations prior. I am now retired and have plenty of time to criticize the turn this industry has taken. Until I can receive broadcast worthy over the air digital television pictures at home like I can over satellite and cable, I will continue to complain.

1080p and Beyond

(**Editor's Note**: *What follows are some comments about an article John Luff in another publication. It brings up some interesting concepts worthy of consideration. This is why we've shown it here*.)

John Luff, TV technology consultant and SMPTE Fellow, expressed observations about the viability of production infrastructures being able to produce content in 1080 60p, let alone 2K resolutions. He pointed out that:

….8-bit, not 10-bit sampling, … for production would be inadequate [and] 4:2:0 coding will sustain for home use into the future, which might be a stretch when people commonly get higher resolution displays… progressive scan formats compress better as well, which probably makes up for the 8-bit/10-bit differential plus a little, but only for home distribution, not production. There is a sentiment on the part of many in production that 12 bit would be better, especially when many output formats including 1080p60 are considered.

…the complete format [of] SMPTE 292M is actually 2200 x 1125 lines. The space between active picture (1920*1080*10*2= 1.24Gb/s) and the total bandwidth (2200*1125*10*2= 1.485Gb/s) must have room for all metadata and audio, which it obviously does. 1920 x 1080p24 production format is .995Gb/s for active picture, and making that p60 raises the bar to 2.488Gb/s.

This is precisely the point. Luff points out; broadcast production infrastructures will have difficulty supporting 1080 60p, while Digital Cinema production has already moved up to 2K and 4K production. So, the movie industry can create content in a format, 1080 60p or 2K, that broadcast production cannot.

Implementation of dual-link 3Gb/s distribution methods for 1080 60p would reduce the capacity of an existing HD infrastructure by 50 percent. SMPTE has issued 3Gb/s standards (424M, 425M) that can be used for intrafacility 1080 60p SDI distribution over a single coax cable. An alternate method could be to work in the compressed domain, with 1080 60p content compressed at 200Mb/s data rates or higher. This format could be distributed using SDTI, ASI or over the media network (TCP/IP). In this way, 1080 60p content will survive the editing and production process, and produce acceptable, artifact-free video.

Broadcasters are concerned with converting their production infrastructures to support 1080i (or 720p) HD content. Any thought of expanding production to 1080 60p or 2K is well out of mind. Luff's observations support the premise that the Digital Cinema industry may be the only source for true 1080 60p native format content.

Here's something from Los Angele's past: The days when there was both a blue and red network (NBC). This building was located on Vermont Ave. Earl C. Anthony was a Packard Car Dealer who owned the stations. Before it was torn down, the building was a Korean Publishing plant.

Reader Input

An answer you didn't know you wanted

John Bredesen

Here's something interesting. We all work in a business that started with "radio". Where did that word come from? The answer below is from a friend who has an advanced degree in linguistics.

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The 'radio' part is from the old Latin word root "radi-". (The 'o' is just extra "connective material" -- you see it often, as in the '-ology' ending.) (It's the first 'o' in that case.)

Anyway "radi-" means 'ray' and is also etymologically related to the English word "ray." English "ray" and Latin "radi-" seem to have much the same meaning and usage, ie. the idea of rays emitted from a central source, spokes, beams, etc. It shows up in the words radiation, radium, and radius.

<><><><><><><><><><><><><><><><><><><><><><><><><

John

Telecopter Footnote

From: Michael Heiss

Thanks for a great Tech-Notes, the Telecopter story is well worth the price alone!

However, if I’m not mistaken here, I think a curious, if not sad, side note may be missing:

It is my recollection, though I’d have to find a way to double check it, but when Francis Gary Powers, famous to those of us old enough to remember the Cold War era, died in the crash of a KNBC ‘copter, wasn’t that the very same unit that was sold by KTLA to NBC? I seem to recall hearing or reading that at some point, but in 1977 I was still back in NY working at the late, perhaps lamented Teletronics/Video Corp of America production house having fun in an office next to one of the few CMX-600 units every built and the first U-Matic and then Beta duplication facility. Many interesting stories there from the early stages of tape editing and programmed film-to-tape, but that’s a story for another day.

Following excepted from Wikipedia on Powers:

> He died in a helicopter crash in Los Angeles on August 1, 1977, while working as a helicopter reporter for television station KNBC. The crash of his helicopter was apparently caused by a malfunctioning fuel gauge which had been repaired without his knowledge. Survived by his wife Sue, and two children Dee and Francis Gary Jr., he was buried in Arlington National Cemetery.

Perhaps one of your readers can enlighten on this end-note.

