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Underwritten by: Bloomfield & Associates

Our purpose, mission statement, this current edition, archived editions and other relative information is posted on our website. As of this edition, we've had over 23,500 different visitors since we started the website on July 1st, 2000.

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

Editor's comments

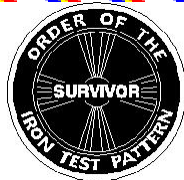
Welcome to Tech-Notes. You now have the option of receiving this enhanced (HTML) version or a plain text version. You can manage this yourself on the website at to bottom of the main page. (<http://www.Tech-Notes.TV>) If you have any questions or problems, send an e-mail to: webmaster@tech-notes.TV with your issue. Thank.



On June 1st, 1949 KSL Television signed on the air as Utah's first commercial television station. It has now been 50 years since that first transmission. For a complete tour go to: <http://www.ksl.com/TV/content/50th/p-front.htm>



Please submit your suggestions to webmaster@Tech-Notes.TV.



Just a reminder: The Ancient, Honored and Respected **Order of the Iron Test Pattern**, the survivors of the television industry, now have their own website. Check it out at <http://www.OITP.org> Membership requirements are quite simple: You mustn't be dead and you must have worked in some aspect of television for more than fifteen minutes. Should you happen to lie about either of these two things, it really doesn't matter. Here's a chance to get a certificate for just surviving the television and or cable industries.

Subject: **The sideways smiley celebrates birthday!** ☺

By: Larry Bloomfield

For all you folks who have been typing a colon – dash- closed parenthesis, well it was his birthday, September 19th when the smiley emoticon celebrated 20 years of being a part of our lives. Digit heads and computer history buffs will want to go to:

<http://www-2.cs.cmu.edu/~sef/sefSmiley.htm> and read endless about how it all happened.

Happy Birthday Smiley!



Subject: **More and More HDTV.**

By: Fred Lawrence

The ABC television network recently announced it will broadcast major sporting event finals, including the super bowl, games of the NBA finals and Stanley cup, in HDTV. 2003-2004 Season of "Monday Night Football" Will Also Be Seen in HDTV

ABC Television Network president Alex Wallau said that the most-watched and highest-profile sporting events of the year, including the

Super Bowl, games of the National Basketball Association finals and the Stanley Cup, will be broadcast in HDTV on ABC this season. In addition ABC also announced that it will broadcast the 2003-2004 season of "Monday Night Football" in HDTV.

Wallau said: "We're delighted to broadcast these sporting events in HDTV, including the most-watched television event of the year, the Super Bowl."

ABC currently broadcasts a considerable amount of its primetime schedule, including all of its scripted dramas, comedies and theatrical movies, in HDTV. The 2002-03 primetime HDTV broadcasts, sponsored by Zenith Electronics Corporation, include the new programs "8 Simple Rules for Dating My Teenage Daughter," "Life with Bonnie," "Push, Nevada," "MDs," "That Was Then" and "Less Than Perfect." These programs join such ABC stalwarts as "NYPD Blue" and "The Practice" in high definition, bringing the Network's total HDTV primetime broadcasts to more than 13 hours per week.

ABC is the only major broadcast network currently airing its HD programming in Dolby Digital 5.1-channel surround sound. All of ABC's programs use 720 Progressive (720P), ABC's selected HDTV format.



ESPN President George Bodenheimer announced recently "a new chapter in ESPN's history and the future of sports television" with plans to provide a high-definition simulcast service of its premier network ESPN to be launched in April of 2003. ESPN HD will include in its first year 100 live telecasts - featuring Major League Baseball, the National Basketball Association (NBA), the National Football League (NFL), and the National Hockey League (NHL) - produced and distributed in high-definition television (HDTV).

In addition to the programming mentioned above, most studios shows, including

SportsCenter, will be added in 2004 providing an additional 3,700 hours of originally produced HDTV programming.

All high-definition programming on ESPN HD will be delivered to cable systems and satellite providers in 720p high-definition format. ESPN will digitally convert the rest of the existing ESPN signal to 720p for viewing on high-definition television sets.



Subject: **AMD fabricates first 10 nanometer transistor**
From: David Legard

Advanced Micro Devices (AMD) has fabricated a standard CMOS (complementary metal-oxide semiconductor) transistor with a gate length of 10 nanometers, six times smaller than the smallest CMOS transistors currently in production, the company said recently.

Smaller transistors mean more of them can be placed on a chip, and thereby boost the chip's processing capability. This breakthrough could lead to a chip with 1 billion transistors at a similar size to current chips which hold 100 million transistors, AMD said.

The 10-nanometer transistor relies on a design known as the Fin Field Effect Transistor (FinFET), which adds an extra gate to the traditional single-gate transistor design. The double gate effectively doubles the electrical current that can be sent through a given transistor, and a thin vertical silicon fin helps control leakage of current through the transistor when it is in the off stage, AMD said in its statement.

An advantage of staying with CMOS technology rather than exotic new devices is that the manufacturing process for these chips is well understood, according to AMD. FinFET will be part of future nanoscale CMOS generations which will be manufactured over the next decade, the Sunnyvale, Calif.-based company said in the statement.

AMD is not the first company to explore low-nanoscale transistor technology using the FinFET design.

