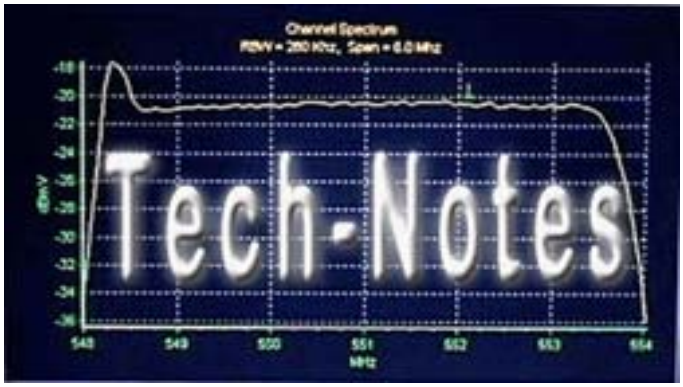


http://www.Tech-Notes.tv
April 2, 2004
Tech-Note – 124
First Edition: May 18, 1997

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

Pre-NAB 2004 Edition

Index

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

Editor's Comments

NAB2004! Less than two weeks and counting: April 17 - 22 in Las Vegas (exhibits open April 19). Complete NAB2004 details are available at **www.nab.org/conventions/nab2004**.
This is an educational opportunity equaled by none and there is no substitute!

We will be posting daily reports will be featured on the website. They will basically be reports on the various conferences we attend and items that caught our eye. Jim Mendrala and Larry Bloomfield will be there from Tech-Notes and if anyone has anything they'd like us to include, see one of us there. We will both have e-mail access: **Jim@Tech-Notes.TV** and **Larry@Tech-Notes.TV**. Look for the fat guy (Larry) in the scooter. Stop and say HI.

For those poooooooor unfortunate souls who are unable to attend this year's technical bash in the desert, there is always The Road Show – A Taste of NAB 2004. As said earlier, is no substitute for the real NAB convention, but, for those who didn't or couldn't do the Las Vegas thing, this is at least a taste of what you missed. It's also an opportunity for those who did make it to catch some of what they may have missed or get a second look at the good stuff they did see.

The Road Show – a Taste of NAB is not affiliated with the National Association of Broadcasters.

To date we've secured 9 of the 12 companies who we'll be joining us on the Road Show. Just remember: these are the folks who care enough to want you to know about their technology:

Leader, LACAN USA, LightningMasters, ESE, Quartz, Cobalt Digital, Sundance Digital, Asaca/Shibasoku Corp. Of America, RIEDEL Communications. As of this writing, we have 3 openings**.**

The Road Show is purely an educational experience – no sales.

We've confirmed no less than fifty venues across the country. Although the exact location for some of the venues has not been set yet, the folks in these places have said they'd like us to be there. It will all come together. The **Itinerary** on the website is probably the most current and up to date information on the venues, etc. Here's the schedule as of the publication of this edition of the Tech-Notes (each item is a link to that venue's special page – click on it to go there.):

Venue #	Locations	Date	Day of the week
1	Medford, OR	April 26th	Monday
2	San Francisco, CA	April 28th	Wednesday
3	Sacramento, CA	April 29th	Thursday
4	Napa Valley Community College, Napa Valley, CA	May 1st	Saturday
5	Reno, NV	May 3rd	Monday
6	Fresno, CA	May 5th	Wednesday
7	Los Angeles, CA	May 7th	Friday
8	San Diego, CA	May 10th	Monday
9	Phoenix, AZ	May 12th	Wednesday
10	Albuquerque, NM	May 14th	Friday
11	El Paso, TX	May 17th	Monday
12	Tulsa, OK	May 19th	Wednesday
13	Dallas, TX	May 21st	Friday
14	Houston, TX	May 24th	Monday
15	Lafayette, LA	May 26th	Wednesday

16	New Orleans, LA	May 28th	Friday
17	Jackson, MS	June 1st	Tuesday
18	Birmingham/Montgomery, AL	June 3rd	Thursday
19	TAMPA, FL	June 7th	Monday
20	Miami, FL	June 9th	Wednesday
21	West Palm Beach, FL	June 11th	Friday
22	Jacksonville, FL	June 14th	Monday
23	Atlanta, GA	June 16th	Wednesday
24	Huntsville, AL	June 18th	Friday
25	Nashville, TN	June 21st	Monday
26	Knoxville, TN	June 23rd	Wednesday
27	Greenville, SC	June 25th	Friday
28	Charlotte, NC	June 28th	Monday
29	Raleigh-Durham, NC	June 30th	Wednesday
30	Stand by for new location	July 6th	Tuesday
31	Philadelphia, PA	July 8th	Thursday
32	New Haven, CT	July 12th	Monday
33	Boston, MA	July 14th	Wednesday
34	North Eastern New York	July 16th	Friday
35	Binghamton, NY	July 19th	Monday
36	Cleveland, OH	July 21st	Wednesday
37	Columbus, OH	July 22nd	Thursday
38	Indianapolis, IN	July 26th	Monday
39	Urbana/Champaign, IL	July 28th	Wednesday
40	Madison, WI	July 29th	Thursday
41	Minneapolis/St. Paul, MN	August 2nd	Monday
42	Omaha, NE	August 4th	Wednesday
43	Riverton, WY	August 6th	Friday
44	Salt Lake City, UT	August 9th	Monday
45	Bozeman, MT	August 11th	Wednesday
46	Boise, ID	August 13th	Friday
47	Spokane, WA	August 16th	Monday
48	Washington State University	August 18th	Wednesday
49	Seattle, WA	August 20th	Friday
50	Portland, OR	August 24th	Tuesday
51	Eugene, OR	August 25th	Wednesday

Here's hoping that we'll see you somewhere along the Road Show. For questions about the Road Show, Click here

Letters to the Editor

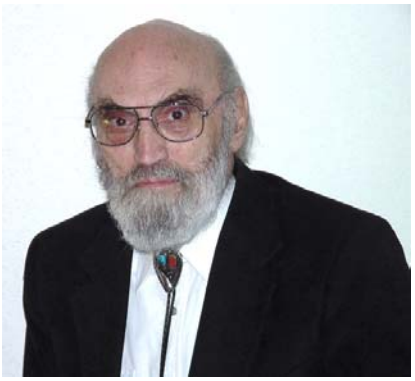
Editor's Note: *Unless specifically asked not to print letters to us, we will.*

No letters received since the last issue. Guess everyone is either happy or ignoring us.

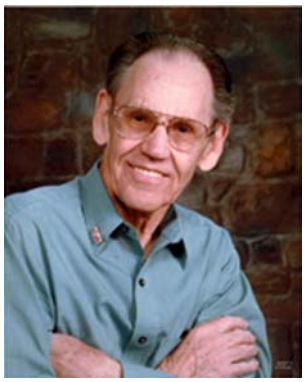
News

The FCC Learns about the Real world of DTV Translator

Complied by Larry Bloomfield with the help of the presenters



Dr. Byron W. St. Clair



R. Kent Parsons

Gary Sgrignoli

Translators are a very significant factor in extending the range of not only many western television markets into rural areas, but a significant number of markets in nearly all mountainous areas. Without translators, for example, Salt Lake City, the nation's 36th largest market would be down graded to the nation's 43rd largest market. If you don't think these figures are significant, then you don't understand the concept of delivering eyes and ears to potential advertisers, which is what all commercial station's rate cards are based on.

With the push for television to move into the digital era, the FCC hosted a DTV Translator Tutorial in the FCC's meeting room in Washington DC on Monday March 22, 2004. This event was sponsored by the National Translator Associated (NTA) and was an overview of the DTV translator work that has been accomplished to date, especially in light of the recent NPRM put out by the FCC in August of last year. The NPRM comment and reply comment period is now over, and the FCC is in its consideration stage as it begins the writing of the DTV translator rules. However, what makes the rulemaking procedure more difficult is the fact that currently the NPRM was for rulemaking regarding not only translators, but LPTV (Low Power TV) and SFN (single frequency networks) stations as well. The tutorial, presented by Dr. Byron St. Clair, Kent Parsons, and Gary Sgrignoli, focused specifically on DTV translators serving rural areas.

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The FCC's Bruce Franca introduced Dr. St. Clair (NTA President), who then opened the session by welcoming the attendees (both those present in the FCC's meeting room and those watching on the live webcast), on behalf of the National Translator Association. Dr. St. Clair then briefly described translators systems in general, and how they have served the rural analog viewing population for so many years, and how they can continue to serve these rural folks in the digital age.

Kent Parsons, Utah translator guru, followed with a description of the many field tests that he has performed over the last three years. He has brought five DTV channels to the rural area of Monroe UT, which is 150 miles from Salt Lake City, and where he has lived all of his life. Additionally, he has used the digital backbone (both microwave and UHF) from Salt Lake City to the various mountain-top translators to feed clean NTSC signals (converted from the digital stream to analog NTSC) to rural viewers. One of his motivations was to have DTV in his home within a reasonable time period after the urban areas began receiving their DTV signals; unlike his experience many years ago with color TV that he first began receiving 10 years after Salt Lake City got their color signals. He then described his entire UHF and microwave DTV translator testing, which typically encompassed low power signals from very high locations, and the use of previously taboo channels.

Parsons showed that his tests in Utah could use adjacent channel signals; five in a row, with DTV intermixed with NTSC at appropriate ratios, similar to the experience of MMDS ("wireless cable"). By using very low power (one signal had an ERP of 350 Watts, while the other four signals all had ERP values less than 50 Watts); he covered a 200-mile valley (4 x 50 miles). Likewise, the 25 MHz BAS microwave frequencies (7 and 11 GHz) were used to transmit three 6-MHz VSB signals in the same channel that was previously used to send one analog FM video/audio signal. This improved spectrum efficiency allows more signals to be transmitted out of congested urban areas, where they can then be converted out in the rural areas to either VHF or UHF frequencies. This spectral efficiency along with low transmission power will help many rural DTV and NTSC translators to co-exist during the difficult transition period.

Gary Sgrignoli, formerly of Zenith and heading up his own consulting firm, completed the tutorial with theoretical and laboratory test measurement analysis of VSB transmission used with DTV translators. After opening with a brief VSB system overview, the analysis for DTV interference ratios (adjacent channel limits) was summarized, with the D/U (desired-to-undesired) ratios that are proposed in the FCC's NPRM. These D/U ratios, which describe both NTSC-into-DTV and DTV-into-DTV interference, assume certain translator system design parameters. They take into account the results of the early laboratory testing at ATTC (Advanced Television Test Center) in Alexandria VA during the FCC's ACATS (Advisory Committee on Advanced Television Systems) evaluation period. These detailed and thorough tests measured interference performance of 24 analog TVs (representative of the consumer market at the time) as well as the Grand Alliance DTV receiver. The FCC based many of its channel allocation planning factors on these measured results. Two emission masks, a simple and a stringent

mask, are being proposed by the FCC that will give DTV translator operators some flexibility in their implementations.

The important DTV translator design parameters are described as follows. First, co-sited analog & digital translators allow many more channels to be used that were previously considered taboo. Also, by keeping the analog signals at approximately the same power as each other, all the DTV signals at the same power as each other, and all the DTV signals 10 dB below the NTSC signals, many channels can be transmitted simultaneously from co-sited locations with no interference (assuming that the coverage area contains essentially only signals from these co-sited translators, and not some small signals from distant full service stations). The key to this is the use of co-sited, low power analog and digital transmitters, preferably with as many common transmitter components as possible, such as feedline, broadband antennas, and test equipment for measuring signal levels.

The audience, which contained a number of FCC staff, was receptive to the three-hour tutorial, and asked very good questions at the end of the session. Both Parsons and Sgrignoli emphasized the need for more education for DTV translator operators, both from a theoretical and a practical perspective, suggesting that future seminars would be very advantageous for the industry. CD-ROMs containing PDF files of the three presentations are available from the NTA upon request.

Parsons said he felt the presentation was well received. He believed there were about 75 in total attendance with about a third from the FCC itself. “I really appreciate Bruce France’s (FCC OET) efforts in setting this tutorial up,” Parsons commented. “I believe all the FCC staff departed with a different perspective. It was good to see the policy makers like Roy Stewart, Keith Larson and Hossein Hashemzadeh present, drinking it all in.”

“In addition to the live presentation, I prepared 2 documents specifically for the FCC about my experiments which included documentation of my findings. I believe we achieved our goal of getting them to think out of the box so we could find spectrum for translators to deliver free over the air TV to rural TV viewers,” Parsons concluded.

Dr. St. Clair, president of the NTA stated: “We presented the information as we saw it and I believe it was well received. It all depends now on how fast the commission can get the rules out. We know the FCC staff considers this very important and will try to get it out as soon as possible.”

The FCC’s Bruce Franca told us that the FCC does about 6 to 8 tutorials a year. “I’m familiar with NTA and the work they do. A lot of good news came out of the DTV Translator Tutorial and it helps to confirmed what we are doing and direction we’re going,” Franca said.

In addition to the FCC present, Parsons told us that he was impressed with those present. He was particularly please to see Charles W. Rhodes retired consultant whose expertise goes back to the early days of digital TV, Charlie Einolf of ATSC, Art Allison from the

NAB, Ed Williams from PBS, Andrew Cottler from APTS and Dennis Wallace, all of whom he said he'd personally invited to attend.

To get a different perspective, Dennis Wallace and Charles W. Rhodes were kind enough to give us his spin on what happened.

"I think the presentation at the FCC went well. There were some good questions by the FCC Staff. But, the compromises that must be made in order to free up enough spectrum to provide translators with enough spectrum to operate DTV will require that translator operators do some things differently in the future.

"For example, in rural areas the translator licensees should get together and do a channel plan prior to filing with the FCC for DTV channels. To the extent that users can resolve channel conflicts before the filing windows open...this will help reduce the amount of work required by the FCC to grant these licenses (and eliminate auctions conflicts).

"I think rural America is ready for DTV but, we have to balance that with the fact that we have to come up with a "post-transition" channel plan for the full power stations too. Perhaps a phased in approach would be best. Like the FCC did with full power stations requiring the top 30 Markets to go on the air first and then working its way down the list. For translators we probably want to do a similar phased-in approach. But, to avoid spectrum conflicts, maybe we should do it in reverse. By starting with stations that are very rural (>100 miles from the big cities) and allowing DTV operation there first and then moving up the chain from the bottom will allow translator stations to transition to DTV without conflicting with users in big cities.

In terms of specific rules, I think the FCC staff is well aware of many specific issues and we'll have a better chance to evaluate things once the rules are drafted.

Dennis Wallace wallacedtv@aol.com
Wallace & Associates

I did attend the presentations by Dr. St. Claire, Mr. Sgrignoli and Mr. Parsons. It was very well done. They provided clear and concise information which could be readily grasped through excellent Power Point Slides.

The enthusiasm of all three speakers concerning DTV TRANSLATORS to provide television service in the rural areas of the United States was apparent. In particular, Mr. Parsons has brought DTV technology to these hinterlands and proved it is possible without millions of dollars being required. However, these DTV Translators will, in my opinion, require custom engineering, primarily to avoid interference. Much more work will be needed to determine how multiple DTV signals on adjacent channels may cause unpredicted interference. This is no trivial matter. Harmful interference to DTV means no

reception, not just degraded picture quality as is the case with NTSC (analog) TV transmission. There is a need in this field for very compact, rugged but high quality Field Test Equipments which are easy to use, and which will give the correct answer each time. The presentation by Mr. Parsons may be obtained on a C-D from Mr. Parsons. It is worth while.

