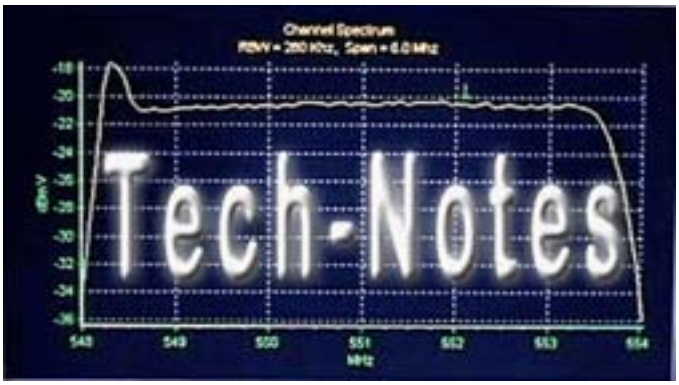

http://www.Tech-Notes.tv
September 15, 2004
Tech-Note – 126
First Edition: May 18, 1997

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

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

Editor's Comments

As most of you know, we've been on the road with the Taste of NAB 2004 Road Show and it's been too long since the last edition of Tech-Notes. All the excuses in the world won't do, so enough of that.

In this edition, we'll simply try to give you the latest things we see as impacting our industry and try only to give you the older news and information as it may still be current.

For openers, I'd like to thank our good friend Lee Wood of KOIN-TV in Portland for his kind assistance in providing us with news items for the editions of this electronic journal while we were doing our traveling thing.

One more thing: this is a must see URL: http://www.cookingforengineers.com/

The Road Show – A Taste of NAB 2004

To give you a recap of the Road Show, we ended up with 12 companies whose technology we presented; They were: **Leader**, **LACAN USA**, **LightningMaster**, **ESE**, **Quartz**, **Cobalt Digital**, **Sundance Digital**, **Asaca/Shibasoku Corp. Of America**, **RIEDEL Communications**, **Electronics Research, Inc.**, **InPhase-Technologies.com**, and **Globalstor**. **AJA** joined us for 16 of the 48 venues and we had a number of companies who provided Door prizes both at each venue and at the end of the trek (see the link in the statistics below.

Statistics As of this edition

- Venues: Forty-eight (http://www.tech-notes.tv/2004/2004-1-Itinerary.htm) 96% at local SBE Chapter meetings.
- Duration: Four months. (April 26th – August 23rd)
- Traveled: Eighteen-thousand miles
- Attendance: 1105+ broadcast industry folks
- Target audience: Broadcast Engineers and Technicians
- Received: 124 E-mail thanking us and/or asking us to return next year (2005). (http://www.tech-notes.tv/2004/2004_comments.pdf)
- Collected 809 business cards, over half of which were hand-written on the blanks we provided.
- Door prizes given away: over $45,000 spread over the 48 venues and another $10,000 give away at the end of the tour. (http://www.tech-notes.tv/2004/2004-1.htm) Local winners on each venue's page and end of tour winners at URL above.
- Return on investment: incalculable and beyond our wildest expectations. – Very successful.
- Conclusion: NO other technical Road Show even comes close to these figures. You be crazy not to join in on The Road Show – A Taste of NAB 2005.

As for next year: we're beginning to plan for The Road Show – A Taste of NAB 2005 and if you're interested in either being one of the companies who care enough to get your technology out to the grassroots engineers or you wish us to bring our presentation to your area, contact us ASAP so we can put you into the schedule. RoadShow@Tech-Notes.TV

Letters to the Editor

Editor's Note: *Unless specifically asked not to print letters to us, we will.*

We have received 124 E-mail thanking us and/or asking us to return next year (2005). (http://www.tech-notes.tv/2004/2004_comments.pdf) It's 65 pages long.

News

The following is probably one of the most important items in this edition. With ten states that have 300 or more translators in them, three of which have 600 or more, not to mention the plethora of LPTV and Class A TV stations, the move to digital is afoot:

FCC ESTABLISHES RULES FOR DIGITAL LOW POWER TELEVISION AND TELEVISION TRANSLATOR STATIONS

From an FCC press release: The Federal Communications Commission ("FCC") today established rules to allow for the digital conversion of low power TV ("LPTV") and TV translator stations. These stations are a valuable part of the nation's television system, delivering free over-the-air TV service to millions of viewers in rural and discrete urban communities. Today's action furthers progress in the nationwide DTV transition.

The following types of stations are affected by the Order:

- **LPTV (low power television) stations**: LPTV stations rebroadcast TV signals and originate programming in any amount. Approximately 2,100 LPTV stations serve rural communities and discrete communities in urban areas. Many provide the community's only local news, weather, and public affairs programming.

- **TV translator stations**: A TV translator station simultaneously rebroadcasts the programs of a full-service TV broadcast station. Translator stations typically serve communities that cannot receive the signals of free, over-the-air TV stations due to large geographic separations or intervening terrain. Most of the 4,700 licensed TV translator stations are in the western mountainous states.

- **Class A TV stations:** Class A TV stations are LPTV stations that qualify under the Community Broadcasters Protection Act for interference protection rights. They must satisfy requirements for minimum operating hours and amounts of locally produced programming, and comply with the service rules for TV broadcast stations.

The Order adopts definitions and permissible use provisions for digital TV translator and LPTV stations the analog operation of these stations. Digital translators will rebroadcast DTV broadcast signals. Whenever operating, a digital LPTV station must use some of its channel capacity to provide a free video programming service to the public. Upon meeting this requirement, LPTV stations may offer ancillary and supplementary services on the same basis as DTV broadcast licensees.

As to the timing of the digital transition for these stations, LPTV, TV translator, and Class A stations are required to convert to digital operation, but the Commission has discretion to set the date by which analog operations of these stations must cease. The Order states that the Commission will seek to hasten their transition to digital service and will work toward the goal of achieving an end-date at, or soon after, the end date of the full-power transition. Although the Commission intends to hasten their transition to digital service, certain issues regarding the transition of full service stations must be resolved before a low-power transition deadline can be set. The final transition date of these stations will be considered in the Commission's Third DTV periodic review proceeding.

Existing LPTV and TV translator stations may convert to digital operations ("flash cut") on their current channel. Applications for this purpose will be accepted on a first-come, first serve basis. Mutually exclusive applicants will be resolved by auction. In addition, to facilitate their digital transition, licensees and permittees of LPTV, TV translator, and Class A stations will be allowed to seek a digital companion channel for their analog station operations. A filing window for this purpose will be announced at a later date. The Commission will determine the deadline and process for stations' obtaining a digital companion channel to return of one of their channels. At a later date, the Commission will institute a separate first-come-first-served filing procedure not limited to incumbent low power stations.

Due to limited spectrum availability, the Order makes available VHF channels 2-13, inclusive, and UHF channels 14-51, inclusive (except channel 37) for digital LPTV and TV translator operations. The Order also permits the use of channels 52-69 on a limited basis. Existing LPTV and TV translator stations on channels 52-69 may flash-cut to digital operations. The use of channels 52-59 for digital companion channels is limited to those stations that can certify the unavailability of any in-core channel (channels 2-51). The use of channels 60-69 for companion channels is prohibited. Applicants for operations on channels 52-69 must notify potentially affected commercial wireless and public safety licensees before filing their applications. Additionally, applicants proposing to flash-cut to digital on channels allocated for public safety use (channels 63, 64, 68 and 69) are required to coordinate with regional and state entities representing potentially affected public safety licensees.

All digital LPTV and TV translator stations will operate on a secondary, non-interfering basis with respect to primary services, including the commercial wireless and public safety services. The Order adopts for digital stations in the LPTV service the protected contour values for digital Class A stations. For digital stations in the LPTV and Class A

services, the Order replaces the current contour protection methodology with the DTV interference prediction methodology.

The Order declines to establish at this time a digital TV booster station class.

Date: September 9, 2004, R&O: FCC 04-220 and MB Docket 03-185. Separate statements were issued by Chairman Powell, Commissioners Copps and Adelstein.

FCC ESTABLISHES RULES FOR DIGITAL LOW POWER TELEVISION AND TELEVISION
TRANSLATOR STATIONS. News Release. (Dkt No 03-185). Adopted: 09/09/2004. News Media Contact: Rebecca Fisher at (202)418-2359 MB. Contact Keith Larson at (202)418-2607 and Shaun Maher at (202)418-1600, TTY: (202) 418-7172 for more, visit:
http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-251978A2.doc
http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-251978A3.doc
http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-251978A4.doc

Pacific Northwest suffers Arson Fires at Power & Broadcast Facilities

From John Bredesen, jab@efn.org & John White, jdwhite@teleport.com

As many of you know, there have been many arson fires in the Portland/Vancouver area. I've sent out a couple emails to many of you recently on this subject. The arson fires continue as recently as yesterday (Thursday 9/8/04).

At this point they're "confined" to the area up North, but with the number and an apparently unknown motive, it's probably worthwhile for us in the lower Willamette Valley to be alert to the possibility of trouble here. I'm not trying to be alarmist but, as they say, a word to the wise.

The Bureau of Alcohol Tobacco and Firearms is helping local investigators in the cases. The arson task force is offering a reward of $25,000 for information leading to the identification, arrest and conviction. Call (503) 823-HELP, 503-823-4357 or 888-ATF-FIRE.

I recently had a nice chat with a lady who works in the Office of the (Eugene) Fire Marshall. She was most interested in knowing about the situation up there just to make the Fire Marshall's office here aware.

What if the fire department gets to the site where a fire has been reported before an engineer does, and what if it's inside?

Here are two emails of possible interest to any CE of an unmanned site. The first email talks about Knox-Boxes. I've checked with the Eugene Fire Department and they use a

competing brand here in Eugene which is Supra. (See the second email.). If you contact them, they will mail or fax the information you need.

FYI: here's the URL for Knox-Box http://www.knoxbox.com/store/ and here's the URL for Supra http://www.geindustrial.com/ge-interlogix/supra/index.html

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Some Helpful hints in case of Fire

As you all know the recent tower fires have us all thinking about our facilities.

