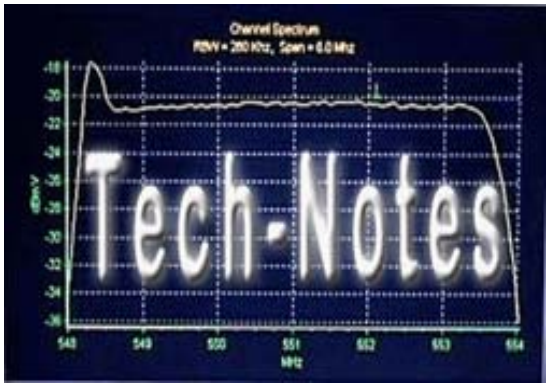


http://www.Tech-Notes.tv
February 24, 2003

Tech-Note – 114
Established May 18, 1997

Our purpose, mission statement, this current edition, archived editions and other relative information is posted on our website. We've had over 26,740 different visitors since we started the website on July 1st, 2000. .

Thanks to our regulars and welcome to the new folks.
This is YOUR forum!

In this PDF version, click on the bookmark tap to the left.

It will provide you with navigation features to this edition.

Editor's Comments

This edition's Editor's feature - keeping history alive – The Telecopter.

Had the opportunity to view a DVD made available through what is probably the oldest Television Engineering Society in the world, aptly named the Society of Television Engineers (STE). STE is unique to the Los Angeles television market and was founded in 1940 by chief engineers of Los Angeles stations, "To advance the theory and practice and

to enlarge the use of television, and to promote harmony and cooperation within the television industry." STE still holds monthly meetings in Los Angeles.

John Silva, former Chief Engineer of KTLA in Los Angeles from 1955 to 1978, and member – former president of STE, gave a presentation during their May 2002 meeting before 119 members and guests. This presentation was recorded on videotape at the time, and has now been reproduced on a DVD, with a few extras added. If you are even remotely interested in the milestones in television's history, this DVD is a must viewing, and should hold a place of honor in your archives.

Why Silva? To list Silva's contributions to the television industry would take more space than we have here and will be saved for future editions, but the one thing that is probably his crowning achievement is the conception and development of the very first Telecopter. In the DVD, Silva takes you through the processes and the hoops he had to jump through to bring it into fruition along with some very pleasant surprises, historic events covered by the Telecopter and demos. The program is titled "The Telecopter: the original, present and future." The DVD lived up to its title.

As the DVD points out, Silva got the idea for the Telecopter in 1957, a year after his first boss and mentor, Klaus Landsberg had passed away. And then, it took a year or so and two general managers before he could get the go-ahead.

Silva, with the help of Roy White, 38 year KTLA veteran, Studio Engineering supervisor, and later Engineering Operations Supervisor, and Harold Morby, then staff engineer (who later became the Telecopter cameraman/engineer), made it all happen. The October 1958 edition of Radio and Television News announced: "Telecopter" A Flying TV Station.

Television news in Los Angeles, as it is most anywhere else, is a dog-eat-dog business. Taking remote trucks out to news events was done, but took hours of planning and setup. The mobility and speed of a Telecopter in a metropolitan area such as Los Angeles was a stroke of genius. As the DVD points out, it took 6-months of very secret development to get the 2000 pounds of television equipment reduced to the 400 pound weight restrictions of the Bell helicopter that it was necessary to make it happen.

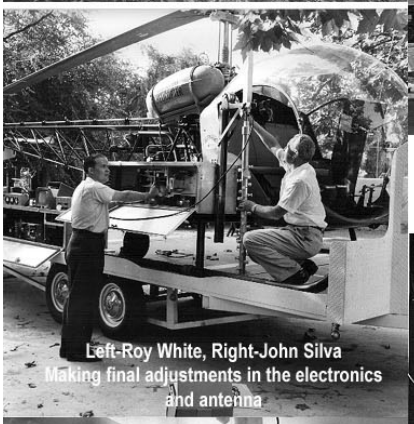
Silva designed two boxes which were mounted initially on the helicopter's skids. The camera, monitor, and audio and video controls were placed in the "bubble." The equipment laundry list included: transmitters for audio and video, the monitor, a 2-way radio system, a power supplies, a G-E vidicon camera that was equipped with a Zoomar lens and a special scaled-down version of a GE helical antenna that was made to be retractable that was fabricated in Paramount's machine shop. Put that all together and you had the world's first Telecopter.

Construction of the Telecopter-KTLA about 1957-First flying TV Station in Southern California

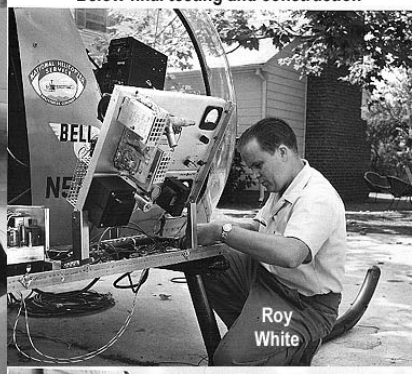
Second generation-Telecopter #2

Below-construction of Telecopter #1
This was built in the backyard of the president of National Helicopters.
We didn't want our competition to know what we were building!

Left-John Silva, in copter-Harold Morby, center right-Roy White
Copter#1 ready to roll to the airport. A 'first'
Below-final testing and construction



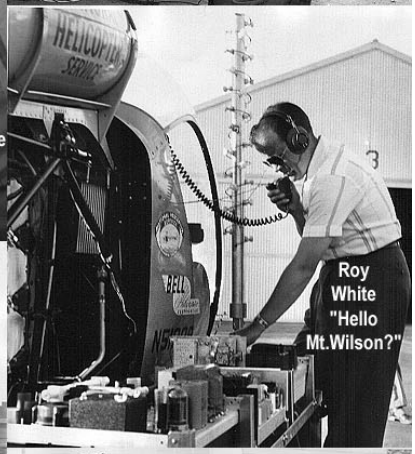
Left-Roy White, Right-John Silva
Making final adjustments in the electronics and antenna



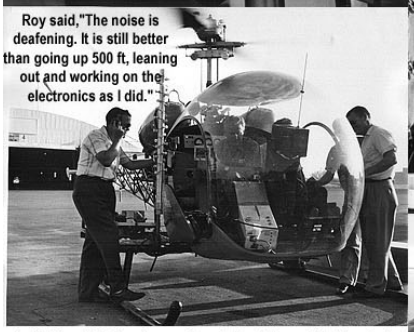
Roy White

John Silva
"Think this thing will work?"

Roy White
"Sure we did a good job"

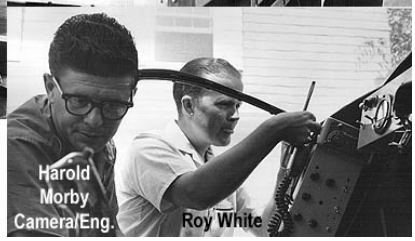


Roy White
"Hello Mt.Wilson?"



Roy said,"The noise is deafening. It is still better than going up 500 ft, leaning out and working on the electronics as I did."

Left-Roy White, in copter John Silva, Right-pilot
Ready to take off and make history scooping all all other news media with picture close ups from above of riots, dam breaking, car chases, etc.



Harold Morby Camera/Eng.

Roy White

(Pictures courtesy Roy White)

While viewing the nearly hour and a half presentation, you come away with a keener respect for our fellow engineers who put their hearts and souls into projects such as these during television's more formative years. Issues of intense vibration that exists in helicopters and the way Silva and crew invented special shock mounts and baffling to prevent the equipment from being jarred excessively are just a few of the problems you see these gentlemen with vision overcome.

For more information on this historic project, visit any of the websites below. For copies of the DVD from the STE (Cost $15.00 S/H included) Contact John Joannou, this year's STE president --: John@teklogic.com

http://www.nationalhelicopter.com/telecopter.html
http://www.paccd.cc.ca.us/classes/envsci/lariverproj/'69%20flood.htm
http://ourworld.compuserve.com/homepages/ggninfo/76.htm

(Editor's Note: If you know of historic events, please let us know for future articles.)

NEWS

New feature:. Click on the story title and it will take you there.

(**Editor's Note**: In the PDF version, if you open the bookmarks at the left, you can navigate through this document very easily by story title.)

Subject: **TI's Digital Cinema 2K DLP Prototype Demonstrations**
By: Jim Mendrala

On February 19, 20 and 21st Texas Instrument Technology in conjunction with the Digital Cinema Lab in Hollywood, gave a demonstration of their new 2K DLP Prototype digital cinema projector. The projector displayed an impressive 2,048 x 1,080 pixels. That's a combined resolution of 2.2 Megapixels. The older projectors had a resolution of only 1280 x 1024 or 1.3 Megapixels. The color management is reported as having a gamma of 2.6 and a color resolution of 15 bits/color (45 bits total). The projector runs at 24 frames per second with no shuttering -- that is, the entire frame is refreshed. The screen used was a perforated 47 feet by 20 feet with a gain of 1.3.