Charles W. Rhodes
Retired Chief Scientist, ATTC
Feature Technical Writer, "TV TECHNOLOGY" MAGAZINE
Retired from the TV Business Unit of Tektronix Inc. as Chief Engineer

CONDENSED SUMMARY OF MY PUBLIC TUTORIAL PRESENTATION

BEFORE THE GENERAL PUBLIC IN THE FEDERAL COMMUNICATIONS COMMISSION MEETING ROOM ON MARCH 22, 2004

By R. Kent Parsons

Many companion 8-VSB digital channels can be obtained for television translator stations to serve the truly rural communities with their local non-subscription TV signals; without causing interference to any existing analog, digital or GPS facilities

Continuous field tests have been conducted over the past 36 months for the purpose of finding additional spectrum for translator operation; the following have been proven:

1. Additional usable spectrum can be obtained by using very low transmit power. Truly rural communities can be served with translator power outputs of .01 to 25 watts using a maximum limit of 350 watts ERP as needed.
2. The rural populace can now be included in the transition to digital TV.
3. Regenerators are available to correct non-perfect input signals to perfect output signals; producing out-of-band spurious emissions of –40 dB or better.
4. When the signal is regenerated and a regenerator is used as an exciter for the translator, existing Bi-polar or Mos-fet translator amplifiers can be used to produce the required output power; both are very stable.
5. With the addition of a three section or (five section if needed) output band-pass and harmonic filter, the needed protection for existing analog, digital and GPS services, can be protected.
6. The FCC authorized tests have also proven the translator output power can remain constant within 5% of their assignment over varying temperature changes within the building in which the translators are housed.
7. Output power calibration of a translator can be accomplished in the field with a spectrum analyzer, as stated in my tutorial, and the metering in the existing translator can be calibrated accurately.
8. Adjacent channel operation can be achieved on digital-to-digital, analog-to-digital and digital-to-analog operation.

9. True translators do not encode or change the local broadcast signal program, as this becomes too costly and technically un-feasible.
10. Translator station identification can be programmed within the regenerator if needed. The virtual channel will also remain on the screen.
11. The use of directional antennas can help to control the broadcast pattern to the community to be served.
12. Regenerators can be operated in "Daisy Chain" operation using adjacent input and/or output channels.
13. TV translator technicians need time to become acquainted with this new digital transmission before the analog transmission is terminated if service to rural communities is to be continued without interruption. Flash-cut for many TV translators will not be an option.

R. Kent Parsons

The wonderful worlds of DVD and DVD-R (DVD+R)

By Larry Bloomfield

We have maintained for many years here at Tech-Notes that there will be a migration from tape to the Digital Versatile Disk; or DVD for short. We've touted the advantages and can see few, if any disadvantages. Like most everything else in our industry, these changes can be compared to changes in current flow in an inductor –reactive, but inevitable. We believe it is only a matter time, but one argument offered is that DVD doesn't support high definition digital formats. Well that argument is now moot.

In an article that appeared in Twice.com, they report that: "The Bravo D3 home HD DVD Media Player will support the Windows Media 9 video compression codec, which is capable of playing back high-definition videos recorded in WM9 on standard DVDs. The unit outputs signals through component video and DVI-HDCP at resolution levels including the 480i, 480p, 1,080i and 720p formats, the company said. The player is expected to ship in the second quarter of 2004 at just under $350.00 "target retail.""

For more information, visit these websites:

- http://www.dvdrhelp.com/print.php
- http://www.dvdrhelp.com/dvd
- http://www.twice.com/article/CA376894.html?verticalid=820&industry=Video&industryid=23099&pubdate=01/26/2004

Congressmen Cast Doubt on FCC Digital TV Transition Plan

By Mark Wigfield, Dow Jones Newswires Mark.Wigfield@dowjones.com

Three members of a powerful House committee have voiced strong doubts about a draft plan to speed the transition of valuable airwaves from broadcasters to the wireless industry.


Powel

"I am concerned that this proposal would produce severe unintended policy consequences and would directly contravene the legislative intent of Congress," the members said in a letter sent Thursday to Federal Communications Commission Chairman Michael Powell.

"If that is the case it must be rejected outright," said the letter, which was signed by Reps. Charlie Norwood (R., Ga.), Lee Terry (R., Neb.) and Richard Burr (R., N.C.). All three are members of the House Energy and Commerce Committee, which oversees the FCC.


Norwood Terry Burr

At issue is the pace of transition from analog television to digital. Congress gave broadcasters free spectrum so they could broadcast in both analog and digital during the transition.

Broadcasters were to return the extra channel to the FCC by the end of 2006, and the airwaves would be used to ease a chronic spectrum shortage in the wireless industry. But that date can be delayed until 85% of the public has the capability to receive digital signals, something that conventional analog TVs can't do.

While most broadcasters now transmit both analog and digital signals, 85% of the populace isn't expected to have digital tuners for years.

Mr. Powell has floated a plan that would essentially make the 2006 deadline stick by asking cable companies to "down-convert" digital signals for their analog customers. Because 85% of the population now subscribes to satellite or cable television, the FCC says, the conditions for the transition would be met.

The plan would hasten the day when Congress or the industry would have to step in to address the needs of the 15% of viewers who get their television over the air.

The lawmakers said the FCC should wait until its mandate requiring digital tuners in new televisions has taken effect, and until cable's obligations to carry digital signals are clarified. The FCC has required that the largest televisions have a digital receiver, beginning this summer; the rule gradually phases in for smaller sets.

"Pairing a more realistic hard-date with both a sensible cable carriage plan and marketplace acceptance of the FCC's tuner mandate would make more sense," they wrote.

Voicing concerns from broadcasters, the lawmakers said the proposal "would betray the long-held congressional goal of bringing the next generation of television to the

American consumers," they wrote. "Consumers who receive a down-converted, analog-formatted digital signal via cable do not experience any of the benefits of digital television, most notably high-definition viewing and enhanced policy options."

The plan "would provide no incentive for consumers to eventually upgrade to digital displays and high-definition digital sets and consumer adoption of digital television."

The FCC had no comment on the letter, but will respond to the members.

Congress Concerned About Early Analog TV Shutdown

There have been a number of reports that the FCC is contemplating speeding the DTV transition by requiring cable and DBS providers to deliver broadcasters' DTV signals in addition to, or instead of, their analog signals, thus increasing the number of households that would count towards the 85% DTV adoption threshold required before analog TV can be shut off. Last week three congressmen sent FCC Chairman Michael Powell a letter expressing concern "this proposal would produce severe unintended policy consequences and would directly contravene the legislative intent of Congress"

The Congressmen, Charlie Norwood (R-GA), Richard Burr (R-NC) and Lee Terry (R-NE) wrote, "Premature cessation of analog broadcasting would render useless the 81 million television sets that rely upon over-the-air reception and, more importantly, would disenfranchise the 15 million television households that rely exclusively upon over-the-air reception for their television signals."

The Republican representatives recognized that counting cable and DBS viewers towards the 85 percent threshold would have the effect of making 2006 "a hard date to shut-off analog TV stations" and noted that "This would occur even before the tuner mandate has been completed (2007), let alone given time in the marketplace to diminish the ten's of millions of analog-only TVs that would go dark."
Another unintended consequence listed in the letter was that an early shutdown of analog would cause DTV technology to stagnate. Consumers viewing down converted cable or DBS signals converted to analog format would "not experience any of the benefits of digital television, most notably high-definition viewing and enhanced programming options."

The letter suggested that "Pairing a more realistic hard-date with both a sensible cable carriage plan and marketplace acceptance of the FCC's tuner mandate would make more sense." It concluded, "Congress' 1997 adoption of the 85% consumer safeguard recognized that consumer acceptance of DTV technology is a linchpin to successful completion of the DTV transition. While I share your commitment to seeing the digital television transition completed and analog television spectrum freed up for other uses, radically modifying this statutorily mandated consumer protection would be imprudent, impractical and run afoul of Congressional policy goals."

EchoStar ordered to pay broadcasters $4.787 million in attorney fees

From: Kate Davenport KDavenport@nab.org

On Friday (March 26) Judge William Dimitrouleas of the U.S. District Court for the Southern District of Florida in Miami awarded plaintiffs in the EchoStar litigation $4.787 million in attorney's fees. In support of the award the Court concluded that "Plaintiffs achieved an excellent result . . . prevailed on their only claim - copyright infringement - with the Court finding that EchoStar's infringements were 'clearly willful' . . . and that EchoStar continued to serve hundreds of thousands of subscribers in violation of the SHVIA." The Court rejected EchoStar's plea of a wealth differential between it and the plaintiffs, stating: "It can hardly contend that it would be unreasonably burdened by paying a substantial feed award, essentially in light of the many millions of dollars in revenues it reaped by its willful infringement."

The Court noted that "Plaintiffs' is one of the largest awarded in a copyright infringement case."

Cable industry on high alert in rush to legislation

By Andrew Wallenstein

As broadcasters brace for a new era of tightened federal indecency regulations, the cable industry is worrying whether it might be next. For the full story, check out the Hollywood Reporter at:

http://www.hollywoodreporter.com/thr/article_display.jsp?vnu_content_id=1000473849

McCain wants FCC to try a la carte cable pricing test

By Charlie Nullia

The chairman of the Senate Commerce Committee thinks it's time to begin a government-mandated experiment that could end the cable industry's practice of charging people for a group of channels whether they want them or not. Sen. John McCain, R-Ariz., a longtime critic of rising cable rates, said Thursday that he thinks the FCC should begin a pilot program that would determine whether offering cable channels a la carte would benefit consumers.

Sorry -- No a la Carte Cable
Channel Packaging Is So Much Cheaper Senators Are Told

By Frank Ahrens Washington Post Staff Writer

In the dream world of some television viewers, they would pay their cable or satellite companies only for the channels they want. Some might not pay for MTV, because they don't want their 8-year-olds watching it. Others would turn down ESPN Classic, because they've already seen the 1975 World Series. Others would eschew TeleFutura, because they don't speak Spanish.

Reality is far different.

No U.S. cable or satellite company offers what are called "a la carte" plans. In order to get the Discovery Channel from Comcast Corp. cable company, for instance, Washington viewers have to pay for an "expanded basic" package that includes MTV, FX, MSNBC and 33 other channels.

That may change, if some lawmakers and consumer groups get their way, as the cable industry finds itself under increasing scrutiny. Lawmaker's report that their constituents are angry about cable bills that have risen at three times the rate of inflation since the industry was largely deregulated in 1996. Others want government to do something about the rising incidence of profanity and nudity found on pay-television systems.

One possible solution being proposed is a la carte cable, a way to give consumers more choice over what they watch and how much they pay for it. But it's not an answer the cable industry will swallow easily, if a Senate Commerce Committee hearing yesterday on cable rates is any indication.

About DVD

By Fred Lawrence

Let's get this out of the way quickly – few burner manufacturers are making a lot of money as the number of manufacturers and volumes swell. They all have dual formats. Cheap no-name and brand name manufacturers are moving rapidly to deliver higher speed products. The burners are cheap…getting cheaper. Your challenge is always buy intelligently taking into consideration manufacturer's reputation, software bundles and commitment to customer support. Then focus on only using quality media, not the stuff that saves you a few cents.

And so the story ends?

Nope. Just when you thought life would settle down and you could focus on mastering your video software, the burner and media camps have set out to meet your insatiable appetite for capacity.

The great thing about going to CEATEC (a trade show held in Japan) is that you get to see all the newest and greatest fun techie toys. It took a lot of willpower to stay away from the do-everything cell phones that will be available in the Pacific Basin and Europe but we were on a mission…focus on the future of DVD storage and video production.

The good news for ***Camcorder*** readers is that within 12 months:

1. the burner and media manufacturers will be able to double the capacity of the recordable DVD discs giving us 8.5GB of capacity on a single side (currently to get more than 4.7GB on a disc double-sided media was used)
2. the new media will store four hours of DVD-quality video or 16 hours of VHS quality
3. the discs can be played by the majority of the players in use today

The bad news is:

1. it will require new DVD Burners
2. we will still have two formats (+/-) to contend with
3. neither side seems willing to compromise

For sake of space we are going to divide the dual layer discussion into two parts – burners and media.

Quick Background

After a lifespan of ten years, the CD-ROM finally got the facelift it required to take it into the next century when the standard for DVD was finally agreed during 1996.

The movie companies immediately saw a big CD as a way of stimulating the video market, producing better quality sound and pictures on a disc that costs considerably less to produce than a VHS tape. Using MPEG-2 video compression, the same system that is used for digital TV, satellite and cable transmissions, it is quite possible to fit a full-length movie onto one side of a DVD disc. The picture quality is as good as live TV and the DVD-Video disc can carry multi-channel digital sound.

All writable DVD formats include a set of specifications that define a media's physical layer that enables the media to be read. The application layer specification deals with the content. Motion pictures are typically released on replicated ROM media (the physical layer) and authored using the DVD-Video format (the application layer).

The DVD-Video format is essentially a publishing format for one-time-only mastering.

Today there are four flavors of DVD:

* DVD-5 is a single-sided single-layered disc with 4.7GB

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* DVD-9 is a single-sided double-layered disc offering 8.5GB
* DVD-10 is a 9.4GB dual-sided single-layered disc
* DVD-18 will deliver 17GB on a dual-sided dual-layered disc

A single-sided (DVD-5) DVD-Video disc was designed to hold a typical feature-length movie - which averages 133 minutes. For a dual layer disc (DVD-9) capacity increases to 240 minutes.

(Illustration A)
DVD's data layer is right in the middle so that the disc can be double-sided. As a result, the laser assembly of a DVD-ROM drive is more complex than the CD-ROM to enable it to read from both CD and DVD media. Early drives used a pair of lenses on a swivel but current designs use dual optical pickup lasers optimized for CD (780nm wavelength) and DVD (650 nm).

Some DVD movies have taken advantage of double-sided discs by putting a version formatted for a normal TV or monitor with a 4:3 aspect ratio on one side and a widescreen version formatted for 16:9 aspect ratio on the other. But most of today's DVD movies take advantage of the dual-layer, single-sided media which until now was only produced by professional replicators/duplicators. Pits on both layers of the DVD-9 layers are 10 per cent longer than on a DVD-5 or DVD-10 disc. Each layer is molded in one substrate, the two are joined using an optically transparent bonding layer and the replicators print the discs in the conventional way.

(Illustration B)
There are two ways of writing the DVD data layers: parallel track path (PTP) and opposite track path (OTP). The refection film of the first layer is semi-transparent and the bonding agent is transparent providing instant access from the first to the second layer. They provide seamless continuous playback from the two layers.

In PTP discs both layers read from the inside of the disc to the outside, whereas in an OTP disc the outer layer reads from the inside to out, and then back in for the inner layer. This allows the drive to read both layers almost continuously, with only a short break to refocus the pickup lens. This is especially useful for DVD movies, where long play time without interruption is needed.

Parallel Paths
Both the DVD Forum and the +RW Alliance have maintained their approach to write-once and rewritable DVD is best for the consumer. With R media both formats provide optimum drive and player compatibility. For RW media there continues to be compatibility issues just as we experience with CD-RW discs. When Sony, Digistor (SLI) and others introduced +/- recorders the issues became moot. You free to focus on buying the media preferred or could make your buying decisions based on market economics – which brand name discs were least expensive when you went to the store.

Presently 4x DVD Burners (writing a 4.7GB disc in about 15 minutes) are available at almost fire sale prices. New 8x DVD Burners (writing 4.7GB discs in less than 9 minutes) are readily available and are already aggressively priced. Before the ink was dry on the 8x announcements or specifications had been finalized, burner manufacturers were already advising us that 12x burners (+/- that would write a disc in under 5 minutes) would be available very shortly.

