

Tech-Notes

<http://www.Tech-Notes.tv>

June 3, 2002

Tech-Note 103

Established May 18, 1997

FIFTH ANNIVERSARY EDITION

Sponsored by: Bloomfield & Associates

+*+*+*+*+*+*+*+*+*+*+*+*+*+*+*+*

Our purpose, mission statement, this current edition, archived editions and other relative information is posted on our website. We've had over 20,500 different visitors since we started the website on July 1st, 2000. .

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

+*+*+*+*+*+*+*+*+*+*+*+*+*+*+*+*

Reader comments

+*+*+*+*+*+*+*+*+*+*+*+*+*+*+*+*

RE: **Tech Notes 102**

From: Peter H. Putman phputman@pil.net

Attendance is down at NAB for the same reason it is down at Comdex and other mega shows. They have just become too damn big and expensive for everyone. The smaller shows like INFOCOMM, Cedia Expo, etc are holding their own quite nicely because they are niche shows that address nice markets.

NAB has tried to be too many things to too many people, and as a result, they have lost several exhibitors in the product categories I cover (displays and display interfaces). Missing this year were

Electrosonic's large screen division, InFocus/Proxima, Altinex, Digital Projection, and InLine. Mitsubishi had a modest booth put up at the last minute.

Some of the display exhibitors I spoke to will probably not return in 2003 because booth traffic was down.

NAB can be a very good show, but it just got too big and maybe a 60,000 - 80,000 size show is best for them.

Pete Putman

Subject: **Who's getting by with what?**

From: J. Carl Cooper, CEO Pixel Instruments Corp
Inof@Pixelinstruments.TV

On a Tech-Notes item of interest, I received my TV Today fax from NAB this morning; the Special May 1 DTV Edition. That fax restates the May 1 deadline for broadcasting in digital and is full of praise for the 325 stations, which are now on the air with digital broadcasts. Did I miss something here? Doesn't that leave some 1350 stations, which are NOT broadcasting in digital? I wish I could get away with ignoring the Government's regulations. I'd like to forget about some of the little deadlines they set up for me to adhere to, like April 15 or January 10. Why is it that TV stations don't have to tow the line - oh I remember they contribute coverage and money to the politician's election campaigns.

Later, Carl

(ED Note: As of this writing, NAB says there are 410 DTV stations on the air. The difference between what Cooper says here and that number isn't significant!)

Subject: **Parallel/Serial Bit Error Rate Testers from 1 Kbit/sec to 16**

Gbit/sec

From: Tom Waschura tom.waschura@synthesysresearch.com

In June we will release three new test platforms for BitAlyzer BER testing that cover serial and parallel applications at data rates from 1 Kbit/sec to 16 Gbit/sec. If you have interest in:

- Physical layer bit error rate testing
- Very fast jitter measurements
- Eye diagrams & mask testing

for applications ranging from:

- HDTV
- Gigabit Ethernet
- SFI-4
- Mux/Demux
- Satellite/Wireless Communications

Please visit www.synthesysresearch.com/new_products.htm for more information.

Tom Waschura

Subject: **The D-Cineam -- Beyond HDTV**
From: Dr. Joseph Flaherty, Senior VP for CBS, Inc.
(Used by permission of HDTV Magazine
hdtvmagazine@ilovehdtv.com)

Note: *Dr. Flaherty concludes his talk to the National Association of Broadcasters last April by outlining the standardization task that lies ahead for D-Cinema--TV you sit in. We have presented this piece in*

our publication since D-cinema is central to fostering interest and growth in home-based HDTV.

Dr. Flaherty:

The ITU (International Telecommunications Union) has the responsibility of D-cinema standards in its scope of work, and is an excellent vehicle to achieve international standardization of the D-cinema. The ITU has formed a Task Group on D-cinema to pursue the studies leading to recommendations, or standards, for the D-cinema.

The ITU defines, "The D-cinema as a new service utilizing advanced television technology designed to emulate the cinema experience by means of electronic delivery of programs for collective viewing on screens of cinema-like size in a cinema-like environment." The goal is to equal or exceed the end-to-end performance of the 35mm cinema film system, thus enhancing the cinema experience for theater audiences.

An ITU-R D-cinema Task Group has been formed and directed to concentrate its D-cinema studies on the generation of ITU International Recommendations on the digital cinema system and to complete its work by the end of the year 2003. In this effort the Task group works in cooperation with both ITU bodies and non-ITU organizations like the SMPTE, MPEG, ISO, IEC, and the EDCF.

The D-cinema Task Group held its first meeting in Geneva, Switzerland this year from March 11 to 15. The Task received and considered 26 contributions; formed three Drafting Groups to review appropriate contributions and this work resulted in 14 modified Temporary Documents. This work, in turn resulted in the adoption of four Temporary Draft Recommendations, three technology Reports, and four Liaison Statements to other ITU Working Parties and to MPEG.

The four Temporary Draft Recommendations are:

- Expert viewing methods to assess the quality of visual material in D-cinema applications
- User requirements for D-cinema programs intended for distribution in cinema theaters.
- General reference chain and management of post processing headroom for D-cinema applications.
- Tools to evaluate candidate image systems for D-cinema applications.

At this meeting three Rapporteur Groups to continue studies on D-cinema applications and requirements, technologies applicable to D-Cinema, and D-cinema quality assessment and testing for the next Task Group meeting in September 2002. All interested parties are encouraged to participate, and to contribute to this work.