This is the first time movie film clips recorded at 1,920 x 1,080 have been projected onto a large cinema screen with a projector resolution higher than HDTV resolution. The older digital cinema projectors have been able to meet the 12 foot Lamberts but with only 1280 x 1024 resolution. Because the older projectors have a smaller Digital Micromirror Device (DMD) chip set, two anamorphic lenses had to be used to get the 2.35 scope and

the 1.85 movies onto the screen. The prototype projector uses a single fixed lens to project the image.

Side by side comparison with the older digital cinema DLP projector showed a very good color match. The major difference, when sitting less than 1.5 screen heights, was the much finer square pixel pattern which was not as objectionable, compared with the older, larger rectangular pixel pattern.

The demonstration film clips were inter-positive (IP) scans of "Mission Impossible: 2" courtesy of Paramont Pictures, "Road to Perdition" courtesy of DreamWorks SKG, an original negative scan of "Sum of All Fears" courtesy of Paramont Pictures, "Moulin Rouge" courtesy of 20th Century Fox, a digital origination of "Star Wars: Attack of the Clones" in 1,920 x 818 format (framed for 2.35:1) courtesy of Lucasfilm, a side by side comparison of "Harry Potter and the Chamber of Secrets" with the new 2K DLP prototype and a release print projected with a Kinoton projector courtesy of Warner Bros. and a side by side comparison between the 2K DLP prototype and the older M15 projector split screen of "Ice Age" courtesy of 20th Century Fox and "Signs" courtesy of Walt Disney Pictures and Icon Productions.

With the greater number of pixels and the larger size of the arrays, it was easier to get the required 12 foot Lambert brightness onto the large screen. The mirrors on these chips are slightly smaller, 12 microns as opposed to 14 microns, and have a swing of ±12 degrees instead of the older ±10 degrees. Because of the added number of pixels the DMD is larger than the older DMD. The diagonal of the 1.9:1 aspect ratio chip is said to be 1.3 inches. This helps in giving the new DLP prototype projector a sequential (Off:On) contrast ratio using the CineBlack™ dynamic range management of greater than 1700:1. The older M15 had a contrast ratio of ~1400:1.

Playback of the digitized film clips were from a GDC DSR™ Digital Server using an Intra-frame MPEG-2 at a constant bit rate of 65 Megabits/second and/or a Panasonic D5 3700 using Intra-frame DCT at 270 Megabits/second.

The DLP prototype projector used a 6KW Ultra-80 lamp console. The older M15 DLP digital cinema projector used a 6KW Christie lamp console and the Kinoton PK60E 35 mm projector used a 6KW Strong lamp console providing 16 ft. Lamberts of light with an open gate with the shutter running. With film in the gate the light level falls to approximately 12 ft. Lamberts. The lenses used for the DLP projectors were from Minolta and the film projector used an 85 mm Schneider lens with an integrated anamorphic.

Digital Cinema is close to becoming a reality in the next couple of years. With this new 2K DLP Prototype, it probably will be next year when we will begin seeing some projectors from Barco, Christie, Digital Projection and NEC.

As to upgrading older DLP Digital Cinema Projectors, Peter Nicholas, of Digital Projection, thought that it would be possible to retrofit some of their digital cinema

projectors but Harry Mathias, of Barco, thought that it wouldn't be possible to retrofit because of the light path optiics. NEC though might just have the first digital cinema projector using the new 2K DMD's as they have yet to demonstrate a Digital Cinema DLP projector using TI's patented "Black Chip" set.

The 2K DLP prototype has the capability of a full resolution 4:4:4 RGB input. So far all demonstrations to date have used a 4:2:2 or 4:2:0 sampling.

For more information on Texas Instrument's Digital Cinema go to www.dlpcinema.com.

Subject: **DTV Transition Score Board**
By: Larry Bloomfield

Since we last reported, 68 more stations have been added to National Association of Broadcasters (NAB) list of those filling their market's airwaves with digital signals. As of February 21, 2003, NAB reports there are 768 Stations in 184 markets delivering over-the-Air DTV Signals in Markets that include over 97.34% of TV homes in the US.

This means that 71.89% of the more than 106 million U.S. TV households are in markets with five or more broadcasters airing DTV and 36.55% are in markets with eight or more broadcasters sending digital signals.

On the other hand, the FCC has granted another six month extension to eight major network owned-and-operated stations and affiliates for transitioning to DTV operation, due to zoning and technical problems.

The delays, the FCC ruled, were "unforeseeable and beyond their control." The stations are: Denver, Colo.'s KMGH-TV; KCNC-TV and KUSA-TV, all embroiled in the Lookout Mountain controversy; WBBM-TV, Chicago, Ill.; WVIT-TV, New Britain, Conn.; WTVJ-TV, Miami, Fla.; and WTIC-TV and WFSB-TV, both in Hartford, Conn. All of these stations were originally required to be on-the-air with a digital signal by November 1999 and this isn't their first extensions.

As of December 31, 2002, the FCC says there are a total of 1719 full power television stations in the United States. This 768 is still only 44.78%. And again, this does not include any requirement for the (2640 UHF and 2094 VHF Translators) 4734 translators or the 2119 LPTV stations to do anything. We'll continue to bring up this issue as the question, "Where are they all going in 2006?" hasn't gone away as yet. I know this last paragraph is a repeat, but maybe someone in government will see it and do something about it. When do we panic?

Information about NAB can be found at http://www.nab.org

Subject: **Advanced Motion Imaging Conference**
From: The Society of Motion Picture and Television Engineers

The Advanced Motion Imaging Conference will be held in Seattle, Washington - February 27 to March 1, 2003

New Initiatives in Motion Imaging
- The latest in Compression Techniques and New Media -

- Content Creation and Distribution -

- High Definition, 4K resolutions, production and distribution -

- Display Advances in Plasma, CRTs, Processing for devices and More

- Recording Systems, including MXF, and MSW, IMX, or DV100 -

For more information, go to http://www.smpte.org/conferences/ami37.cfm

Subject: **Mergers and acquisitions**
By: Fred Lawrence

Reports have it that executives at AOL Time Warner have broken off talks with Disney over the proposed merger of CNN news with ABC ness. It appears that CNN's parent company had trouble dealing the AOL's recent move toward the performance abyss and didn't want to tie in with something that might be contagious.

News personnel at both ABC and CNN are breathing a little more easily as the expected merger would have, no doubt, resulted in massive layoffs. There would have also been a significant power shift. Under the proposal CNN would have owned 70 percent of the merged company.

Not that AOL Time Warner's largest shareholder, Ted Turner, who founded CNN, is exactly a weathervane; his public displeasure over the merger should have given many a hint of the doomed future of such excursion.

For more information on this, visit www.aoltimewarner.com

With the Echostar/Dish bid for DirecTV now nothing more than a nearly forgotten page in the chronicles of recent history, it would appear that others seeking to acquire DirecTV are being view in a not so favorable light of success. In addition to Uncle Rupert's (Metromedia – the folks who brought you the Fox network, USA Today and other such media outlets) ongoing interest in DirecTV and the recent interest of communications giant, SBC, it's interesting to note that SBC's overture is being pooh-poohed by industry analysts as being a bad idea.

The analysts, quoted by the Associated Press, say the proposed deal wouldn't solve the problems with the basic telephony business that have caused SBC's revenue to drop nearly 20 percent in the past two years.

Others said purchasing DirecTV, the nation's second largest pay-television company, would dilute SBC's earnings and would not create synergies with the company's existing phone-oriented businesses.

For more information visit www.sbc.com .

DISHed Again-The Speculation Frenzy

A frenzy of speculation has broken out on word that executives from EchoStar have - gasp! - spoken to execs at News Corp. and Liberty Media about a possible sale of the company.

Gee. What a surprise!

As anyone who's watched Charlie Ergen for any length of time knows, he's always ready to talk deals. So the notion that he might be on the phone with Rupert Murdoch or John Malone, or both, hardly comes as a big shock.

Besides, at this particular moment, we believe Charlie has at least three potential reasons for holding such discussions:

1.) If there's a big pot of money out there, ready to buy into DBS (as via a Hughes transaction), Charlie would quite naturally like to get his hands on it. Take the money and run is not necessarily a bad business strategy.

2.) In our observations of Mr. Ergen, he loves nothing more than winning. In his book, winners usually implies losers and his favorite pick for that role is Hughes Electronics. If he can get in there and mess up the deal for Hughes, do you really think he wouldn't do it?