In June, contract-chip maker Taiwan Semiconductor Manufacturing (TSMC) announced it had produced 35-nanometer FinFET transistors and said it believed it could get the gate length down to as low as nine nanometers.



Subject: **Backward compatibility**
From: Craig Birkmaier craig@pcube.com

Warren Publishing's CONSUMER ELECTRONICS DAILY reports:
"Technological solution for making proposed high-definition (HD) DVDs playable on existing hardware is feasible."

The report outlines the technical solution to backward compatibility, layered coding:

Philips' concept elaborates on HD/DVD-9 to make discs readable in legacy players, although only in current DVD format's standard definition (SD) resolution. Chris Buma, Philips program mgr.-AV disc recording, says the company proposes putting 2 video streams on same disc. "Base" stream is SD video with MPEG-2 compression. Other is "difference" stream encoded as MPEG-4 and carrying difference between original HD picture signal and base SD signal. Video streams are interleaved on disc in way that enables existing DVD players to read base stream. New players with MPEG-4 decoder use 2 streams to reconstruct HD signal.

I have wondered when someone would come up with a layered coding solution to this problem. But it does present a significant conundrum: The bit budget for the SD layer will need to be reduced significantly to make room for the HD layer. There are many times where the entire bit budget of Red Laser DVD-9 is consumed for the peak requirements of MPEG-2 MP@ML; my guess is that this would remain

the case, thus when the encoder is stressed there would be NO enhancement bits...

Craig Birkmaier, Pcube Labs



From: NAB
Subject: New Stations Make DTV Transition

The National Association of Broadcasters announced on October 3rd that the total count of DTV stations is now 496 in 145 Markets, according to their figures.

DTV Signals are now being transmitted in 145 markets that include 90.442% of U.S. TV households. In addition, 45% of U.S. TV households are in markets where broadcasters are delivering four or more DTV signals.



Subject: **Digital Transmitter Logging Requirements**
By: Larry Bloomfield

Recently we were asked the question: "What are the logging requirements for a digital transmitter?" Gordon Godfrey, of the FCC sent us the following in an e-mail: "I was asked to respond to your question about DTV transmitter logs.

"Roughly 20 years ago, the Commission eliminated its detailed rules about broadcast station operating and maintenance logs. All that remains in their place are general requirements for a station log in rule sections 73.1800, 73.1820, 73.1835 and 73.1840. DTV broadcast stations must comply with the parts of these rules applicable to "all stations" or to broadcast stations generally (not the directional AM station paragraphs)."

I then replied to that e-mail for clarifications: "Then I take it that there is nothing in the 4th, 5th or 6th report and order for digital television spelling out what logs are required for a digital television transmitter? My question was specific to digital television transmitter logs, if any - what is required?"

To which Godfrey responded: "That's right. There was no discussion of DTV logging requirements in any of the Commission's DTV decisions."



Subject: **Media bureau receives request by analog television station in the lower 700 MHz band to cease analog broadcasting, surrender NTSC license, and operate as a single channel, digital-only television station**
From: FCC DA 02-2238

In its Report and Order in GN Docket No. 01-74, the Commission adopted the reallocation of the 598-746 MHz Spectrum Band (television channels 52-59) from use by television broadcasters to new uses on a flexible basis. The Commission also stated that it would consider requests by incumbent broadcasters on channels 52-58 to voluntarily vacate their NTSC channels prior to the end of the DTV transition on a case-by-case basis.

The Media Bureau has received a request from Lenfest Broadcasting, LLC, the licensee of analog television station WWAC-TV, NTSC Channel 53, and permittee of digital television station WWAC-DT, DTV Channel 44, Atlantic City, New Jersey, for Commission authority to: (i) cease analog broadcasting

on NTSC Channel 53 and surrender its license for the channel prior to the end of the DTV transition; and (ii) thereafter operate WWAC-DT as a single channel, digital-only television station on DTV Channel 44.

No action has been taken by the FCC as yet.



Photos Provided Courtesy of Heartland Aviation of Alliance, NE

Subject: Tower collapses during DTV modification

From: A story by Dan Trigoboff that appeared in Broadcasting & Cable

Two workers died last Tuesday and three more were injured when the nearly 2,000-foot KDUH-TV Scottsbluff, Neb., tower in Box Butte County, Neb., collapsed.

Lawrence A. Sukalec, 59, of Valier, Ill., and Daniel E. Goff, 25, of Sesser, Ill., who were not station employees but had been contacted by KDUH-TV, were working on strengthening a small transmission facility on the Duhamel Broadcasting Enterprises-owned tower to accommodate digital transmissions, the station said, when the tower collapsed.

The cause of the collapse is under investigation locally and by the Occupational Safety & Health Administration.

Three other workers were injured, but they were treated and released at local hospitals.

The tower was the tallest structure in the state, but all that remained following Tuesday's collapse was about 50 feet. Only cable viewers could receive station programming.

Several nearby vehicles were reported crushed and small fires were set by sparks from the downed tower.

Additional information at: <http://www.kduhtv.com/tower.php>



Subject: Critics: FCC stacks dereg deck

By Fred Lawrence with input from Bill McConnell of Broadcasting & Cable

The FCC recently release a number of economic studies that showed a glowing picture with respect to broadcast consolidation during the past six years – one that alluded to more deregulation is in the future; that has not set well with many critics.