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Final note: I need to update my OITP status as the years have passed. Is that a matter of simply filling out the forms on the OITP site? My "Brigadier" certificate doesn't have the three color ribbons, and I'm jealous of those who have them, and when awarded the Dynair folks (at that time) didn't have all the various endorsements today. My 20 year old son has caught the "broadcasting gene" and is transferring from LA Valley College up to either Ohio State, Washington State (Murrow School) or my alma mater, Ithaca College and all of a sudden is pointing to the certificate in my office and asking if I'm THAT old! May as well take it for what it's worth!
Thanks and regards, and I'll look for you at NAB.

Michael Heiss

Order of the Iron Test Pattern

Our association serves no purpose other than to recognize one another for what we are -

Survivors!

The **Order of the Iron Test Pattern** will have their annual gathering and awards ceremonies during NAB 2007 this year in the ESE booth, C1839, in the upper part of the Central Hall at 4:30 PM on Tuesday, April 17th. (Thanks to OITP General Brian Way of ESE). In case you have a hot date, things should be over with by 5 PM.

The Sagacious Pixel, the somewhat *dubious* leader of this **august** group, tells us that there will be six awards given out this year:

The Annual Iron ***Meaningless*** Award
Galactic Tycoon James A. Mendrala
The Annual Iron ***Iconoscope*** Award
Monochrome Mogul David Corley
The Annual Iron ***Mic*** Award
General Richard Jenkins
The Annual Iron ***Phasor*** Award
Admiral Barry Mishkind

The Annual Iron ***Tilted Scales*** Award
Commodore Michael Couzins, Esq.
The Annual Iron ***Maiden*** Award
Victoria Battison
The Annual Iron ***Divining Rod*** Award
General Dane E. Ericksen
The Annual Iron ***Crystal Ball*** Award
Monochrome Mogul Robert N. Vendeland

You should really be there to see if you are the recipient of one of these most treasured certificates.

Just remember: No other organization does so **little** for so **many**. That's why we are **SURVIVORS!**

Membership is free. Check out the website at; http://www.oitp.org

Obituaries

Tom Moore, former ABC president

Tom Moore, who helped define the business of television and gave prominence to professional sports broadcasts, died Saturday, April 31, 2007 of congestive heart failure in Palm Springs. He was 88.

Moore career in television spanned four decades, from 1952 to 1983. He won no less than six Emmy Awards for shows produced by his company, Tomorrow Entertainment: “The Autobiography of Miss Jane Pittman,” “The Body Human” and “Lifeline,” which profiled the work of surgeons.

Moore's most lasting contributions to the industry came while he was president of ABC Television from 1963 to 1968. When he took the helm, ABC lagged far behind the other two networks, NBC and CBS in the Nielsen ratings.

Moore, along with other top ABC executives, determined that although the shows on rival networks pulled in enormous audiences, the viewers tended to be older. So in the mid-1960s, ABC got Nielsen to provide more information, including ages, for viewers in its sample audience.

Armed with this additional information, ABC then pressed advertisers to pay more money for commercials in programs that appealed to younger viewers. This was the era when baby boomers were on the cusp of adulthood. Moore saw those younger consumers as ABCs ticket to the top.

“Probably his greatest legacy is that he changed the whole basis on which television time is sold, and thus, how television is programmed,” said TV historian Tim Brooks. “ABC basically introduced us to the concept of demographics. And ever since, we in the TV industry have been appealing to 18- to 49-year-old viewers.”

To capture those young adults, ABC came up with edgier shows such as “77 Sunset Strip,” “The Untouchables,” “Peyton Place” and later, “The Mod Squad.” While Moore was in charge of ABC programming, the network aired other fan favorites such as “McHale's Navy,” “My Three Sons” and “The Flintstones.”

Moore also played a pivotal role in developing ABC Sports into a network jewel. Moore hired sports producer Roone Arledge, who would become a legend, and helped create “ABC's Wide World of Sports” and “Monday Night Football.”

“That was all done under his tutelage,” Moore’s daughter said, adding that before her father, ABC's sports programming consisted largely of bowling telecasts. “He brought mainstream sports to network television.”

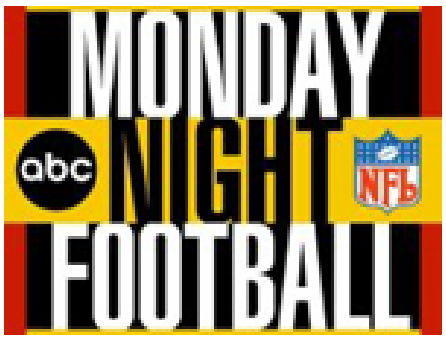
Moore was born Sept. 17, 1918, in Meridian, Miss., the son of a cotton buyer and a schoolteacher. After attending the University of Missouri, he served six years as a Navy pilot during World War II.

Moore started his TV career in 1952 at CBS, where he rose to general sales manager. In 1957, he joined ABC in sales and, the following year, became vice president of programming. In April 1963, he was named president of the ABC television network, a job he held for five years. After helping ABC become a viable network, he left and in the 1970s, he ran Tomorrow Entertainment.