But at CEATEC, the "preferred format discussion" continued as Pioneer demonstrated their DVD Forum compliant dual-layer DVD-R burner along with DVD-R9 media. To add balance to the discussion, Philips, with the assistance of MKM (Mitsubishi Kagaku Media)/Verbatim, demonstrated the +RW Alliance consumer solution.

Both claim the high ground in playback compatibility which means they are probably very similar. The questions Camcorder readers will have to wait to answer will be:

- If you wait a heartbeat will there be a +/- burner?
- Do you really need 4 hours of video on a single disc or are you buying the unit for the added back-up capacity first and video capacity second?
- Which units will be available first and at what cost?
- What will be the cost of the 8.5GB write-once media?

These questions weren't answered at CEATEC and you'll have a few months to read up on the matter and decide for yourself. To get you started, let's examine the burners that were announced (next issue we will cover the media).

DVD-R9 Burner
While it was an impressive technology demonstration, Pioneer was sketchy regarding the specifics surrounding the implementation of DVD-R9. Company officials noted that they would shortly submit a proposal to the DVD Forum for the higher capacity technology.

It appears as though DVD-R9 will continue to use a constant linear velocity (CLV) rotation technique to maximize the storage density on the disc surface. This results in a variable number of revolutions per minute (RPM) as disc writing/reading progresses from one end to the other. Recording begins at the inner radius and ends at the outer. The media will probably use track pitch of 0.74µm.
The company says tests of their dual-layer recording technology delivers 9.34% jitter with 17.3% reflection rate on the first layer and 8.08% jitter with 19.5% reflection rate for the second layer.

Since these results are very similar to those achieved with DVD-ROMs and DVD-Video discs playback with existing DVD players should be very good.

DVD+R9 Burner
(Philips photo)
Shortly after the introduction of DVD+R, Philips began work on dual-layer DVD recording technology development which is endorsed by members of the +RW Alliance.

According to Philips, compatibility has been achieved by using controlled laser power and special reflector material in the media manufacturing which economically optimizes media reflectivity. In addition the prototype DVD burners utilize firmware controlled signal amplitude and tracking signals during the writing process. This is designed to ensure compatibility with DVD standards.

DVD+R9 technology has much in common with the rival DVD-R9 technology, using phase-change. With the DVD+R9 format, discs can be recorded in either CLV format for sequential video access or CAV format for random access. By using "Lossless linking" video can be written, stopped and continued without any linking loss. The company says their objective has been to deliver higher capacity storage solutions that will write media that has maximum compatibility with existing DVD players and drives.

The final specifications and format book for DVD+R9 seem to be much further along than that for the DVD Forum's DVD-R9 format. Philips, the first to produce DVD+R products, received specification and book approval by the +RW Alliance late last year. The company and other members of the Alliance expect to begin introducing hardware during the third quarter of this year.

The key to the success of either or both technologies will be the media technologies that will be implemented…we'll look behind the scenes in this area in the next issue -- DVDT

Disney self-destructing DVDs rolling into Florida

From Reuters

Before After

LOS ANGELES, March 12 (Reuters) - Walt Disney Co hopes to capitalize on exploding interest in its self-destructing DVDs by expanding trials of the discs into Florida and other major markets in April, the company said on Recently.

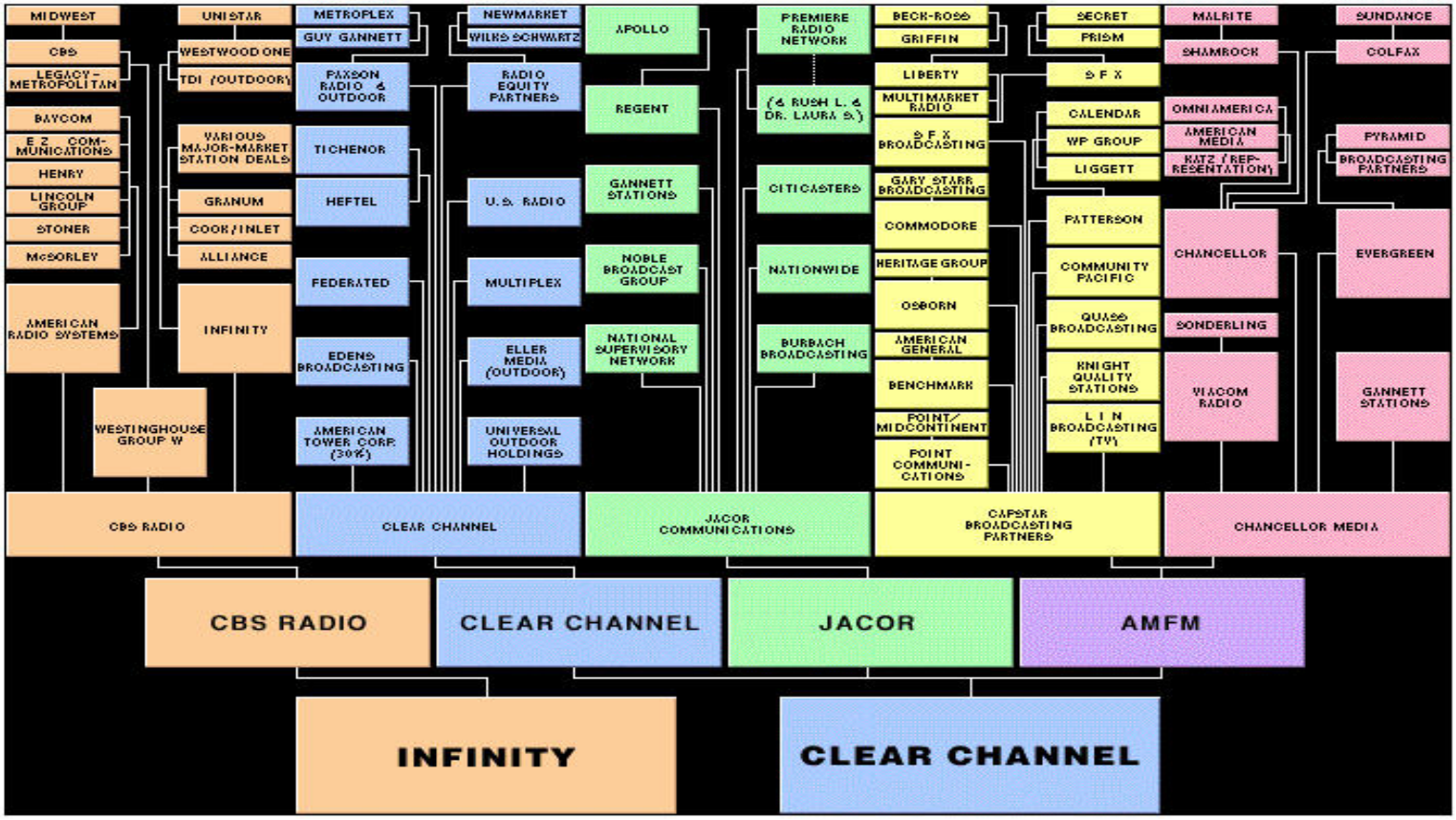
Buena Vista Home Entertainment, Disney's video unit, plans to cut the price to $5.99 from $6.99 as it nearly quadruples the number of outlets with the discs, aimed chiefly at video renters who find returns a hassle, a spokesman said.

Environmentalists criticize the waste of discs that must be thrown away, while Disney says it has a recycling program and that the customers love the convenience.

The self-destructing EZ-D DVDs, developed by privately held Flexplay Technologies, quit playing 48 hours after they are opened as a chemical reacts with air, obscuring the tracks on the disc so a laser cannot read them.

http://finance.lycos.com/home/news/story.asp?story=40811699

The Consolidation Story



Competition make home theater systems newly affordable

By Keith Reed, Globe Staff

Best Buy wants to convince customers that it's inexpensive to turn spare rooms into home theaters, so the chain has built two of them inside its Braintree store, just feet from walls lined with big-screen TVs and DVD players that are selling at lower prices than ever.

For more on this story, visit:
http://www.boston.com/business/technology/articles/2004/03/22/coming_soon_to_a_den_near_you/

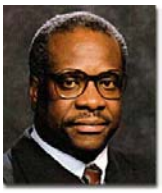
The real story behind must-carry

From Multichannel News by Ted Hearn

A decade ago, five U.S. Supreme Court justices agreed behind closed doors to strike down a new federal law that required mandatory cable carriage of local TV stations.

But the coalition, spearheaded by Justice Sandra Day O'Connor, that wanted to topple the must-carry law turned out to be fragile. It collapsed when Justice David H. Souter had second thoughts and joined the pro-must-carry camp, supporting a law that broadcasters considered vital.

Souter's flip followed a mid-course correction by Justice Clarence Thomas into the anti - must-carry camp.



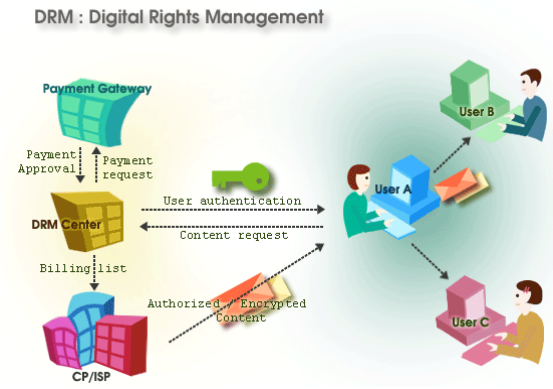
The result: What once might have been a 5-4 vote to overturn must-carry became a 5-4 vote simply remanding the case to a lower court. The high court ultimately affirmed must-carry in a 5-4 vote in 1997.

For more on this story, visit:

http://www.mediareform.net/news/article.php?id=2838

Public Knowledge Demystifies Digital Rights Management

By Charlie Nullia



Public Knowledge has published a comprehensive resource that makes understandable for everyone the increasingly complex and highly technical issue of digital rights management. Digital Rights Management (DRM) is the term applied to technologies that prevent you from using a copyrighted digital work beyond the degree to which the copyright owner wishes to allow you to use it. The technologies can be applied to digital movies, television programs, books or music.

The 40-page primer, "What Every Citizen Should Know About DRM, a.k.a. Digital Rights Management," was written by Mike Godwin, senior technology counsel at Public Knowledge. Godwin is a veteran of Internet law, and the author of "Cyber Rights: Defending Free Speech in the Digital Age" (MIT Press, 2003).

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http://www.publicknowledge.org/content/press-releases/press-release-2004-03-19

What Every Citizen Should Know About DRM a.k.a. "Digital Rights Management"
http://www.publicknowledge.org/content/overviews/citizens-guide-to-drm/view

DTV Transition Scoreboard

A Compilation of several sources

As of March 16, 2004, according to the NAB, 20 stations make transition to DTV, which means that there are now 1,175 local stations now on the air in digital in 205 markets that serve 99.6 percent of U.S. TV Households.

In addition, 84.69 percent of the more than 106 million U.S. TV households are in markets with five or more broadcasters airing DTV and 63.23 percent are in markets with eight or more broadcasters sending digital signals.

Twenty-nine markets now have all of the local stations on air in DTV.

Source info from NAB at;
http://www.nab.org/newsroom/issues/digitaltv/dtvstations.asp

According to the FCC's CDBS on their website, as of March 28, 2004, this is where we stand:

- LICENSED (LIC): 506 (+1)
- CONSTRUCTION PERMIT:(CP) 862 (-1)
- CP Modification (CP MOD) 351 (+3)
- STA (All variations) 964 (+4)
- STA (Modifications) 84 (+1)
- APPLICATIONS (minus rulemaking) 191 (+6)
- Rule making - Digital channel changes
- PENDING APPLICATIONS 40 (-0-)
- GRANTS 132 (-0-)
- DISMISSED 1 (-0-)

Note: The total will be greater than the number of DTV stations as some stations have both licenses, construction permits and applications on file. Subtracting the STA Modification number from the number in STA (All variations) will give a more accurate indication of the number of DTV stations operating under STA.

A spreadsheet showing all current DTV entries in the FCC CDBS TV engineering database files dated March 28, 2004 may be downloaded from www.xmtr.com/fcc/dt040328.zip. The entire TV engineering database (large file - over 2MB) extracted from the CDBS is available from www.xmtr.com/fcc/tv040328.zip. These files are available now.

MPAA's Valenti Confirms Plans to step down

By Fred Lawrence

MPAA chief Jack Valenti announced recently that he aims to leave the film industry group in a few months, confirming earlier speculation that he would step down. "This is the time for me to depart as CEO. I feel that in my gut," Valenti said at ShoWest. Valenti has run the MPAA for 38 years. Valenti said the MPAA hopes to have "somebody in place in the next two or three months."

Color is 50

By Larry Bloomfield

The first production color television ever sold was manufactured in Indiana beginning in March 1954. Fewer than five-thousand of this model were ever made. With a price tag of $1000 each, no wonder not many were sold. Few -- perhaps fewer than 100 -- remain today and still fewer are in operating condition.

http://home.att.net/~pldexnis/restoretv.html

Déjà vu for TV viewers as color TV turns 50, HDTV feels same growing pains

From: Benny Evangelista, Chronicle Staff Writer

Back in the days when black-and-white television was the norm, Pete Deksnis delighted in watching one of the few shows broadcast in living color.

"No matter how lousy the show was, you looked at it," said Deksnis, who owns one of the first mass-produced color TV sets that began rolling out of an RCA factory 50 years ago this week.

Today, with color TV the rule, not the exception, it's deja vu for Deksnis -- he goes out of his way now to watch one of the relatively few shows broadcast in high-definition television.

"HD drove me back to network television after years of apathy," said Deksnis, who has his antique TV parked next to his HDTV set in his living room. "I'll even check the afternoon HD soap opera on CBS, but for a few minutes only, to enjoy the crystal clear picture."

HDTV, because it offers dramatically higher quality video and audio than standard TV, is hyped as the biggest technological advance in TV since color.

Yet HDTV has not quite caught on with mainstream consumers for many of the same reasons that held back color TV sales for more than a decade -- the high prices of sets, the fact that only a few shows and major events were broadcast in color and some initial confusion in technological standards.

Consumer interest in HDTV is on the rise, yet it's hardly as fervent as the early interest in color TV.

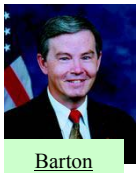
http://www.sfgate.com/cgi-bin/article.cgi?file=/chronicle/archive/2004/03/22/BUG4E5OAHI1.DTL

Key Members of Congress and Prominent Aides to Address NAB2004

From an NAB Press Release


Burns


Upton


Barton


Bilirakis


Sensenbrenner


Walden

NAB2004 attendees will have the opportunity to hear from members of Congress at two separate convention events, NAB announced today. On April 19, six members of the 108th Congress will be featured panelists at the NAB2004 Congressional Breakfast held at the Las Vegas Hilton. Sen. Conrad Burns (R-MT), House Commerce Chairman Joe Barton (R-TX), House Judiciary Chairman Jim Sensenbrenner (R-WI), House Telecommunications Subcommittee Chairman Fred Upton (R-WI), and Reps. Michael Bilirakis (R-FL) and Greg Walden (R-WA) will participate in the annual breakfast discussion including wide ranging policy topics such as free airtime legislation, broadcast ownership, satellite radio, Internet streaming and the transition to digital television. The event will be moderated by Phil Lombardo, founder and CEO, Citadel Communications Co., and chairman of the NAB Joint Board of Directors. The breakfast is sponsored by Banc of America Securities.