We all hope the fire department arrives quickly, even before we do. One issue is what happens when the fire engine arrives at the locked gate. The last thing we want is engine crew to be delayed getting access or the additional damage if they are forced to break into our building.

I had a bad sensor and a false alarm fire alarm last year and they got into the building using the credit card procedure. They cant do that now as I strengthened security by bolting the secondary doors and adding a striker plate cover on the main door. The access codes for the KKPZ gate are on file at the local engine company and at Clackamas County 911 communications. However they don't have keys to the building.

I had considered using a dial key safe like the real-estate boys use. Then I ran into a better solution in posting on our Crawford Engineering forum from Art Reis. His post is below:

We recently suffered a lightning strike at our Beecher transmitter site. The Fire Department was called out, but there was no damage to the site at all, with the possible exception of the T-1 line (not our Cat Link Box).

What stymied the fire fighters was, they couldn't get in. I got a call from them the next day asking that I come in at my earliest convenience. When I got there, they told me that they had to break the lock chain on our fence, and they almost had to break into the building, and would have if there had been a fire inside. The word was that, due to the unoccupied nature of the site, we would be required to get a Knox box.

A Knox box is a sealed container, manufactured by the Knox Company in California, which contains keys to the property, to allow access to fire ighters and ONLY to them, for use in case of emergency. So strict is the control on this product that none will be sold without the written approval of the local fire chief, and only on an authentic Knox box form. They DO have an online order form, but it still requires local fire department approval. Once properly ordered and obtained, the fire department and you meet to install the box, put the keys in it, and initialize it. That's all there is to it. Any lock changes must immediately be reported to the fire chief. Only they can remove or replace keys to the box.

Some municipalities are now requiring that every business within their jurisdiction be equipped with Knox boxes. I am suggesting that that be done at all of our remote transmitter sites, and at all studio sites not attended at night or on weekends. The boxes cost about $230.00 each with tax and shipping, and several models are available.

Check out Knox boxes at http://www.knoxbox.com/store/

Art Reis, WYCA/WPWX CBC Chicago

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A caution:

Make certain you touch base with the RESPONDING FD about which to purchase. There are 3 major systems of which two are common in Oregon (KNOX, SUPRA).

Also it wouldn't hurt if you had a binder with the following information in it some where they can get to once they have the keys (near an outside door)

- A floor plan.
- How to shut down the power to the building including generators,
- Battery,
- UPS systems.
- What chemicals (not only "haz-mat") is on site.
- Coolant?
- Built in fire protection.
- Air handling systems.

Put it together and ask for a pre-plan walk through. The FD might want a copy of the plan for their command rig, or on the apparatus that should be first in on your emergency.

I have forced doors in the past responding to alarms. The last one, when I got there had a slight haze of smoke inside, and the RP wasn't able to be contacted by the alarm company. For a bad ballast the commercial steel door and frame had to be replaced (yes, the jaws of life work on building doors effectively) at the building owners expense.

Hope we all get prepared and never need it.

Thomas
Chief Engineer, Oregon WIN
Captain, Stayton Fire District

Powell Disinclined to Multicast Must-Carry

When asked if whether granting multicast must-carry would speed the transition to digital and thus the reclamation of spectrum for public safety uses, Federal Communications Commission chairman Michael Powell told the Senate Commerce Committee recently that he is not inclined to give broadcasters multicast must-carry, nor, he said, is there any consensus among the other commissioners to change the agency's interpretation of what constitutes a broadcaster's primary digital signal, adding that the FCC has not already decided the issue is "absolutely false."

In another matter, Powell pitched the Senate Commerce Committee on his digital-TV transition proposal to set 2009 as a hard date for return of the analog spectrum, saying that he would give all parties fair warning so that they could plan accordingly.

A proposed bill would set the give-back date of spectrum for channels in the 700 MHz band now used by 75 TV stations at Jan. 1, 2007. Powell argued that if Congress decided to make that a hard date, it should also set the 2009 hard date too in order to minimize the inequity of making one group of broadcasters give up their channels before the rest.

Not everyone is happy with these dates. Paxson Chairman Lowell "Bud" Paxson, who owns 10 stations on affected channels in the band, says the 2007 take-back was unfair and a serious hardship on both his company and his audience. When asked when he thought would be good time to take back the channels, Paxson responded: "I can't tell you when is the second coming of Christ and I can't tell you when it is going to be intelligent to cut off all analog signals."

It was not a good day for broadcasters at the Senate meeting. Several Senators took shots at broadcasters, including McCain, giving them a hard time over missed DTV deadlines, and most pointedly by Rep. Curt Weldon (R-Pa.), said he was "tired of broadcaster's excuses."

The following was provided by the National Association of Broadcasters.

Sentinel Communications Co.
Orlando Sentinel (Florida)

VIEWERS' RELIANCE ON TV FORECASTERS A SIGN OF NEWS EVOLUTION

BY: Harry Wessel, Sentinel Columnist

When the National Hurricane Center lagged on predicting Hurricane Charley's path Friday, television meteorologists stepped in to warn Central Florida to brace.

"The hurricane center was wrong, flat wrong," WFTV-Channel 9 news director Bob Jordan said Saturday. "By getting this word out yesterday, it's the reason the streets were deserted as early as they were. It was a safer community."

Jordan cited chief meteorologist Tom Terry for recognizing three hours before the hurricane center did that the hurricane had turned to the northeast. WFTV is playing up Terry's feat in a commercial, though competitors WKMG-Channel 6 and WESH-Channel 2 said they delivered the same news early.

But the hurricane center near Miami wasn't saluting the Central Florida forecasts.

"I think it's a real disservice to let anybody think they're going to have a perfect forecast," said Max Mayfield, center director. "The intensity is of greater concern than the track. You don't want to focus on the eye. That's a nice, easy thing to plot, but hurricanes affect broad areas."

Yet viewers in Central Florida relied heavily on meteorologists' expertise Friday night. That development underscores how the weathercaster's role has evolved far beyond mere pleasing personality into a well-educated expert versed in the latest equipment.

"The technology gets better, the meteorologists get better at predictions," said WKMG news director Skip Valet. "This is what the viewers demand: as much notice on these storms as we can give them."

Terry and WKMG meteorologist Tom Sorrells agree that the hurricane center was slow with critical new information Friday.

"If you see the storm moving a different way than the official line, you owe it to your viewers to tell them," Sorrells said.

"They were late at the worst possible time," Terry said. "It's not the first time I've had to deal with some slow movement on their part."

He consulted news director Jordan, who decided to put aside the official forecast and go with the station's own. WFTV also urged viewers to disregard an ABC News brief that incorrectly said the hurricane was headed to Tampa.

"This is not `Let's roll the dice, we might be lucky,' " Jordan said. "You have a trained meteorologist saying this is a new track."

Robin Smythe, general manager of Central Florida News 13, noted that meteorologists have been doing their own forecasting for years.

"The last 36 hours have proved we've all got experienced staff meteorologists," she said. "We all use the resources available to make these decisions about weather forecasting. There's not a television station that relies solely on the hurricane center."

The forecasting has gained more nuance with the introduction of Doppler radar in recent years.

"From a consumer point of view, Doppler just looks like a promotional tool," said WESH general manager Bill Bauman. "But when the storm comes in and you see it in action and what it allows our people to do, it's an extraordinary tool."

WESH meteorologist Leslie Hudson drew a line on air to explain how the hurricane had taken a turn to the east. Terry's explanation of the hurricane's turn will be acknowledged in a WFTV commercial over the weekend.

"If the nice people at my competition are going to take credit for that, they should share it," said WKMG's Valet. "Tom Sorrells was saying the exact same thing."

Sorrells wasn't grabbing for any special attention.

"The bottom line is Central Florida has to be taken care of," he said. "If Leslie is on and Tom is on and I'm on and we see it heading for landfall in South Florida, don't we owe it to our viewers to tell them what we think?"

Disney's Eisner Stepping Down In 2006

Michael Eisner last week announced he plans to retire as CEO of Walt Disney Co. when his contract expires in September 2006. Eisner says of his future plans: "I'm going to Disneyland!" For more on this story, visit: http://www.radioink.com/headlineentry.asp?hid=124660&pt=inkheadlines

A more recent announcement says that Eisner may keep his seat on the board of directors – Go figure!

FCC Adopts Kids DTV

RE: Report and Order (FCC 04-221). – MM Docket 00-167

The Federal Communications Commission recently adopted rules imposing new children's programming requirements on television stations that use their digital spectrum to multicast. Analog technology today limits broadcasters to a single

programming service, but digital technology permits the transmission of five or six services, an opportunity for TV stations to do more.

These rules resolve a number of issues regarding the obligation of television broadcasters to serve children in their audience. The Commission adopted a Report and Order ("Order") addressing matters related to two areas: the obligation of television broadcast licensees to provide educational and informational programming for children and the requirement that television broadcast licensees protect children from excessive and inappropriate commercial messages. Although some of the rules and policies adopted apply to both analog and digital broadcasters, the Order focuses on the application of children's television obligations to digital television broadcasting.

The Order addresses how the current three-hour children's core educational programming processing guideline should apply to a DTV broadcaster that chooses to multicast. The Order increases the amount of the core programming guideline proportionally to the increase in free video programming offered by the broadcaster on multicast channels. The revised guideline provides flexibility to broadcasters that multicast by permitting them the choice whether to air core programming on a single or multiple channels provided that at least three hours per week are shown on their main channel. The Order finds that only programming aired on non-subscription channels qualifies as core programming. The new guidelines will become effective after a one-year phase-in period.

Under current guidelines, to qualify as core educational programming, the programming must be regularly scheduled. The Order concludes that to count under the processing guidelines, a program should not be preempted more that 10% of the time. The Order provides that programs moved to another of a digital station's programming streams will not be counted as preempted as long as the program airs at the same time and the station provides adequate information about the move on both the original and alternative program stream.

The Order amends the Commission's rules regarding on-air identification of core programming to require both analog and digital broadcasters to identify this programming by displaying the symbol E/I throughout the program. The Order requires that non commercial educational stations also display the symbol. The Order finds that a common on-air identifier will help parents and other interested parties locate programming for the child audience.