"These studies should not be a basis for abandoning broadcast-ownership limits," said Mark Cooper, research director for the Consumer Federation of America. Any FCC attorney relying on last week's research to defend new deregulation against court challenges would "get his brain handed to him," he said, suggesting that the FCC coordinated the conclusions to favor deregulation.

"We intend to get every work paper, draft and back-channel correspondence between the FCC staff and the authors," said the veteran of hundreds of court battles seeking local-cable Internet-access requirements as well as fighting telephone monopolies' rates and efforts to get into long distance.

Despite critics' chest-beating, it's unclear whether the FCC's econometric data and Ph.D.-level calculi will lead to wholesale elimination of remaining ownership restrictions, as Cooper fears, or just to some simple fine-tuning here and there.

Researchers also found some downside to the sweeping deregulation ushered in by the 1996 Telecommunications Act, and most imply that it's a toss-up whether further relaxing of broadcast-ownership limits would be in the public interest.

"We have not yet begun to understand the implications," said Paul Gallant, who coordinated the studies as head of the FCC's media-ownership task force. "People who feel the outcomes are inaccurate or biased should supply us with better, more compelling analyses."

FCC Chairman Michael Powell ordered the studies after a string of court rulings beginning in March 2001 found that the FCC's media-ownership rules were based on conjecture rather than evidence.

Newspaper owners Tribune and Belo Corp., which are fighting to eliminate restrictions on newspaper/broadcast combos in the same market, will be clear winners, should the rules be relaxed. University of Wisconsin-Milwaukee professor David Pritchard's study of 10 markets where co-ownership was grandfathered following a 1975 ban found that corporate management did not manipulate news coverage or commentary on the 2000 presidential campaign. Others found that stations owned by newspaper companies provide more, as well as higher-rated, news and that ad buyers don't view newspaper and broadcast as interchangeable—a finding suggesting that cross-owned media won't dominate the local ad market.

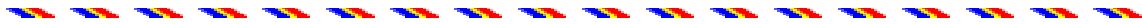
"This shows there is a significant public-interest benefit of broadcast ownership by newspapers," said John Sturm, president of the Newspaper Association of America.

Other conclusions are less straightforward. Regarding the relaxation of national ownership caps, the studies found that TV-network O&Os produced more news than affiliates and that radio playlists are more diverse within individual markets. On the other hand, radio program diversity nationally is slightly less diverse now that conglomerates set corporate programming policies.

An examination of the 1995 decision allowing broadcast networks to own their own programs showed that the networks diversified program lineups but mainly by replacing some traditional comedy and drama fare with lower-cost quiz shows, newsmagazines and reality programs.

The National Association of Broadcasters opposes lifting the cap on TV-household reach but favors relaxing limits on TV duopolies. Indications are that they have not had time to comment on the recent studies.

Although FCC Chairman Michael Powell set an April deadline for revising the ownership rules, fellow Commissioner Michael Copps insisted last week that the inconclusive nature of the "bare-bones" studies makes the seven-month timetable too ambitious. He said the FCC should hold field hearings across the country to inform a large cross-section of Americans about the issue and better gauge public opinion.



Subject: **Pay-TV piracy flap intensifies -- EchoStar, DirecTV sue Murdoch firm NDS**
By: Larry Bloomfield

According to Bob Sullivan of MSNBC, allegations of corporate-sponsored hacking and espionage by Rupert Murdoch's pay-TV software maker NDS have now crossed the Atlantic. In the past two weeks, both U.S. satellite TV firms EchoStar Communications Corp. and DirecTV Inc. have initiated legal action against the News Corp. subsidiary, adding to the legal troubles of NDS which earlier this year was the target of a \$1 billion lawsuit by French pay-TV concern Canal Plus.

For more information, go to: <http://www.msnbc.com/news/815683.asp?0si=-&cp1=1#BODY>



Subject: **Bill: Copyright Power to People**
From a story by Michael Grebb



This past week, Rep. Rick Boucher (D-Va.)

and Rep. John Doolittle (D-Calif.)



introduced the Digital Media Consumers Rights Act to preserve specific fair-use rights to copy digital works as well as "circumvention" rights to bypass copy protections. With no chance of passage this year, the bill's introduction prepares the ground for battle in the next session of Congress.

Supporters are an unlikely coalition of electronics and computer interests, consumer groups and academics.



"It's just time," said a beaming Gary Shapiro, president of the Consumer Electronics Association. "Consumers have been pushed up against the ropes. This is the first time in 20 years in which consumers are going on the offense rather than on the defense."

Content owners, meanwhile, rolled their eyes.

"If this bill were to be enacted, content owners would be left with two unhappy choices: Protect their valuable works by not making them available in digital formats such as DVD, or lose all control over unauthorized reproduction and distribution," said Jack Valenti, president of the Motion Picture Association of America.



The entertainment industry seeks to squash what it sees as rampant and illegal copying of digital content



and, consequently, supports a bill introduced in July by Rep. Howard Berman (D-Calif.).