As the D-cinema develops it will emerge in a highly competitive technical quality environment. The original goal for the development of wide screen HDTV was to match the quality of 35mm motion picture film projected in the cinema, and to be able to deliver that quality in the home. The imminent arrival of the HD-DVD for the presentation of movies in the home will likely provide a quality of picture and sound equal to or superior than that provided by current film projection in the cinema and make the "home theater" an even more attractive reality.

Already today, the revenues returned to the movie studios from analog videocassettes sales far exceed those from the theater box offices, and the present growth rate of DVDs assures the continuance of this trend with even stronger competition for the cinema exhibition of movies.

Consider that analog VCRs are installed in 88 percent of American TV homes, and after only three years since its introduction, DVD players are now installed in 22 percent of those TV Homes and rising rapidly. VHS cassette replication is falling 9 percent per year, while DVD replication is growing at 70 percent per year.

Finally: HD DBS service is available nation-wide in the US, and is now installed in 19 percent of TV Households, providing a further forum for the presentation of wide screen digital HD movies.

As it is today, the film cinema theater is left with only two particular and unique attributes: the sense of immediate presence in viewing new; feature films on the big screen in a cauldron of surround sound and the sense of communal participation in sharing a communal theatrical experience. These attributes may become an insufficient audience motivator when surrounded by a sea of digital HD programs and movies available to the home theater.

With the constant improvement in consumer HDTV systems, all the HD distribution services represent an ever-growing competitive threat to the cinema theaters. To counter this threat, the quality of D-cinema experience must be dramatically improved to continue to attract theater audiences. thus, theater owners will need to endorse the D-cinema standards and to adopt the D-cinema technologies that offer the digital cinema theaters the flexibility to expand their programming banquets to include the variety range of live and recorded HDTV programming beyond their traditional core of Hollywood features.

As we take the D-cinema into the 21st century we would do well to remember the advice of the Philosopher Santayana when he wrote: "We must welcome the future, remembering that soon it will be the past, and we must respect the past, remembering trial once it was all that was humanly possible."

Subject: **Another realty check. What's up with cable?**

By: Seth Schiesel, from an article in the New York Times:

NEW ECONOMY - Cable Forgoes Grand Visions, .

According to some soothsayers, just about everything that touches television appears to be experiencing hard times and consolidation appears to be one of the biggest contributors. With the big ones eating up the little ones, product life cycle curves appear to be riding down.

As one associate has stated, "Innovation is all but dead - the emphasis is on fundamentals."

One prevailing area, however, is in world of interactive television. If anyone has deserved to be called Mr. Interactive Television in recent years, it has probably been Mitchell E. Kertzman, chief executive of Liberate Technologies. Boasting revenues around \$90 million in revenue over its last four quarters, Liberate is a leading independent developer of software for cable television set-top boxes that allow viewers to use two-way services.

With nearly every major cable television company in the world as clients, Kertzman's company has been so bullish about interactive television that last year they even tried, without success, to buy Microsoft's interactive television arm.

So it was not surprising when listeners did a double-take during the recent cable industry's national convention in New Orleans when asked for his assessment of the interactive TV landscape Kertzman's first words were, "I've tried to stop talking about interactive television."

Say what?

"To me, the consumer, `interactive television' sounds like interactive television is about making television harder to watch, like I have to work at television when I just want to watch it," says Kertzman. So now, he say Liberate is trying to position itself as part of the cable industry's "core digital infrastructure."

After a few days at the recent National Cable and Telecommunications Association's convention, it became clear why Kertzman has changed his tune. Broadcasters need to pay heed to Kertzman's observations, especially in light of finding ways to make the newly available capabilities that come along with digital TV something they can use as a return on their digital TV investment.

In the cable business these days, expansive visions of the future are out. Detailed attention to operational details is in. Making new

promises is out. Fulfilling past promises is in.

If interactive television means ordering things with your remote control or checking your child's report card on the picture tube, then interactive television is definitely out: -- for now, at least. There may be a few small interactive trials in scattered corners of the country, but it is not coming to you, the masses any time soon. We've been saying this for several years now here in the Tech-Notes.

Right now, the cable industry is focused on actually selling services such as digital television with hundreds of channels for the living room and high-speed office-caliber Internet access for the PC in the den. The public just doesn't seem to want to be bothered with much else.

In the hurried lifestyle we have today, people want to see their favorite programs when they want to see them, not when the networks say they have to see them. The vision on the horizon is not interactive digital town meetings, but rather video on demand, enabling consumers to watch "The Sopranos" or "60 Minutes" whenever they want.

"You start out with all of these broad visions, and then you come back to what is actually deliverable," said Michael K. Senken, chief executive of the Royal Philips Electronics broadband networks group, which sells equipment to television providers. "Look at Microsoft. They start out with all of these grand goals for television. Now it's, 'We have an interactive program guide.' "

Financially, the reasons for the restraint are fairly simple. The cable television industry has invested about \$50 billion of investors' money over the last five years to upgrade cable networks to deliver digital services. Those investors now want to see serious returns before they hear about the next wave of new spending required to deliver full-fledged "interactive television.

That is a big reason cable stocks are down this year. Of the roughly 73 million United States homes served by cable television, about 15.2 million subscribed to digital television at the end of last year. About 7.2

million subscribed to a cable-modem service and about 1.5 million received local phone service over cable wires.