3.) With the Hughes/EchoStar merger dead, and cable geared up for a better competitive fight, EchoStar's long-time, low-ball strategy is looking a tad risky. All those subs bought with cheap equipment and special programming deals pose a fairly high potential for churn. So back to our No. 1: Take the money and run could be a pretty good option.

Of course, most observers doubt that any serious discussions have yet been held between Ergen and potential buyers. Besides, the real question is whether News Corp. would have anything to do with Ergen, who has repeatedly outfoxed the Fox boss, Rupert Murdoch.

Speculation on the Street, in fact, suggests that the whole "Charlie's gonna sell" story was started by News Corp. partisans seeking to get Hughes to the table.

Said William Kidd, satellite analyst with Lehman Brothers, "We believe that it remains an unlikely scenario in which EchoStar is sold. Rather, we feel the more likely situation may be posturing on the part of GM, News Corp. and Liberty about whether or not GM gets a premium for its GMH stake." Hmmm...

(Editor's Note: *As a one time DirecTV subscriber, now Dish customer, we check in to see what it would cost for us to switch back over to DirecTV – just $20 plus more a month for the same basic services, no UPN or WB stations and generally less channels. We'll stay were we're at.)*

Subject: **Technology Retreat -- follow-up**
From: Mark Schubin

The Hollywood Post Alliance's 8th annual Technology Retreat (a good trick, as the organization is barely over a year old) grew astoundingly this year in Palm Springs, CA. Attendance had increased each year, but this year it jumped to 233 from 153 last year, most of those at CTO or VP level. This was also the most jam-packed event, beginning with an all-day ATSC seminar on datacasting and DASE, continuing with a half-day Charles Poynton seminar on color transforms, and then following with the retreat itself, which ranged from consumer electronics to digital cinema, from targeted commercials to network security, and from film to Internet streaming. There was even playback of a 1927 video recording!

Sony introduced its new HDCAM SR (450 Mbps) format in the demo room, where one could also find Visible World's commercial-making software, Evertz's low-cost HDTV switcher, DemoGraFX's comparison of Windows Media 9 and other compression schemes, Panasonic's contouring-free plasma panels, and much more. The breakfast roundtables were packed (and loud) by 7:45 am, and Choice redeemed its 2002 loss by defeating Quality in the softball game 14:9.

Although no one correctly guessed what SMPTE Type F was, many went home with prizes for knowing why there's no D-4, what NUTSEQAMIR stands for, how Barbados was the TV opposite of Brazil, and the role of William Griffiths. A good time was had by all.

TTFN,
Mark

Subject: **Cable TV BANNED in Afghanistan**
From: Australian Radio News Service

NO 

Afghanistan's Supreme Court has outlawed cable television across the country. Chief justice Fazel Haji Shinwari has made the rule in response to an appeal against a recent ban of cable television in the eastern city of Jalalabad.

"We are Afghans, we are Muslims, we have Islamic laws and values in our country," the judge said.

Justice Shinwari says he has sent official letters to security officials and the governor of Kabul requesting the cable channels be banned. Cable television carrying 12 overseas television channels has been operating in several neighborhoods in the capital.

"It was our duty to take this decision, it is now up to the government to enforce it," he said.

(Editor’s Note: Having seen some Afghanistan television, it’s no wonder.)

Subject: **Powell on 5-GHz Spectrum**
From: An FCC press release

"The consensus reached on a United States position on Radio Local Area Networks (RLANS) at 5 GHz is a 'win-win' proposition for industry and government.

"Consistent with the recommendations of the Spectrum Policy Task Force, the proposal would make additional unlicensed spectrum available to promote RLAN deployment while protecting radars vital to our national security.

"The parties involved are to be commended for their efforts to reach this hard-fought compromise."

Subject: **NO more Channel 60 – 69 applications**.
From: An FCC press release

Beginning immediately, and until further notice, the Commission will not accept for filing modification applications that would increase a television broadcast station's analog or DTV service area in the Channel 60-69 range. Certain technical criteria apply –

See the following FCC Public Notice for details:

http://hraunfoss.fcc.gov/edocs_public/attachmatch/DA-03-46A1.doc

Subject: **Broadcast ownership: Hands off changing limits**
By Larry Bloomfield

Read an interesting item written by Philip Meyer the other day that appeared in USA Today. It addressed local why the limits on station ownership should not change. He makes some rather good points. Meyer attributes most of the problem to the 1996 Federal Communications Commission (FCC) decision to let

broadcasters own an unlimited number of radio stations. That move led to many new out-of-town buyers slashing costs by consolidating stations and automating their content.

Although Meyer uses a radio station as an example, many of his points can be equally applied to many of today's television stations. He aptly points out why, with no live people are there to answer the telephone, local news events and other fiduciary responsibilities to the local community of service are being systematically abandoned or seriously neglected. The computer just sits there and runs the station: It played music all day and night, with announcements and commercials dropped in from a recording that took a live operator only a few hours a week to make.

Before the 1996 rule change, the largest radio-group owner had fewer than 65 stations. Today, one company, Clear Channel Communications, owns 1,225. Radio ad rates have increased almost 90% since 1996. Radio listening is decreasing.

Meyer's concludes his piece with: "We should remember that threats to freedom come not only from government; they can come from big business, too."

Philip Meyer holds the Knight Chair in Journalism at the University of North Carolina, Chapel Hill. He is also a member of USA TODAY's board of contributors.
For the full story, visit: http://www.usatoday.com/news/opinion/editorials/2003-01-21-meyer_x.htm

Subject: **Canada blocks free Internet TV**
From: John Borland, Staff Writer, CNET News.com

Canadian regulators recently ruled that it is illegal to put broadcast TV signals onto the Internet without permission, dashing the hopes of entrepreneurs hoping to create new Net TV businesses.

For the full story, visit: http://news.com.com/2100-1023-981254.html

Subject: **CEA Adopts DVD-Video Players Standards**
By Larry Bloomfield from a CEA press release

The Consumer Electronics Association (CEA) announced today that its recording and imaging subcommittee has adopted a standard method for measuring the performance of DVD-Video players based on NTSC specifications.

After hundreds of thousands of DVDs and a significant number of players are in consumer's hands, the Consumer Electronics Association (CEA) finally got around to coming up with a "standard" for DVD players. The new standard, designated CEA-896-A - Standard Method of Measurement for DVD-Video Players, was created to make it easier to compare the functionality of DVD-Video players.

Heretofore, when a DVD was made, if it played on a preponderance of "test DVD players" from several manufacturer's, it was said to have passed quality control. There is still no industry-wide recognized standard for a DVD!

The standard defines test signals and test procedures for measuring different aspects of brightness and color of a DVD-Video player. It also helps measure a DVD player's signal and audio-related characteristics, including the PCM, Dolby(r) AC3 and DTS(r) audio formats.

CEA-896-A is available from Global Engineering Documents at http://global.ihs.com. Additional information about CEA's Technology and Standards department can be found at www.ce.org/standards

Subject: FCC Items and more
From: Robert F. Gonsett, W6VR, Publisher, THE CGC COMMUNICATOR
rgonsett@ieee.org

FCC AFFIRMS IT'S ULTRA-WIDEBAND REPORT & ORDER

The FCC has affirmed in all major respects its Ultra-Wideband (UWB) First Report & Order. Presented with a disruptive technology like UWB, the Commission scrambled to develop a regulatory framework to allow for its deployment in the marketplace, and believes that its earlier decisions were basically correct.

http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-231197A1.doc

FCC TEMPORARILY CLOSED ITS REFERENCE INFORMATION CENTER

In response to the increased Homeland Security Alert System threat level, the FCC closed, and then reopened to the public, its Reference Information Center (RIC). All RIC patrons must now enter the Commission building through the 12th Street lobby for security screening and escorting to RIC.

http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-231044A1.doc

http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-231076A1.doc

JOB POSTINGS ADDED TO THE WEB

"Jobs available" and "positions wanted" items posted in the CGC Communicator will also be available on the following web site, where they will remain posted for about 30 days:

http://www.earthsignals.com/jobs/

Subject: **Smaller Stations Fare Better in Local TV News**
From: A story by Edmund Sanders of the Times

According to a recent study from a journalism group, Sanders says the study grades newscasts, finding that the bigger the owner, the lower the quality. In his article, Sanders goes on to say that bigger isn't better when it comes to local television news.

Despite access to more money and resources, TV stations controlled by large group owners -- including the major networks and their biggest affiliates -- generally produce lower-quality newscasts than do their smaller rivals, according to a report by the Project for Excellence in Journalism, a Washington-based research group.