The Berman bill would give copyright owners the legal right to disrupt the unauthorized use of their copyrighted works on peer-to-peer (P2P) networks and exercise other content controls. (Berman's office declined to comment on Boucher's bill.)

Although Boucher said his bill doesn't address the P2P question, it would seek to assert fair-use rights lost under the 1998 Digital Millennium Copyright Act (DMCA). The fair-use doctrine allows consumers to make copies of copyrighted content for personal and other "non-infringing" uses.

"Under the 1998 law, copyright owners now have the power virtually to extinguish the fair-use doctrine with respect to material delivered in digital format," Boucher said.

Doug Comer, director of legal affairs and technology policy at Intel, said content owners use the DMCA to justify lawsuits against technology companies, stifling innovation.

"In our view, this has gone too far, and this legislation needs to restore the balance," he said.

Boucher's bill would allow consumers to circumvent copy protections for non-infringing uses.

But Valenti said that would simply permit the sale of devices advertised for infringing purposes "so long as they are 'capable' of non-infringing purposes."

In addition, Boucher's bill would empower the Federal Trade Commission to force record companies to put prominent labels on copy-protected CDs warning that they may not play in some stereos and computer CD-ROM drives.

A spokesperson for the Recording Industry Association of America (RIAA) noted that the industry already puts "easily recognizable, conspicuous and standardized" labels on copy-protected CDs. "Mandatory copy-protection labeling legislation is unnecessary," the RIAA spokesperson added.

Critics argue, however, that the labels are too small and confusing. Consumers don't realize the limitations of such CDs until they insert them into certain players and find that they don't play.

"They have the same effect of sticking a tuna fish sandwich in that computer hard drive," said Chris Murray, Internet and telecommunications counsel at Consumers Union. *(No pictures)*

The Boucher bill also would allow researchers to break copy protections and post findings when done "solely in furtherance of scientific research."



Earlier this week, Rep. Zoe Lofgren (D-Calif.) introduced a similar bill that also seeks to protect consumers' media copying and fair-use rights.



Subject: **Gloomy outlook for DTV Merger at the FCC**
By: Larry Bloomfield.



According to FCC Chairman Powell, the DBS Merger decision is close. His comments were made on FOX news recently. "We are close enough in our review that we could be days away from a decision," Powell said in an interview, as reported by wire sources.

He wouldn't say which direction the FCC decision would take concerning the merger.

Reuters recently reported that staffs at the Federal Communications Commission and personnel with the Justice Department's antitrust division are both recommending that their respective leadership oppose the proposed merger between EchoStar and DirecTV. But to forestall any pre-decision issues, observers on each side of the merger deal continue to say that both the Justice Department and FCC are continuing their inquiries into the deal.

In response to the Reuters story, Echostar spokesman Marc Lumpkin *(no picture)* said: "We continue to work with the Department of Justice and the FCC in their ongoing review of the merger," said spokesman Marc Lumpkin. "We believe the merger is good for consumers and should be approved based upon its strong and compelling merits."

Hughes spokesman Richard Dore *(no picture)* said it's premature to conclude that the purchase won't be approved.

"This is simply speculation," he said. "They're still collecting information. When the process concludes, they will make a decision." Commission spokeswoman Michelle Russo declined to comment.

EchoStar said the review isn't complete.



EchoStar chief executive Charles Ergen met Sept. 25 with FCC Chairman Michael Powell and Commissioner Kevin Martin to discuss the transaction, FCC records show.

As technology now exists, if anyone expects all markets to be available in what is being called "local-inot-local," there is no way this can happen without such a merger despite all the pooh-poohing being done on the sidelines.



Subject: The ACA is crying about retransmission-consent practices

By: Fred Lawrence

The American Cable Association, last week, asked the Federal Communications Commission to investigate retransmission-consent practices of the broadcast networks and TV-station groups. They argue that broadcasters are leveraging franchises' desire to carry local TV stations to force carriage of affiliated cable networks.

"Increasingly, a few media conglomerates -- powerful players like [The Walt] Disney [Co.]/ABC, Fox/News Corp. and GE [General Electric Co.]/NBC -- are pulling the strings behind local retransmission-consent negotiations," the ACA said.

You can expect to hear more about this issue. For the press release from them, go to: <http://www.americancable.org>



Subject: Tauzin DTV bill on hold

From a story by Bill McConnell of Broadcasting & Cable



House Energy and Commerce Committee chairman Billy Tauzin (R-La.) will wait until the next Congress before introducing formal legislation aimed at speeding the digital-television transition.

Opposition voiced at a hearing last week to many provisions in a discussion draft floated by Tauzin and



ranking Commerce Committee Democrat John Dingell of Michigan demonstrated that lawmakers face the same difficulty settling many inter-industry disputes that Federal Communications Commission officials have faced.

"Hopefully, we can improve the bill after hearing from all affected parties," Tauzin spokesman Ken Johnson said.

On a different issue, silence and blank stares greeted Rep. Billy Tauzin (R-La.) two weeks when he asked a panel of TV-industry "experts" for suggestions on how to speed the digital-TV transition without either condemning hundreds of millions of analog sets and accessories to the junk pile or blowing off movie studios' demand for strong anti-copying safeguards.