After retiring, Moore and his wife, Claire Stirrat Moore, split their time between Palm Springs and the Napa Valley town of St. Helena, where they owned a 100-acre vineyard. He helped found the National Museum of Naval Aviation in Pensacola, Fla., and the Palm Springs Air Museum.

In addition to his daughter, also of St. Helena, he is survived by his wife of 63 years; his son, Tom Moore Jr., a comedy writer in Los Angeles; a sister, Geraldine Baier of Birmingham, Ala., four grandchildren; and two great-grandchildren.

(Some material supplied by the Los Angeles Times)



Frederic M Boor

Frederic M. BOOR was born January 22, 1953 to John and Jessie Boor died January 16. He is survived by his cousin, David (Eileen) and niece, Katie, cousins, Laurie, Lionel & Scott Niven and his former wife and friend of 32 years, Nancy.

His career included work at KOMO TV, Puget Power and VMI, Inc.

He was a kind, talented, creative man with a generous heart & brilliant mind.

He and Nancy spent many years camping, fly fishing and gardening. Together they never met an animal they didn't like and a continuous stream of stray cats seemed to find their home knowing they would get help and love.

Remembrances to Purrfect Pals, 230 McRae Rd NE, Arlington, 98223 or an animal rescue of your choice.

Contact family at thisnthatseattle@yahoo.com. Celebration of life will be scheduled in the future.

Parting Shots

By Larry Bloomfield

I don't know about you, but I'm looking forward to this year's NAB, but I'm not sure the technology that the public wants or really needs will be there. Why do I say that? Look at all the news about NBC, Fox and others providing full length programming on your cell phone. It's these same cell phone companies who want to take away the "unused" TV channels for their wireless devices.

As have been said so many times over the past nine plus years, people want to see their favorite programs when THEY want to see them, not when the local stations or networks tell them they have to watch them. Looking back in our archives, I can point to many places where either I or one of our writers has suggested that programs be made available at a certain time, permit viewers to access them anytime after that for as long as a week. We even suggested that the same program could be made available in two different formats: one with commercials, as they currently are offered and a second version, with a bit more content, without commercials, but for a fee. I guess DVRs and TIVO has kind of addressed that.

As has been stated here and else where many times before, one of the enhancements that come with digital delivery of television programming is its "near-studio quality" picture. The viewer either has a good picture with sound or they have nothing. Yes, yes, I know there is some cliff effect pixilation or blockyness on the fringe, but that is the rare exception rather than the rule.

We've also stated any number of times that when it comes to high definition; it is senseless to watch it on anything smaller than a 27 – 28 inch screen as the stellar detail content of the picture is wasted on displays smaller. This is why it is hard for me to believe that people will opt to watch their favorite programs on screens not much larger than a postage stamp. It wasn't too many years ago when you could hear people pooh-poohing Quick Time videos as being too small on their computer screens.

There is a coalition of big technology companies that want to bring high-speed Internet access to consumers over the same airwaves that television now occupies. Key to the project is whether a device scheduled to be delivered to federal labs recently lives up to its promise.

A coalition of six partners, which includes -- Microsoft, Google, Dell, Hewlett-Packard, Intel and Philips, wants regulators, after the dust settles on the digital transition of February 2009, to allow idle or vacated TV channels, known as white space, to be used to transmit the Internet into homes and offices. But the Federal Communications Commission first must be convinced that such traffic would not bleed outside its designated channels and interfere with existing broadcasts.

The radio spectrum was divided up into radio services – Land/Mobile, Radio Broadcast, Public Safety, Television, and the list goes on. This was done for very good reasons. The exigencies of each of these kinds of services are, in many instances, very different. Commercial broadcast FM channels are 200 KHz wide, commercial AM radio channels are 10 KHz wide, television channels are 6 MHz wide and these are all to accommodate the particular type of modulation or intelligence each radiates. It's bad enough at the junction of two radio services to keep each from interfering with each other.

I did a story for Broadcast Engineering several years ago about a television station in Detroit who was assigned to operate their digital transmitter on channel 14 (470-476 MHz). Not two blocks from them was an existing Land/mobile 2-way radio station operating at 469.975 MHz. It worked out fine, but the expense of the filter network to keep channel 14 from getting into the 2-way radio station was a bundle.

We've not even see the tip of this iceberg. If you haven't read the Editor's Comments at the top of this edition, you really need to do so. Although the transition to digital is going to happen, it would appear that it ain't-a-goin to be smoooooth. Expect many hitches in this getty-up! And yes, the camel's nose is just getting into the tent.