Also that day during a Congressional Staff Panel, seven congressional aides will discuss the behind-the-scenes, decision-making process on Capitol Hill. These staffers, who advise key members of the House and Senate Commerce Committees, specialize in broadcast and telecommunications policy. "These members of Congress and these aides are the people most directly involved with broadcast legislative issues," said NAB Executive Vice President, Government Relations John Orlando. "We're very excited to have such top- notch guests this year."


McCain

On April 18, Senate Commerce Committee Chairman John McCain (R-AZ) will be the featured speaker at the Broadcast Leadership Dinner (invitation only) at the Bellagio Hotel.

Some of What's on the Road Show

By Larry Bloomfield

Leader Instruments will be presenting their latest in Digital Television waveform monitors and signal generators.

Leader has prepared a presentation titled "Digital and HDTV Primer" and we have prepared a handout package that will be presented at selected venues in addition to the Road Show.

The 50 minutes presentation assumes the audience is familiar with NTSC. It will briefly explain the meaning of component video and relate this back to RGB for improved understanding, then move on to explain quantizing and its effects (how the number of bits effect video for example) and move on to describe parallel video and how it is serialized. The connection between analog video (with sync information) and digital video (no sync, anc data space, TRS/EAV/SAV) will be shown a discussion of the various video levels (will relate them to a SMPTE or color bar for SD and HD) and how and why the levels are different between analog, SD and HD will be conducted.

Once this has been explained, time permitting, we will discuss serializing and the eye pattern as well as offer a couple of technical notes on system timing (between SD and HD).

This presentation should be useful to most video engineers that are not experienced with digital yet; for those with good digital experience, it could be a good reminder of what they already know.

Larcan will be sending with us their new one rack unit high 8VSB digital signal regenerator that is frequency agile both in and out. This is the front end of a digital translator. The good news is that all you need to make it a complete translator is a linier amplifier and you can probably use your old analog amplifier. In addition to this, we will be joined at selected venues by Kent Parsons, Utah's digital translator guru, who will share much of what he presented to the FCC on March 22nd. (See the lead story above)

I'm told we'll be bringing the VC31-- a standards converter. The VC31 family is a series of multi format HDTV/SDTV conversion devices designed to economically provide professional quality video content exchanges in environments and applications with multiple video standards. The VC31 product line supports full multi format conversion, HDTV cross conversion, Up and Down conversion and SDTV conversion. Incorporated into each VC31 model is advanced Dynamic Vector and motion compensation technologies, which prevents jitter and resolution degradation for a fluid, natural-looking broadcast.

The latest device from ASACA, is the industry's largest blue laser-based library, the TeraCart. Based on Sony's new Professional Disc for DATA drives, these new libraries offer more than double the capacity of red laser optical libraries and data throughput speeds comparable to tape-based solutions; yet require no more than a four foot square of floor space. The new PDD-based libraries can record up to 800 hours of HDTV content at up to 11MB/sec onto durable, random access media.

Ideal for commercial and professional data storage use in nearly all markets including broadcast, medical and government, the new TeraCarts can be equipped with one to six Sony PDD drives provide organizations up to 9MB per second write speeds and 11MB per second read. Available with both SAN and NAS support, the modular library offers the flexibility to start with a single cabinet and expand to as many as eight libraries for capacities reaching hundreds of Terabytes. Using pass-through and infrared communications, the libraries can be easily managed as a single physical unit.

Ideally tuned to the capacity and throughput demands required to stream HD content, this new category of library bridges the gap for today's digital studios that need the random access and removability of CD and DVD technology, but can't let go of the per cartridge capacity of tape. The TeraCart has been long regarded for enabling efficient content creation, conversion, storage management, asset search/retrieval, repurposing and delivery. Combined with Sony's state-of-the-art PDD technology, HDTV post-production and digital studios can effectively double their storage capacity without requiring additional office real-estate.

A superior option to tape libraries, a single PDD media cartridge can hold 23.3GB of data or the equivalent of up to 2 hours of HDTV content. Backward read compatible with red-laser DVD-R and DVD-RW formats, Sony's PDD roadmap currently extends to 2007 with 100GB solutions offering a throughput of 36MB per second.

A whitepaper on the new Blue laser TeraCarts is being written “as we speak” and will be available to those interested in a few days.

For more information visit: **http://www.asaca.com**

Cobalt Digital will be sending with us a bunch of goodies for everyone to learn about and ogle over. We’ll start out with their 8021 Format converter (to be replaced with 8022 later on). This is a dual-rate HD converter (HD/SD). The 8022 is also a dual-rate HD converter (HD/SD), but it has better up conversion from monitor conversion to broadcast quality and has imbedded audio with delay correction.

The 8020 is a dual-rate D/A converter device that can be feed SD or HD and will give you the comparable analog output in component with either input and will also give you

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composite and/or Y/C when an SD signal is used at the input. This is a 12-bit output device.

We sill also have an 8090 dual-rate A/D converter which will take any of the inputs mentioned above and give you the comparable digital output. --- Just like the 8020, but just the reverse action.

Check this out: a D/A converter with a S/CH phase color frame timing option. That's Cobalt's 6540. Going in the other direction, we'll have two 6590 SD A/D, with differential inputs and user proc. controls.

Also in the Cobalt bag of tricks will be a 4030, a 10-bit SD D/A converter. Cobalt has targeted this to be the lowest cost 8-bit in 10-bit out D/A converter on the market. Going the other way, we'll also have a 6081 SD A/D, with a 3 line comb and de-jitter filter, 10-bit composite only device also targeted to be the lowest cost device of its type on the market

Add to the above devices an 8015, a dual-rate to DVI converter, a 6546 SD D/A with audio de-embedder with 4 analog channels and 2 digital channels, and you've got just about every kind of interface device you'll ever need incorporating the finest technology available on the market at better than competitive prices.

For more details on these devices, check out Cobalt's website at:
http://www.cobaltdigital.com/

This year at NAB Quartz will have three major product areas.

1. Xenon – The First Signal Processing Router™ . This is a brand new product launching at NAB. A multi-format router available in 4U (up to 64^2) and 8U (up to 128^2) frames and supporting digital and analog video, audio and HD, with other formats to come. Xenon is designed from the ground up to incorporate Signal Processing Technology modules on inputs or outputs. These SPT modules will allow many new functions to be provided in the router, reducing the need for outboard devices. Initial SPT modules will include keying/branding functions, master control, and Web based signal monitoring. Unfortunately we won't have the physical hardware on the Road show as the first units are committed to networks putting in HD channels. We will have full size mock ups of the chassis and an explanation of what Signal Processing Technology is in a router, and how it can help you in your station.

2. Master Control – We will be showing the latest enhancements to the QMC range, including new audio and keying features on the QMC-HD (up to 16 channels of audio and two independent internal logo stores/kiers) and a new lower cost entry level model, the QMC-LT. In addition the Xenon SPT master control module

will be integrated into the QMC control system, allowing a mix of channels to be run by the same control panels. On the Road show we will have the QMC-FS control panel at most of the dates and the QMC modular panels at the rest. This lets us show how the system works and how you can control multiple channels without using up a lot of console area.

3. Low Cost Compact Routing – We will be introducing a range of four Topaz routers at NAB, SDI, HDSDI, Analog video and analog audio. These are either 16^2 or 32^2, both in 2U frames designed to offer uncompromised routing at an aggressive price. We'll have at least one format of Topaz on the Road show, and full information on the others.

Lightning is a thing in nature that is never a case of "if" but a case of "when!" We will be bringing with us the latest in addressing lightning abatement and prevention.

Lightning brings with it not only the strike but an EMP that can play havoc with most any kind of modern day solid state equipment that is in the vicinity of the strike. We will be discussing grounding issues and how services that enter a facility from more than one place and put that facility in harms way if not properly addressed

ESE will supply a Team ESE polo shirt for a drawing at each venues. The products that'll be on display for ESE will be;

1) ES-185A/12 - GPS Master Clock/Time Code Generator
2) "New" NTP Client Family
3) "New" PC-471PCI - ESE/SMPTE/ESE time code reader card
4) LX-5112 - 12" Self-setting Analog Clock
5) ES-207A - 1 x 4 Video Distribution Amplifier
6) ES-209A - 1 x 12 Video/Stereo Audio DA

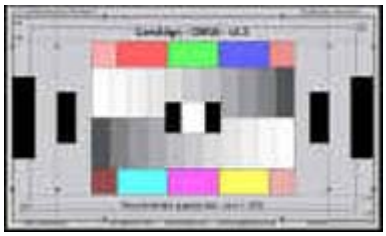
Other items that we'll have from ESE are Pens & pencils. One more thing, ESE would be more than happy to provide the "meeting place", in our booth at NAB, for the **Order of the Iron Test Pattern** awards: More on this in the Order of the Iron Test Pattern Newsletter and on their website.

Sundance Digital, who is celebrating their 10th Anniversary, will have their new Titan software on display and we understand a few other surprises.

Riedel Communications will have one of their latest versions of their broadcast intercom systems. This system will surprise even the most knowledgeable broadcaster in its flexibility and durability.

We will be joined by three other companies who care to bring their products and services to the grassroots engineers. We will also have our business card drawing for some rather great door prizes. Please check the items below. You could be one of the luck winners. We will also have a few big ticket items that will be drawn for at the end of the Road Show. More prizes will be added and each venue may have a surprise or two.

Clark Wire & Cable is donating a 500 foot reel of digital cable at each venue.
WWW.ClarkWC.com
Tel: (800) Cable-it



DSC Labs is donating a handy little Pocket size Color Bar/Gray Scale Test Pattern card for both 16x9 and 4x3 aspect ratios at each venue.
dsc@dsclabs.com Tel: (905) 673-3211
http://www.DSCLabs.com

Is donating
2ea. 5-packs of Digital Vinyl
2ea. 3-packs of DigitalMovie DVD+ or-R at each venue

Is donating a personal DVD XPress at each venue.
Make your own DVDs

Fluke has, once again donated a
Model 189
Full function multimeter.
The drawing for this item will be at the end of the Road Show

ADS Tech is donating a professional (rack mount) video production solution that will incorporate the robust ability any station would need to input their content in any format and export to the media of choice. It will incorporate the complete audio/video production software from Adobe. The drawing for this item will be at the end of the Road Show.

Academy of Digital Television

Pioneers Awards As reported by Ed Williams, PBS Senior Engineer

The Consumer Electronics Association's Academy of Digital Television Pioneers Awards Luncheon took place at the Washington DC Convention Center on Monday, March 29. It was well attended with over 400 in the audience. The HDTV displays were large and spectacular.

During the luncheon, with MC Gary Shapiro of CEA, several awards were presented.

Best DTV Network:
Nominees were ABC, CBS, HDNet
Winner – CBS

Best Local DTV Broadcaster:
Nominees were KING, WETA, WRAL
Winner – WRAL

Best DTV Cable System:
Nominees were Comcast, Cox, Time Warner
Winner – Comcast

Best DTV Satellite Service:
Nominees were DirectTV, EchoStar, Voom
Winner – DirecTV

Best DTV Satellite Programming:
Nominees were Discovery, HBO, HDNet
Winner - HDNET (Mark Cuban)

Best DTV Sporting Event:
Nominees were College Football (CBS), Monday Night Football (ABC), Super Bowl XXXVII (ABC)
Winner - Monday Night Football (ABC)

Best Original DTV Material:
Nominees were CSI: Miami (CBS), Monday Night Football (ABC), Grammy Awards (CBS)
Winner - Monday Night Football (ABC)

Best DTV Leadership (Industry):

Nominees were Mark Cuban (HDNet), Bryan Burns (ESPN), John Taylor (LG Electronics)
Winner - John Taylor, LG Electronics

Best DTV Leadership (Government):
Nominees were Michael Powell (FCC), Rep. Rick Boucher (D-Va.), Rep. Lee Terry (R-Neb.)
Winner - Michael Powell (FCC chairman)

The People's Choice Award:
Nominees were CSI: Miami (CBS), Monday Night Football (ABC), Six Feet Under (HBO)
Winner - CSI: Miami

The Award of Distinction was made to Bryan Burns of ESPN for their total dedication to HDTV.

Members of the Academy from public television (or were during DTV development) include Ed Caleca (PBS), Burnhill "Burnie" Clark (KCTS), Dick Green (CableLabs), Bruce Miller (Airinc), Mark Richer (ATSC), Joe Widoff (WHRO), Ed Williams (PBS).

For more information on the Academy of Digital Television Pioneers see: http://www.ce.org/

Ed Williams

Denver Tower Issues Continue

By Larry Bloomfield

On March 26th, a Jefferson County District judge ruled that county commissioners must reopen hearings on Denver's digital television facility on Lookout Mountain just west of town. The judge decided that some of the information presented the consortium of local stations was filed too late for opponents of the proposal to respond.

A three-member Board of County Commissioners in July approved the broadcaster's request to replace three existing large towers and a number of smaller ones with a single 730-foot main tower on Lookout Mountain. The Johnny-come-lately residence don't want anything on "their" mountain, despite the fact that the broadcasters were up there long before the area was developed for residences.

For more information, visit:
http://www.rockymountainnews.com/drmn/local/article/0,1299,DRMN_15_2762406,00.html

CEA Adopts New TV Receiving Antenna Standard

In a press release issued last week, the Consumer Electronics Association (CEA) has adopted revision A of its CEA-774 TV Receiving Antenna Performance Presentation and Measurement standard. The updated, revised standard gives antenna manufacturers the test and measurement procedures needed to make their antennas compliant with the categories defined on the CEA http://www.antennaweb.org/aw/welcome.aspx website.

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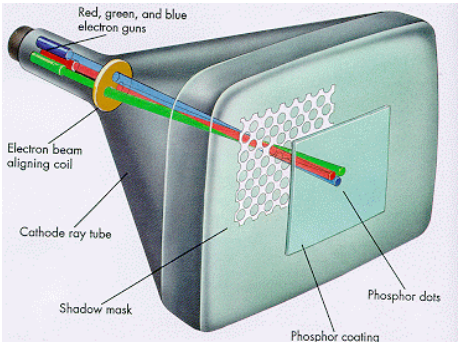
The Web site analyzes the signals available at a viewer's street address and recommends appropriate antennas for TV reception.

For more information, visit:
http://www.ce.org/press_room/press_release_detail.asp?id=10424

Is the Kinescope going away?

By Larry Bloomfield

This story comes on the heels of the 50th anniversary of color TV, which officially began March 25, 1954. It was on that date that RCA began making color TV sets at its Bloomington, IN. plant. In that year RCA sold about 5000 sets with 12-inch screens, known as the model CT-100 color receiver at a cost of $1000 each. On would hazard to guess what that would be in today's market.



With the decline in demand for CRT based TV sets, Thomson recently announced closing down their 50 plus year old tube plant in Marion, IN and a related manufacturing plant in Circleville, OH. This closure affects 990 employees in the Marion facility and 545 employees in Circleville, Thomson said.

RCA purchased the picture-tube plant back in 1949 from the Farnsworth Radio Corporation; a company that carried the name of the inventor of electronic-scan TV. The Circleville plant was started in 1970 as a glass-panel and funnel facility for 19-inch televisions.
What prompted the closure was an estimated 40% decline in the North American picture tube business, citing the move to LCD and DLP rear projection type sets as the cause, not

Powell Floats a Rigid DTV Switchover
Plan Would Make Berlin the Model For the Transition

From: Reed Business Information - US

Multichannel News: Washington-- Federal regulators are thinking anew when it comes to the digital-television transition.