"The two alternatives are awful," the House Energy and Commerce Committee chairman said during a hearing on DTV last week. "If we don't get the content, it all falls apart, or we take the drastic step of setting a date certain when analog input ends."

Tauzin's desperation for a "third way" that would allow Congress to accelerate the switch to digital TV without sparking a voter revolt demonstrates the trouble he faces making good on a pledge to quickly pass legislation removing all the roadblocks to DTV.

Plugging the "analog hole" could cause consumers severe pain, however. Some experts predicted households could spend upwards of \$1,000 if forced to replace or upgrade with all the sets in their homes plus VCRs, DVDs and even personal computers. They say content providers should instead live with the risk of some piracy.

The obsolescence of nearly 300 million sets and other appliances, the cost of new digital equipment, and diminished rights for home recording are the core conflicts likely to keep broad DTV legislation jammed up in the Energy and Commerce Committee for much of next year.

And the debate goes on. Expect to see much more on this subject.



Subject: Microsoft Announces Ads for BSOD
From: Brian Briggs and Reinhard Gantar

In an effort to boost "sagging revenue" growth, Microsoft today announced it will begin selling advertising space on the company's world famous Blue Screen of Death (BSOD)©. The screen, displayed whenever Windows cannot recover from an error in the operating system's core, until now has historically served as a display of unintelligible diagnostic data that has not made any sense to anyone, ever, according to a survey conducted by the Gartner Group. In addition, the BSOD has scared most users because it was composed mainly of hexadecimal digits that, which in extreme cases, can lead to hallucinations, epileptic seizures and homosexuality in primates and rats.

The Bud Screen of Death "Past efforts to make the blue screen more helpful by adding animated characters and changing the hue to a more user-friendly beige or aqua have failed," said head of BSOD Development Kate Verban. "When we failed to make the BSOD user-friendly, we decided that at least it could generate revenue. Displayed more than a billion times a day globally, the blue screen has a captive audience, with over 90 percent of the computer desktops in the world. This makes it an excellent platform for advertisers, comparable only to the Super Bowl and makes watching the blue screen just about as exciting."



Tom Gordon, Director of Marketing for Anheuser-Busch, confirmed today that the beverage giant will be among the first advertisers, "We think it's a tremendous opportunity," said Gordon. "Picture this, you're working late at night on a crucial project. Your computer crashes. You've lost all your important work. It's definitely time for a beer, and we'll be there to remind you that the beer should be a beechwood-aged Budweiser."

For earlier versions of Windows, the BSOD ads will be installed using the Windows Update feature. However, Windows XP systems connected to the Internet will automatically install the new software in the middle of the night when no one is looking.



Subject: Judge Tosses Out Cell-Phone Suit

From: Associated Press

A federal judge last week threw out an \$800 million lawsuit filed by a Maryland doctor who claims cell phones caused his brain tumor.

The lawsuit was brought against cell-phone manufacturer Motorola and several major cell-phone carriers.

For more, visit:

http://www.wired.com/news/wireless/0,1382,55474,00.html?tw=wn_ascii



Subject: It's a Bug, a Bear and a Worm

From: Michelle Delio

Unlike other recent e-mail borne maladies that simply clogged in-boxes and networks, the Bugbear worm, also known as Tanatos, is coded to allow a malicious hacker complete control over infected computers.

Infected machines can be entered remotely through an application that allows the attacker to execute programs and view, copy, alter or delete any information stored on the infected computer.

The worm also has other data-stealing capabilities. It installs a program on an infected system that records all keystrokes and saves them into a file.

The worm then sends this file, which attackers obviously hope will contain passwords and other sensitive data, to a few e-mail addresses that are stored in encrypted form in the worm's code.

Bugbear was first spotted last Monday. It infects only PCs running Windows operating systems, spreading through infected e-mail attachments. On computers that have not been patched for Internet Explorer's IFRAME vulnerability, the attachment can be executed automatically by Outlook as soon as an infected e-mail is previewed or read.

Bugbear also spreads quickly through computer networks once one connected machine is infected.

It's not easy to identify Bugbear. The worm arrives in e-mail bearing assorted subject headers. The name of the infected attachment can also vary but nearly always has the file size of 50,688 bytes.

Some of Bugbear's side effects are simply malicious and are probably due to a programming error in the worm's code -- the worm sometimes prints out hundreds of pages of nonsense text or its own binary code when a network that includes printers has become infected.

Bugbear also can pick up old e-mail messages stored on an infected system and send them to random addresses. This means that private e-mail could be disclosed to third parties.

The worm also attempts to shut down antivirus and firewall programs.

Some antiviral application vendors have released free tools to purge systems of the worm.



Subject: M4IF Demonstrate Commercial MPEG-4 Technology at IBC

From: Martin Jacklin martin.jacklin@m4if.org

The MPEG-4 Industry Forum (M4IF), which hosted several leading MPEG-4 technology vendors at the International Broadcasting Convention, IBC2002 in Amsterdam this past month, announces substantial advances in MPEG-4 technology and strong market adoption on a global basis.