All of those figures are up from essentially zero just a few years ago. But for investors, they are not yet enough.

The cable operators "are really down to basics," Kertzman said. "Hard reality set in, the stock market. Cable is out of favor right now and that is because cable has not yet demonstrated that it can deliver on the promise of digital."

And that is how one ends up with a convention full of seminars with titles like "Marketing Broadband," "The 110 Percent Solution: Solving Cable's Value/Price Equation" and "The Care and Feeding of Care and Feeding: Customer Service Today."

Whether or not digital cable and cable-modem service are being introduced as quickly as investors might like, the cable industry certainly deserves credit for one thing.

Even three years ago, satellite providers like Hughes Electronics' DirecTV and EchoStar Communications' Dish Network offered a demonstrably superior product to cable: hundreds of channels, compared with perhaps 60 on the typical cable system; dozens of digital music channels while cable had none; and digital picture quality rather than cable's sometimes ghostly analog.

Now, though, most homes have access to digital cable and for most viewers, digital cable is at least the equal of satellite television. Satellite's one big remaining advantage is that DirecTV has the full National Football League package, and cable does not.

On the other hand, cable retransmits just about every local broadcast station in most markets, which satellite still does not. With basic parity achieved, the satellite-cable battle will be fought over new products and service.

Of course, the number of combatants will be smaller. EchoStar and

DirecTV plan to merge, if regulators let them. And mergers in the cable industry are reducing the field to a dwindling number of big players. The annual cable convention used to draw just about every pay-television network and equipment supplier in the world, because the show was a convenient way to meet as many as possible of the nation's dozens of significant cable operators.

Now, those same networks and vendors can see all the major players in a few trips to the New York area (Time-Warner Cable, Cablevision, Mediacom, Insight), the Philadelphia area (AT&T Comcast, Adelphia), Atlanta (Cox) and St. Louis (Charter) - and so on.

At its peak in 1998, the cable convention attracted about 32,000 registered visitors. Last year, the number was about 24,000 and this year it was only about 17,500. Even one of the trade show's quasi-official daily publications felt compelled to comment, although with a positive spin, "Obviously, numbers are down, but the floor layout gives the illusion that there's good traffic."

The closing comment to this story is the question: "Will this happen to NAB as well?"

Subject: **Senate Resolves fight over Webcasting fees**
By: Paige Albiniak from an article in Broadcasting & Cable

Here is another avenue being considered by broadcasters as a way of getting a return on their DTV investment - Webcasting. Now that the Senate Judiciary Committee leaders agree that royalty fees preliminarily set by the Copyright Arbitration Royalty Panel would make it tough on legitimate Webcasters to provide their services to consumers, perhaps things will change.

Sens. Patrick Leahy (D-VT.) committee chairman, and Orrin Hatch (R-Utah), ranking member, want the industry to negotiate a settlement to fix the situation or they will consider legislation.

'Why can't everyone -- Congress, artists, labels and Webcasters alike - take the CARP as a genuine learning experience and sit down to determine what is the next best step?' Leahy said. 'If the parties can avoid more expense and time and reach a negotiated outcome more satisfactory to all participants that would surely be preferable to rampant dissatisfaction.'

According to the CARP decision in February, radio stations would have to pay 0.07 cents per song, per listener to record companies to stream their signals over the Internet, while Internet-only radio stations or Webmasters would have to pay 0.14 cents per song, per listener.

According to Jonathan Potter, executive director of the Digital Media Association, fees at the level would mean a company such as classical music Webcaster Beethoven.com would pay \$48,720 in royalties in 2001, while only earning \$33,500.

Even though Webcasters have the committee's support, they are unlikely to get any immediate relief from Congress, mainly because the matter is out of legislative hands.

The Librarian of Congress, James Billington, must release a final report on the rates by Tuesday, May 21. If any of the involved parties -- including Webcasters, commercial radio broadcasters, public radio stations, record companies or artists -- are unhappy with the decision, they have two places to turn: Congress or the courts.

If Congress doesn't like the Library of Congress' final decision, it could choose to write a law to change the rates. And chances are high that someone is going to be unhappy and complain to Congress because all sides have been warring over the CARP's decision since it came out in February. It's wait and see time now.

Subject: **Broadcasters Approach Court on Must-Carry**
From: SkyREPORT

As expected, broadcast interests asked the Supreme Court to deny satellite TV's challenge of must-carry rules in a recent filing.

The group, led by the National Association of Broadcasters, told the Supreme Court that the carry-one, carry-all requirements contained within the Satellite Home Viewer Improvement Act don't "implicate the First Amendment and therefore is not subject to heightened scrutiny." Satellite TV interests, led by EchoStar, are challenging the constitutionality of must-carry rules at the high court.

The must-carry rules were last upheld by the Fourth Circuit Court of Appeals in Richmond, Va. In its petition, the NAB said the court "correctly rejected petitioners' novel and misconceived constitutional challenges" in its decision upholding must-carry handed down in December.

In addition, the NAB Supreme Court petition said Congress' decision "to help satellite carriers retransmit the signals of all broadcast stations to subscribers in a particular market - but not giving them the added benefit of permission to retransmit the signals of only some broadcast stations - is simply a decision to encourage one activity without interfering in any way with alternative editorial choices.

"Petitioners' disappointment over the particular form of corporate welfare Congress decided to give them does not implicate the First Amendment and therefore is not subject to heightened scrutiny," the NAB said.