The recently released survey is likely to be a topic of discussion at a USC forum on media ownership. The session is expected to be attended by Federal Communications Commission officials, academics and Hollywood executives.

The journalism group drafted the report in response to FCC Chairman Michael K. Powell's call for more empirical evidence into how media ownership affects diversity of viewpoints and local perspectives on TV. The data, collected over the last five years for another study, were re-sorted over the last two months to examine the role of ownership.

Needless to say major broadcasters such as News Corp., which owns Fox, and CBS parent Viacom Inc. immediately blasted the report. They questioned whether quality can be objectively measured and noted that news shows produced by network-controlled stations typically attract the most viewers.

The study found, for example, that co-ownership of a TV station and newspaper in the same market -- currently banned by the FCC in most cases -- improves the quality of the

station's newscasts. (Tribune Co., parent of the Los Angeles Times and KTLA-Channel 5, is lobbying to repeal the co-ownership rule.). This is a departure from FCC rules about newspapers and TV stations being owned by the same company in the same market.

Eddie Fritts, president of the National Assn. of Broadcasters, which is fighting against the networks to retain the 35% cap, said the study appeared to confirm his group's assertion that affiliates offer higher-quality newscasts.

"It validates some of the theories advanced by our side," Fritts said.

Subject: **IT group: Say no to Hollywood, B'casters**
From a story by Bill McConnell in Broadcasting & Cable

It would appear that Holly and broadcasters just don't get the message. According to McConnell's story, Software and computer companies again called on the Federal Communications Commission to reject TV copy-protection rules backed by Hollywood and broadcasters.

"Proponents of the broadcast flag have not provided sufficient evidence that it is needed now and that its implementation would justify the direct and indirect costs to consumers of such a mandate," the IT Coalition said in reply comments filed Wednesday.

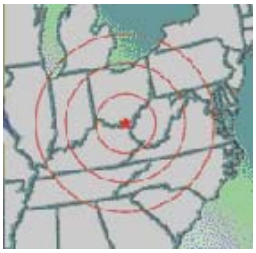
McConnell says that if the FCC decides that a content-protection solution should be mandated, the IT Coalition urged one "created and supported by all affected industries."

The broadcast flag is aimed at limiting unauthorized distribution of content and was developed with funding from major broadcast networks, the MPAA, the NAB, station groups and artists and actors unions.

The flag would be embedded in spectrum accompanying video programming and would tell digital recording and storage devices how many times, if any, a user may copy a program for use outside personal video equipment.

The complete story is available at:
http://www.broadcastingcable.com/index.asp?layout=story&doc_id=113595&display=breakingNews

Subject: **Ice takes out power and tower**
By Larry Bloomfield



The weather in the east hasn't been very kind lately to not only the citizens who choose to live there, but to some of the local television stations as well. WHCP-TV, serving Charleston-Huntington West Virginia, Ohio and Kentucky (located in Portsmouth, Ohio), lost its signal in the storm as the result of "an ice storm, falling trees and just plane miserable weather," according Butch Wilkinson (butch@whcp-tv.com), chief engineer of WHCP-TV.

"The ice is coming down in pieces that look like large falling pipes, making it impossible to reach our transmitter site. From what I can determine, ice coming off the tower took out our STL. We've ordered a new dish and radome, will get a generator up and running, but until we actually can get to the site, we're not sure if there's anything else we'll need," Wilkinson added. "Prospects of getting back on the air are not all the great right now," he concluded.

WHCP-TV's receptionist Adrienne O'Harra, told Tech-Notes: "There's no local radio stations, AM or FM, are on the air that I can receive, the phones are out to most residences as well as power in the nearby county where I live."

WVAH-TV, also serving the tri-state area, lost their tower due to severe ice storms and power was interrupted to another.

According to sources at the Sinclair Broadcast Group, no one was injured when the WVAH-TV tower went down. Huge chunks of "football-size" ice could be seen around the tower's wreckage. Local cable service was restored through fiber optic and microwave links and full service will be restored as soon as possible.

Subject: **Nine Leads In High Definition**
From: Paul Suters, Engineering Projects Manager, Nine Network Australia
psuters@nine.com.au

Australia's Network Nine announced on February 13, 2003 that it had started transmitting high definition digital programs - the first network in Australia to do so.

With a full time Nine digital signal now reaching 75 percent of the Australian population (through Nine and its affiliates), the majority of which is DVD style wide-screen programming, high definition adds another offering to viewers who have chosen to convert to digital.

"We want viewers who have purchased high definition equipment to be able to experience the superior quality of programs in high definition", said Mick Morris, Chief Operating Officer of the Nine Network.

"Transmissions have begun in Sydney and will commence in Melbourne in March with other capital cities to follow by the middle of the year."

Nine is producing a number of local programs. Where possible, nine is purchasing overseas programming in high definition including ER now, and later in the season Frasier, CSI, CSI Miami, The Sopranos, Judging Amy, Drew Carey, Smallville and various movies.

"To enable local high definition production, we have converted our main studio in Sydney to high Definition and a Melbourne studio will be converted during the year. The production in Melbourne will enable us to make a number of programs in High Definition including Who Wants to be a Millionaire, and the AFL Footy Show," Mr Morris said.

"Our high definition production will add to and complement the large investments being made by the independent local production industry in high definition programs."

"Although the legislative requirement for 1040 hours per year does not start until July 1, 2003, Nine was keen to get started in high definition as soon as it was practical.

Subject: Thanks
From: SBE

Just a word of thanks to Dave Biondi of Broadcast Net and Kevin Webb of Tieline for making future SBE "remotes" possible. National SBE looks forward to the opportunity to share future special meetings and events with a wider audience. We also encourage SBE chapters to take Dave and Kevin up on their offer to stream an upcoming chapter meeting that features a "must hear" program or other event you may be planning. Let me know if you do and we'll help get the word out through the SBE web site, SBE Signal and Short Circuits newsletters.

Best regards,

John L. Poray, CAE, Executive Director jporay@sbe.org

Subject: **Class A and LPTV industry**
From: Jackie Biel

Can you please include this in your next edition of Tech-Notes? CTB Online is for the Class A and LPTV industry. And it's free!

Just to let you all know that a new issue of CTB Online is ready for viewing. It's free to online readers.

TV industry suppliers--Want to contribute a "Supplier Solo"? It's free. Let our readers know what your product is all about. 500-1,000 words is suggested, but take as much room as you want. Photos and/or animation would be great. Call me (the editor) first: Jackie Biel (262) 781-0188.

To read the issues, go to www.thelptvstore.com and click on the link to CTB Online at the left side of the page.

To view past issues, click on "Archives" on Page 1 of CTB Online.

Doing something interesting with your station? Send us the news:
kompasgroup@toast.net

Jackie Biel, Editor

Subject: Should you buy a TiVo?
From: Barry Willis

Should you buy a TiVo? Only if you are almost brain dead, totally addicted to TV and have an infinite amount of time to waste.

This endorsement was an interesting commentary from someone who's obviously a deep technogeek and a TV junkie. When do he and his wife find the time to watch their 30 or 180 hours of backlogged programs? And why do they want to watch it?

There isn't enough stuff on TV that interests me for TiVo to be worthwhile. I get anxious and irradiated from all the stupidity, and I basically HATE most of the programming. I refuse to watch talk shows, game shows, doctor shows, lawyer shows, cop shows, reality TV, and almost all sitcoms. They are insults to your intelligence. The commercials are far better than the programs. At least the commercial producers have some concept of how to convey a visually and dramatically compelling story - and they do it in 30 seconds!

I can't see going through all the pain and agony of setting up a TiVo just to watch reruns of "The Simpsons" and "King of the Hill." I got almost an entire year's worth of TV viewing just by watching the Super Bowl. That's all I can take. My time is too precious. I always think about what else I could be doing. Given the choice of working out at the gym, riding my bike, listening to music, reading, watching a movie (we have a Runco projector and 8' screen) or watching TV, TV will always lose. It's just a complete waste of time, especially considering that I always have a list of at least 20 movies that I would like to see.

It's frightening to think of the kind of life lived by people who park themselves in front of the box 4-6 hours a night. They are the same folks who say they don't have time to exercise. Applicable quote, author unknown: "The world is full of people who long for immortality, but who cannot amuse themselves on a rainy afternoon."

What's fascinating about the advent of high-definition TV is that there won't be any creative leaps to accompany the technological one. It will just be the same old tired recycled shit with better picture and sound. For every 10,000 engineering geniuses, and for every 1000 competent actors, there is one writer who knows how to find the hook in a story, how to create believable characters, how to write entertaining dialog. That's why cable and satellite have hundreds of channels of glossy nothing, and it's why good writers will always be in demand.