MPEG-4 is an open, international media standard for all digital multimedia platforms, including audio, video as well as interactive content and services from low bandwidths to high-definition quality. MPEG-4 is the newest representation standard in well over a decade of successive standards developed by the Moving Picture Experts Group (MPEG) of the International Standards organization (ISO) -- the group that designed MPEG-2 (the digital television standard) and MPEG-1, which includes MP3 (MPEG-1, Layer III Audio).

Since MPEG-4 is an ISO standard, digital media companies can count on the adoption of MPEG-4 throughout the consumer entertainment value chain, by chip designers, device manufacturers, network operators, programming networks, content producers and network infrastructure vendors. The resulting free market competition on a level playing field has many times proven that open standards are the only viable route to constantly improving quality and engineering excellence.

MPEG-4 is designed to support the economical and industrial requirements of high-volume, consumer electronic device value chains that enable the mass distribution of video systems. MPEG-2 has already been adopted as the basis of DVD and digital broadcast networks worldwide. According to In-Stat/MDR, the popularity of MPEG compression gave rise to an MPEG video chip market with more than \$1 billion in revenue in 2001, with annual unit shipments were over 100 million.

In addition to superior audio and video compression, MPEG-4 provides a standardized framework for many other forms of media—including text, pictures, animation, 2D and 3D objects—which can be presented in interactive and personalized media experiences. “By analogy, MPEG-4 is to digital media as HTML is to text and pictures—an organizing framework that is limited only by the imagination of content creators and the innovation of technology providers,” according to Elliot Broadwin, CEO of iVAST, a leading MPEG-4 platform provider.



Subject: **Jersey likely site of NYC tower**

From a story by Ken Kerschbaumer of Broadcasting & Cable

When the Metropolitan Television Alliance (MTVA) began the process of finding a new home for a television tower in the New York City area last September, the hope was for a site to be selected by Sept. 11, but that didn't happen. Broadcasters may, however, have a new transmission home within a few months; and it may be in New Jersey.

"We've received terrific cooperation from New Jersey, and we've received less cooperation from New York City," says MTVA President Ed Grebow. "We're narrowing down potential sites and hope to start construction for a tower soon. If we can find an appropriate site in New Jersey, that may be the easiest thing to do."

An "appropriate site" at this point seems to be somewhere in the vicinity of Jersey City and the Liberty Science Center.

Elizabeth Romanoux, Liberty Science Center's vice president of advertising and communications says: "I haven't heard anything in a while," but she echoes Grebow's comments about the difficulties of dealing with New York, adding, "New York has made it obvious that they're caught up in other stuff and they don't want to deal with a tower."

The two main contenders are Governors Island or one of three sites in Jersey City, N.J. From the start, Governors Island seemed the logical choice, given its location off southern Manhattan and the impending return of rights from the federal government to New York City. Early efforts to gain support within New York City government, particularly from Mayor Bloomberg, proved difficult. Even Grebow, who headed the Ed Sullivan Theater conversion into David Letterman's studio, has had difficulty getting traction.

The Jersey City options include a site owned by Aramenis Utilities Authority, where the Jersey City car pound is located; a piece of property just north of the Liberty Science Center; and, just north of that site, privately owned land with a warehouse. The third option seems the most likely; the first is said to be all but off the table; the second is tricky because of wetlands, which could spur objections from the state government and environmentalists. Negotiations on a lease on the third site are proceeding.

"Big projects in New York are always difficult, and, because of the emotions surrounding anything to do with the World Trade Center, rebuilding is a very difficult process," says Grebow. "We do believe, if we could wait, broadcasters could return to whatever gets built on the World Trade Center site. But, unfortunately, that's many, many years from now."

It will take about two years to get the tower up once the site is selected. Government approvals, a design and then the construction phase are still to be completed.

"Viewers are being driven to cable," says Grebow. "We're doing interim improvements at the Empire State Building so that the coverage is getting better all the time, but it will never duplicate what we had at the World Trade Center."



Subject: **Portability for Broadcast-Quality Video in Field Operations**

By Fred Lawrence

Fast Forward Video, Inc. recently announced that its high-performance Recon miniature DVR board is now available and qualified for use with the compact Toshiba 1.8-inch 5-GB PCMCIA removable hard disk drive with ATA interface. This latest capability for the Recon allows for production of broadcast-quality video in field-portable applications that would otherwise have to be accomplished with bulkier or less capable recording alternatives.

When combined with notebook or removable hard drives or solid-state memory, the Recon is the smallest and most durable DVR solution, ideally suited for integration into control systems and other equipment where space and portability are important.

The Recon provides all the electronics required for a broadcast-quality DVR on a board measuring just 3.0 inch by 3.9 inch (76 mm by 100 mm), a compact form factor identical to notebook IDE/ATA disk drives. With fully integrated Motion JPEG compression capability, the Recon features broadcast-quality video capture and playback at greater than 550 lines resolution at 4:1 compression, and compression ratios ranging from 4:1 to 20:1.

A host of other features are available. The Recon is available now.

For more information, visit: <http://www.ffv.com>



Subject: **Amber Bill**
By Larry Bloomfield

Legislation has been introduced in the US Senate and US House to assist in establishing nationwide coverage of AMBER Alerts. The bills are identical. One of the prime sponsors of the House bill is WA Rep.



Jennifer Dunn (R-Bellevue).