The second major area addressed in the Order is how the existing children's commercial limitations of the Children's Television Act of 1990 ("CTA") should be applied in the digital environment. The Order concludes that the commercial limits apply to all digital programming directed to children ages 12 and under, whether that programming is aired on a free or pay stream.

The Order addresses a practice currently in use by some broadcasters involving the display of Internet website addresses during children's programs, for example, in a crawl at the bottom of the screen. The Order states that for programs directed to children ages 12 and under, the display of Internet website addresses during program material is

permitted only if the website offers a substantial amount of bona fide program-related or other noncommercial content, is not primarily intended for commercial purposes, and the page viewers are first directed to on the site is not used at all for commercial purposes and including links to any other page with commercial material. This restriction applies to all broadcasters, both analog and digital, as well as cable operators.

With respect to the appearance of direct, interactive, links to commercial Internet sites in children's programming, the Order does not prohibit such links at this stage in the digital transition as this technology is not yet in use in children's programming. The Order states, however, that the Commission is concerned about the possible use of such direct website links for commercial purposes and warns that broadcasters may not use interactivity or other technological developments in children's programming to circumvent the commercial limits and policies. The item also includes a Further Notice of Proposed Rule Making seeking comment on the use of interactivity in children's programming and on how commercial interactivity should be treated for purposes of the commercial limits and policies.

The Order also addresses other issues related to the definition of commercial matter. The Order finds that promotions for programs that are not educational programming count as commercial matter. The Order states that after the rules are in place, the Commission will periodically review these polices. In addition, the Commission will issue a periodic report regarding broadcaster efforts to provide programming suitable to children in the near future.

For more details, visit:
http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-251972A2.doc
http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-251972A3.doc
http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-251972A4.doc
http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-251972A5.doc
http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-251972A6.doc

DirecTV Plans Four New Satellites, 1,000+ HD Channels

Under the topic of know your competition, DirecTV intends to launch four next-generation Ka-band satellites that the company said will allow for a massive expansion in local and national high-definition (HD) channels, as well as capacity for new interactive and enhanced services and standard-definition programming.

DirecTV says it will spend more than $1 billion to launch four satellites with the capability to offer every American home 1,500 local and 150 national HD channels. Analysts say the move would impact its main rival, EchoStar, and cable operators that tout their local presence and HD capability.

From Sky Report, the first two satellites, Spaceway 1 and Spaceway 2, will launch in 2005 and will deliver programming to consumers by the middle of the year. The Ka-Band satellites will have capacity for more than 500 local HD channels, the company said.
DirecTV said with the satellites it will have the ability to bring local HD programming to most of the U.S. population as well as help with the continuing expansion of local TV in standard-definition and other enhancements. The satellites were recently converted to allow for the offering of both video and broadband Internet, DirecTV said.

SpaceWay was initially designed as a broadband offering for enterprise users.

Two other Ka-Band satellites, DirecTV 10 and DirecTV 11, will launch in early 2007, the company said. These satellites will have capacity for more than 1,000 additional local HD channels, more than 150 national HD channels, and other new programming offerings.

DirecTV said consumers will receive the expanded services as well as existing programming with a single dish.

"We have led the TV industry in choice, quality and service and we are now positioned to lead the industry in bringing new advanced television programming to consumers nationwide," said Chase Carey, president and CEO of the DirecTV Group. "Only DirecTV, not cable or other competitors will have the capability to bring hundreds of high-definition channels and other enhancements to consumers across the entire country with the consistency, reliability and quality that they demand and deserve."

Boeing is building the satellites. Spaceway 1 and Spaceway 2 are nearing completion, DirecTV said. Boeing is constructing a third Spaceway satellite, and will also build a satellite that will serve as a ground spare.

DISH Fights Calls for HD Must-Carry

It would appear that DirecTV's competitor Dish Network has other views on this subject. According to Sky Report, in comments filed this week, EchoStar urged the Federal Communications Commission to reject the idea of imposing HDTV must-carry obligations on pay-TV distributors as a way to speed the switch to digital television.

The satellite TV company told the FCC that any high-def must-carry regime is infeasible for DBS services, could be unconstitutional and is irrelevant to the proceeding in which the suggestion surfaced. EchoStar's comments are part of the FCC's look into how to best serve consumers after the digital TV transition takes place.
Some requests for HDTV must-carry were made in connection with cable must-carry, and also involve suggestions of mandated multicast carriage, an item that has long been on broadcasters' wish list.

EchoStar said HD must-carry rules would hinder the digital TV switch. "Any expansion of must-carry obligations could in fact set the transition back, and would reward delinquent broadcasters for their failure to comply with DTV milestones," the company said.

And while cable and satellite TV must-carry obligations have been upheld in court, an "exponential increase in the burden on satellite MVPD (multichannel video programming distributor) providers from such requirements would immediately change the calculus and reverse the outcome on constitutionality," EchoStar said.

Antenna Tests Show Digital Reception Travels

According to a special report in the Washington Post by Wayne Rash, “When people talk about the high cost of digital television, they often forget that it can also be the cheapest kind to use month after month. While many people opt to get digital broadcasts as they do analog by paying for cable or satellite service, you could instead use a digital receiver and an over-the-air antenna to pull in a clear, sharp high-definition picture from local stations for free.

This was always part of the digital-TV promise, but many earlier receivers had serious trouble tuning in off-air signals reliably. Lately, though, as manufacturers and broadcasters have fine-tuned their equipment, off-air reception has become surprisingly possible -- as we found out in testing digital reception at a handful of locations across the Washington area.

This traveling television test show consisted of a 17-inch flat panel display from LG (the RU-17LZ21, $1,199), digital receivers from Samsung and LG, and antennas from Zenith and Terk. We also used whatever older antennas were available at each of our test locations, which represented a wide range of distances from the television transmitters clustered in the District's Tenleytown neighborhood.

DTV Station Status per FCC CDBS - September 12, 2004

- LICENSED (LIC): 608 (-0-)
- CONSTRUCTION PERMIT :(CP) 782 (-5)
- CP Modification (CP MOD) 354 (+3)
- STA (All variations) 1011 (-2)
- STA (Modifications) 100 (-0-)
- APPLICATIONS (minus rulemaking) 188 (-11)
- Rule making - Digital channel changes

- PENDING APPLICATIONS 30 (-4)
- GRANTS 143 (+4)
- DISMISSED 2 (-0-)

Sony Unveils High-Definition Camcorder

Sony Corp. showed a camcorder this past week that takes video at digital high-definition quality for the home.

The 2 kilogram (4.4 pounds) HDR-FX1, set to go on sale next month in Japan and before the end of the year globally, sells for about $3,600.

It can play current digital video cassette tapes for format compatibility with older models. But Sony will also start selling a video cassette that's best suited for high-definition digital recordings.

What do you want to bet you'll find these in TV stations shortly after they become available?

Wyoming engineer electrocuted at transmitter site

From: Dennis Switzer kkty@netcommander.com broadcast@broadcast.net

I didn't know Robin, but know the folks he worked for. This is a sad reminder of the "why" for all those safety rules that we know, but skirt past at times.

A broadcast engineer from Cheyenne was electrocuted while working at a transmitter site in northern Colorado. Thirty-nine-year-old Robin Thomas was killed at a tower site about 18 miles northwest of Red Feather Lakes, Colorado, according to the Larimer County coroner's office. Chief Deputy Coroner Diane Fairman says "Thomas was working alone, trying to install a radio transmitter and do some testing on it." She says he apparently leaned into the wrong piece of equipment and was electrocuted.

Fairman says Thomas was an experienced engineer who contracted out his services.

He grew up in Williamsport, Pennsylvania, and moved to Wyoming in 2000. Thomas was a partner in Radio Frontier Broadcasting and Blue Moose Broadcasting. He was the brother-in-law of Vic Michael, who has owned several radio stations in Cheyenne.

Dennis Switzer
KKTY AM/FM
Douglas, WY

ATSC APPROVES Synchronization Standard for Distributed Transmission

Advanced Television Systems Committee (ATSC) has approved a standard designed to facilitate the construction of single frequency network (SFN) transmission systems utilizing distributed transmission. The new standard defines the mechanisms for synchronization of transmitters emitting 8-VSB signals in accordance with the ATSC DTV Standard (A/53C). It also provides for adjustment of transmitter timing and other characteristics through additional information carried within the specified packet structure. Distributed transmission involves the use of a separate distribution channel to feed each transmitter in an SFN. This channel can be a conventional studio-to-transmitter link (STL) for distributed transmitters, or it can be a different broadcast channel from that on which the transmitters operate, in the case of distributed translators.

"Distributed transmission (DTx) holds the potential to greatly improve the coverage and service areas of DTV transmission," said ATSC President, Mark Richer. Richer further explained that "distributed transmission systems must be carefully implemented, so we (ATSC) are in the process of developing a companion Recommended Practice on the design of synchronized multiple transmitter networks."

ATSC Standard A/110 can be downloaded from www.atsc.org/standards.html at no charge. This document includes several informative sections that explain the distributed transmission concept in general, and synchronization methods in particular.

FCC mulls requiring broadcasters to keep tapes

Federal regulators are considering a new indecency regulation that would require broadcasters to keep recordings of their programs for a limited period of time. On a 4-1 vote Wednesday, the FCC agreed to decide whether the requirement would help them make decisions on the increasing number of indecency complaints that have been lodged at the agency.

The Commission proposed that stations keep recordings for shows that air between 6 a.m. and 10 p.m. and asked for comment on how long they should be required to retain them, possibly two to three months.

The FCC has been cracking down on indecent antics on television and radio but one of the problems is filed complaints do not always include a transcript or tape of the show in question, making an investigation tougher.

Cable TV bracing for FCC crackdown

Broadcasters have been putting up with the recent congressional indecency crusade, but now cable operators are beginning to sweat.

Cable operators have been lying low, letting broadcasters take all the heat. Until recently it was assumed that cable would escape the campaign because if subscribers are paying for something to come into their homes, they're giving consent for that kind of programming.