The Federal Communications Commission -- feeling heat from Congress, which is under pressure from the spectrum-hungry wireless phone industry -- is trying to map a plan that would set a firm date for the return of broadcasters' analog spectrum.

The FCC's Baedeker appears to be the city of Berlin. Last summer, the German capital became the globe's first major city to shut down off-air analog TV in a flash-cut to all-digital broadcasting that came off without any documented displays of civil unrest.

'GONE SMOOTHLY'

"It's gone very smoothly," said Thomas Hazlett, an economist at the Manhattan Institute, who supports a Berlin approach for the U.S.

According to government and industry sources, FCC chairman Michael Powell and Media Bureau chief Kenneth Ferree, learning from the Berlin example, are mulling a few options and bouncing them off congressional staff on Capitol Hill for a read on their political viability.

Powell and Ferree are considering new ideas because the digital transition in the United States contains legal loopholes, by design, making it virtually impossible to determine when exactly the FCC can expect to recover broadcasters' analog spectrum said to be worth many billions of dollars.

Initially, Congress set the analog giveback date at Dec. 31, 2006, but the deadline was negated by subsequent legislation that tied the spectrum return in a market to 85% penetration of digital-TV reception equipment in the home.

Ferree, in an interview last week, acknowledged that fresh ideas are being considered but he declined to provide details, saying it would be premature because words had not been put to paper.

"It may be a dead end, and if it is, I don't want to stir up a lot stuff on something that may be going nowhere," Ferree said. "Probably in the next week or so, I'll have a sense of whether there is even a chance that this thing will even have legs."

Broadcasters that have caught wind of the Powell-Ferree plan are not elated by the details, but called it too early in the process to stage a rebellion.

"There are 1,000 questions this begs," said Lowell W. (Bud) Paxson, chairman of TV broadcaster aid Paxson Communications Corp.

NEW 85% LITMUS

At the core of the Powell-Ferree plan is a new methodology for calculating when 85% of households in a market would be considered capable of receiving digital broadcast signals.

No market today is even remotely close to hitting 85%. As the 85% test is interpreted today, a household is not considered digital-ready unless it has the means to decode digital signals, which usually means possession of a cable or DBS set-top or a DTV set with an off-air tuner.

In a change, Powell and Ferree are floating the idea of requiring cable companies to carry digital TV signals in down converted analog format. In theory, every cable home served in such a manner -- and every DBS home that purchased a local TV signal package from DirecTV Inc. or EchoStar Communications Corp.'s Dish Network -- would magically qualify as digital-ready homes for purposes of the 85% test.

Powell and Ferree are confident that the vast majority of the top 100 markets -- which happen to include 85% of U.S. households -- would either meet, or come very close to meeting, the 85% threshold. Thus they would be instantly eligible to make the switch to digital in a flash, just like Berlin.

The Powell-Ferree plan would confer some obvious benefits:

The wireless industry, which yearns for spectrum to roll out broadband, would rejoice in knowing that at some specific time, prime spectrum would become available, probably at auction.

The cable industry could rest assured that it was no longer threatened by dual must-carry mandates from the FCC, since there would be no more analog TV stations. Broadcasters would no longer have to burn cash running two TV stations funded by a single advertising revenue stream.

And the U.S. Treasury would pocket billions of dollars from the analog spectrum auction, pleasing deficit hawks on Capitol Hill.

Hazlett, who wants to see the U.S. reclaim the analog spectrum quickly, applauded the Powell-Ferree plan despite not having all the details.

"It's certainly going to eliminate a lot of unproductive use of airwaves," he said. "If this is the way they have to do it politically, this is better than nothing."

KNOCK-DOWN QUALM

But some saw a downside to the Powell-Ferree plan.

Broadcasters interviewed said they were upset by the idea that cable could take their digital signal and knock it down to analog.

Furthermore, it was not clear at what point the Powell-Ferree plan would require cable to restore the signal to digital.

Paxson said Congress would have to change the law to accept the idea that down converted digital signals contributed to meeting the 85% test.

Paxson said he had problems with the Powell-Ferree plan because his company invested large sums in analog equipment on the assumption that the current 85% test would remain the law.

"I get what [Powell] is trying to do, but it requires congressional action," Paxson said.

Public broadcasters have already signaled support for a Powell-Ferree-type plan.

Last November, the Association of Public Television Stations agreed to a firm date to give back analog spectrum if the FCC ordered cable to carry multiple programming streams of public stations.

It was not clear whether the Powell-Ferree plan would require cable systems to carry in analog multiple digital programming streams of a TV station.

Cable is vigorously opposing multicast must-carry obligations at the FCC.

A spokesman for the National Cable & Telecommunications Association declined comment on the Powell-Ferree plan.

JUNE 2000 REMARKS

But the NCTA, in a June 2000 letter, told the FCC that "it may not be objectionable" for cable to carry DTV signals in analog "provided that the television station presents an analog feed of its television signal to the cable operator at the headend." NCTA was referring to carriage of a single programming channel.

The Powell-Ferree plan has some loose ends.

If broadcasters went all-digital in a sudden shift, every analog TV set not connected to cable or satellite would be useless.

Taking the Plunge? The Options Are Multiplying

By ERIC A. TAUB

While TiVo is the best-known brand of digital video recorder, there is plenty of competition. Here is a rundown of the systems' various features:

TiVo Stand-alone TiVos, which can work with any cable, satellite or antenna setup, start at $150, with a $12.95-per-month fee for the on-screen programming service (or $299 for the life of the unit). If you have two TV signals, TiVo can record two programs simultaneously. A $99 Home Media Option turns a TiVo into a networked device, allowing users to share shows, music and photos among units in the home.

NASA TV TELEVISION

From a NASA press release

NASA TV will soon begin the process of converting to an all-digital system. Digital technology will enable NASA TV to compress its signal and concurrently broadcast multiple channels of broadcast quality video as well as interactive and text data, all from one satellite transponder.

QUESTIONS AND ANSWERS

Why is NASA TV changing to a digital format?
NASA TV's conversion to digital is driven primarily by the need to upgrade an aging satellite uplink infrastructure and to utilize bandwidth in a more efficient manner.

Will NASA TV still be on the same satellite?
NASA TV will remain C-Band on AMC-9 satellite. The transponder number may change; NASA TV will provide this information in the future.

When the digital conversion takes place will I (as backyard viewer) be able to view NASA TV?
At a minimum, a backyard viewer will need to purchase a digital receiver (IRD). Further details will be forthcoming via the e-mail groups.

Will commercial satellite service providers carry NASA TV after the conversion?
Until implementation details finalize, we may not know which, if any, of the new NASA TV channels will be carried by satellite service providers. When the information is available we will share the information via e-mail.

Will this conversion to digital signal eliminate the current analog signal that cable TV stations put on their systems?
Yes, the analog signal will not be available after 90 days of the transition. It will be up to your local cable company to purchase a digital receiver to continue to provide NASA TV as one of their channels.

Will NASA TV still have a channel that is free and clear?
Yes, NASA TV will be offering a Public channel that will be available to the general public. The other channels will require a programmable receiver with store and forward capabilities so NASA TV can communicate and send content to the receiver at any time.

Do NASA TV Viewers have to go through a commercial vendor, or will digital converters be available with no subscription fee?
NASA TV Viewers can purchase their receiver from any commercial vendor and there will not a subscription fee to view the NASA TV Public channel.

Will backyard users of DVB/MPEG-2 OR 4DTV RECEIVERS be able to view NASA TV?

NASA TV is working on details of how a DVB/MPEG-2 and/or a 4DTV receiver will be able to receive a NASA TV channel. More details will be forthcoming.

HIGH DEFINITION COMING TO FOX SPORTS IN 2004

By Charlie Nullia

Network Sports Division Chooses 720p Format for NFL, NASCAR and MLB Coverage Including World Series, Super Bowl XXXIX & Daytona 500.

FOX Sports entered the digital age in January 2002 when the network televised Super Bowl XXXVI in enhanced-definition dubbed FOXWIDE. That telecast received mixed reviews with most saying it fell short. Later this year, FOX' sports is moving to full-fledged high-definition.

Beginning in the third quarter of 2004, FOX will present much of its exclusive live event programming in 720p high-definition. A schedule of events of the programs to be televised in high definition will be announced shortly once all necessary equipment procurement is finalized.

Fox likes 720p format and their acquisition of it will strongly impact the future of HDTV. Other nations eyeing HDTV will now have to consider that production equipment is being made abundantly for it and cost will not be at a premium. The 720p (progressive) format takes 60 complete pictures per-second while 1080i (interlaced) takes 60 half pictures per-second. "While 1080i has more lines of resolution," said the Fox press release, "when portraying still images, in FOX' view, 720p provides greater picture quality for sports due to more pictures per second, and has more lines of resolution when portraying moving images.

"The common misperception in our industry," claims David Hill, Chairman, FOX Sports Television Group, "is that 1080i is the better high definition system because it provides more lines or resolution. However, I am truly convinced that 720p is the far superior format and our viewers are going to love all three of our sports and their signature events broadcast in this system."

Consumers Should Get Full Benefits of Hi-Res Devices

The Electronic Frontier Foundation (EFF) will ask the Federal Communications Commission (FCC to prevent satellite and cable television providers from intentionally reducing the quality of digital television signals on analog outputs, a practice known as "down-rezzing." Endorsed by the motion picture industry as a content-protection measure, the practice would force people who have invested in high-definition digital television equipment to accept inferior-quality content.

http://www.eff.org/IP/Video/HDTV/20040315_eff_pr.php

EFF Reply Comments re the Second Further Notice of Proposed Rulemaking (SFNPRM) in the FCC's "Plug and Play" proceeding

(CS Docket No. 97-80/PP Docket No. 00-67). In these reply comments, EFF urges the FCC to prohibit down-resolution, or down-rezzing, of component analog outputs for non-broadcast programming carried on cable and satellite systems.
http://www.eff.org/IP/Video/HDTV/eff_fcc_comments.php

New EAS Event Codes Take Effect in June

On Feb. 26, 2002, the FCC issued a Report and Order amending the Emergency Alert System (EAS) rules. The R&O became effective May 16, 2002. As part of the R&O, the FCC adopted numerous new civil emergency, weather and natural disaster event codes and National Weather Service's (NWS) marine area location codes. The complete list of EAS event codes (also known as NWR-SAME Codes) is shown below. The codes are distinguished between those in use today and those the NWS will implement on NOAA Weather Radio on June 30, 2004. NWR and the EAS use identical digital protocols, and NWR is the primary means for NWS alerts to activate the Emergency Alert System.

The reason for the delay between the effective date of the R&O and the NWS implementation of the new codes is that broadcasters needed time to upgrade their EAS encoder/decoder equipment to implement many of the changes in this R&O. If EAS equipment is not upgraded, the new event codes being implemented by NWS on June 30 will cause unknown event code operator alarms. Most broadcasters have upgraded their equipment, so NWS is making final preparations to proceed.

EAS Event (NWR-SAME) Codes

Weather-Related Events	NWR-SAME Code	Status
Blizzard Warning	BZW	Operational
Coastal Flood Watch	CFA	NWS implementation June 30, 2004
Coastal Flood Warning	CFW	NWS implementation June 30, 2004
Dust Storm Warning	DSW	NWS implementation June 30, 2004
Flash Flood Watch		Operational
Flash Flood Warning	FFW	Operational
Flash Flood Statement		Operational
Flood Watch	FLA	Operational
Flood Warning		Operational
Flood Statement	FLS	Operational
High Wind Watch	HWA	Operational

High Wind Warning	HWW	Operational
Hurricane Watch	HUA	Operational
Hurricane Warning	HUW	Operational
Hurricane Statement	HLS	Operational
Severe Thunderstorm Watch	SVA	Operational
Severe Thunderstorm Warning	SVR	Operational
Severe Weather Statement	SVS	Operational
Special Marine Warning	SMW	NWS implementation June 30, 2004
Special Weather Statement	SPS	Operational
Tornado Watch	TOA	Operational
Tornado Warning	TOR	Operational
Tropical Storm Watch	TRA	NWS implementation June 30, 2004
Tropical Storm Warning	TRW	NWS implementation June 30, 2004
Tsunami Watch		Operational
Tsunami Warning	TSW	Operational
Winter Storm Watch	WSA	Operational
Winter Storm Warning	WSW	Operational

Non-Weather-Related Events	NW	Status
National Codes-Required		
Emergency Action Notification	EAN	Operational
Emergency Action Termination	EAT	Operational
National Information Center	NIC	Operational
State and Local Codes-optional		
Avalanche Watch	AVA	NWS implementation June 30, 2004
Avalanche Warning	AVW	NWS implementation June 30, 2004
Child Abduction Emergency	CAE	NWS implementation June 30, 2004
Civil Danger Warning	CDW	NWS implementation June 30, 2004
Civil Emergency Message	CEM	Operational
Earthquake Warning	EQW	NWS implementation June 30, 2004
Evacuation Immediate	EVI	Operational
Fire Warning	FRW	NWS implementation June 30, 2004
Hazardous Materials Warning	HMW	NWS implementation June 30, 2004
Law Enforcement Warning	LEW	NWS implementation June 30, 2004
Local Area Emergency	LAE	NWS implementation June 30, 2004
911 Telephone Outage Emergency	TOE	NWS implementation June 30, 2004
Nuclear Power Plant Warning	NUW	NWS implementation June 30, 2004
Radiological Hazard Warning	RHW	NWS implementation June 30, 2004
Shelter in Place Warning		NWS implementation June 30, 2004
Volcano Warning	VOW	NWS implementation June 30, 2004

Administrative Events	NWR-SAME Code	Status
Administrative Message	ADR	Operational
National Periodic Test	NPT	Operational
Network Message Notification	NMN	NWS implementation June 30, 2004
Practice/Demo Warning	DMO	Operational
Required Monthly Test	RMT	Operational
Required Weekly Test	RWT	Operational

The FCC Report and Order that became effective May 16, 2002, establishes naming conventions for the new and future EAS event codes. In most cases, and for all future codes to be approved, the third letter of all hazardous state and local event codes is will be limited to one of four letters:

- "W" for warnings
- "A" for watches
- "E" for emergencies
- "S" for statements

The existing event codes for Tornado Warning (TOR), Severe Thunderstorm Warning (SVR) and Evacuation Immediate (EVI) will not be changed to conform to this naming convention.

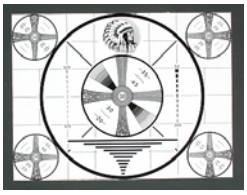
The Holy Grail!!!!!!!

From: Chuck Pharis chuck@pharis-video.com

I just got the HOLY GRAIL! I won't take a lot of time here telling you the whole story, as I plan to put all the information and photos on the web site in about a week or so. BUT, here is the "short version"

"In 1970 RCA was closing its Harrison, NJ factory and offices. The building was demolished and a strip mall is now at that location. This painting and artwork were found as the building was being razed in an obsolete files dumpster that was on site."

?????? What painting and art work??????



The above was sent to me by a demolition crew member who found the ORIGINAL Indian Head Test Pattern art work in a dumpster while tearing down the RCA Harrison Factory in NJ. in 1970. He put it in a closet for 34 years, and just found it a few weeks ago. Wonding what the heck it was. He typed "Indian head test pattern" on the internet and came up with my web site! The words "Indian Head Test Pattern" were written in pencil on the artwork. He offered it for sale to me, and after I got off the floor, I sent him a certified check ASAP! I did not pay that much! The package came today, and after I got off the floor again, I took some photos.