The bills establish an AMBER Alert coordinator in the Dept. of Justice. This person's job will be to seek to eliminate gaps in coverage; work with states to encourage development of additional elements in the AMBER network; and work with states to ensure appropriate regional coordination. The AMBER coordinator will also consult with the FBI, the Sec. of Transportation and the FCC. The bill emphasizes that AMBER remains a voluntary activity and encourages the establishment of minimum standards.

The bills also emphasize that whatever the federal coordinator does, it may not interfere with the current system of voluntary cooperation between local broadcasters and local law enforcement agencies. The bill also provides for federal matching grants to states for development of additional elements and enhancements for the support of AMBER alert communications.

The bill appears to be one we can live with, and is unlikely to change substantially before passage. Its emphasis on the voluntary nature is excellent and it is equally emphatic that the federal program not tries to reinvent the AMBER wheel.



Subject: **Measurement Procedure Updated for Peak Transmit Power in the Unlicensed National Information Infrastructure (U-NII) Bands**
From: **FCC document #DA 02-2138**

This notice announces an update to the measurement procedures for U-NII devices that are used to determine compliance with the FCC's technical rules. These changes will better accommodate recent developments in U-NII transmission technologies.

The current U-NII rules define "Peak Transmit Power" as "the maximum transmit power as measured over an interval of time of at most 30/B seconds or the transmission pulse duration of the device, whichever is less, under all conditions of modulation", where B is the 26-dB emission bandwidth of the signal. The rules were intended to permit averaging of peak transmit power over multiple symbols. However, for new multi-carrier technologies, a 30/B averaging interval may not be sufficient for averaging across multiple symbols. For example, an IEEE 802.11(a) signal has a symbol duration of four microseconds, but can have an emission bandwidth of 35 MHz, leading to an upper limit on averaging time of 30/B = 0.86 microseconds. Hence, averaging is performed over less than a single symbol.

To accommodate this new technology peak transmit power may be averaged across symbols over an interval of time equal to the transmission pulse duration of the device or over successive pulses. The averaging must include only time intervals during which the transmitter is operating at its maximum power level and must not include any time intervals during which the transmitter is off or is transmitting at a reduced power level.

Appendix A describes acceptable measurement procedures under this interpretation. Though not required, provision of a continuous transmit mode on devices to be tested will simplify the measurement process. Where possible, averaging may be performed by trace averaging. When signal characteristics (short pulse widths and wide emission bandwidths) preclude the use of trace averaging, averaging may be implemented by means of a "video filter" in the spectrum analyzer, as described in the appendix. The appendix also includes procedures for measurement of emission bandwidth, peak power spectral density, and peak excursion of the modulation envelope.



Subject: Media Bureau Implements Mandatory Electronic Filing of FCC Form 337
From: FCC document #DA 02-2120

By this Public Notice the Media Bureau announces mandatory electronic filing for the following FCC Form:

- **FCC 337**-Application for Extension of Time to Construct a Digital Television Broadcast Station

Mandatory electronic filing will commence on September 3, 2002. Paper versions of this application form will not be accepted for filing on or after that date, unless accompanied by an appropriate request for waiver of the electronic filing requirement. Users can access the electronic filing system *via* the Internet from the Media Bureau's Web Site at:

<http://www.fcc.gov/mb>

Pursuant to the *1998 Biennial Regulatory Review – Streamlining of Mass Media Applications, Rules and Processes*, 13 FCC Rcd 23056 (1998) (*Streamlining Order*), mandatory electronic filing was to commence six-months after a given form was made available for electronic use. By Public Notice released January 30, 2002, the Mass Media Bureau made available for electronic use FCC Form 337.

In the *Streamlining Order*, which announced the Commission's electronic filing requirement, the Commission recognized the need for limited waivers of this requirement in light of the "burden that electronic filing could place upon some licensees who are seeking to serve the public interest, with limited resources, and succeed in a highly competitive local environment." 13 FCC Rcd at 23061. However, such waivers will not be routinely granted and the applicant must plead with particularity the facts and circumstances warranting relief.

Instructions for use of the electronic filing system are available in the CDBS User's Guide which can be accessed from the electronic filing web site. Special attention should be given to the details of the applicant account registration function, form filing function, and the fee form handling procedures, if a fee is required. Internet access to the CDBS public access system at the Commission's Web Site requires a user to have a browser such as Netscape version 3.04 or Internet Explorer version 3.51, or later.

From: David Sparks - Broadcast Hardware Editorial Office DAVID_J_SPARKS@compuserve.com
RE: Tech-Notes #107

Congratulations on #107 - an excellent read!

All the best

David
Broadcast Hardware Editorial Office



From: Paul Boyden - Broadcast Operations Manager, WOW Digital TV paul.boyden@wow.tv
RE: The tech notes - contribution

I just finished reading the latest version of the Tech-Notes – the extended mix (#107). I must say I generally enjoy the information and commentary in that publication. I would like to know if I could contribute to the Tech-Notes and/or its publication process.

I was at KSL for eight years in various positions in production and engineering. I have a EE degree for the University of Utah and an MBA from Brigham Young University. My current position at WOW has me interfacing with broadcast engineering staff at stations and station groups nation-wide. How may I be of service?