Recently, Federal Communications Commission chief Michael Powell said he didn't think the FCC had the power to regulate cable the same way it did broadcasters. Now he's suddenly discovered it does.

"I don't believe the First Amendment should change channels when it goes from Channel 7 to 107," he told a recent convention of the National Association of Broadcasters convention.

It's time for Cable to take some of this heat too.

CD rapid decay

From: Edwin Bukont ebukont@comcast.net >

My wife subscribes to a commercial music service that offers mixes for exercise classes, which she teaches. These so called 'cardio mixes' come on a CD. These CDs seem to have a life expectancy of about 3 mos. In almost no time, the entire foil is peeling off the CD. And the label is printed directly on the foil backside. Something seems wrong here. I have looked at other CDs and they seem to have something that protects the foil, even if it is only another layer of foil laid over the recorded media. Can anyone point me to a spec for proper CD manufacture, quality control or FTC requirements to sell such media? Every time a CD fails and she calls for a warranty replacement, they claim they no longer have the mix available and she needs to buy another set at $30!!

Edwin Bukont
Comm-Struction & Services
altimore, MD / Washington, DC
240-417-2475 mobile

In response----------

From: kenlocke-lists@sbcglobal.net

They have these new things called (I kid you not!) CD Condoms, made out of a thin layer of plastic (or clear rubber) and extends the life of a CD by keeping finger prints and other contaminants, and usually stops scratches and the like too... If you need further information on them I will see if I can dig up the info... And yes you leave them on even when playing/recording..... Neat huh....

Ken Locke - N8PJN
Spectrum Communications

RAID Levels

There are many different ways to implement a RAID array, using some combination of mirroring, striping, duplexing and parity technologies. Several standardized methods were defined in the 1988 Berkeley research publication that is credited with starting the RAID phenomenon; for some (unfortunate) reason, the researchers decided to call these different techniques *levels*. This was a poor choice of words in my opinion because the word "level" implies hierarchy or revision, or that the different RAID levels are somehow "built upon each other", when in fact, that is not the case. The word "level" implies to some people that "RAID level N+1" is *better* somehow than "RAID level N". In fact, this isn't really true--the various levels are independent and different, and no strict hierarchy should be inferred from the specific number attached to a RAID level. A given RAID level that is "better" for one person may be "worse" for another.

The original 1988 paper defined RAID levels 1 through 5; since then, single RAID levels 0 and 6 have been added to the mix, and other extensions such as the proprietary RAID 7 have shown up as well. Beyond these single-level RAID designs, a number of *multiple* RAID levels have been defined, which use two or more of the single RAID levels in combination to create new array types with new capabilities (and limitations). Most of these different RAID levels are in use today in different systems, a testament to the different needs of various RAID users. Some have largely disappeared from the market as experience over time has shown them to be inferior to other levels without advantages to compensate.

In this section let’s take a detailed look at RAID levels. Let’s start with a discussion of some of the key technical factors that differentiate RAID levels; these are then used to frame the coverage of the RAID levels themselves. Let’s discuss the eight single-level RAID designs, and take a look at several common multiple-level RAID types as well. Each RAID level is discussed in detail and information is provided about over a dozen of its various characteristics, with general recommendations provided for typical uses of

each level. Finally, we'll show a summary comparison table that contrasts the different levels in terms of their benefits and costs.

Tip: Carefully consider *all* the factors and variables when comparing different RAID levels; sometimes, things are not what they seem. Pay careful attention to the various performances attributes, to help differentiate levels based on how you are most likely to use the array; sometimes the "common wisdom" about different RAID levels will not apply to your needs.

Warning: As we are noticing increasingly these days in all areas of computing, the RAID levels are sometimes not used consistently by manufacturers. For example, we have encountered a significant RAID controller maker that provides support for what they call "RAID 3"; when you examine the details, however, you find that this RAID level is actually implemented as block striping with dedicated parity, which is RAID *4*, not 3. Why they did this, I have *no* idea. An organization called the *RAID Advisory Board* or *RAB* does maintain RAID standards and certifies hardware that meets "official" RAID level definitions, so you can look for their "seals of approval". Even so, it's still best to ask for specific technical details about any RAID system if you aren't certain of what the manufacturer has implemented.

The reason why there are so many different RAID levels is that there are many different ways to configure a bunch of hard disks, and many different needs of RAID users. Distinguishing between different levels isn't easy at times, because many RAID levels are similar to others in various ways. Worse, sometimes the differences between levels seem subtle, but these small discrepancies can have a huge impact on the characteristics of the array and the applications that make sense for it.

To completely and accurately portray each single and multiple RAID level, let's describe each in terms of its most important characteristics, including those related to fault tolerance, capacity, performance, cost and other attributes. To avoid duplication, we've provided this section that describes what each of these technical factors or attributes are about. For each one I explain briefly what the attribute means, how it is defined, and how and why it helps differentiate between various RAID levels. In the last sub-section, we also discuss the reasons why some implementers may wish to consider creating more than one array for a system if the needs of that system can't be met by one array type.

excellent interpersonal skills and desire to provide the latest studio technical knowledge, services and equipment in order to assist on-air and production staff. Candidates with SBE Certification will be given preference. Rotating on-call schedule requires availability on some nights and weekends.

A TV MAINTENANCE ENGINEER is needed in MONTEREY, CA. The candidate must be capable of repairing broadcast transmitters, video tape machines, switchers, cameras, and ENG trucks. It is necessary to be familiar with computers using Windows XP-Pro and Windows 2000. The candidate must be capable of performing installations in a neat manner, conforming to fit and finish standards of station engineering. This position requires 5 years minimum experience. An SBE certification is preferred.

A RADIO ENGINEER is needed in SAN DIEGO, CA. Qualified candidates should have a minimum of 5 years experience in large market radio operations with hands-on experience maintaining hi-power AM and FM transmitters, AM directional antenna systems and digital automation systems. FCC 1st class or General Radiotelephone license is preferred but not required, however must possess knowledge of FCC rules and regulations. SBE Certification is also a plus. Position requires the ability to perform a wide range of repairs and equipment installation, including maintenance and operation of directional antenna arrays and remote control systems. Candidates must have experience with high-power directional AM transmitter facilities, digital audio storage and delivery systems, and experience setting up and running remote broadcasts using ISDN and RPU equipment. Must be able to complete projects in a timely manner, demonstrate strong interpersonal communication skills and be able to perform on-call duties when needed. Candidates must also be capable of lifting, carrying and loading equipment. Position requires a good driving record and a valid California driver's license as well as reliable transportation. Candidates must also be able to provide proof of current automobile insurance.

A RADIO CHIEF ENGINEER is needed in COLTON, CA. Proficient in all areas of radio station support and maintenance, STL's, high power FM transmitters (BE), directional AM experience, automation equipment and studio equipment. Knowledge of Audio Vault, Microsoft Server 2000 and SQL a plus.

A TECHNICAL SUPPORT ENGINEER is needed in SAN LEANDRO, CA. Experience with audio editing systems, software testing and debugging. Requires 4 years broadcast engineering with advanced knowledge in MS Windows OS (NT, XP, 2000, 95, 98, DOS) & PC hardware diagnostics. UNIX operating system experience a plus. Strong written, verbal organizational and interpersonal skills required.

A MANAGER OF ENGINEERING is needed in SAN LEANDRO, CA. Must have 3 years experience as a manager or supervisor and 5 years experience in the field of electronic engineering. Requires BS Electronic Engineering. Broadcast engineering, IEEE & SBE certified a plus.

A RADIO CHIEF ENGINEER is needed in SACRAMENTO, CA. Requirements: SBE Certification helpful. 10 years radio broadcast engineering experience required.

A SENIOR TV/RADIO MAINTENANCE ENGINEER is needed in FRESNO, CA. Description/Qualifications: This is a senior position requiring someone with 5+ years experience. Duties include component level repair of TV and Radio Broadcast Equipment. Troubleshooting and repair of Computer equipment. Understanding of computer systems and programs and Network systems. RF experience is a plus. The ability to work independently and to be able to provide solid engineering solutions to problems presented is necessary.

A RADIO CHIEF ENGINEER is needed in CHICO, CA. Must be proficient in all areas of radio station maintenance and support, including high-power FM transmitters, STL's, studio equipment, satellite receivers, automation equipment, IT functions and FCC Rules and Regulations. Experience in Computer Concepts DCS and Maestro system helpful. Must have reliable transportation, valid driver's license and good driving record. Excellent verbal communications skills and problem solving ability.

AN TV ENGINEER is needed in the PACIFIC NORTHWEST. Qualified applicants should be proficient in repairing and installing all types of RF systems including full power TV transmitters, translators and fixed and remote microwave equipment. This person will be responsible for studio and field production equipment repair, studio system design and installation as well as plant/facilities and fleet management. The successful candidate will also manage a small engineering staff to direct and train daily activities of the department.

Anyone can see the generic list of job openings on the national SBE site at http://www.sbe.org/jobline.html . SBE Members can go to http://www.sbe.org/jobinfo.html and get all the details. Or, contact the SBE office at 317-253-1640. Being a member of SBE can lend credibility to your resume and grant you access to the SBE job info page. A good investment in your future.

Classified

Nothing to sell this time

Built in 1938 at the corner of Sunset and Vine in Hollywood, NBC's Radio City Studios were the home of some of the network's most popular radio programs. But the studios weren't well suited for television, and NBC realized that new studios specially designed for color TV should be built to replace Radio City (now destroyed - the lot is occupied by a Washington Mutual Bank which is a landmark in its own right - the bank is currently slated for destruction as well).

Information & Education

NAB TO HOLD SATELLITE UPLINK TRAINING SEMINAR

The National Association of Broadcasters announced that this year's Satellite Uplink Training Seminar will take place at its Washington, DC headquarters September 27-30. For more information on this and other educational opportunities, visit: http://www.tech-notes.tv/Education/educational_opportunities.htm

CHANGING A MAGNETIC COMPASS HEADING TO A HEADING RELATIVE TO TRUE NORTH

Sometimes it is necessary to convert from magnetic to ture North heading. Magnetic readings are a problem for 2 reasons: first, all FCC filings and authorized patterns are relative to true north (the geographic north pole); second, magnetic compass sightings are lucky to be within a one degree accuracy, unless they are taken with a surveyor's compass, similar to a transit.