End of rant. We now return to your regularly scheduled programming . . .

- Barry Willis

Subject: FCC Eyes Second Dish Issues in Tulsa
From: SkyReport

The Federal Communications Commission sided with EchoStar on a second-dish skirmish involving local TV stations in Tulsa, but not before it raised issues about how the satellite TV Company presents information to consumers about the delivery of local TV channels into the Oklahoma market.

The local TV carriage dispute involves Tulsa stations KGEB and KWHB. Both stations are delivered via a non full-CONUS satellite, which requires DISH Network viewers in Tulsa to obtain a second dish to receive the station feeds.

In a decision made public Thursday, the FCC's Media Bureau didn't grant the stations' request that it order EchoStar to carry their signals from the same satellite that delivers other local stations to the Tulsa market, something that would allow Tulsa subscribers to

get their locals through one dish. However, the Bureau said it's concerned about EchoStar's efforts to ensure subscribers are aware of its free second dish offer.

In their complaints, the stations alleged that EchoStar's Tulsa print and broadcast advertising and notices sent to customers present obstacles to learning about obtaining a free second dish. The stations also provided to the FCC declarations from individuals describing conversations with EchoStar customer service representatives about Tulsa locals, including one conversation with an EchoStar representative who allegedly said all local channels in the Tulsa market are available through one dish.

Because of the concerns, the FCC asked EchoStar to submit a compliance report within 30 days describing actions it has taken concerning its local TV efforts in Tulsa.

The Media Bureau is currently studying the second dish issue.

(Editor's Note: *A second dish is necessary to receive HDTV from the satellite services. Multiple dishes, in some cases, are just necessary issue – notice we did not say evil*.)

Subject: **NAB Attacks Cable on HDTV**
From Sky Report

The National Association of Broadcasters recently alleged that cable operators are blocking customer access to broadcast HDTV signals, and it used the Super Bowl to illustrate its complaint.

The association said viewers in 64 of 80 markets where local stations have converted to digital HDTV were unable to watch the Super Bowl on Sunday through their local cable system.

"It's disappointing that cable TV operators are continuing to block viewer access to digital and HDTV programming delivered by local broadcasters," said NAB President and CEO Edward Fritts. "One would think that cable operators would want to provide their customers with access to broadcast HDTV programming like the Super Bowl, which year in and year out is the country's most watched program."

The NAB complaints came after ABC partnered with top MSOs to deliver the big game to cable subscribers.

The NAB said ABC affiliates broadcasting HDTV cover 69 percent of U.S. households, but cable operators in markets that have access to an ABC HDTV signal deliver that feed to only 27 percent of TV households. Also, the association pointed to earlier findings that

suggested cable operators are carrying fewer than 10 percent of the 700 local television stations that have made the transition to digital.

CableFAX Daily reported that the National Cable and Telecommunications Association found it regrettable that "many stations have rejected the guidance of FCC chairman Michael Powell so that cable could regularly offer ABC HD broadcasts without charging an additional fee."

The NCTA added, "Even more regrettable is the failure of other ABC stations, serving more than 30 percent of TV households, to offer any HDTV, months after an FCC deadline, so fans could view the game via an antenna. Instead, the free spectrum given to these broadcasters for digital spectaculars like the Super Bowl remains idle."

Subject: **FCC flip-flops on Must Carry**
By: Larry Bloomfield

It was just a little over two years ago when in, January 2001, the FCC ruled that "WHDT-DT, channel 59 of Stuart, Florida, a digital-only television station, is entitled to mandatory carriage rights on cable systems in its local area," to quote their very own press release.

So it seems almost lie a contradiction that when a DTV station does what DTV stations can do, broadcast digital high definition, multiple channels etc., the FCC would take the stance that "neither the FCC Rules nor the Satellite Home Viewer Improvement Act ("SHVIA") apply to satellite carriage of HDTV signals," and then summarily dismissed the must-carry request by WHDT-DT. The digital-only station had requested DBS carriage and EchoStar denied the request, citing limits on transponder capacity and stating that carriage of the 19.4 mps signal would require the removal of local-into-local service in the West Palm Beach area.

If the Commission hadn't added that it is currently formulating DTV must-carry rules for the industry, one would certainly ask what in the hell are they doing back there --- hello!

As we stated in the DTV Transition Scoreboard story above, and for many other editions of Tech-Notes, the FCC should pay attention to what they have on the table. Translators, an important adjunct to television viewing in many parts of this country, particularly in the west, have not bee addressed. Instead of dealing with millions of viewers needs in this very important part of the over the air television industry, they continue to fool around with copyright, flags and other such nonsense that will never be completely successful.

Subject: FCC Initiates Second Review Of DTV Transition
From an FCC Press Release

The FCC has issued a Notice of Proposed Rule Making ("NPRM") to help foster the transition to Digital TV ("DTV"). Put simply, Congress wants its money for the "channel give back" after the DTV transition is complete, so the Commission is doing its part.

The FCC is now asking for comments on the channel give back, and replication and maximization requirements, among other things. After the transition to DTV is complete, broadcast TV will of course be limited to a "core spectrum" consisting of current television Channels 2 through 51.

Channel give back: The FCC proposes May 1, 2005 as the channel election deadline for commercial and noncommercial broadcast licensees with two in-core assigned channels, and seeks comment on alternative deadlines.

The NPRM also asks whether the FCC should adopt an intermediate signal coverage requirement beyond a broadcaster's current obligation to cover its community of license, expanding into nearby areas of the market.

The NPRM covers other important issues as well (e.g. simulcast, V-chip, minimal PSIP data to be broadcast, possible assistance to educational stations).

http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-230562A1.doc
http://hraunfoss.fcc.gov/edocs_public/attachmatch/FCC-03-8A1.doc

Subject: HD Radio?
By: Larry Bloomfield

Television isn't the part of broadcasting bitten by the digital bug. In a recent press release, we've learned that there are 35 groups in 40 markets plan to convert their plants to in-band terrestrial digital radio this year, most of them by the end of this month (February). Being heralded as HD radio and having heard both AM and FM digital radio, it is our conservative opinion that the quality of the AM digital signal can actually make the program content rival that of FM. As for a conversion in the FM bands, why?

We've been told that Los Angeles is one of the named markets to keep an eye or ear on, as the case may be. You'll need special receivers to receive the enhanced content. To read more on this interesting subject, visit:

http://www.rwonline.com/dailynews/one.php?id=2442

There is also a list of broadcast groups that are switching to HD radio:
http://www.rwonline.com/dailynews/one.php?id=2443

Sounding very much like digital television with a multicast complex, National Public Radio wants to test whether it's feasible for non-commercial stations using Ibiquity Digital's HD Radio technology to send out two programming streams on each station. Kenwood USA plans to test the so-called "second audio" concept later this year at KKJZ(FM), 88.1 MHz, Long Beach, CA. for more on this, visit: http://www.rwonline.com/dailynews/one.php?id=2459

It would appear that HD radio is having its regulatory skirmishes also. A motion to dismiss AM & FM HD radio was filed by John Pavlica, Jr. In that motion, he expresses concern about possible adjacent channel interference caused by the HD Radio IBOC (in-band off-channel) process. Visit the following URL to see the full story on this issue: http://gullfoss2.fcc.gov/prod/ecfs/retrieve.cgi?native_or_pdf=pdf&id_document=6513402234

Subject: **Consumer-Friendly Version of FCC'S Electronic Comment Filing System Launched**
From: An FCC Press Release

The FCC has launched "ECFS Express," a simplified version of its very popular Electronic Comment Filing System ("ECFS").

ECFS Express is designed specifically with the consumer in mind. It is easy to use, focuses on topics rather than docket numbers, and requires minimal input by consumers wanting to participate in the Commission's public rulemaking process. People wishing to comment simply click on a topic, fill in their personal information, write their comments and hit "send."

To access ECFS Express, users just click on the "File Comments" logo found on the front page of the FCC's Web site http://www.fcc.gov/. To read the full press release, visit:
http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-230234A1.doc

Subject: **Spectrum Reform Part of Senate Priorities**
By Fred Lawrence

Montana Republican Sen. Conrad Burns, incoming chairman of the Senate Communications Subcommittee, let it be know recently that his "NexGenTen Tech" Agenda, a list of top priorities for the current legislative session, includes spectrum reform.

"Spectrum reform is long-overdue and I am eager to devote the initial months of my chairmanship to the issue,' he said. "In Europe we have witnessed how the system failed consumers, and we must avoid implementing a similarly exploitative process in the United States."

The other top priorities for the senator is emergency 911 and spam reduction. Burns said he expects to see a spam bill leave the Senate before the summer.