Because of the late nature of the petition, reaction wasn't available from EchoStar or others.

Subject: **World's First HDTV RateShaping Solution from BigBand Networks Achieves 50% Greater Bandwidth Efficiency**

Source: Business Wire

BigBand Networks Inc. has recently demonstrated a new benchmark

on bandwidth efficiency for high definition television (HDTV). RateShaping, the industry's first bit rate adaptation with HDTV capability solution enables a 50 percent gain in channel capacity when carrying this high quality, rich video format.

The company's Broadband Multimedia-Service Router (BMR) is publicly showcasing its HDTV RateShaping of three simultaneous high definition feeds over one 256 QAM, which until now could only support two feeds. The BMR also supports combinations of HDTV and standard definition television (SDTV) on the same QAM, with both types of feeds adapted by RateShaping.

"The BMR is the first device to break the HD bottleneck, boosting cable operator efficiencies in economically expanding the provision of this increasingly important service from their existing cable plants," said Sylvain Riviere, senior product manager for broadcast solutions at BigBand Networks. "Over the last several quarters, operators have adopted the BMR to groom existing SDTV and re-multiplex HDTV for over 500,000 digital cable subscribers. They now have an easy way to further expand HDTV provisioning with a solution that maximizes bandwidth utilization while focusing on video quality, and offers a flexible path to other advanced services in the future."

Cable multiple system operators (MSOs) have an opportunity to grow their business through new HDTV services, and to use it as a defense against subscriber churn. There is also increasing regulatory encouragement to provide HDTV content. All major MSOs are either offering or have announced intentions to offer HDTV as a service. But as more content becomes available, the format's massive bandwidth requirement is a formidable challenge, with each HDTV feed requiring approximately six times the capacity of SDTV.

With BigBand Networks' HDTV RateShaping capability, cable operators can maximize provision of content and services over their existing bandwidth, avoiding costly re-architecting of their head-ends. The module works with HDTV feeds sourced through either satellite or terrestrial transmission, and is compatible with both 256 QAM and 64

QAM modulation.

The new HDTV RateShaping module will be available as a software upgrade to the BMR during the third quarter of 2002, applicable to new platform sales as well as the installed base of BMRs.

Perhaps MSOs will stop sniveling about carrying HD programming on their systems and begin to give viewers what over the air broadcasters are now delivering.

Additional information can be found at www.bigbandnet.com.

Subject: **We want it "Our Way"**

Introductory comments from: Craig Birkmaier craig@pcube.com

Why is video on demand so appealing to the entrenched television industries like broadcast and cable?

Why are they fighting any technology that gives Joe and Jane Six-pack more control over the content they consume...including the avoidance of commercials?

Jamie Kellner, CEO of Turner Broadcasting is reported to have said: "Your contract when you get the show is you're going to watch the spots [advertisements].... Any time you skip a commercial...you're actually stealing the programming."

Why do all of these folks fear losing control over the way we consume content? And how does this affect the evolution of technology?

For example, there is little reason for REAL VOD to be a success. It is very expensive to build the infrastructure for it, and there are many unanswered questions about the willingness of consumers to support services that would force them to watch commercials (or to be more accurate, prevent them from skipping them).

That, however may be exactly where we are headed, if we are to believe Brian Roberts CEO of Comcast, now the biggest Cable MSO in the U.S.

From the Philadelphia Inquirer
By: Akweli Parker

Video on demand, the technology that lets cable-TV customers watch selected movies and programs anytime they want, will be expanded this summer to include programming from some broadcast-TV channels, Comcast Corp. president Brian L. Roberts said yesterday.

Speaking during the opening session of the National Cable and Telecommunications Association convention, Roberts said the expanded service - adding certain broadcast offerings to the movies and other archived shows now available on demand in selected areas - would be launched in Philadelphia, Comcast's hometown.

"60 Minutes is played once and never used again," Roberts said at a news conference. Instead, people should have a chance to view the weekly news program - and other one-time offerings, such as sporting events - at their convenience, he said.

The convention marked the formal emergence of Comcast as a cable industry superpower in light of its pending acquisition of AT&T Corp.'s cable division. The merger will create the nation's largest cable company, with 22 million subscribers.

Comcast's new clout was evident: Roberts was swarmed by reporters after he touted video-on-demand technology as a panelist during the convention's general session. Comcast was the cover story recently in two prominent industry trade magazines, Broadcasting & Cable and Cable World.

And at convention-related functions, industry insiders spoke of Roberts alternately with fondness and fear, knowing full well that Comcast's pending acquisition of AT&T Corp.'s cable and high-speed Internet

operation could give it the ability to make or break suppliers, programmers and others serving the cable world.

Comcast is buying AT&T Broadband for stock and debt valued at \$58.7 billion based on yesterday's price for Comcast stock, which closed down 61 cents at \$28.64 on the Nasdaq Stock Market. The deal, which requires approval by stockholders and regulators, is likely to close before the end of the year.

Roberts said Comcast was "talking to every content provider possible" to make the anytime-TV concept of video on demand a reality. The recycled broadcast-TV shows would keep their commercials, a feature that Roberts predicted would appeal to both broadcasters and advertisers.

Comcast and other cable providers are toying with different pricing schemes for video on demand and a variation called subscription video on demand, which gives a customer unlimited access to content libraries, such as HBO's *The Sopranos* or *Sex and the City* for a monthly fee.