SPECTRUM IS THE MOST VALUEABLE THING IN OUR INDUSTRY. I capitalized that as I believe it to be a most important statement. If we are to keep "FREE over the Air Broadcasting" we need spectrum – spectrum is more precious than gold; without it a broadcaster is nothing. Sometimes I feel like I'm either preaching to the choir or to deaf ears.

Let's look back. In 1938, we had 19 VHF TV channels. By 1948, we'd lost seven, leaving us with the current 2-13. So far we've been able to keep those 12 channels in tact, but don't hold your breath.

Then there is UHF. On December 29, 1949 KC2XAK in Bridgeport, Connecticut became the first UHF television station to operate on a regular daily schedule. The first commercially licensed UHF television station on the air was KPTV/Channel 27 (now VHF Channel 12) in Portland, Oregon on September 18, 1952.

We started out with UHF Channels 14 though 83. For over 20 years, Channels 14- 20 have been shared with the public safety radio service (fire, police, ambulance). That left Channels 21 – 83, except for channel 34 (radar) and channel 37 (radio astronomy). Somewhere along the line, we lost Channels 70-72 to pocket pagers and Nextel SMR, Channels 73-77 and Channels 80-83 to cellular telephone and finally channels 77-80 to public safety. With Channels 52–69 to be auctioned for other uses, that leave us with UHF channels 14 to 51 without 34 and 37 and now there's this move afoot to sandwich in these potentially interfering wireless devices in the "unused" channels.

They've even got FCC commissioners brainwashed: "These devices have the potential to take the success of the WiFi phenomenon to another level," said Jonathan S. Adelstein, an FCC commissioner.

Don't think for one moment that this six-partner collation is along in all of this. You can bet that watching from the sidelines are the major telephone and cable companies that compete to bring high-speed Internet into millions of businesses and homes.

There is no question that competition is good, but not at the expense of the broadcast industry and the recipients of the FREE service we have to offer.

That's nothing! Don't look now, but Verizon is on the move. The California public utilities commission has authorized Verizon to offer its FiOS TV service to 45 more communities. Offering the TV service to 18 cities in the state; they carry 26 national High-Definition channels, including five premium networks. I can't help but wonder how much Free Over the Air programming is being duplicated and paid for by their subscribers???????

What did I say about getting full-length TV programming on your mobile (cell) phone? Less than a month ago, NBC Universal (NBCU) announced that it would begin offering full-length TV programs for download over mobile phones — making it one of the first major U.S. broadcasters to offer such a service. The broadcaster has teamed with MobiTV, the technology that enables the streaming of TV content to mobile phones, to roll out the new service, expected to launch later this year.

The new service will allow viewers to download full-length episodes of NBCU primetime programs for a small fee for a 24-hour viewing period. Current seasons of shows produced by NBCU Television Studios will be offered, including "The Office" and "Heroes" from NBC, USA's "Monk" and Sci Fi's "Battlestar Galactica." Several ad-supported on-demand shows will also be available at no extra charge from within the MobiTV base subscription channel package. Short-form programming will be offered on five new ad-supported channels.

Not to be out done, News Corp also announced plans to launch a video distribution site this summer featuring thousands of hours of content from at least a dozen networks and two major film studios. Add to this Time Warner Inc.'s AOL, Microsoft Corp., News Corp.'s MySpace and Yahoo Inc. partnering with the two companies to distribute the service to their users. Each of these portals will have its own embedded player featuring the video content, which will include such shows as "Heroes," "24," "House" and "My Name Is Earl" and such movies as "Borat," "Little Miss Sunshine" and "The Devil Wears Prada." BTW: these companies say they represent 96% of the U.S. Internet audience and they're looking for more partners.

So what I was alluding to three pages ago when I said: "I'm not sure the technology that the public wants or really needs will be there," is, if broadcasters are smart, they'll be looking for ways to cash-in on getting their content to computers via the Internet (streaming), to cell phones or to whatever kind of device that can display their content and make them some money in the process. That's what they should be looking for at NAB this year. Will it be there? Go and find out. We'll certainly try to have some of that kind of technology with us on the Road Show.

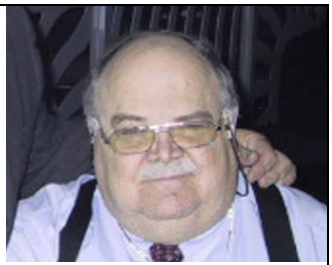
So What do you think?

One very last thing: If you happen to see Jonathan, Jim Mendrala, John Silva or myself at NAB, stop us and say hi. (I now have a goatee and die my hair- what little there is ☺)

Jonathan Haase

Jim Mendrala

John Silva



Larry Bloomfield

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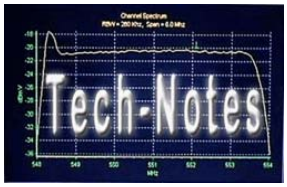

Thanks.