Here is what I got:

1. The ORIGINAL hand drawn art work for the Indian Head (Dated 1938) !!! and Signed by the artist!!!!!!!!

2. The ORIGINAL "copy ready" art work with the Indian Head mounted on a art cart ready to shoot.

3. The FIRST copy of the ORIGINAL Indian Head Test Pattern chart!!!!!

OHMYGOD!!!!! I am not kidding! This is the REAL stuff!!!!! I had no idea the pattern was first drawn in 1938!!!!! The set is in very good condition!

Since I have a working RCA TK-1 Indian Head Test Pattern Generator, I now feel I have the complete set!

This is a "one of a kind" piece of rare art work!

I have many more photos, and will have them all up on the Web site in about a week or two. Check the site after March 20th**.** **http://www.pharis-video.com**

Now what I need to do is find out who owns the rights to it? I know someone has the copyrights. It would be fun to make copies from the original art work, and sell them framed and numbered!

By the way, larger photos with more resolution will be on the web site. Feel free to download them for your viewing pleasure! If you plan to publish them, you MUST contact me first!!!!!

(**Editor's Note**: *When asked when about the opening of his museum, Pharis send us the following*.)

It's going to be a while. I don't have a building big enough to put all the goodies in! I now have 145 cameras, and tons of related gear. I am going to build a 16X20' building in the back yard to store some of the stuff in. The garage is now full, and my wife says if I don't make room in there for her car, I will be sleeping in the garage soon!

Can't wait for the Road Show!

See ya,
Chuck Pharis
(**Editor's Note**: *Pharis has promised to have the real thing on display at our Road Show in Los Angeles.* **http://www.tech-notes.tv/2004/07_Los_Angeles.htm**.)

TV networks to air ads promoting V-chip

From: Reuters

The major U.S. television networks, under sharp scrutiny by regulators over decency, on Tuesday said they would air advertisements promoting "V-chip" technology designed to let parents control shows that could be considered offensive.

The Advertising Council, a nonprofit group, said it would work with NBC, ABC, CBS and Fox to produce public service announcements tailored to each network on the V-

Chip, which is required in all televisions with screens 13 inches (33 centimeters) or larger.

http://finance.lycos.com/home/news/story.asp?story=40967082

Totals for broadcast stations licensed

In a document dated February 24, 2004, the FCC announced the following are totals for broadcast stations licensed as of December 31, 2003:

AM STATIONS	4794	
FM COMMERCIAL	6217	
FM EDUCATIONAL	2552	
TOTAL		**13,563**
UHF COMMERCIAL TV	767	
VHF COMMERCIAL TV	585	
UHF EDUCATIONAL TV	254	
VHF EDUCATIONAL TV	127	
TOTAL		**1,733**
CLASS A UHF STATIONS	494	
CLASS A VHF STATIONS	111	
TOTAL		**605**
FM TRANSLATORS & BOOSTERS	3834	
UHF TRANSLATORS	2663	
VHF TRANSLATORS	2086	
TOTAL		**8,583**
UHF LOW POWER TV	1604	
VHF LOW POWER TV	525	
TOTAL		**2,129**
TOTAL BROADCAST STATIONS		**26,613**

http://www.fcc.gov/mb/audio/totals/index.html

Dielectric acquires Kline Towers

Kline Towers had annual revenues in 2003 of more than $10 million

Adding the ability to build and maintain tall (up to 2,000 feet) broadcast towers to its already comprehensive broadcast transmission service offerings, SPX Corporation announced that its Dielectric business has acquired the assets of tower builder Kline Towers, based in Columbia, S.C. The companies have worked together on several large broadcast transmission site projects over the years. No financial details of the sale were available.

Kline Towers brings its wealth of experience in the design, assembly, fabrication and installation of towers for the global broadcast markets, notably, its expertise in engineering tall and multi-array towers and platform structures. A division of Kline Iron & Steel Co., Kline Towers had annual revenues in 2003 of more than $10 million.

John Capasso, president of Dielectric said, the acquisition expands Dielectric's market presence while enabling them to offer customers a more complete systems package. In 2001, the company acquired the assets of Central Tower, which builds similar structures on the East Coast and is based in Newburgh, Ind.

Dielectric Communications is a supplier of broadcast antenna systems, communication towers, lighting, and signal processing equipment. Based in Raymond, Maine, Dielectric offers complete system monitoring, maintenance and service to the broadcast and wireless markets.

SPX Corporation, parent to Dielectric, is a global provider of technical products and systems, industrial products and services, flow technology, cooling technologies and services.

For more information visit www.spx.com.

Another way to clear the terrestrial broadcast spectrum?

From: Craig Birkmaier craig@pcube.com

It looks like our friends at Capitol Broadcasting are pushing the envelope once again. This time in an interesting direction that makes a great deal of sense. But I wonder if they have considered the implications...

COMMUNICATIONS DAILY reports that Capitol Bcstg. Co. (CBC) and subsidiary Microspace Communications Corp. have outlined to the FCC a plan to provide local HDTV signals to DBS customers using just 2 satellites. The plan proposes a common platform that would require cooperation among DBS operators.

The report notes that in an ex parte filing, Capitol Broadcasting said that 2 high-power Ka-band spot beam satellites would be located at a central orbital slot between 105 degrees W and 115 degrees W: "The purpose of this requirement is to allow reception from the Ka-band common platform as well as from any DirecTV or EchoStar full-CONUS satellites by a single dish of standard design." The local station signals would go to regional uplink stations and be sent to a specified Ka-band transponder after being significantly compressed and re-encoded.

The report does not reveal what significantly compressed means, but the beauty of the spot beam approach is that you can re-use the spectrum in different regions, so it is just a matter of how many satellites with how many spot beams...

Customers of the Voom's service, which comes from a non-CONUS slot at 61.5 degrees W, customers would need an additional receiver, the companies said. The set-top box would receive and decode any of the 3 signals and deliver SDTV and HDTV outputs, they said.

The signals would require 8-PSK modulation, advanced forward error correction techniques and multiple spot beams. "If [the operators] choose not to, the spectrum-saving techniques described in this plan can still be used for the operators to separately offer all local stations in all markets in HDTV using a single Ka-band orbital slot each," they said.

The Comm Daily report concludes: CBC and Microspace said they had filed for a patent for a common DBS platform involving a "multibeam DBS system with ground processing system with ground processing components capable of delivering programming in an efficient manner to subscribers of DirecTV, EchoStar and Voom networks." That would allow the addition of future DBS networks and involved design features such as electronic programming guides, signal encryption/decryption and modulation parameters. "We... are not advocating the common platform plan outlined in this filing, but we are merely using it as an example of the combination of tech

There are a bunch of interesting things about this approach.

1. Anyone who can receive a DBS service today would be able to put up a dish to receive the local broadcasts for their market. This could be a completely independent service IF broadcasters decided to make the investment rather than the DBS operators. From the details in the article, however, it is clear that this service would be encrypted - no need for that tacky Broadcast Flag garbage - and that there would be some form or compensation. What broadcasters want is the lion's share of the ~$5 month that the DBS services now charge subscribers for local signals. If they put up their own satellites they could cut compensation deals with the DBS companies, much as they do today, but they would be delivering much higher quality video, free from the content restrictions imposed by the government on FTA terrestrial broadcasts.

But the real play for broadcasters could be to offer a broadcast only service for about $5/mo. They could probably set this up using a receiver that could also receive the DBS service if they decide to subscribe in the future. It would come with a smart card that only authorizes reception of the local stations; the cost of the receiver would include the first year's service. By upgrading the smart card DBS services could be accessed; after the first year you would need to buy a new card for $60 to receive your local stations.

There is a ton of potential here for cross promotional deals between the broadcasters and DBS operators.

Now the bad news...

Since this service would deliver local broadcasts in HD to fixed receivers, there would be no need to optimize the digital terrestrial broadcast system for delivering HD to fixed receivers. We could recover ALL of the broadcast spectrum, as a system could be established to subsidize STBs and annual fees for low income families.

Or we could use the broadcast spectrum to deliver bits to things that move, optimizing the system for portable/mobile reception. This system could also be used to replace the FTA service providing a FTA service in standard definition.

Interesting proposal...

Regards
Craig

Thomson Unveils Super-Thin DLP Televisions

From: Reed Business Information - US

Thomson unveiled during International CES a new line of DLP-based rear-projection HDTV sets that will use an InFocus developed light engine that makes possible cabinet depths of under seven inches.

Thomson will aggressively market the new "Profiles" series sets as viable hang-on-the-wall alternatives to pricier flat-panel displays. The new DLPs will be part of the RCA Scenium premium line and will have fully integrated ATSC tuners and CableCARD digital cable plug-and-play capability. Cabinet depths will measure as little as 6.85 inches.

In other DLP products, Thomson introduced eight widescreen DLP HDTVs -- all of which are digital-cable-ready -- in cabinets as thin as 16 inches deep and weighing under 100 pounds. The 2004 DLP line comprises eight RCA Scenium HDTV sets in 61-, 50- and 44-inch screen sizes. New Profiles series 6.85-inch-thin models, due later this year, will include 50W-inch and 61W-inch sizes, both with widescreen 16:9 aspect ratios. They

are expected to carry suggested retails of $8,999 and $9,999, respectively. Thomson said it plans to add a 70W-inch version in 2005.

The Profiles HDTV sets are part of an expanded line of more than a dozen new RCA and RCA digital-cable-ready HDTV sets that will answer the Federal Communications Commission's mandate for integrated tuning/decoding of terrestrially-broadcast digital TV signals.

The new integrated ATSC and digital-cable-ready models will be offered later this year in screen sizes ranging from widescreen 40W-inch sets up to the 61W-inch ultra-thin Profiles HDTV models.

In 2004, Thomson will add the High-Definition Multimedia Interface (HDMI) with HDCP copy protection to its most advanced products, an interface that is backward-compatible with DVI-HDTV digital video connections on current set-top receivers.

Thomson said its 2004 digital-cable-ready HDTV sets will all detect the broadcast flag, the FCC-endorsed digital- TV broadcast content-protection technology that is designed to prevent the illicit flow of HDTV content to the Internet for redistribution.

Thomson will offer 17 new rear-projection CRT HDTV sets and HDTV monitors, direct-view, LCD and plasma models in both the RCA and RCA Scenium lines. Screen sizes will include 40-, 52-, 56W-, and 61W-inch sizes --including some with analog tuners and secure digital connections and some with integrated DVD players.

The company will carry two HDTV plasma displays in the 42W- and 50W-inch screen sizes, and will expand its offering of LCD monitors to include a 30W-inch widescreen model and 27-inch and 23-inch models with built-in DVD players.

LCD units feature native 720p resolution and DVI connections with HDCP copy protection. Rounding out its complete range of digital HDTV products are three new direct-view HDTV monitors with TruFlat picture tubes. The line will have 27-inch, 30-inch, and 32-inch models -- all with secure connections for HDTV sources.

Thomson also announced the RCA DTC210 set-top ATSC tuner and HD-capable DirecTV satellite tuner. The set-top receiver ships in February at a $599 suggested retail.

In other product news, Thomson said it plans to enable support for secure Windows Media downloads and will enable consumers to easily purchase secure digital content from services such as MusicMatch and other services in new MP3 playback devices. The addition will make for "more fully functional products that both take advantage of compressed audio and ensure a secure method for consumers to pay for the audio entertainment," the company said.

New RCA LYRA portable MP3 music devices include five portable models, including 40GB and 20GB jukebox players with a 1.8-inch hard-disk drive, a pocket-sized Micro

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Jukebox and two flash-memory-based personal digital MP3 players, all of which include FM tuners, FM recording capabilities and advanced file sorting options.

The RCA LYRA adds MPEG-4 in-device encoding and video playback.

For its ATLINKS telephone business, Thomson also said it will launch this year its first RCA-branded telephone products, designed especially for the growing small office/home office (SOHO) marketplace. An RCA Executive Series will include four telephone models, including a modern-styled silver and black conference phone and three innovative multi-line speakerphones.

The first models in the RCA Executive Series will be available in February, with additional models in the spring. As this new line of telephones expands in the second half of 2004, enhanced features and capabilities will be added. The RCA Executive Series telephones will be distributed through nationally recognized office superstore retailers.

Electronics Repair Disappearing

By Charlie Nullia

The Detroit News has an article from Florida Today writer Billy Cox about the decline of electronics repair persons. The article states that the number of repair shops listed in the Yellow Pages has dropped from 20,000 in 1992 to below 9,000 in 2002.

Ed Hight, a repair shop owner in Merritt Island, Fla., is quoted as saying, "I could get a job at (Kennedy) Space Center and make more money doing less work, with full benefits, which I can't afford.

"It's a disposable society, and the only way to stop it is to make it cost-prohibitive to toss something out the first time it breaks. But we won't do that until the mountains of garbage are so high we can't breathe."

The article points out that repairing electronic devices can cost more than replacing them, and mentions the environmental impact of discarding electronic equipment.

The article is at www.detnews.com/2004/technology/0401/13/technology-33825.htm .

What ever became of AM Stereo?

Check out these websites

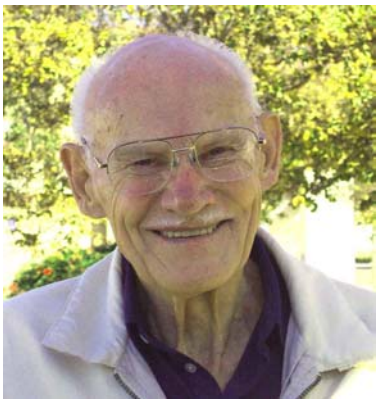
1. http://users.hfx.eastlink.ca/~amstereo/amstereo.htm
2. http://www.stereoam.com
3. http://www.geocities.com/amstereo2000/

Job Shop

Nothing to report

Obituary

E. G. "Garry" Gramman



San Diego, CA. Garry was 82 years old in January of this year (2004) and, like a true broadcast engineer, died in his attic while trying to fix something; a noisy exhaust fan. His wife, Ginny said she told him that anybody 82 years old should not be in the attic fixing things.

In his autobiography, Gary said: "Since the Order of the Iron Test Pattern is about survival and longevity I will claim April 21, 1949, the date I reported to work at KFMB-TV, in San Diego, CA as my official starting date of employment in the TV industry. But I was first employed as a radio broadcast engineer in October 1941 at age nineteen.

"I studied radio by correspondence at Midland Television, Inc., in Kansas City, Missouri beginning in October 1940, had my First Phone Ticket in August 1941, and went to work in October at WPAY, a 100 watt radio station with a flat-top horizontal "aerial" located in Portsmouth, Ohio, which during my time of employment, boosted its power to 250 watts and installed a vertical antenna.

"After five months at WPAY I joined WISH, 5-KW-D/1-KW-N, Indianapolis, Indiana, stayed seven months, then joined the U. S. Marine Corps in October 1942. I spent six months at the Navy radar school at Corpus Christi, Texas, and one month at Sperry Gyroscope in New York learning airborne radar. My entire three years in the Marine Corps was spent in radar including a tour in the Pacific with a night fighter squadron. After the war was over I returned to WISH for the next three years until TV beckoned whereupon I went to Kansas City, Missouri and studied television at the same school as before, but now named Central Technical Institute, and then headed west, and eventually, to KFMB-TV.

"My time at KFMB-TV was very challenging and rewarding. After three weeks at the transmitter site, I was promoted to Studio Technical Supervisor. I didn't even have one person to supervise! It was a very low budget operation at first--literally built and operated on a shoestring! But with all four networks available (DuMont had a network in

those days), and with our station the only one in San Diego and the freeze (in new construction) in effect for the next four years, it turned out to be a real gold mine! Monetarily for the owner and a gold mine of experience for me--in lieu of money. We even won an Emmy for the best special events program of 1950!