Another item on Burns' agenda is encouraging the roll-out of high-speed Internet services. As part of the effort, Burns introduced a bill with fellow Montanan, Sen. Max Baucus (D-MT), promoting tax incentives for businesses that invest in broadband in the form of an immediate deduction of a capital expenditure in the first year of service, rather than depreciating that interest over time.

"We are in an age where the Internet and telecom industries are at a crossroads," Burns said. "In this era of consolidation, terrorism, and rapid technological innovation, I intend to use this chairmanship of the Senate Communications Subcommittee to provide greater security and to shepherd much-needed reform for consumers."

Subject: **Flat screen link**
By Charlie Nullya

Interested in flat screens? Here's an interesting link that will give you an overview on the subject. Enjoy: http://www.projectorexpert.com/Pages/ces2003.html

Subject: **FCC: Open up TV waves to wireless**
By: Fred Lawrence

According to Richard Shim, staff writer for CNET news.com, the Federal Communications Commission is quietly considering opening the television broadcast

spectrum for use by other wireless devices, including Wi-Fi products.

Shim says that the proposal was revealed in a notice of inquiry adopted in December 2002 and would allow devices using unlicensed spectrum--bandwidth not licensed to broadcasters--to operate in the TV broadcast spectrum. He continues, “However, they would tap into only those parts of the TV spectrum not being used and only be allowed to do this when they wouldn't interfere with authorized services.”

The over-the-air part of the broadcast industry certainly doesn’t need any more spectrum grabs. The FCC has whittled the UHF spectrum down from what was once channels 14 through 83 to what will become channels 14 through 52.

The full story can be found at: http://news.com.com/2100-1033-981047.html

If you’re like me, it wasn’t too long ago that I didn’t know what the term “Wi-Fi” meant. Wi-Fi is short for wireless fidelity and is meant to be used generically when referring of any type of 802.11 network, whether 802.11b, 802.11a, dual-band, etc. The term is promulgated by the Wi-Fi Alliance.

Any products tested and approved as "Wi-Fi Certified" (a registered trademark) by the Wi-Fi Alliance are certified as interoperable with each other, even if they are from different manufacturers. A user with a "Wi-Fi Certified" product can use any brand of access point with any other brand of client hardware that also is certified. Typically, however, any Wi-Fi product using the same radio frequency (for example, 2.4GHz for 802.11b or 11g, 5GHz for 802.11a) will work with any other, even if not "Wi-Fi Certified."

Formerly, the term "Wi-Fi" was used only in place of the 2.4GHz 802.11b standard, in the same way that "Ethernet" is used in place of IEEE 802.3. The Alliance expanded the generic use of the term in an attempt to stop confusion about wireless LAN interoperability.

Subject: **Mixed signals for Hi-Def Recording**
By: Charlie Nullya

In a story written by Paul Sweeting last month (January 2003) for Video Business, Sweeting reporting his observations on VCR for HD at the January CES show in Las Vegas, he says the makers of DVD recorders, digital video recorders and digital VCRs announced new or planned introductions of high-definition recording devices as they vie to become the centerpiece of the next-generation home entertainment setup. He reports there is a full-fledged free-for-all already developing among hardware makers and technology companies over home-recording platforms for high-definition signals.

Sweeting addressed the potential for various recording formats – déjà vu: VHS vs. Betamax – what else is new?

It is interesting to note that despite the on-going batter between studios, broadcasters and consumer electronics makers in Washington over a proposed "broadcast flag" that would be inserted in HD transmissions, it appears the manufacturer's are going to push forward on this issue until told not to do so. Remember these are the same folks who can not come up with standards for DVDs, digital television receivers, set-top-boxes and a plethora of other things consumers will find to be incompatible with their neighbors.

For sweeting's full story, visit:
http://www.videobusiness.com/article.asp?articleID=4713&catType=NEW
You'll have to log in and get a free access to their stories to view it.

Letters to the Editor

From: Marc Convents
RE: Help!

We have recently invested in Hi Definition, we are the second company in Europe to built a Hi-Definition OB Truck and the first one with Sony Equipment.

As we have not done many performances with HD, we are looking for some footage from sport-games because we have done only concerts at this moment. Is it possible to give us some contacts in the States were we can find these kind of images. We are attending IBC Amsterdam and therefore we are looking for some extra images.

Do you know also which facility companies are working with Sony HD equipment?

Thanks in advance and hope to hear from you soon.

Kind regards, Marc Convents, Project Manager, Outside Broadcast
Wingepark 17
3110 Rotselaar
Belgium
office: +32 (0)16 23 27 52
http://www.outside-broadcast.be
(Editor's Note: Anyone wishing to help Marc may contact him directly or through Tech-Notes.)

From: billb@khmt.com

For the most part, I believe that content originators should be protected. However, I have begun to learn a little more about fair use and with the extension of laws that keep old content out of public domain; I have come to the conclusion that most of corporate America wants to simple screw everyone else and the easy ones twice. No one is going to

stand up for Joe Consumer until he gets really angry and makes his presence known.

billb@khmt.com

From: Michael Heiss

Thanks for the latest "lucky #113" Tech Notes. However, if I may, one correction to an item you included. Dale Cripps mentioned a "60" LCD Panel" in his CES report, but that is an error. There were a number of LCD-based rear projection sets with sizes at 60"W and above, but there were NO 60"W single panel displays. In the two short months since Comdex, the holder of the title for "World's Largest LCD Single Panel" changes hands a few times. Samsung went into Comdex with a 46"W panel prototype, and they are currently offering a 40"W panel for retail sale. That size was trumped by LG Philips in December with a 52"W (1920x1080) panel. However, at CES, Samsung reclaimed the title by showing a 54"W (also 1920x1080) panel.

The 46"W is expected for retail sale in Q3 of 2003, while the 52"W and 54"W are not expected to be in "real" consumer products until some time very late in 2003 or early in 2004.

I hope this clarifies things for your readers.

Regards, Michael Heiss

Subject: Telephone service

You say you're with Quest, even jokingly saying the "u" stands for "useless". Haven't heard of it before now; must be local. That must cause *lots* of confusion with Qwest, which also seems to have a bad enough rep. to be notorious at least nationwide.

With regards to the new look on the website, Looks better! I like the red buttons.

"480i quality comparison" looks like something you'd click on, to see something like 1080(?)P, for instance. Doing mouseovers in Opera 6.05 shows nothing clickable.

Regards, Nicholas Bodley ||@|| Waltham, Mass.

(Editor's Note: Nicholas is correct. We should have said Qwest, but we didn't want to garner the wrath of and inept telephone company. Every web browser displays what we do differently. This is why we suggest which one to use and the resolution.)

From: Bill Newbrough

Got your latest tech notes. Man, that is the pits. Saw Dave's obit, then I scanned down looking for something more cheery, and there was the obit for Tom Mann, who was one of my compatriots at NBC. He was at WRC in Washington, when I was at WMAQ and KNBR. I saw him in April and he looked great. Had a short chat with him and then we had to go different directions, so that was the last time that I saw him. Only 53! He was just a kid!

I still have not forgotten my application for the Order of the Iron Test Pattern, I just can't seem to work down that far into the stack.

Best Regards, Bill Newbrough
RF Specialties of Washington, Inc.
http://www.rfspec.com

From: Carter E.

You need to start charging for this.

(Editor's Note: We agree whole heartedly.)

From: Jack Andresen

Thanks for correcting the Adobe glitch. This is the first of the new format I have been able to open.

This is a lot of information!

Jack Andresen
(Editor's Note: We agree whole heartedly.)

From: Name withheld on request

Excellent newsletter. Thank you for the effort.

(Editor's Note: We agree whole heartedly and thanks...)

From: Maker – KIRO-TV

Looks great/runs fine in Mac IE 5.2 and the new Mac Safari Browser v1.0b

Maker

Subject: David Brumbaugh

I hate to be a party pooper, and I'm hope you'll be able to take this in the spirit of friendly constructive ideas but..... Animations just for their own sake are just not really a plus for most folks viewing a web Site. Most folks would prefer not to have blinking and gratuitous animation.

Now, if it is needed to demonstrate a point, then fine. But just for "cutesey ?", then I'd say take a hard cost-benefit look... Make it fast and to the point. You don't have to do it just because you "can..."

And be sure to take a look at the SamSung DLP tvs for the report. I'd guess that they'll have a 1920x1080 one as the next iteration after the current offering. I WANT ONE...

David Brumbaugh, MS DLBrum@ufl.edu

Computing Coordinator and Webmaster
Department of Molecular Genetics and Microbiology
College of Medicine, University of Florida
http://www.mgm.ufl.edu

(Editor's Note: We agree...)