It is bes to have the tower surveyed prior to Jampro doing the far field, full scale range work on an FM or TV antenna. That way, there will be an accurate determination of the tower heading and have it reckoned relative to true north (usually).

Lacking that, there is an internet tool that can be used to find the magnetic declination at any site in the US. (This is often times called the magnetic variation.)

Step 1. Go to the web site: http://www.ngdc.noaa.gov/seg/geomag/jsp/Declination.jsp.

If you have the lat/long in degrees-minutes- seconds format (as appears on FCC documents), type that into the dialog boxes with space delimiters, such as "38 24 36". Indicate North latitude and West longitude for the US -- these are the defaults.

Don't worry about the date. The declination is slowly changing and the default is set to report the value on the current date. The declination will be reported as westerly for regions in the eastern US and easterly in the western US. There will be very small values in some portions of the midwest, as the magnetic north pole is nearly straight north of Chicago - many NFL players believe its somewhere near Green Bay, Wisconsin.

Step 2. Click on Compute Declination. The result will appear on the refreshed screen just below this area.

Step 3. Use the reported declination to correct the magnetic heading to a heading relative to true north:

If the declination is Westerly, Subtract it from the magnetic heading.

If the declination is Easterly, Add it to the magnetic heading.

Step 4. Pass this information to Jampro with your order.

FCC ANNOUNCES RADIO FREQUENCY IDENTIFICATION (RFID) WORKSHOP

The FCC today announces it will convene a Radio Frequency Identification (RFID) Workshop to take place October 7, 2004 at the Federal Communications Commission.

Radio frequency identification has attracted considerable attention in recent years as both government and commercial enterprises replace traditional supply chain management techniques with new technologies based on tagging commodities with either active or passive tags that can be read via radio frequency emissions. In addition, multiple sensing applications have employed RFID to enhance the accuracy of accounting, increase product safety, and advance data collection and management.

The Radio Frequency Identification Workshop will provide an opportunity for the Commission to learn what, if any, regulatory barriers stand in the way of radio frequency identification deployments. Presenters will include developers who utilize RFID equipment and services, representatives of large scale organizations who are managing RFID deployments to support enterprise management, and representatives of academia and industry who are striving to enhance the technology and applications for RFID. The emphasis will be on real world, practical questions and solutions with the goal of encouraging and enabling new, innovative, and economic approaches to providing radio frequency identification services.

For further information please contact Bill Lane, Associate Chief, Policy and Rules Division, Office of Engineering and Technology; email: william.lane@fcc.gov;
voice: 202-418-0676.

about hdtv

From KIDK TV Channel 3 in Idaho Falls, ID

(Editor's Note: *You'd be surprised as some of the GOOD information you can find when you do the Road Show and surf the web, looking at stations that sent folks to attend. He's something that will be helpful in educating folks about not only digital television, but one*

of its enhancements, High Definition. It addresses most all of the most commonly asked questions by viewers.)

What is digital Television?

Digital television is a new system of broadcasting television pictures and multiple channels of audio. It offers a method to transmit studio quality pictures and audio to the home with clarity not possible with today's analog broadcast system. There are basically two grades of digital television:

SDTV (Standard Definition Television) offers the same or better quality as today's Digital Broadcast Satellite systems, which are superior to current analog cable or antenna-received signals. These pictures have virtually no ghosts or noise, and typically are shown in a 4x3 screen size format like today's televisions.

HDTV (High Definition Television) will have the best resolution and detail. These pictures will be presented in a 16x9 wide-screen, movie-like format and contains up to six times more picture information than SDTV pictures.

What will digital television do for me and why would I want it?

Simply put, the pictures are superior to anything you have seen. They are clearer and have more detail. Not only that, but HDTV will more closely resemble motion-picture standards by displaying image in wide screen format. Additionally, Dolby Digital Surround sound (AC3) is the audio standard of digital television broadcast, offering high quality, theater-like six-channel sound.

Can I receive these digital television signals on my current television?

You cannot receive digital television signals on today's analog televisions, but set-top boxes are available that will allow off-air DTV signals to be converted to play on your current television. The boxes will provide the same or better quality as an 18" satellite system delivered today. By the year 2006, when today's analog television broadcasts are supposed to be discontinued for full time digital signals, these set-top boxes will receive the digital broadcast signals for your older television.

How are these digital signals received?

The digital signals will broadcast through the air (like current television signals) and are available from direct broadcast satellite. An antenna, similar to what is used now, will receive these broadcasts and pass the signal to a tuner-decoder which then converts the digital signal to a picture the television can display. The digital signal, like todays analog signals, are now becoming available to those with good reception from the broadcast tower in your metro area. One major difference is that, with digital signals, reception problems such as ghosting and noise are eliminated. Additionally, HDTV signals will provide a significantly sharper and lifelike picture than any you have seen on TV before.

What kind of programming is available?

Satellite systems, such as DirecTV, are available now with many more channels to be added. HBO movies can be watched when using HDTV receivers and a 24" dish. KIDK DT 36, began broadcasting its full program schedule with a SDTV signal on April 1st, 2002.

When can I receive HDTV programming?

Many cities, including St. Louis, Salt Lake City, Las Vegas, Minneapolis, Phoenix, and Boise, already have network stations broadcasting digital programming including HDTV. Other cities, such as Denver, may have stations broadcasting in the coming year. In virtually all areas, DirecTV is broadcasting HDTV programming (i.e., HBO channels) in HDTV with many more channels to be added soon. These will include more movie channels and sports, such as NFL football games and other events.

What are the tuner-decoders (set-top boxes) for and why will I need one?

In order to receive the digital broadcast, a tuner-decoder will be necessary to convert the digital broadcast into a signal the digital television can understand. Some manufacturers include them in the television and others offer them as an option that can be purchased with the televisions or be added later. They are also available in combination with DirecTV receivers.

How does digital television work and what is the standard?

Formats

SDTV These signals broadcast in either 480i (interlace scan) or 480p (progressive scan) pictures. The 480i is what KIDK DT 36 broadcasts, the same high-quality signal like Digital Broadcast Satellite uses. 480p will be an improvement, displaying a more film-like picture. HDTV These signals will broadcast in 1080i (interlaced) or 720p (progressive). Both of these formats provide the sharpest clearest movie-like pictures available. "Line Doubling" or "Quadrupling" Most large screen digital televisions take the current available analog signals (like DVD, cable , digital satellite, antenna broadcasts) and "upconvert" them to a facsimile of an HDTV-like picture - a significant improvement over current displays. This allows ANY signal to be displayed as a much better picture, although not as good as true HDTV broadcasts.
Standards

SDTV Usually a 4x3 picture size; 480i or 480p digital transmitted signals HDTV Must be a 16x9 sized picture (letter boxed 4x3 screen is permissible) at 720p or 1080i resolution picture display high. Although pictures have a horizontal resolution of either 1280 or 1920 lines wide, no minimum is required of the television itself. All HDTV will vary as to the maximum WIDTH resolution (the broadcasts, however, will be transmitted at 1280

or 1920 lines wide). Tuner-decoders To support reception of any digital broadcast, they must receive ALL 18 standard digital signals in SDTV and HDTV and can also be designed to receive HDTV satellite programming. Digital Dolby (AC3)-Surround Sound All boxes and digital televisions must pass this signal for those who have a Dolby Digital sound system. Stereo or regular Dolby Surround signals will also be included in the broadcasts.

What is a "Screen Aspect Ratio"?

4x3 size format This means the screen (or picture itself) is sized 4 units wide by 3 units high - all currently available televisions use this aspect ratio. 16x9 16 units wide by 9 units high - a wide format, movie-like screen aspect ratio.

PSIP

From: John Willkie JohnWillkie@ixpres.com

The FCC's decision to make PSIP mandatory (no word on the deadline date yet, but in no case will it be earlier than Jan 13, 2005 -- my guess is that the document will be published in the Federal Register within a few days, which will set the deadline) has made me realize that I have no time to spare.

The ATSC's PMCP (Programming Metadata Communications Protocol CS-75) specification is now awaiting approval by the ATSC's T3 committee, with a possible full membership balloting possibly by the end of the year. There have been improvements and some changes made in the spec by T3/S1 since the document achieved candidate status, but I've probably said too much already, vis a vis the ATSC non-disclosure agreement.

The SMPTE S22-dataexchange group is pending a balloting on what the name of the proposed specification will be. I believe there's 22 candidates. Can't remember if one of my suggestions made it that far.

Views --

I'm in the process of activating a few "things" that I had kept on the back burner. The first and most obvious is that I've hired my chief engineer, a C++ programmer with deep experience in programming and broadcast systems.

Since I have a workable user interface that outputs PSIP tables, he will start by taking over the real time operations -- spitting out the bits. In short order, we should have a workable 10/100 base-T and DVB-ASI interfaces working.

Although I did have a workable 10/100 base-T UDP interface, I found that to be of limited use. Not that stations don't need it: many do. The problem was verifying the transmitted packets. Every packet analyzer in town (there are four that I know of) don't support UDP input, just DVB-ASI. In one case, I was even told by a non-technical type that they could test my output, but the technical guy corrected that. I expect to hear back from them within a few days as to how bad my tables and/or packets are.

That's easier than writing my own MPEG-2 packet analyzer (although it would just add to my packet parser.)

The thorny issues -- at least for me -- was how to integrate the various output interfaces into the code I've written so far. Now, I won't have to worry about that, with wiser hands on the job.

Since time to market is now important, I've also decided to re-examine the hardware aspects, with an eye to using one of the big vendors to handle the hardware. Since the real-time code will be written in C++, we won't be limited to the Windows platform. (My CE leans towards FreeBSD, but I could go for Linux if I'm indemnified by the vendor.)