"When the freeze was over I joined Allen B. DuMont Labs. as Western Region Sales Rep covering California, Arizona, Nevada and Hawaii, selling television equipment to stations, and after the stations were on the air, to the industrial market. From DuMont I joined Cohu Electronics as sales engineer for the two years.

"While at DuMont and especially at Cohu the customers and the systems engineers often needed small video & audio switchers, amplifiers and modulators, etc., and none were available except rack mounted "bathtub" type equipment and huge power supplies with up to 450 volts all over the backside of the chasses! These items were repackaged and miniaturized and became our original product line when in October 1957 I founded DYNAIR Electronics, Inc.

"DYNAIR began as a one-man, bootstrap operation, but by 1963 we were supplying large, wideband, solid-state switching equipment to the aerospace, broadcast, telecommunication and education industries.

"In June of 1995, at age 73 and after thirty-eight years in business, we sold the operating business and the name DYNAIR to Osicom Technologies, Inc., and kept the corporate entity which we renamed Gramman Enterprises, Inc. The Corporation owned real estate consisting of the 40,400 square foot DYNAIR plant and five acres of land, which we leased to Meret/Osicom for a year and subsequently sold to a third party.

Gary is survived by his wife Ginny, two daughters, and seven grandchildren. His daughter Susan lives in Albuquerque, NM and Kelly in nearby San Diego.

Gary not only achieved the dignity of Monochrome Mogul in the Order of the Iron Test Pattern, with the endorsement of Knight of the Wooden Tower, but was the money that started and maintained the Order for many years.

Classified

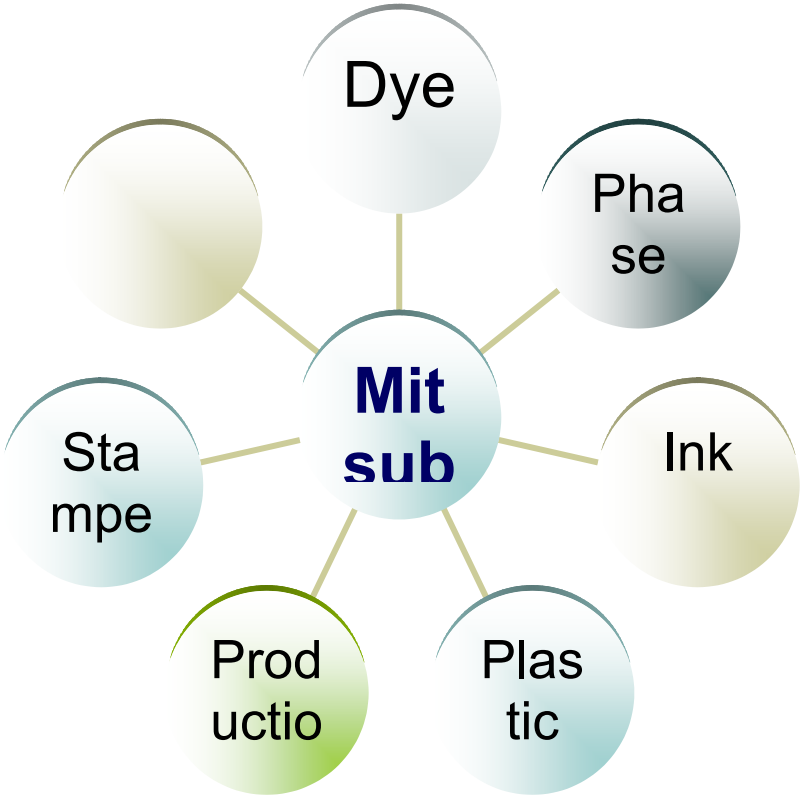
Nothing to sell this time

Information & Education

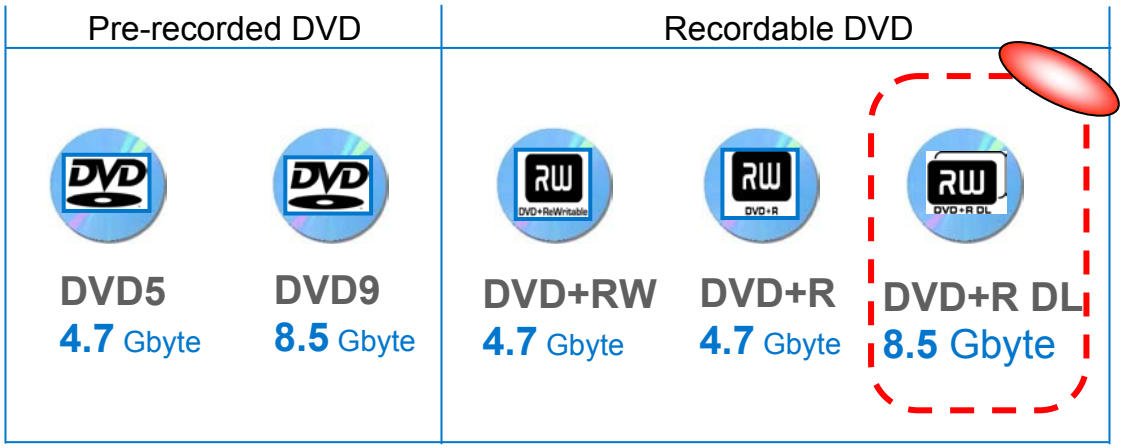
Double Layer DVD+R
By Tim Clatterbuck, Optical Storage Manager, Verbatim Corporation
(**Note:** *this story was part of a Power Point Presentation delivered at the IRMA Conference in Palm Springs, CA on March 19, 2004*

Verbatim Corporation is owned by Mitsubishi Kagaku Media (MKM): Kagaku = Chemical. MKM is a division of Mitsubishi Chemical Corp (MCC). MKM has large R&D efforts for raw material and manufacturing process development for blank optical media.

Verbatim is the global sales/marketing brand for MKM-developed products focusing on heavy optical discs. We have worked in close cooperation with hardware manufacturers to bring new products to market and were an original member of the DVD+RW Alliance.

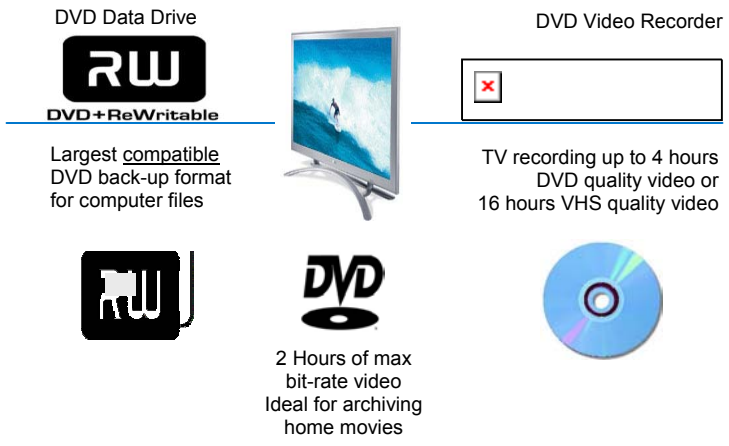


Our organization has produced the world's first recordable Double-Layer DVD, once thought impossible: 8.5 GB data storage capacity, 4 hours of DVD-quality video, and 16 hours of VHS-quality video. It has been designed for full DVD-ROM specification compatibility so it will have read compatible with current DVD-ROM drives & DVD-Video players. These new discs are single-sided: No need to turn the disc. The initially the write speed is 2.4X. You will need, however, a new/upgraded 8X DVD+R drive for recording. Media design/manufacturing is the key technology enabler.



All DVD+ formats are compatible with existing DVD-Video and DVD-ROM players

This project was a co-development between effort between Philips and MKM, which began more than 2 years ago. The technology was first demonstrated October 2003 and media specification version 0.9 was issued. Final media specification version 1.0 is expected in this month (April). Double layer hardware from +RW Alliance companies will be launched in the second quarter of this year: Sony and Philips have made announcements for PC drives. - DVD+R DL compatible set-top video recorders are expected in the second half of 2004. Verbatim media will be launched concurrently with hardware in May/June. Other media manufacturers are expected to produce DVD+R DL media in the second half of 2004.



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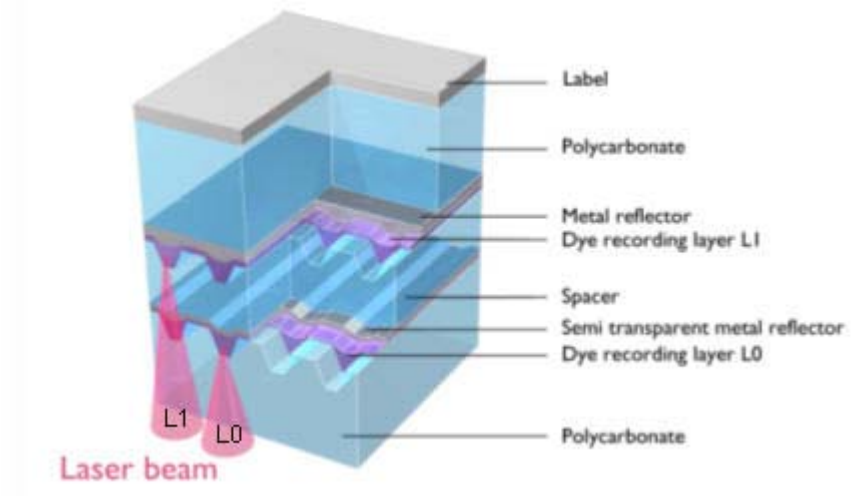
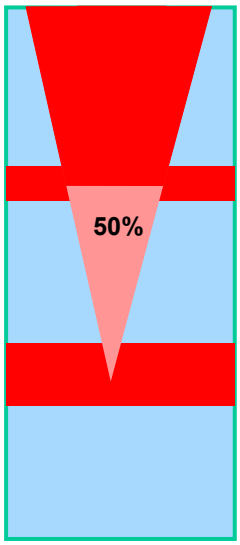
Looking inside the DISK



Double-Layer Recording



Writing on LO (layer 1):

- Transmission above 50%
- Reflection > 18% (DVD-ROM standard)
- Semi-transparent metal needed for reflection

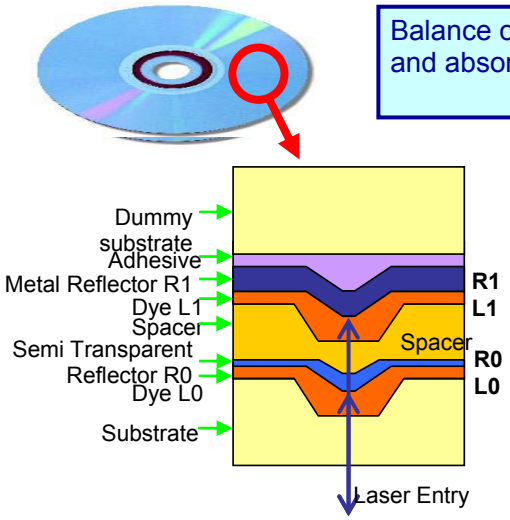
No cross-writing between layers

Writing on L1 (layer 2):

- Only about half the laser power available to record L1 layer
- Reflection > 50% (18% total reflective!)

High-power laser (25mW) needed for recording (same as used for 8X single-layer drive)
- 2.4X double-layer recording speed

Key Media Design Criteria



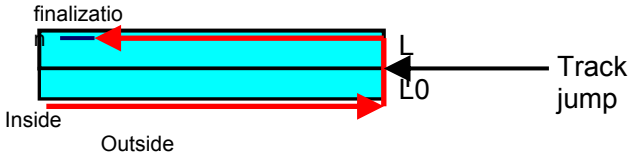
Balance of optical reflectivity, transmission and absorption for materials and processes

- Dye recording layer L0 must have high sensitivity and low optical absorption
- Semi-transparent metal reflector R0 must have high reflectivity and low absorption
- Dye layer L0 and metal reflector R0 provides high transmission to dye layer L1
- Thickness and control of spacer is very important for read/write performance.
- Dye layer L1 must have high sensitivity so that it can be recorded through L0/R0.

The manufacturing process is difficult! Verbatim/MKM in typical startup process/yield an improvement phase. Major line modifications or new equipment is required. Theories and processes based on mix of dual-layer DVD-ROM and single-layer DVD-R manufacturing is being considered. There's more than one way to skin a cat. Typical cost vs. quality tradeoffs remains to be seen which methods will provide the best mix of low cost, high throughput, high yield, and good disc quality. These will be key to consumer pricing and media volumes.

DVD+R DL Write Strategy

Normal recording case

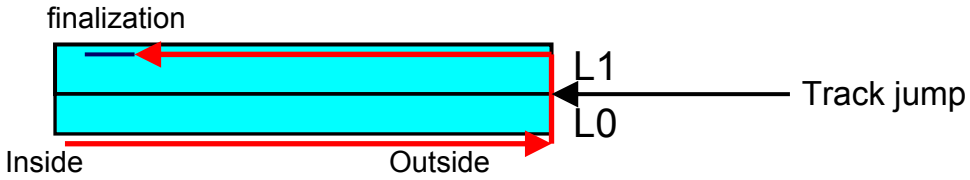


- Opposite track method (OTP) is utilized.
  - Inner to outer writing on L0
  - Outer to inner writing on L1
- Multisession writing allowed.
  Disc must finalized for readback compatibility
- Approximate recording time for full 8.5Gbytes ~ 50 minutes

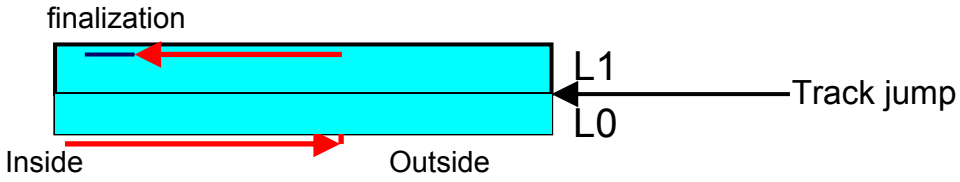
Write Strategy (2)

*Dual-layer DVD-ROM spec requires equal amount of data written on L0 and L1

Normal recording case



Recording of defined capacity less than 8.5GB (single session)



Finalization time and end user experience will depend on recording case, hardware, and software implementation.

Double-layer recording capability will be available in DVD+R data drives within Q2. It is expected that DL functionality will quickly become a standard feature on DVD+R enabled data drives. DVD+R DL-enabled video recorders are expected to be launched in the fall. It is anticipated there will be extreme DVD+R DL media supply constraints in Q2/Q3. The drive availability (units) may outnumber media availability (units). The initial supply from Verbatim will be sent to drive manufacturers for testing and bundling. Much of this, of course will depend on other media manufacturers joining the fray. It is safe to say that multipacks may not appear in retail until Q4. It is expected that the initial end-user DVD+R DL media price will be less than $10 each and will probably drop considerably as manufacturing volumes and efficiencies improve. The long-term goal is to beat cost/MB of single layer media. This should be a good value for professional dual-layer software/video developers

First PC DVD+R DL drives by +RW Alliance companies will support 8X single-layer recording at 2.4X double-layer recording with 16X speed DVD+R hardware is expected to ship in Q3. Users will be able to burn a full 4.7GB single-layer disc in about 5 minutes. These drives will have the higher laser power needed to write higher-speed double layer media. 4X recording speed DVD+R double-layer technology expected in early 2005. This will cut overall burn time of a full DVD+R DL disc to about 30 minutes. An 8X DVD+R DL speed will be possible in the future.