Subject: Format Change

I like it. Much easier to find things.

Robert N. Vendeland RNVendeland@cox.net

Subject: About the new look on our website:

Nice job. Looking better then ever. You guys do a great job with the look of the page plus the tech stuff. Thanks for all your efforts. I'm hooked and look forward to the info passed on.

Jim Leedham, KEFM, Omaha, NE.

RE: Tech-Notes #113

It would seem to me that you are propagating the same confusion from almost two months ago.

Check with Jim (Mendrala) on this one (he is supposed to be the Digital Cinema contributor-correct?) but it is my miss-understanding that REGAL-UA is installing Christie LCD advertising projectors with full motion video from a network projector based small computer-NOT the $150k Digital Cinema projectors made by Christie or Barco (Digital Projection has just joined with NEC to get back in the saddle after a sad marriage to IMAX and subsequent divorce)..

NCN and AMC have been doing a similar distribution but with very little / basic motion.....very low tech and not especially bright but both are a great improvement over the old slide projectors.

ScreenVision a Thomson/Carlton partnership is another player using the same approach.

This announcement caused quite the discussion on the Film-Tech Forum as well www.film-tech.com

Chester Hartwell

PS- As for your kind offer of joining the Order of the Iron...I can't make the dues.

(Editor's Note: *Mendrala concurs. The Dues for the OITP are free. If you can't make them, you're in big trouble*.)

From: Al Limberg a_limberg@hotmail.com

I am a "retiree" who maintains an interest in DTV. I am an electronics engineer and patent attorney who retired successively from RCA, GE and Samsung Electronics. I was sole inventor or co-inventor of 121 U. S. patents in the electronics arts, some better than others. I invented the count-down stereo decoder used in FM radios and in analog TV receivers.

An interesting way of ruggedizing 8VSB signals is based on concepts extracted from U. S. patent No. 6,430,159 titled "Forward error correction at MPEG-2 transport stream layer" issued August 6, 2002 to Xiang Wan and Marc H. Morin of Cisco Systems Canada Co. There is a variety of robust transmission modes available to suit the various needs of different DTV broadcasters, all of which modes comply with the current ATSC Digital Television Standard. The robust transmissions convey payload in data packets that can be usefully received by receivers currently in the field. The attachment explains further.

This is not one of the robust transmission schemes being currently considered by ATSC.

Al Limberg

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Features

Subject: Some of My Observations
By: Burt I. Weiner biwa@earthlink.net

You might have seen this elsewhere, but since from what I see, the FCC is using tower lighting fines as one of their last bastions of income rising. A client station recently ran into a problem with the Federal Aviation Administration (FAA) as a result of a Federal Communications Commission (FCC) inspection.

It seems this station had lost a beacon due to the recent rains. The FAA had been properly notified, or so the station thought. The station's operators had called the FAA 3 times because 3 different operators thought they were supposed to call every day.

The station was coincidentally inspected by the FCC. During the inspection the question of tower lights came up. The FCC inspector was told about the beacon outage and shown the entries in the log made by the operators for all three times. The entries showed the date, time and name of the person they spoke to at the FAA Interestingly enough each caller got the same FAA person on different days.

Several days later when the FCC inspector called the FAA to confirm the report, the FAA had no record of the reports. It took a long time to track down what had happened.

During a conference call involving the F.C.C., the FAA and myself, it was discovered that the person who took the report was not given the “proper” type of "exact location" when he asked for the location of the towers. As a result he didn't file the report. The people at the station each claim the FAA person taking the information said, "I'll take care of it". No further questions were asked. According to the supervisor I spoke to, the FAA does not keep their telephonic recordings beyond 15 days, sometimes less.

In speaking to various people at the FAA I discovered they want to know where the tower/s are in relationship to a navigational aid. Some say coordinates are good, some say not. It just depends on who you talk to. The one thing they all agree on as being a good "exact location" is a bearing in degrees and distance in nautical miles from the nearest navigational aid.

If you don't already have this information posted along with your reporting instructions, it wouldn't hurt to call the FAA and find out what wording they recommend for your particular tower’s exact location. Copy it down word for word and add it to your reporting instructions. I suggest giving the tower coordinates as shown on your station's tower registration as additional information. It couldn't hurt.

Be sure to have the person phoning in the report get the full name of the person taking the report. Be sure to enter that person's name as well as the time of the report on the station's log.

Burt Weiner

Subject: **Compelling Reasons to Better Define DTV Tuners**
From: Nat Ostroff, Vice President-New Technology, Sinclair Broadcast Group Inc.
nostroff@sbgnet.com

The All Channel Receiver Act (“ACRA”) grants the Commission the authority to require TV receivers to be “capable of adequately receiving” all TV channels. In August 2002, the Commission mandated pursuant to the ACRA that all TV sets have integrated DTV tuners pursuant to a phased-in schedule. The Commission, however, did not define what a DTV tuner is supposed to do or how it is supposed to perform. Rather, the

Commission simply required that DTV tuners provide "satisfactory and usable reception" without defining those terms, thereby leaving these terms dangerously open to interpretation. Relying on the marketplace to define "satisfactory and usable reception" will not suffice, as consumer electronics manufacturers have unequivocally expressed their view that over-the-air DTV is not a worthwhile market. Thus, Sinclair urges the Commission to take action to ensure that DTV tuners provide "adequate" over-the-air reception. Absent such action, the future of free, over-the-air DTV is in jeopardy.

Relying on the Marketplace to Ensure that DTV Tuners
- Provide "Adequate" Over-the-Air DTV Reception Jeopardizes the DTV Transition and the Future of Free, Over-the-Air DTV

Broadcasting by its nature entails both a "transmit" component and a "receive" component. Any transmit-receive system is just that -- a system. Both ends of that system must meet certain minimum criteria in order for the overall system to work successfully. To date, the Commission has primarily focused on the "transmit" component, requiring broadcasters to meet very stringent and specific performance standards with respect to their DTV transmitters. The Commission has not devoted similar focus to the "receive" component. Rather, the Commission has assumed -- but not required -- that DTV receivers would meet certain performance standards.

Consumer electronics manufacturers have made it abundantly clear that they oppose any government-imposed performance standards on their products. They have also made it abundantly clear that they are not interested in supporting a free over-the-air DTV service, choosing instead to focus on DTV delivered over cable and satellite. Cable and satellite, however, are not free nor are they ubiquitous. As Chairman Powell recently explained, "Over-the-air tuners affect tens of millions of consumers." If the marketplace is flooded with poorly performing over-the-air DTV receivers, it is likely that the DTV transition will never accelerate, with little time to redress the situation by creating better products.

Lack of reliable over-the-air DTV reception is one of the fundamental reasons why the DTV transition has been stalled for years. Manufacturers have recognized the difficulty in providing reliable over-the-air DTV reception and, instead, focus time and resources on developing DTV sets that can receive DTV signals delivered via cable or satellite. Manufacturers have limited their over-the-air DTV product offerings and instead continue to sell massive numbers of soon-to-be-obsolete analog sets.

If the Commission does not act to protect the interests of those millions of viewers who cannot afford or simply do not wish to subscribe to cable or satellite, it is risking the disenfranchisement of a large segment of the American population.

The Commission Should Define
-- "Adequate" Over-the-Air DTV Reception

By defining "adequate" over-the-air DTV reception, the Commission can take a dramatic step to accelerate the DTV transition and to preserve free, over-the-air DTV. Such a step will allow the DTV transition to accelerate independent of the cable industry's schedule for delivering DTV signals. By specifying the most critical elements of "adequate" performance of the mandated DTV tuners, the Commission will ensure that the American public continues to have an option to receive free, over-the-air DTV.

Such action would be consistent with Commission precedent. In adopting requirements for adequate reception of analog UHF signals pursuant to the ACRA, the Commission did not simply require that all TV sets provide "adequate" UHF reception and then leave it to equipment manufacturers to decide what "adequate" meant. Rather, the Commission determined that allowing the marketplace to define "adequate" would not suffice. Instead, through a series of decisions, the Commission carefully defined the technical requirements for analog tuners used in TV sets today. Such definition is even more critical for DTV tuners, given that the environment in which a DTV tuner must function is much more severe than what current analog TV sets face today.

Proposals for Defining "Adequate" DTV Reception

At the beginning of the DTV transition, the Commission created a DTV Table of Allotments that was based on certain assumptions about the performance of DTV tuners. To better utilize the UHF spectrum, the Commission's engineers determined that adjacent and co-channel assignments for nearby markets as well as the use of "taboo" channels were possible, but only if DTV receivers met certain performance specifications for selectivity, sensitivity, and dynamic range. Sinclair urges the Commission to require that DTV tuners meet these specifications as well as require that DTV tuners include an adaptive equalizer to overcome multipath interference.