Shows available over the air, such as *60 Minutes*, should be free via video on demand because the commercials would be intact, Roberts said.

Comcast sees video on demand as one more feature to fend off growing competition from satellite-TV providers. The technology also provides potential additional revenue from some of the merged company's customers - an essential factor if the acquisition of AT&T Broadband is to make sense.

"Cable has to be the place where the high-end consumer goes to buy his products," Roberts said. As it stands, he said, satellite has successfully picked off many of those high-spending, content-hungry viewers.

Roberts, who spoke alongside Richard Parsons, co-chief operating officer of AOL Time Warner Inc., and Michael Willner, chief executive

of cable operator Insight Communications Inc., appealed to his comrades for technological unity.

"We need interoperability," he said, referring to the ability of one company's gadgets to work in another company's territory.

Roberts said a perfect example was the cable industry's DOCSIS modem standard, which evolved through the industry's research organization CableLabs.

The ability of DOCSIS modems to work anywhere in the country where cable Internet is available has driven their growth, he said.

"It's important that we take the DOCSIS model and try to replicate it" when making telephone service available over cable in the future, Roberts said.

Separately, Comcast said it would revise a proposal regarding the management structure of the merged company, making directors immune from ouster until 2004 instead of 2005 as had been proposed initially. The proposal had upset some shareholders.

Subject: FCC spares DTV rod - even delayers with no good excuse will get some extra time

By: Bill McConnell of Broadcasting & Cable

TV stations that can't justify missing the May 1 digital launch deadline will have an extra six months before facing substantial penalty from the FCC.

Last week, the commission approved procedures for fining or even stripping permits of DTV laggards, but these toughest sanctions won't be levied right away. "Our goal isn't to punish people but to achieve the goal of getting programming out there," said Barbara Kreisman, chief

of the Media Bureau's video services division.

Stations that can justify delays based on technical problems, delays in scheduling construction crews, zoning fights, or inability to obtain financing are allowed as many as two six-month waivers. Those denied waivers will be sent a letter of admonishment and required to report regularly on their progress in bringing DTV online.

Admonished stations that fail to go digital within six months of the reprimand will be issued a notice of apparent liability for fines and required to meet a series of 30-day construction milestones. If a station fails to offer a digital signal a year after admonishment, the FCC will revoke its construction permit.

Although penalties won't kick in immediately, FCC Chairman Michael Powell said the sanctions process has sufficient bite to eliminate any temptation a station owner might have to ignore digital-conversion obligations. "We're willing to be quite tough if need be," he said. "While there are opportunities for waivers, the leash is short."

Of the 1,300-plus commercial stations required to be on the air with digital, roughly two-thirds requested a waiver for the May 1 deadline. Of those requests, 544 have been granted. FCC requests for additional information explaining the delays remain outstanding from another 303 stations.

The sanctions process must undergo the standard comment-and-reply process before becoming permanent but will go into effect immediately on a case-by-case basis meantime. The commission tentatively concluded that channels confiscated from canceled construction permits will be re-auctioned.

NAB officials said the sanctions appeared reasonable. "We believe the vast majority of broadcasters will work aggressively to meet the DTV plan put forth today as evidenced by the fact that Harris Corp. has 700 transmitters on order right now," said spokesman Dennis Wharton.

Industry wide, 410 stations are now digital. Of those, 113 are among

the 119 affiliates of the Big Four networks in top-30 markets required to offer digital signals since Nov. 1, 1999.

The remaining top-market stations with no digital signals have adequately justified their tardiness due to a variety of equipment, interference and zoning problems: WTVJ(TV) Miami; KUSA-TV Denver; WTIC-TV and WVIT-TV, both Hartford, Conn.; and WABC-TV and WNBC-TV, both New York. Except for the two New York stations, whose digital transmitters were destroyed in the World Trade Center attack and which are not being held to the timetable, the stations were given another six months to complete the DTV build-out.

Six-month extensions also were granted to five top-30-market stations operating with lower-power temporary permits while they work out similar problems: WBBM-TV Chicago; KTVT(TV) Fort Worth, Texas; KMGH-TV and KCNC-TV, both Denver, and WFSB-TV Hartford.

Subject: **D-Cinema initiative at IBC**

From: Janet Anne West JanetWest@compuserve.com

IBC (International Broadcasting Convention, Amsterdam Sept 2002) have announced that they will be spearheading a D-Cinema initiative at IBC in September. The NDC alliance of major Hollywood Studios and the scope of visitor interest at NAB, have proved that D-Cinema is a viable new market segment. Anyone interested in exhibiting any D-Cinema related product or wishing to actively participate should immediately contact Janet West at +44 1256 764763.

Subject: **NBC to add HDTV in prime time**

From an article in Broadcasting & Cable (B&C)

According to NBC network officials, the peacock will do more of its prime time lineup in high-definition television this next season.

NBC has been criticized as "an HDTV laggard" relative to CBS and

ABC for offering only one prime time show, Crossing Jordan, in HDTV. NBC also does The Tonight Show with Jay Leno in late-night, but you'd never know it. Remember this is the same network that rubbed peacock feathers and dancing cameras and boom mikes in your face when they were pushing their new color fair.

NBC officials said no final decisions have been made on which shows will be offered in HDTV, but the orders will be made in the not too distant future.