There is no question, there is demand for higher-capacity, compatible recordable DVD. Double-layer recordable DVD technology has been proven feasible.

- In summary, DVD+R DL products will be introduced shortly that will feature:
- 8.5GB recording capacity, single sided
- Highly compatible with installed based of DVD drives/players - A truly simple solution
- Development and manufacturing of double-layer media are the key technology enablers.

- Continuing a trend, DVD+R DL hardware products will be launched ahead of wide availability of double-layer media.
- User experience is dependent on overall hardware/software package.
- Long-term DL media volume/share will depend on ability of multiple media manufacturers to mass produce DL discs at low cost.

Features, History & Opinions

My observations

By: **Burt I. Weiner**

Once upon a time there were two radio stations in Los Angeles called KFAC and KFAC-FM. The KFACs were fighting the ratings game. The stations knew they had a large listening audience but showed poorly in the ratings, if at all. So they decided to find out for themselves specifically who was listening. They created a "Research Department". They ran contests that required mail-in answers for free tickets to the Hollywood Bowl and other concerts. They asked questions such as "Who wrote Beethoven's 5th". "Who wrote Braham's 2nd" and so on.

The mail response was overwhelming. For each question they knew what time the listener was listening and from the mail response, the respondent's zip-code. Everyone who replied was sent a simple A,B,C,D multiple choice type questionnaire. 99% responded. From that data KFAC was able to sell like crazy and most of the time was sold out. The General Manager would put enlarged copies of the bank deposit slips on the wall next to enlarged copies of the Arbitron ratings that showed that the station had little or no following. And yes, National buyers flocked to the station in spite of no ratings. This is true of television also.

That's a true story of success. How many times have we seen stations change formats because they had no listeners? How many times have we seen all of the listeners who weren't there get upset over changes? Maybe they changed the wrong thing. Maybe they should have changed the sales department.

If you can get everyone to write your station's call in a diary, great! And if they do for a period or two and then all of a sudden the ratings drop is it because people tuned out or is there a remote possibility the diaries were not placed in the same hands? I understand the game but it makes no sense. You can't chase the last period's diaries. It's a moving target and you're blind. Stations that rely on ratings are order takers, not sales people.

Of course you have to have programming that people want to listen to or watch but don't rely on rating services to tell you the truth. This is not old thinking, it's human nature.
Burt, successful ex station owner

Preparing For Disasters - Towers and more

From: Richard Rudman rar01@earthlink.net

Let me set the stage for my remarks with a reference to the recently released FCC Media Security and Reliability Council's (MSRC) Report and Recommendations. While terrorism-caused events led to forming the MSRC, few would deny that terror can also be a byproduct of natural disasters like tornados, hurricanes, and earthquakes. There are many preparedness measures discussed in the MSRC report that can help you and the facilities you are responsible for get ready for terrorist escapades as well as natural disasters. I will pick up the MSRC theme later.

The question was asked, "What are the stats, if any, of towers collapsing in quakes?"

Please don't get me wrong here. Towers are critical to staying on the air. However, towers were not the top broadcaster problem in the largest quake in modern times close to a dense urban area. The Northridge Earthquake, Moment Magnitude (MM) 6.9, occurred at 4:31 AM on January 17, 1994. Events like this have a habit of burning themselves indelibly into your memory; down to remembering the exact second you were bounced summarily out of a sound sleep.

Some AM towers were torqued out of plumb, but did not drop. My personal experience at KFWB, a three tower guyed site located on fairly stable soil, was no quake impact. I thought there might be as I was driving to the site for my initial inspection. There was many feet of iron bolted above the top guy level: Amazing what runs through you mind during such drives. I had a tower company on site the following week to make sure. To my knowledge there was also no TV or FM tower structural impact on Mt. Wilson, home of a lot of vertical iron.

I do not recall hearing of any major tower problems after the Loma Prieta or Big Bear quakes. I will stand corrected if someone knows of tower drops or severe structural tower damage during quakes, especially the gigantic Alaska earthquake. If someone has such documentation, it would not be a surprise. I would submit that geology, structural engineering and luck may be the three controlling factors, possibly not in that order. However, quakes and their impact on towers is not the whole disaster preparedness picture.

Unreinforced masonry buildings (no rebar) came apart in the Northridge quake, dropping loose heavy masonry, or falling down. Conjoined buildings of different heights (and different harmonic periodicies) "bumped" and were structurally damaged -- some to the point of being "red tagged" as no longer suitable for occupancy. Then, there is all the glass in studio windows, doors, mirrors and high rise curtain walls. Lots of broken glass!

This and other damage occurred to the KTWV (the WAVE) studio. Had the quake not happened on a national holiday or during business hours, station personnel might have

been victims of six 12" concrete blocks that fell nine feet through a dropped ceiling to shatter on the floor of a main corridor outside the studio. The building somehow escaped being red tagged!

In contrast, with a different type of building construction, major preparedness support from its then parent, Group W, and geology different from KTWV just down the street, KFWB's studios escaped with only a clock that fell off a wall, a broken coffee cup, a few minor wall cracks, and no lost air time. Geology, preparedness and luck again.

High Rise Impact -- During subsequent structural inspections it was also discovered that the quake weakened or snapped welds on structural members in downtown high rises previously thought to be very quake resistant. The vertical acceleration component in this quake changed a lot of thinking, and generated a lot of actions that made our already strict building codes more strict. However, some experts say that there may be undiscovered damaged welds in a number of buildings that could cause serious problems in future quakes.

Other Damage -- Major and lengthy power outages were triggered when major and minor power lines were pulled apart. Some power transformers, especially those mounted on old wood poles toppled. There was major damage in some utility switching facilities because large transformers, insulators and switches and breakers were not supported to resist quake forces. A significant number of backup generators that were not mounted on certified three axis quake mounts departed from their resting places, pulling power cables and fuel lines apart as they moved. These generator sets of course never came on line, or only lasted for a minute or two. Other generators that were never tested with long runs under load failed within minutes because of "wet stacking", bad fuel, or other factors.

But wait, there's more! -- Equipment racks and top heavy equipment that did not have adequate earthquake structural support fell over. Many unsecured computer work stations and monitors crashed to the floor. I have a picture of the WAVE's CD library I took the day after. Almost every CD was ejected from its storage spot, or the storage bay itself was on the floor.

Velcro®-- There were many lessons learned having to do with big things like emergency power reliability and testing as well as little things like using industrial strength Velcro® to keep usually harmless objects from becoming projectiles.

The East coast will some day see major seismic action and damage. It is a question of WHEN, not IF, according to experts. And, this will happen in regions where the term "earthquake" does not appear anywhere in building codes.

If anyone is interested in more information that will help you assess your state of disaster preparedness, you might want to check out the chapters I wrote on communications site disaster preparedness for the NAB Engineering Handbook or in the Electronics Engineering Handbook published by the CRC Press that was edited by Jerry Whitaker. There are many other good sources, too. And, many of you who are broadcast engineers

who have survived floods, fires, quakes and more are qualified disaster preparedness experts in your own right.

There are many dimensions to effective disaster preparedness for our industry for all hazards. Many are covered in the recently released FCC Media and Security Advisory Council (MSRC) recommendations keyed on terrorism. Some experts tell us that we need to prepare ourselves and our staffs for a week or more of survival (and broadcasting) without any external support.

If you live where there are real risks, I respectfully suggest you need to find a way to add the creation and testing of disaster preparedness and response plans to your already full hot list of things to do. Despite the daily pressures of broadcast engineering in an era of reduced support and resources, someone really needs to get this right.

Who better to do this than the few, the proud, and the broadcast engineers? Please contact me if you have any specific questions.

Richard Rudman richardrudman@earthlink.net

Oldest Transmitter?

From: Linc Reed-Nickerson w7hie@direcway.com

I was on customer calls in Rapid City a while back, and found one station still on the air with a 1952 RCA low band VHF Transmitter, although it is scheduled to be replaced in the next few months.

That may be the oldest TV transmitter still on the air as a main transmitter, and with no back-up!

That raises the question, who has the oldest AM, FM and TV transmitters still on the air as main transmitters? I wonder if there is still an AM with 892R's in the final still out there somewhere. I doubt that there are any GE Phasetron FM exciters still out there, but I know of one in Iowa that made it well into the 1970's

Speaking of 892R's, there was one 1930's vintage 5kw RCA with 892R's in the final that still had one original tube in service in the final when retired in the late 60's (WFEA in Manchester). Now that's tube life!

Relatively simple solution for many EAS problems

From: Richard Rudman rar01@earthlink.net

Many of you have heard me say this before, but I think it bears repeating in light of the recent thread on EAS glitches. What I am suggesting hinges on two words -- "originate" and "relay."

Most if not all of the EAS problems outlined in this thread would go away if broadcasters who now "originate" EAS events stop doing so. We must prod the proper local government entities to take over "warning origination" which is really their responsibility, not ours.

All broadcasters, even LP stations, would then set their EAS boxes up for manual or auto relay. In effect, if local emergency management and public safety establish links that are available to every station, everyone so connected becomes a de-facto LP station. Presto! No call letters, promos, or other sounds from other stations in the market when government becomes the primary EAS monitoring assignment.

Broadcasting is at its EAS best when it simply acts as a medium to relay warning messages from those who should be originating them to the public. Period.

I believe along with people like Clay Freinwald (SBE EAS) that warning origination is best left to the National Weather Service, federal state and local emergency management and public safety. These are the entities who many law experts tell us have the legal and moral duty to warn us when they know bad things could happen and information that could save lives and property must get to the public in a timely and accurate manner.

My comments begs the obvious question: How do we do this?

Radio World carried a story recently that I was asked to comment on. It was on an idea to appoint an undersecretary in the Department of Homeland Security to coordinate a national warning strategy. I applauded this idea with a major quid pro quo: Real resources and dollars have to be devoted to change EAS from the oxymoronic "unfunded mandate" it has become. These resources would be used to fund a national needs assessment that would lead to more EAS equipment and government-to-media links to get broadcasters out of the self made box some of us find ourselves in.

There's more, but I wanted to plant a small seed for what could to be done for constructive positive change within this frustration-laden thread. If anyone wants to offer support or criticism, on or off list, please feel free.

Closing sound bite: We have to take action now to change EAS from the good deed we are being punished for to the life saving public service we know it can and must become.

Richard Rudman
http://www.remote-possibilities.com

From the Pen of Mendrala

By: Jim Mendrala

(**Editor's Note**: *Jim is working on a hot story which will be ready by our next edition*.)

Parting Shots

By Larry Bloomfield

If the sole purpose of commercial broadcasting is to deliver eyes and ears to advertisers, then how do network and stations get off wanting cable and satellite to pay to extend their market coverage?

As mentioned in one of the stories above, Salt Lake City is the nation's 36th largest market. Were it not for translators, cable and satellite, it would be the nation's 43rd largest market. Not sure how many households or viewers that makes, but I'm sure it would have a dramatic effect on the card rate for spots and sponsorships.

Perhaps the Networks and the stations should be paying Dish Network and DirecTV, not to mention the plethora of cable outlets for carrying their fair; or may be this is just another case of the shoe being on the wrong foot.

I saw an interesting story this past week that I truly applauded. My family's personal distaste and distain for the plethora of reality shows now has some backing.

The item appeared as a report on researcher done at Ipsos-Insight, Lynne Bartos. Her comment that really got me was: "Gone are the early days of pitch it, write it, shoot it and they will come. The polling data seem to suggest that only a handful of new reality TV concepts will survive longer than two to four weeks, if that."

Bartos' survey included 1,000 TV-watching adults; she found that viewers are turning thumbs down on reality dating, celebrity and competition type programs. (In each case, more than 65 percent said there are already "too many" shows in those categories.)

So what do they want instead? Here's a hint: 51 percent of those surveyed said there are "too few" historical documentaries on TV. My faith in America's television tastes is slowly being restored ---- may be.

I have to leave you with this item that I found as I was putting this edition together on April 1st.

It is the 10 funniest media jokes on April Fools day - 04/01/2004. It was published in Pravda out of Russia. This is the only day when journalists are allowed to relax a bit and entertain their readers/listeners.

PRAVDA.RU
available since January 27, 1999

The following are just a few examples of the best media jokes:

1) **Switzerland celebrates unbelievable pasta harvest** The most famous joke of the 20th century was BBC's report about sensational pasta harvest in Switzerland

which had been broadcasted in 1957. The report of the British journalists informed viewers of those troubles that the Swiss run into while trying to decide what to do with the harvest. Winter was rather mild and farmers managed to exterminate pasta weevil,¦ explained a BBC reporter. The report caused major uproar in Great Britain. People were calling to the company's headquarters to inquire about special methods to grow pasta. Their requests were politely answered: Simply place one strand of pasta in a jar with tomato sauce and hope for the best!

2) **Big Ben will be electronic**. In 1980 British Broadcasting Corporation made another sensational announcement. The company stated that the legendary mechanical Big Ben will be electronic. The clock will be electronic in order to move along with the progress, reported BBC. Once again the public was in a state of shock.

3) **Tattoo in exchange for a lifetime discount** In 1994 an American radio station said National Public Radio announced that anyone who made a Pepsi tattoo would receive a lifelong 10% discount for any merchandise with that logo. In the course of the entire month of April teenagers who had fulfilled the condition kept calling the ration station claiming their prize.

4) **The State of Alabama will soon change the Pi numbe**r In 1998 the New Mexicans for Science and reasons magazine published an article claiming that Alabama authorities were planning to change the official Pi equivalent to 3,1415926- to 3,0. The article also mentioned the fact that present Pi was considered anti Christian. The article soon ended up on the Internet. It wasn't until numerous phone calls with protests that local authorities realized the overall importance of their initial statement.

5) **Help the poor-buy them weapons.** In 1999 the Phoenix New Times newspaper informed its readers of a new fund for the poor. The fund accepted donations for neither food nor clothes. People were asked to donate a few bucks to arm homeless nationwide.

6) **Lenin's body will be exhibited in Disneyland in Paris**. In 1995 Irish Times has published an article claiming that Disneyland executives were negotiating with the Russian government about purchasing Lenin's body.

7) **April 1 was created by the Byzantine emperor Konstantin** In 1983 Associated Press made a sensational announcement. It stated that history professor of Boston University, Joseph Boskin had solved the mystery of April Fools day. Once, Konstantin's joker Kugel decided to show off in front of his master and claimed that he could govern the empire just as good. Konstantin enjoyed the idea and allowed the joker to rule the country for one day, on April 1, claimed Boskin. AP-s report was copied by almost all American newspapers. Apparently, the professor fooled the entire country! Not a single word from his mouth was true.

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8) **Diego Maradona will play for Moscow's Spartak** In 1998 Russian newspaper Izvestia published an article claiming that Diego Maradona was planning to play for Moscow's soccer club Spartak. Spartak was going to sign a $6 million contract with Maradona, reported the newspaper. This was the first April Fools joke in the Soviet newspaper!!!

9) **Russia will soon manufacture hand grenades incrusted with diamonds**. The 90s in Russia was the time of bandits, total lawlessness and chaos. In 1996 the Russian information agency ITAR-TASS reported that one of the factories of the Russian Federation was planning to start producing hand grenades incrusted with diamonds. In case you decide to blow up your enemy, it would be best to leave him covered with diamonds rather then lying in a puddle of blood, stated the source.

10) **Eiffel tower to be dismantled**. In 1986, a French newspaper, Le Parisien, has shocked its readers. It stated that the famous Eiffel tower was on the verge of being dismantled.

This is no joke. See you at NAB or on the Road Show.

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