1. Receiver selectivity. The selectivity of a receiver is a measure of how well that receiver can separate signals on nearby channels. This characteristic becomes especially vital given that the DTV Table of Allotments is characterized by never-before-authorized adjacent channel allocations. If DTV tuners reach the marketplace that cannot adequately separate two adjacent channels, viewers will not be able to receive their desired DTV station.

2. Receiver sensitivity. The sensitivity of a receiver is a measure of how well that receiver can receive weak signals. It is usually expressed as a "noise figure." Essentially, it is a measure of the level of self-generated noise in the DTV tuner. The Commission's engineers assumed that UHF DTV tuners deployed in the marketplace would have a 7 db noise figure. Based on that assumption, the Commission calculated the power level and coverage of DTV stations. If the DTV tuners that enter the marketplace are less sensitive than that assumed by the Commission, many DTV stations may not cover their DMA even when operating at maximum licensed power.

3. Dynamic range. Dynamic range refers to the ability of a receiver to perform over a wide range of signal strengths. The Commission's decision to assign adjacent channels

in the same market not only assumes excellent receiver selectivity, but also assumes that the receiver can avoid being overloaded by a strong but unwanted near adjacent channel. If a receiver's dynamic range is inadequate, then viewers may not be able to receive many stations that operate in strong signal markets.

Dynamic range is also a measure of how well a receiver performs when receiving a weak signal in the presence of a strong signal not immediately adjacent in frequency. This condition will occur for viewers who live between two markets and are trying to receive the more distant station. Again, if dynamic range is inadequate, then viewers may not be able to receive their desired DTV station.

4. Adaptive Equalizer to Mitigate Multipath Propagation Effects. In order to receive a DTV signal, the receiver must be able to decode the signal in the presence of multipath propagation. This is accomplished by including an adaptive equalizer in the tuner. Without a requirement for such an equalizer, DTV sets will enter the marketplace with tuners designed for the much simpler cable environment. Such DTV sets would be inadequate for use as over-the-air receivers.

Nat Ostroff

Subject: **Audio Out of Lip Sync**
By: Jim Mendrala

With today's new display technologies such as the LCD and DLP a new problem seems to be looming its head, "Lip Sync". We have seen this problem before and broadcasters have taken steps to eliminate the problem. But the problem cannot be totally eliminated by the broadcaster.

A consumer buys an HDTV. In it there are typically stereo speakers, so far so good. The consumer then purchases a 5.1 channel surround sound system. He can then listen to the surround sound that Hollywood uses on the sound tracks for DVDs or is sometimes being broadcast with the DTV signal.

Displays such as an LCD or DLP usually have an inherent processing delay of one frame and the sound which arrived in sync with the picture now is out of sync. Typically an audio receiver might have settings to advance the sound to compensate the viewers distance from the screen. In some cases the sound can be advanced to compensate for distances of over 50 feet. LCD and DLP sets typically have a one frame delay. The end result is that the sound arrives at the viewers' ear before the lips move by at least 33 milliseconds. So the sound is leading the picture.

So far I haven't seen any devices to delay the sound to compensate for the picture delay. Is anybody aware of the problem? We see this sometimes on networks such as CNN. Some is attributed to satellite delay but not always. For a long time the Weather Channel

had the problem because of the frame delay of the special effects. They took care of that as I haven't seen the problem lately. Maybe the audio receiver manufacturers can put in a delay so that digital processing of the picture can keep in sync with the audio.

Some of the very high priced THX certified systems are said to be capable of delaying the sound to keep it in sync with the picture but the average consumer is not aware of these devises nor can afford them.

Sounds like an opportunity for some company to come up with an audio delay that can be inserted into the path of the audio so it can be "Lip Synced" with the picture. Better yet is a chip manufacturer supplying an audio delay for the audio receiver manufacturers. Until this happens there will be a need to delay the audio if perfect "Lip Sync" is to be maintained.

Parting Shots

By Larry Bloomfield

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For openers, I'd like to encourage everyone to try to make it to NAB2003. Billed as "the world's largest electronic media show," it's five days of nonstop educational opportunities beginning Saturday, April 5th and finishing off Thursday, April 10th.

I know that attendance is nearly an insurmountable task for some, but if there is any way, **DO IT!** It is difficult, as a former engineering manager, for me to understand why a station would want to short-change their engineering staff and themselves by not having at least one, if not more, engineers attend this most important function.

There are many engineers who view the NAB convention as being so important in keeping abreast of the fast moving technology that they pay their own way to the NAB convention. That should not be necessary! The benefits of having a well informed

engineering staff who can intelligently participate (now there's a novel concept) in the technical decision making process far out weighs the costs and time spent in sending them to the NAB convention.

Take advantage of the abundance and multitude of learning opportunities that only the NAB convention can offer. Other than perhaps IBC in Amsterdam, there is no other place where engineers in our industry can go visit the plethora of manufacturers and learn about the latest technology available to our industry, first hand. NAB can be an unparallel technical education. Gathered this year, as in the past and all in one spot, attendees will have endless opportunities to speak with the many engineers who've designed and have worked with their company's technology over the years. The technical sessions are also a golden opportunity to keep informed on the latest from regulations to technology. To some, this is preaching to the choir, to others, hopefully it is the nudge that will get you to turn out and hay! I didn't get paid to say this either, I believe it!

Should you be one of those poor souls who are deprived of this great opportunity, may I humbly suggest you take advantage of our traveling Road Show, right after NAB2003. There is no way the road show can begin to hold a candle to NAB2003, itself, but at least it is an effort to bring a "Taste" of the new technology to those who weren't able to make it.

Tech-Notes Road Show is really coming together nicely. We now have seven kind folks who've express an interested in going along with us this year:

There are others who've express a passing interest, but not enough to include them with the above. We're looking for three more underwriters to round out our cast.

Venue bookings are coming along quite well. We've not contacted very many folks yet and the bookings are nearly a third completed already. Take a look at our website and the Taste of NAB2003 page for more details. At most of the venues we'll be part of either the

SBE Chapter or SMPTE Section meeting. Want us to visit your town? contact us: RoadShow@Tech-Notes.TV .

Great Tidings! Fluke is donating one of their Model 189 multimeters again this year as a door prize at the end of the trip. Last year's winner is Dennis Morton, Asst. Director of Engineering at Telefutura in Miami, FL. The Fluke Model 189, like last year, will be shipped from the factory directly to the luck winner.

Last year a second door prize, a $200 gift certificate for Ham Radio Outlet, was donated by Leighton M. (Linc) Reed-Nickerson of Rohde & Schwarz, Inc. Norman S. Stein, Director of Operations for Sinclair Broadcast Group in Cockeysville, MD won that prize. We're looking for additional door prizes; any suggestions? We'll gladly accept anything of value and/or interest to cable, radio or television engineers.

We've been told that an upcoming edition of the SBE Signal will carry a story about this year's road show and it is suggested as a program for local chapters.

One new wrinkle this year will be the opportunity to meet the many members of the Order of the Iron Test Pattern (OITP). Although OITP's roll in all this has as yet to be defined, you can bet it will be one of significance.

In closing I just want to share the drift of a recent conversation with a fellow engineer. We were observing our lot in life and the kind of products we now turn out; my friend, still gainfully employed by a network affiliate television station, and me, a former nearly everything in television engineering, now turned writer - lecturer.

It went like this: Ever wonder which "statement on our society" is the most telling? Does "Fear Factor" on TV elevate the human condition? How about the latest "reality" shows where men and women get to have sex with each other so they can choose which bachelor or bachelorette gets to claim the prize? How about "Meet My Parents," where lie detectors are used to see if a man or woman has ever cheated on a significant other? How about "Joe Millionaire" who lies about his wealth so women will find him irresistible? What moral statement do these works make? What redeeming values do any of them have? And finally, why would anyone watch these shows? They're ALMOST enough, but not quite, to make sitcoms palatable.

The really scary statement on our society is that there are actually people watching this stuff.

Yes, it is the television engineer's job to see to it that these gems of so-called entertainment are passed on to viewers in as pristine a condition as possible. I just can't help but wonder what future generations will have to say about what this generation thinks is entertaining and the role we technical types played in delivering it.

Before it gets too much, I reach over, turn on one of the National Geographic, Discovery, Learning or History channels and know that the industry still has some redeeming entertainment and educational values remaining.

Now, Let's go to press!
Larry

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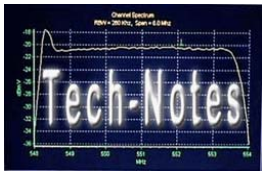

Thanks.