B&C says: "Privately, NBC officials were a little touchy on the criticism they've received over their HDTV offerings. Sure CBS and ABC offer most of their prime time in high-definition, they said, but NBC has been a leader in sports, which, along with movies, is expected to be a better driver of HDTV viewership than regular series." Duh!

Subject: It's about time: Cable takes the high-def high road
Compiled by Fred Lawrance from several press releases

Top cable operators pledge to offer HD in most digital systems next year, while they say broadcasters make excuses.

American viewers next year may finally get a good look at better television: high-definition television with its wide screen, rich colors and extraordinary detail.

While most TV stations were fending off criticism for failing to meet the May 2002 deadline for inaugurating HDTV or some other digital TV service, cable is finally getting around to giving HDTV a push. The country's top 10 operators pledged to carry, beginning Jan. 1, at least five HD signals in large markets where they have upgraded their systems to digital.

"The more cable embraces the transition to HDTV, the better for consumers and for the overall transition," said Gary Shapiro, president of the Consumer Electronics Association, which represents DTV set

makers and other equipment manufacturers. What Shapiro didn't say is that his organization has done little or nothing to bring about standards that would ensure viewers the ability to receive digital signals on legacy receivers and accommodate legacy signals on digital receivers. Words don't do it. Action does.

Subject: DirecTV-DISH Approach FCC on Merger
By: Fred Lawrence

Executives from EchoStar and DirecTV approached the Federal Communications Commission team reviewing their proposed merger last week, outlining details of what would happen if they combine operations and what benefits the pending transaction could offer to consumers and those eyeing more cable competition.

In their presentation, the companies said they are very close to exhausting their DBS capacity. The introduction of additional content requires displacement of existing programming, or other trade-offs such as sacrificing service quality, they said. The two DBS services also pointed out that they duplicate the vast majority - about 558 channels - of their programming.

The merger would eliminate that duplication and create other efficiencies, the companies said in an ex-parte filing at the FCC detailing the meeting. If that happens, the combined entity would have capacity to provide local channels in all TV markets as well as advanced broadband and interactive services, "thereby providing a real alternative to cable and helping to address the competitive disadvantages currently confronted by the DBS industry," they said.

The companies also talked to commission staff about proposed "super satellites," an idea floated by opponents of the merger who suggested that advanced satellite technology and bigger platforms could alleviate the spectrum crunch now being experienced by the two companies.

DirecTV and EchoStar said the idea is "unrealistic from a technical and economic perspective." They added, "Incorporating all of the various advanced satellite technologies suggested by opponents into a single platform designed for the delivery of video services, even if it were possible, would result in a prohibitively expensive spacecraft with a reduced operational lifetime."

Subject: A step in the right direction
From: Warren Publishing's Consumer Electronics Daily

A possible breakthrough to faster consumer DTV transition was recently announced when Sony said that they have a single tuner that can demodulate digital and analog terrestrial signals. The new BTD-UB451 will ship in sample quantities this month at \$269 each. Module uses common hardware but contains different demodulation software for digital VSB, analog NTSC and digital cable's QAM.

Subject: FCC sets rulemaking to establish "remedial measures" for unexcused failure to construct digital TV facilities
From: An FCC press release

The FCC has initiated a rulemaking proceeding to examine what measures it should take regarding television broadcasters who fail to meet their digital television ("DTV") construction deadlines. The tentative proposals contemplate an increasingly severe level of sanctions every six months that the licensee fails to construct.

Further, the Commission clarified that its "minimum-facilities" STA policy regarding licensees who construct less than their authorized facilities will NOT be applied to network-affiliated, top-thirty television market licensees.

Subject: **Getting their second channel**

Included in a bill on bio-terrorism that the House of Representatives passed last Thursday was an amendment that would require the Federal Communications Commission to give digital-television allocations to television stations that received their construction permits after the FCC had already handed out the digital allocations.

Analog licensees in four markets -- Charlottesville, Va., Fredericksburg, Texas, Sheridan, Wyo., and Los Angeles -- want digital-television slots but received their analog licenses after April 3, 1997, which was when the FCC assigned digital channels.

The bill, authored by House Energy and Commerce Committee chairman Billy Tauzin (R-La.), would require the applicants to ask the FCC for digital assignments, and then once received, to build digital facilities within 18 months.

The broadcasters would also be required to transmit from their digital channels and not to accept payments from any company to clear the channel before the industry wide transition to digital television is completed.

The Senate is expected to pass the bill before the weekend, and it then goes to President Bush to sign.

Subject: **StarBand Sues EchoStar**

Satellite broadband provider StarBand filed a lawsuit against EchoStar, seeking a restraining order and injunction requiring the satellite TV company to transfer back StarBand's customer base and cease operating as StarBand's billing agent.

The suit was filed with the U.S. District Court for the Eastern District of Virginia.

The suit also asked the court to prohibit EchoStar from collecting fees from StarBand customers. StarBand is seeking damages for EchoStar's failure to pay millions of dollars rightfully owed to the satellite broadband service, the company said.

StarBand President and Chief Marketing Officer David Trachtenberg said with an immediate transition of its customer base, "StarBand will be able to move forward growing our business and continuing to serve customers with the kind of service and support they've come to expect and deserve from us."

As of late Friday, EchoStar had no comment, saying it cannot comment on pending litigation.

Subject: **Want COFDM?**
From: Bob Miller, Viacel Corp.

Auction #44 that allows for 50 kW and COFDM in the entire US using channels #52 to #59 was given a green light last Friday in a very surprising move by the FCC.