It's also about time that I put my website back up, and placed appropriate advertising that funnels calls to an 800 number.

Looking for investment capital is still an issue, but I will probably have that at least partially resolved soon, and there are still a few irons in the fire. Someone not familiar with the details told me yesterday to go for "venture." But, the VC business is generally too big to be interested in such niche markets, and there just isn't any time for me to spend weeks in meetings: I have to deal with a sales cycle of less than 5 months.

I haven't heard back from my marketing coach, so I must assume he's on vacation. Hope that ends shortly: I need to update if not prepare a marketing plan.

I'm also talking to at least one person about helping me with sales, and pondering what newspaper to pitch a story to (one man band – until yesterday -- against the multinationals.)

From: "SCRI" scri@scri.com

News Briefs Broadcast/Pro Video Product Equipment Sales Expected to Grow 13% in 2005
Sales of equipment forecast to top $8 billion in 2005

According to SCRI's just released 2003-2004 Broadcast/Pro Video Product Reports, the time is nigh for the professional video/broadcast/cable market as it basks in the glory of a bright economic forecast. Many facilities are improving their bottom lines as demand for creative content rises, right along with their equipment acquisitions. This year appears to be the banner one for most vertical markets as they position their facilities with significant equipment upgrades. By 2005, many product categories are somewhat level in total market value, or up slightly from the year before. These numbers are likely to grow as product orders come in after the first of the year, and the November election is done.

Business is truly marching toward a sustained economy recovery. As if unfettered by the financial apocalypse that derailed all aspects of the U.S. economy in 2001, the gross domestic product has consistently risen. With a diligence not seen in a very long time, just about every facet of the U.S. economy has marched out of the massive contraction that devastated the professional broadcast/video community. A return to prosperity is in the air, and it seems… a virtual gravy train of opportunity to those who supply equipment essential to this community. This year will be very strong year in terms of sales, marking a 9.5% increase over last year. Numbers will also rise by 2005, but early projections are showing a very modest increase of 3.8% over this year. These numbers are likely to change as next year unfolds. In early projections, conservative is definitely the rule of thumb for many facilities as they plan their production budgets for the near future.

Spending and growth is definitely on the horizon, sounding a positive note for all marketers within the professional broadcast/video industry. Aggressive strength is noted in the cabler and broadcast markets, with product acquisitions rising dramatically between 2002 and 2005. SCRI predicts that by 2005, all six vertical markets will spend a phenomenal $9.2 billion on video production equipment and components. Total market value between 2001 and 2005 will rise a formidable 12.0%. The bulk of purchases will actually come in 2004 with a projected market value of $8.91 billion. The 2004 figures are dramatically higher than 2001, when $6.25 billion was spent. In 2002, $7.33 billion was spent by all six vertical markets. Cablers and broadcasters will account for the vast majority of purchases in 2005 with a combined $5.9 billion.

For more information on SCRI's 2003-2004 Broadcast/Pro Video Product Reports, go to: www.scri.com/sc_reprt.html or contact info@scri.com
About SCRI Research International, Inc.(www.SCRI.com)

Features, History & Opinions

By Bert Weiner

The following is a brief editorial from MRT, Mobile Radio Technology. I believe that its contents are worth reading and understanding. It points to another entity putting dollars, in their

already deep pockets, above safety not to mention quality of life.
++++++++++++

Wavelengths Fairness is a matter of perspective By Glenn Bischoff

The Association of Public-Safety Communications Officials held a forum during its conference in Montreal last week to discuss the Federal Communications Commission's order that would require Nextel Communications to reband 800 MHz airwaves in order to solve interference that plagues first responder communications nationwide.

On the panel was Robert Foosaner, Nextel's senior vice president and chief regulatory officer. While stressing Nextel's ongoing commitment to working with public safety to find a solution to 800 MHz interference, he also focused on elements of the FCC's order that he believes are unfair to the carrier. Specifically, he pointed to the requirement that Nextel decide whether to accept the deal before the FCC finalizes the order and before Verizon Wireless decides whether it will appeal the order.

"We're being forced to give up certain rights before we know the result," Foosaner said. "That puts a publicly held company in a very untenable position."

Foosaner also questioned the makeup of the five-member board that will choose the transition administrator that will guide the rebanding process. He said public safety and Nextel each deserve "two seats at the table," but not public utilities. "The utilities have two seats and an effective veto," Foosaner said.

Of course, Foosaner is just doing his job. Because of its status as a publicly traded company, Nextel has no choice but to carefully consider the fiduciary impact the order might have on the company's shareholders and how it might affect the carrier's ability to properly service its 14 million customers. Working for a publicly held company as I do, I can appreciate and empathize with Nextel's dilemma.

However, I'd like to interject a different perspective on the concept of fairness. Two of my friends are Chicago firefighters. I've always been fascinated by the profession and always am eager to hear their stories. On numerous occasions they have told me that someone outside the profession cannot begin to understand just how scary it is to be in a burning building with smoke so thick you can't see your hand in front of your face. In such circumstances, finding one's way out of the building is a bit of a challenge.

Now imagine how much scarier such a circumstance would be if the firefighters couldn't communicate with each other or their commanders because their radios wouldn't key because of interference caused by Nextel. Would that be fair to the firefighters? Would it be fair to firefighters if they were seriously injured -- or worse -- because their radios failed due to interference? Would it be fair to their survivors if the worst-case scenario presented itself, something that no one wants to contemplate but which everyone has to acknowledge is only a matter of time if the interference problems aren't solved.

I hope Nextel spends some time considering this as it contemplates what to do about an FCC order that is surprisingly fair and balanced.
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++++++++++++
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Forget Your Title…Focus on the Job

(A different prospective)

By G.A. "Andy" Marken, President
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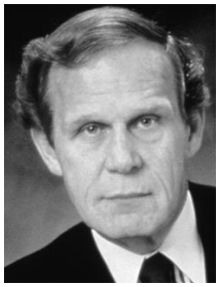
(Editor's Note: *Andy Marken, though his marketing company, provided several of the door prizes we gave away through out the Road Show this year*.)

"If you aren't selling, you're buying" F.G. "Buck" Rogers, former head of IBM Marketing, Sales activities



Somewhere along the line we got sidetracked into believing we had to focus on our profession. We forgot what people in companies engineers, scientists, accountants, product managers, vice presidents, lawyers, technical/customer support personnel and yes presidents -- were supposed to do. We got so wrapped up in our own status in the organization, our own feeling of self-importance, our title; we forgot what our real job was.

The job? Selling products, services and abilities while making a profit.

You don't?

Congratulations!

That means:

1. When a customer problem or question comes to you, you try to answer it. And you go directly to the people who can provide the answer to ensure they customer gets assistance and a satisfactory answer

2. When a phone call or email internal or external -- comes in you return the call or respond within an hour if at all possible. Or you ensure someone handles the query if you are on the road. You leave no query unanswered before you leave the office at the end of the day

3. You spend at least 10-15% of your time with your field sales force calling on customers and/or prospects to find out why they purchased or didn't -- your firms products/services and what they like/dislike

4. You visit outlets and stores that sell your products/services to see how your promotional materials and the products, as well as your competitor's are presented

5. You talk about your projects, programs, activities with senior management and staff in terms of market response/reaction, impact and sales

6. You time your product announcements and roll-outs so they coincide when the product/service will actually be available -- in a solid form for sale

7. You spend time trying to determine what the customer wants, needs and not what you think you want to design, produce and ship

Those things aren't your area of responsibility or your concern?

Wrong!

Selling…being responsible…being responsive is your total job.

A recent report we read on customer relations made us realize we are losing touch with ur real job. It is little wonder that customers business and consumer dislike the buying process so much. It made us realize that the companies that are just a little bit better focused on the selling (and support) process produce better results and often it doesn't take that much to be that much better.

In the late '70s and early '80s Buck Rogers of IBM was the epitome of the salesman's salesman. His consistent uniform -- dark blue suit, white shirt, rep tie and red pocketchief may seem a little dated but the fundamentals he preached and practiced are as sound today as they were then.

In his mind everyone in the organization was a sales person. The janitor, the engineer, the lawyer, the PR person, the lab rat, the installation/service technician were all part of the IBM sales team.

The internet didn't change that. The customer support department didn't change that. The specialties didn't change that.

Our feeling of the importance of specialization and departmentalization and compartmentalization changed that focused customer approach.

The eGain customer relations study polled 300 US, Canadian firms in various market sectors. Yes it included healthcare, retail, financial services, communications, PC and

CE manufacturers, hospitality and services. Your firm could have been caught in this wide net. The inquiries to the firms (sent as emails) expressed a keen intent to buy one of their high-value products or services.

They found:
- 41% of the firms never responded
- 39% sent an answer within 24 hours
- 15% sent an acknowledgement that they had received the inquiry
- 17% responded with an accurate, complete answer
- 6% didn't have an email contact

Don't shrug off the figures by saying well that is the sales department for you. Rewrap the inquiries in terms of the inquiries you receive. Do you think the results would have been any different?

Does your organizations list easy-to-find key company contact information on your web sites? Direct email addresses? 24-hour phone numbers?

Do you answer every inquiry even from suppliers, prospects or customers halfway around the globe and have nothing to do with your area of "responsibility?" Do you follow-up to make certain they are supported properly?

Do you treat emails like paper mail…handle it once, handle it immediately, take the appropriate action and move on?

Do you provide the information as quickly to a Massachusetts weekly as you do to the NY Times?

Do you view incoming email as talking to a person face to face? Respond promptly and courteously? Or do you simply ignore the individual?

If you answered no to most of these questions you are not doing your job. Your selling job.

But sales isn't your job?

It's your job at work and at home!
- Didn't you take engineering and technical jargon and put it into words ordinary people could understand?
- Didn't you advise your management what the ramifications might be of some policy or program you didn't feel was in the best interest of the company's reputation or future?
- Didn't you explain the reasons for an aggressive product launch with your marketing and marketing communications department?
- Didn't you help get your CEO on the show program as a key speaker?
- Didn't you pitch and negotiate a better price and delivery schedule with a supplier?