PUBLIC NOTICE (DA 02-1213) and ORDER (FCC 02-158) the fourth and sixth items at this time found at <http://wireless.fcc.gov/auctions/>

We expected that this Auction was going to be delayed indefinitely but now it has been confirmed. There is no way to stop it. We believe there is a major national market for our service using COFDM in the USA.

There are only 72 eligible bidders in this Auction. Viacel is one of them.

There are only 17 eligible bidders for the six geographic (EAG) areas of the US, Viacel is one of them.

There are 753 licenses to be auctioned. Most of the 72 eligible bidders have specified interest in only one, two or a small number of rural

licenses. They cannot bid on any other licenses but those that they specified. Viacel can bid on any or all of the 753 licenses.

We believe this will result in incredible bargains that have never been seen in past US spectrum auctions. It may result in just the opposite of the British and German auctions of 2000. This auction will set records for low winning bids.

While the opportunity is great and Viacel is a qualified bidder (and qualifies for a 35% discount) we have only till Thursday at 6 pm ET in the US to make a deposit that will determine how many and which licenses we can actually hold high bids on at any one time.

The opportunity is great but the risk is small. Any deposit made, if we do not make a successful bid, would be refunded to the PAYER of RECORD and not the APPLICANT OF RECORD (Viacel).

I would like to talk to you about any possible participation on your part. The time is short but that is also what makes for the bargain.

Microsoft has expressed interest as well and we are waiting for their decision also.

Bob Miller

**Subject: PVS' 8.3 Mega-pixel ColorVideo Chip (4 times HDTV)
Integrated into High Performance Development Platform for
Camera Makers.**

From: Karen Wagaman, Marketing Communications, QuVIS Inc.,
kwagaman@quvis.com

Photon Vision Systems, Inc. (PVS^(RR)), recently announced the integration of its 8.3 million pixel QuadHDTVTM color image sensor into a high performance camera development platform. This platform is used by camera manufacturers to develop their own high resolution

digital imaging/video products. The development camera uses the PVS color QuadHDTV™ image sensor to deliver 8.3 million pixels and operates at 30 full frames per second progressive or 60 fields per second interlaced, selectable. PVS will also supply commercial imaging modules with the new sensor tailored to customers' specific needs. The resolution of PVS's QuadHDTV™ sensor is four times that of High Definition Television (HDTV), with a resolution of 3840(H) x 2160(V) pixels.

PVS's QuadHDTV™ camera development platform brings new levels of resolution, speed, as well as quality, versatility and convenience to applications such as digital cinematography, studio broadcasting, demanding security and biometrics, scientific analysis, industrial quality inspection, and others.

The development platform supports multiple interface standards, including SMPTE-292, Camera-Link, DVI, Video Standards such as HDTV and others. These interfaces allow the development platform to connect to a variety of storage and playback systems, including the QuBit^(R) by QuVIS™, Inc.

"Photon Vision's imaging chip technology combines improvements in sensitivity, resolution, dynamic range, readout speed, and cost. One result of this new enabling technology will be practical, cost effective systems which provide an electronic alternative to large format film for ultra high resolution motion imaging," said Kenbe Goertzen, President and CEO of QuVIS™, Inc. "Photon Vision's industry leading image sensor chips provide the capability we needed to get high resolution images directly into our image processing and recording technologies."

Within digital cinematography, high-resolution digital technology is replacing film as the medium for motion pictures. Movies can now be shot digitally for the big screen, digitally post-processed, and even screened digitally. Digital movies do not degrade like film, so the 1,000th viewing will be as crisp and clean as the first. Additionally, the system can support a wide variety of standard 'film formats,' easing transition to Digital Production. Digital movie making dramatically

lowers production and distribution costs and speeds up post-production work. As an added benefit, digital movie cameras are lighter, more rugged and more mobile.

"The introduction of the QuadHDTV™ development platform promises to accelerate the adoption of High Resolution Digital Imaging worldwide by making it easier and faster for camera makers to develop and implement imaging solutions using our unique sensor," said Thomas L. Vogel song, Ph.D., President and CEO of PVS. "Industry leaders in Digital Cinema, Digital Videography, military, and scientific applications are excited about their ability to get their products into the market faster."

Prior to the introduction of QuadHDTV™, movie makers, studios, scientists, and the military had to take a step backwards in resolution when choosing to transition from conventional film to the more flexible digital cameras. First generation digital movies are currently being captured with a resolution of only 1 - 2 million pixels, enough for viewing on a computer monitor, but clearly deficient for high-end applications, such as those displayed on the big screen at the theater.

"The imaging industry has seen a huge demand for HDTV capabilities within the past year and this trend will continue to increase for the foreseeable future," said Ron Glaz, Research Manager at IDC. "Photon Vision Systems will be an organization that will support this new trend thanks to equipment like their 8.3 million pixel QuadHDTV color image sensor as well as its new high performance camera."

Other applications for the QuadHDTV™ based imaging systems include security, biometrics, satellite and airborne imagery, and traffic control and monitoring. Such systems are ideally suited for uses such as passenger identification verification at airports and video surveillance.

These systems would allow a large, moving crowd to be imaged and can provide the detail needed for computer recognition of individual faces or other features. These imaging systems can also be used to capture and identify speeding or red light running motorists at

intersections via the vehicle license plate, as well as capture video for crash analysis.