· Didn't you make a presentation to engineering (or marketing) on a new product or service you wanted to see added to your product offering?
· Didn't you convince your spouse that buying a new HDTV was a wise move?
· Didn't you discuss the reasons why camping in the mountains was much better than a simple visit to Disneyland?
· Didn't you negotiate a date and vacation with that new person who caught your eye at the athletic club?

Rationalize all you want but if you are good in your chosen field or profession you're selling all the time. You are selling your ideas…your words…your ability to look at problems and opportunities from every angle…your reputation.

If you're uncomfortable with this then don't call what you do selling. Instead tell people you persuade, influence and negotiate.

Then wrap it all with a superb title.

But understand the basics of solid sales efforts. That's the way you can get others to adopt your point of view or idea, that you get they to respect/agree with your opinion and that they help you achieve what is best for your company, its products/services and the market at large.

Buck Rogers mantra is as true today as it was in the early '80s. Selling is cool. Selling is fun. Selling is good for your company's long-term success and profitability. It's as true for engineering, accounting, legal, product planning, marketing, accounting, manufacturing and public relations as it is for the sales department.

It may not be part of your job title or even in your job description but…"If you aren't selling, you're buying."

Andy Marken
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Fax: (408) 986-0162
andy@markencom.com

Preparing For Winter

Scott Todd writes:

Would something like Rain-X work on my satellite dish covers to prevent the build-up of ice when we get freezing rain/drizzle? Anything that works better?

From: Dennis Burton dburton@provalue.net

One of our Studios is in a six story building. The dish is on the roof and the only access is out the fire escape on the sixth floor and up a ladder on the side of the building to the roof. This is not a trip you want to make during winter weather. For the past three winters, I purchase WD-40 by the gallon, and apply with a pump up sprayer a couple of times... in late fall before weather hits, and again on a nice mid winter day. So far, so good, no icing or snow build-up. Remember what the WD stands for.... water displacement.

Dennis Burton
One Ten Broadcast Group

From: Fee Lee feehlee@fcc.net

There is a special "paint" for satellite dishes that is a hydrophobic coating that is it changes the surface tension of water droplets so that they roll off instead of coating the surface. I had a sample of this coating on a sheet of plastic and water sprayed on it forms tiny beads that look like tiny ball bearings, the plastic refused to be wetted. It is expensive and special primers are used. They use this material on radar dishes on airplanes and military dishes and microwave dishes. Check this link:
http://www.cytonix.com/fluorothane.html

Fee Lee

LPFM Documentary to Air on NBC

A documentary called “LPFM: The People's Choice” will air on NBC-TV stations Sept. 26. According to a press release from the program's creator, the program “chronicles how low power FM radio is bringing diverse peoples closer together and giving new life to declining communities, new strength to neighborhoods and new voices in the marketplace of ideas.”

The release also touts the advantages to LPFM, saying that it is a low-cost service designed to promote diversity and localism and to encourage voices from the margins. The program was produced by the United Church of Christ Office of Communication,

which is promoting a bill in Congress to license thousands of new LPFM radio stations. The National Council of Churches is presenting the program.

The list of people interviewed for the program include former FCC Chairman William E. Kennard, who instigated the LPFM idea; Senator John McCain; Representative Ed Markey; LPFM Organizers Pete Tridish and Andrea Cano; FCC Commissioner Michael Copps and former FCC Commissioner Gloria Tristani. There are no broadcasters listed as being part of the program.

The supporters of LPFM are of a strong voice, and challenge the NAB and broadcasters that oppose some of the concepts behind LPFM. While the Mitre report stated that LPFM will not cause interference to licensed broadcast stations, the Mitre report was not completed as per the guidelines that were originally established.

The initial reaction from broadcasters is that the program will be heavily one-sided, playing only on the emotional aspects of community service, completely ignoring any science or physics.

Throw up your arms and.....

From: Charles Lakaytis chuckml@alaska.net

Gotta love this business. Five AM call, "We are off the air". Three hour drive to the station. Eating a Mickey D's Sausage biscuit while listening to a story about Clinton's surgery. Throw the remains of it back into the bag. Promise myself to start eating better. Get to the site. Two large moose guarding the access road. Load shotgun with slugs. Yell a lot. Moose move away. Trudge through the mud. Hey at least I get the GM to carry my tools. Find the screen breaker tripped and the PA fault light on. Open the door of the BE FM 3.5A transmitter and find more dirt then I thought existed on the planet. I could grow a good crop of potatoes on the air filter. Remind the GM that he was going to "save money" by changing the air filter himself instead of having me do it. Spent nearly an hour vacuuming the transmitter. Found several overheated comments and a dead PA tube. Got it back on at 50 % power. Waiting for parts.

I hope that the GM enjoys saving money, I know that I enjoy billing the idiot. And as Gray Heartig says, "Remember to add the secret "a*****e premium to the invoice.

Chuck Lakaytis
CML Broadcast
Anchorage, Alaska 99510

IEEE Broadcast Technology Society

From: Mark Aitken maitken@sbgnet.com
(Tooting one's own horn)

Look at 3:15-3:45PM...
http://www.ieee.org/organizations/society/bt/symp/fullprogram.html

Friday PM, October 15

DTV Interference and Reception Issues Session Chair - Greg Best

****

2:15-2:45PM

DTTV Reception in a Crowded Spectrum: Dynamic Range and Protection Ratios from Interference by 1st Adjacent Channels Oded Bendov, Consultant

With the introduction of DTTV, the number of channels assigned to each market doubled even while the available spectrum was reduced. Planning for DTTV service in a crowded spectrum requires power limits be placed on all adjacent channels and, in particular, on 1st adjacent channels. In this paper realistic power limits based on IM products generated at the receiver by the desired and undesired signals are proposed. The proposed limits are a function of the fundamental power in the desired and undesired channels and the receiver's 3rd order intercept point (IP3). This paper will show how the undesired spectral power density of IM and XM components is estimated in the desired as well as in the adjacent channels. The analysis will show that present D/U ratios underestimate the expected interference from strong signals in many markets, and that the receiver's IP3 should be at least 16dBm for the dynamic range expected in the U.S.
****

2:45-3:15PM

Interference Between Television Signals Due to Intermodulation in Receiver Tuners Charles W, Rhodes, Consultant

Interference between TV broadcast signals in the UHF band has been mitigated since the inception of UHF broadcasting by regulating the minimum geographic distances between transmitters based on certain channels. These are the well known, but not well understood, UHF taboos. With the introduction of DTV the use of these taboo channels and the 1st adjacent channels to those already allotted to a community has become necessary due to spectrum scarcity. Most of the taboos are due to non-linear interference mechanisms which were, and still are, characteristic of consumer receivers. Those

mechanisms result in 3rd and higher odd-order intermodulation (IM) products some of which fall in another TV channel. Cross-modulation is a lesser problem than IM. The author has conducted experiments on the extent to which 3rd order IM products generated by TV signals on certain pairs of channels near the victim channel can prevent reception of DTV signals on that channel. This paper will attempt to quantify these interference problems.
****

3:15-3:45PM

5th Generation DTV receiver solves ghost problems Mark Aitken, Sinclair Broadcasting Group Tim Laud, Zenith Electronics Corp

There has been a focused effort within the TV broadcast industry to move DTV receiver technology "state-of-the-art" forward to better deal with some of the more difficult and complex receiving environments. In this paper, we detail the approach taken which today provides the broadcast industry with a "breakthrough" 8-VSB receiver product that has "cleared" the bar of expected performance for the simple reception of over-the-air DTV in most complex environments. Field evaluation data will be presented to confirm the conclusions. Providing correlation of results with laboratory simulations and tests with those "real world" conditions in various field trials conducted by multiple parties will allow this technology to achieve quick acceptance in the marketplace.
****

4:00-4:30PM

Impact of Impulse Noise on DTV Reception on Low VHF Channels Charles Einolf, Consultant

In this paper we will examine the basis of impulse noise, the occurrence of impulse noise in the field, and the impact of impulsive noise on DTV reception in the low-VHF TV band. Ambient electromagnetic noise, which may adversely affect DTV, is often impulse in nature and is different from thermal Gaussian noise produced within the receiver system itself. Most studies to date have dealt with the impact of impulse noise on narrow-band communications. DTV presents a greater challenge since impulse noise is broadband in nature and involves wide excursions in pulse amplitudes. The impact on DTV is not a total loss of service where increasing signal strength will solve the problem of reception. Impulse noise causes intermittent loss of both audio and video that is subjectively detrimental to quality reception. This paper explores field experiences with impulse noise and the limitations of DTV receivers to handle the interference.
****

4:30-5:00PM

Interference Analysis of Co-Sited DTV and NTSC Translators Gary Sgrignoli, Consultant

DTV service has begun in all the major urban areas within the U.S. but has yet to significantly reach the rural areas. Often, translators are the only means of providing free, over-the-air service to people living in these areas. One challenge is that specific rules for operation and spectrum allocation exist for full-service stations in urban areas, but there are currently no rules for DTV translator stations in rural areas. Another challenge is overcoming the scarcity of spectrum that exists under the old analog taboo interference rules. A key to overcoming these challenges is to determine interference parameters in the form of D/U ratios that will allow many DTV and NTSC signals to co-exist. Also, co-sited analog and digital translator sites utilizing low radiated power can be used for adjacent/taboo channel operation (NTSC next to DTV or DTV next to DTV) if careful engineering and planning are employed. Even 1st adjacent channel operation can be accomplished if proper effective radiated power (ERP) ratios are selected. This presentation shows that, assuming application of the proposed "simple" emission mask, a 10dB NTSC-to-DTV power ratio and a 0dB DTV-to-DTV power ratio are acceptable at a co-sited repeater site in order to avoid receiver interference among the co-sited signals.

(End of Symposium)/

Regards,
Mark A. Aitken Director, Advanced Technology
Sinclair Broadcast Group

FRIDAY FUNNY – Hurricane Preparedness.....

From: Rod Stumhofer stumhofr@fiu.edu
Director of Technical Operations
Florida International University
School of Journalism and Mass Communications
Biscayne Bay Campus

I believe this comes from our local meteorologist, Dave Barry (Miami Herald writer) :

Hurricane Preparedness.....

We're about to enter the peak of the hurricane season. Any day now, you're going to turn on the TV and see a weather person pointing to some radar blob out in the Atlantic Ocean and making two basic meteorological points.

(1) There is no need to panic.

(2) We could all be killed.

Yes, hurricane season is an exciting time to be in Florida. If you're new to the area, you're probably wondering what you need to do to prepare for the possibility that we'll get hit by "the big one". Based on insurance industry experience, it is recommended that you follow this simple three-step hurricane preparedness plan:

STEP 1: Buy enough food and bottled water to last your family for at least three days.
STEP 2: Put these supplies into your car.
STEP 3: Drive to Nebraska and remain there until Halloween.

Unfortunately, statistics show that most people will not follow this sensible plan. Most people will foolishly stay here in Florida.

We'll start with one of the most important hurricane preparedness items:

HOMEOWNERS' INSURANCE: If you own a home, you must have hurricane insurance. Fortunately, this insurance is cheap and easy to get, as long as your home meets two basic requirements:

(1) It is reasonably well-built, and
(2) It is located in Wisconsin

Unfortunately, if your home is located in Florida, or any other area that might actually be hit by a hurricane, most insurance companies would prefer not to sell you hurricane insurance, because then they might be required to pay YOU money, and that is certainly not why they got into the insurance business in the first place. So you'll have to scrounge around for an insurance company, which will charge you an annual premium roughly equal to the replacement value of your house. At any moment, this company can drop you like used dental floss.

SHUTTERS: Your house should have hurricane shutters on all the windows, all the doors, there are several types of shutters, with advantages and disadvantages:

Plywood shutters: The advantage is that, because you make them yourself, they're cheap.

Sheet-metal shutters: The advantage is that these work well, once you get them all up. The disadvantage is that once you get them all up, your hands will be useless bleeding stumps, and it will be probably be December.

Roll-down shutters: The advantages are that they're very easy to use, and will definitely protect your house. The disadvantage is that you will have to sell your house to pay for them.

Hurricane-Proof windows: These are the newest wrinkle in hurricane protection: They look like ordinary windows, but they can withstand hurricane winds! You can be sure of this, because the salesman says so. He lives in Nebraska.

Hurricane proofing your property: As the hurricane approaches, check your yard for movable objects like barbecue grills, planters, patio furniture, visiting relatives, etc...You should, as a precaution, throw these items into your swimming pool (if you don't have a swimming pool, you should have one built immediately). Otherwise, the hurricane winds will turn these objects into deadly missiles.

EVACUATION ROUTE:
If you live in a low-lying area, you should have an evacuation route planned out. (To determine whether you live in a low-lying area, look at your driver's license; if it says "Florida," you live in a low-lying area). The purpose of having an evacuation route is to avoid being trapped in your home when a major storm hits. Instead, you will be trapped in a gigantic traffic jam several miles from your home, along with two hundred thousand other evacuees. So, as a bonus, you will not be lonely.

HURRICANE SUPPLIES:
If you don't evacuate, you will need a mess of supplies. Do not buy them now! Florida tradition requires that you wait until the last possible minute, then go to the supermarket and get into vicious fights with strangers over who gets the last can of SPAM. In addition to food and water, you will need the following supplies:

O 23 flashlights; at least $167 worth of batteries that turn out, when the power goes off, to be the wrong size for the flashlights.

O Bleach. (No, I don't know what the bleach is for. NOBODY knows what the bleach is for, but it's traditional, so GET some!)

O A big knife that you can strap to your leg. (This will be useless in a hurricane, but it looks cool.)

O A large quantity of raw chicken, to placate the alligators. (Ask anybody who went through Andrew; after the hurricane, there WILL be irate alligators.)

O $35,000 in cash or diamonds so that, after the hurricane passes, you can buy a generator from a man having no discernible teeth.

Of course these are just basic precautions. As the hurricane draws near, it is vitally important that you keep abreast of the situation by turning on your television and watching TV reporters in rain slickers stand right next to the ocean and tell you over and over how vitally important it is for everybody to stay away from the ocean.

Good luck, and remember: its great living in Paradise.

A Floridian

From the Pen of Mendrala

By: Jim Mendrala

DCI ANNOUNCES COMPLETION OF OVERALL SYSTEM REQUIREMENTS AND SPECIFICATIONS FOR DIGITAL CINEMA; MEMBER STUDIOS UNANIMOUSLY AGREE TO EXTENDED TERM

Digital Cinema Initiatives, LLC (DCI) has announced the completion of the overall system requirements and specifications for digital cinema with the upcoming release of Version 5.0 of the voluntary DCI Technical Specification. The document will be available on September 30, 2004, which coincides with the end of DCI's Initial Term. DCI Member studios also unanimously agreed to an extended term of twelve months in order to refine the technical specification and architecture, to enhance the security aspect of the specification, to perform system interoperability tests, and to support formalization of industry standards

Parting Shots

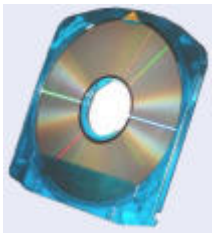
By Larry Bloomfield

If you drive west on Washington Blvd. in Culver City, CA, you will undoubtedly see the remnants of the multi-acre Metro-Goldwyn-Mayer (MGM) studios. The megalithic structures hold fond memories for me: my dad worked many years in its environs, I once sold newspapers in front of the studio gates, went to grade school and then got married (40 years ago) across the street at St. Augustine's. Motion pictures are still produced there as well as a number of television shows, but many of the various lots have been sold off and replaced with various types of housing and businesses.

When Sony acquired this property several years ago, they apparently didn't get the name "MGM" or the vast film library, but, now, with the purchase of MGM by a group led by Sony, it will not only give the company an enormous film library in buying MGM (an estimated 17% of available film titles), but also considerable power in its fight to set the format for the next generation of digital video discs. (BTW: DVD stands for digital versatile. disc, not digital video discs.)

The transition to the new discs, which are not expected to be widely available until next year at the earliest, could generate billions of dollars in royalties to the developers of the technology that runs them. Sony is part of a consortium of major electronics makers that are at the forefront of efforts to develop the new Blu-ray technological standard.

The only problem with this new technology is that it is surface recording and the Blu-ray technology maxes out with a capacity of only 100GB. Although it is great now and is being introduced into Sony's video line, it is only an interim technology. Sony and other companies are currently in negations with InPhase Technologies of Longmont, CO for the rights to further develop, and market, InPhase's holographic "Tapestry" media which has the capacity of holding up to 17 terabytes. 17TB sounds great, but InPhase's ability to transfer digital information onto this media has not developed to the 17TB level as yet.



Cost is another consideration. Currently, Blu-ray is being offered in the 23GB format at ~$35.00 per disc. Sony says they will have the 50GB media available later this year, or early next year, and gave no indication when the 100GB discs would be available.

During NAB 2004, InPhase had a "by invitation" demonstration at the Hilton Hotel of their holographic technology. They had a very respectable device that could record once – read many (WORM) at a level of 200GB; twice what the Blu-ray is capable of holding at its max. Their projections are to have the ability to do 400GB by next year and 1.6TB by the end of the decade. Technological breakthroughs in transfer capabilities may accelerate this projection considerably. This is still a far cry from 17TB, which is what the Tapestry media is capable of holding. The cost of the media is ~$50.00 each.

Despite all this, as a major consumer electronics company, Sony stands to reap the benefits of selling the new generation of disc players with what we are calling an interim format that could be around for a few years, but Sony's success in the standards battle is far from certain, because the rival HD DVD group, led by Toshiba and NEC, is pushing for their own format.

Both camps say they have technology that will hold four to five times the current 4.7MB that the current DVDs now hold, giving them the capacity to store the high-definition programs and films that are slowly making their way to the consumer market. This would also give broadcasters an interim alternative to video tape. Their capacities don't hold a candle to the potential of the holographic Tapestry media.

The HD DVD group, has been showing off its technology to Hollywood studios recently, contending that its new discs are cheaper to make and more compatible with existing DVD technology. The Blu-ray group says that its discs have the advantage because they offer superior images, among other benefits.

Déjà vu! I would appear that we are in for another format war. It hasn't been than long since the consumer market and parts of the broadcast industry remembers the Beta-Max vs. VHS wars or the various 1" format wars. Then there was and still is the DVCPro,

DigiBeta, etc. format issues. I have no doubt that Sony still remembers loosing the BetaMax/VHS war. On can not help but ask: “Is it payback time?”

According to some, the key to resolving the current brouhaha between the two groups will depend on the motion picture industry as they provide most of the content that will go onto the discs. The studios also have a huge stake in the change to the new technology because they now make more money from DVD sales than from box office sales. Broadcasters may also get caught up in this challenge as they could be receiving an entire season of syndicated shows a one disc and some HD programming as well.

With Sony buying MGM, this will add another studio to the list of Blu-ray backers, and a catalog of 4,000 movies that could be issued exclusively in the Blu-ray format. This is not to mention that Sony's movie division, which includes the Columbia and TriStar studios, that naturally backs the Blu-ray format, will play heavily in the direction this whole thing will go.

Sony may give the appearance that it is willing to start producing Blu-ray discs on its own, regardless of what the HD DVD group does, or what the studios want despite the fact that the studios and retailers do not want two formats as it would confuse consumers, and may mean having to produce two sets of DVD's for each film release. God only know that we have enough confusion when it comes to DTV.

Just to add a bit of spice to the mix, InPhase is offering a limited number of holographic Tapestry HDS 200-R drives and 10 pieces of InPhase Tapestry HSD-200R Media (Equivalent of 2 TB @ 200GB per disc) to organizations interested in their “Early Adopter Program. Participants are asked to provide evaluation data to InPhase Technologies exclusively for their confidential use alone. This program expires on September 30, 2004. Anyone interested can get more information at: holographics@tech-notes.tv This would make me believe their technology is not that far off.

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