The QuadHDTV™ development system integrates PVS's innovative Active Column Sensor (ACS^(RR)) technology for low noise video, its PVS-Bus™ technology for high-speed video data rates, high performance color image processing algorithms, and other proprietary technologies.

"PVS's cutting-edge technology, as integrated into this platform, confirms PVS's technological leadership in imaging,"said Vogelsong.

For additional information visit the PVS web site at www.photon-vision.com or QuVis web site at www.quvis.com

Parting Shots

By Larry Bloomfield

If this is June 3rd, it must be New York City. The Tech-Notes "Taste of NAB Road Show" is moving right along with over half the venues visited. Since this is being written very early in the morning, I have no idea what the turnout will be today. I sincerely hope that those of you who are close to the places we've yet to visit will make an effort to stop by and say hi and scope-out the technology we're bring with us. In those venues where the local folks have gotten behind us and promoted our visit, we've had some rather impressive turnouts.

I've seen quite a few interesting facilities, to date, and been made aware of things that will be the subject of stories you'll see either here or in Broadcasting Engineering magazine. What I don't understand are those who, after speaking with them on the phone, are unaware that they have little knowledge of what digital television is about. I'm not sure anyone today really does, but there are far more who know very little than those who know a lot. The bad part is that those who are ignorant don't have a clue that they are lacking the knowledge to do their jobs properly. I have no doubt that these guys and gals will one

day be looking at their former places of employment from the outside wondering what happened.

Some of the things engineering managers have asked me during this trip were kind of expected, while other questions came as a surprise. Typical questions ran: Where do we get engineering vocations into the broadcast industry? Where does a guy go to school to learn how to become a transmitter engineer? What will it take to get the bean-counters and other ivory tower managers to listen to good engineering input? When will the FCC get their teeth back and become, once again, the engineering strength that they once were? Will central casting be the end of local television? How many years do you give over-the-air broadcasting to survive? Is there an intelligent approach to implementing digital TV?

These are the questions that have been asked by more than a few, and there are many other questions; good ones too! I only wish I could offer some answers and not just opinions. I will address these and other issues in future Tech-Notes or in Broadcast Engineering magazine.

Educational opportunities don't come that often; especially out in the grass roots areas. The DTV Express was an excellent idea, but was terminated too soon. The Zenith 8-VSB seminars are a must for anyone wishing to remain in the digital over-the-air broadcast business. You can never know too much about any of this technology. This is the main reason we're taking the "Taste of NAB" on the road.

My final comments in this issue of Tech-Notes about the road show is: I can't understand why engineers who need to know what is happening won't even go across the street to see what we've brought. Our life-line for information and education, SBE and SMPTE, in some markets, has become so segmented and political that they are ineffectual in doing their job. This isn't the first time I've run across this and I won't give up until we get officers who have their members' interest at heart. I'm sure glad that these chapters and sections are few and far between, but they do exist.

It's time for the local vendors; marketing reps and firms who sell to the local television organizations to start to give back to the folks they've been selling to for all these years and begin sponsoring SBE and SMPTE meetings where their technology is presented as such and not just another sales pitch. To those local vendors, marketing reps and firms who are doing this kind of thing, bravo, to those who don't I hope you go broke, and soon.

On another topic, the people who tried to take away home VCRs are at it again. Hollywood has always pushed for a "well-mannered marketplace" where the only technologies they want you to have are those that do not impact their status quo. Acting through legislators, who dance to Hollywood's tune, the movie studios are racing to lock away the flexible, general-purpose technology that has given us a century of unparalleled prosperity and innovation.

The Motion Picture Association of America (MPAA), the folks who wanted broadcasters to decrease the quality of HDTV, filed the "Content Protection Status Report" with the Senate Judiciary Committee recently, laying out its plan to remake the technology world to suit its own ends. The report calls for regulation of analog-to-digital converters (ADCs), generic computing components found in scientific, medical and entertainment devices. Under its proposal, every ADC will be controlled by a "cop-chip" that will shut it down if it is asked to assist in converting copyrighted material -- your cell phone would refuse to transmit your voice if you wandered too close to the copyrighted music coming from your stereo.

Who in the hell do these people think they are?

The report shows that this ADC regulation is part of a larger agenda. The first piece of that agenda, a mandate that would give Hollywood a veto over digital television technology, is weeks away from coming to fruition. Hollywood also proposes a radical redesign of the Internet to assist in controlling the distribution of copyrighted works.

This three-part agenda -- controlling digital media devices, controlling analog converters, controlling the Internet -- is a frightening peek at

Hollywood's vision of the future. It's one thing to have special effects, but when the locals in tinsel-town begin to believe these things are real, is this what we get?

Sorry we're a bit long this time, but these are important issues we believe you need to know about. What do you think about all of this? Let's go to press!

Larry

The opinions expressed herein are those of the individual authors and do not necessarily reflect the opinions or positions of their friends, employers, associates or publishers of the Tech-Notes.

To SUBSCRIBE to the Tech-Notes mailing list, do so by sending an E-mail to: tech-notes-request@maillist.tech-notes.tv and put "SUBSCRIBE" in the subject box and body of the message. New subscriber will get a confirmation response.

To unsubscribe, send E-mail to: tech-notes-request@maillist.tech-notes.tv and put "UNSUBSCRIBE" in the subject box and body of the message. You'll get a confirmation response.

Please visit our web page to review our policies and to see any additional information. <http://www.Tech-Notes.tv>

Thanks