Paul Boyden



From: Barry Tew, Director
TEUCO (Cambridge)Ltd. barry@teuco.cambsnet.co.uk
RE: Tech-Notes #107

I must compliment you on the new layout of technotes, and its an excellent read.....helps me to keep up to date with what's happening in the USA.

We have met briefly at NAB in past years.....I do a lot of work for DVB.

Best Regards

Barry (G3WFF)

www.cambridgenetwork.co.uk



From: Steve Lampen, Belden Electronics Division
RE: Tech-Notes #107

Explain this:

UHF COMMERCIAL TV	7529	
VHF COMMERCIAL TV	579	
UHF EDUCATIONAL TV	254	
VHF EDUCATIONAL TV	127	
TOTAL		1,712

Just figured out that the UHF commercial is 752 (so the 9 is the typo).

Steve



Subject: (Tech-Notes #107) Eighty-one million DTV capable television sets - latest count -- From: NAB

From: Mark Shubin

Eighty-one million television sets in the U.S. receive programming exclusively from free, over-the-air TV stations, the National Association of Broadcasters recently announced.

Recently?? This information was filed by the NAB with the FCC on August 3, 2001, over a YEAR ago, and it was based on research conducted in February 2001, over a year and a half ago.

Mark



Subject: Tech-Notes #107

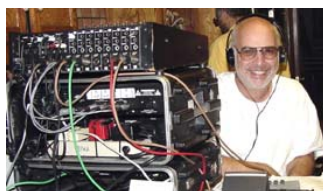
From: Mike DeRosa - SEL Service Co. (EMCS)

Display Products & Digital Imaging Manager: Sustaining Engineering

This is a much improved method to view your Tech News. Good work!

Best Regards, Mike

Features



Subject: **Some of My Observations** #04

By: Burt I. Weiner biwa@earthlink.net

Shock Jocks: A statement on our society???

Recently we've had two well publicized stories about radio "shock jocks". One morning team encouraged a sex act in a Cathedral. That made the papers. There was another one recently where a Phoenix station's jocks called the widow of recently deceased Cardinals baseball player, Darryl Kile. The shock jock told her she looked "Hot" and asked her if she needed a date for the game.

These are only two of many stories in which "Shock Jocks" do something to attract listeners thereby increasing their ratings so they can demand higher rates for spots in their shows and it appears to be extending to television with shock jocks programs being aired on over the air TV as well as on cable.

There seems to be a lot of finger pointing to the jocks that do this; but what about the management of the station? They always seem to be shocked at what happened. How is it possible that they don't know what's going on in their own stations? Shouldn't they share in the results? What scares me even more is the type of person who seems to enjoy partaking in this stuff by way of listening or watching. I don't know about you but I see a connection between "entertainment" and some of the violence in the news.

One of the things I discovered in raising kids is that they copy from and try to out-do each other. What they see and hear in the form of entertainment can be direction. We as parents are not always in control of their environment and peer pressure is a major concern. You can't control their what they are exposed to away from you. If you doubt me, go have kids. Radio, TV and Film - they all need to share in the responsibility. Yes, the right to free speech - but as with all rights comes responsibility. We are all the stewards of our society.

But, hey, that's not important. What is important is that they have eyes and ears; and that's all the advertisers care about. This stuff is good for the economy. The advertisers buy, the stations make lots of money, and they hire more staff - everyone comes out ahead.

Burt Weiner

Subject: **Mobile DTV**

From: Frank Eory Frank.Eory@motorola.com

I continue to wonder about the business model for mobile DTV. Of course, this is not a problem we North Americans really need to worry about, since we are technologically impaired (no, incapacitated is a better word) with respect to mobile DTV.

I had a very interesting experience at a car dealership this week, where the 'accessories' department was prominently featuring flip-down LCD screens and 12V DVD players and VCRs for the enjoyment of the rear seat passengers. I am increasingly seeing video systems in newer SUVs, including two of my neighbors that have taken that step.

The usual sales pitch for these systems, and the #1 reason people buy them, is to keep the kids entertained with pre-recorded movies on long car trips. So imagine my surprise when the showroom model was tuned to the live broadcast of one of our local NTSC stations. The vehicle had a VCR under the rear seat (with NTSC tuner of course) and a long whip antenna cleverly hidden along the ceiling molding in the cargo area.

The salesman freely volunteered that TV reception gets pretty bad when the vehicle is in motion, which begs the question, "Why include an NTSC tuner?" I didn't have the heart to tell him that things get even worse with DTV tuners and mobility.

But even if TV reception (analog or digital) were reliable within a particular radius of the transmitter, how useful is that? Having access to network TV evening programming would indeed be cool for long car trips, but much less interesting for short trips around town --especially during daytime. With the long distances between cities in most parts of the U.S., mobile DTV service, from local broadcasters, would-be pretty useless on a long car trip.

The number of potential mobile viewers at any given time is not enough to materially affect Nielsen ratings, so there doesn't seem to be much of a business incentive for broadcasters to enable those mobile viewers. Keep in mind; I'm referring to the traditional U.S. broadcast model, advertiser-supported, big sticks, etc.

A satellite mobile DTV service, however, along the lines of XM radio, could potentially be a real business. Nationwide coverage and a service based on subscription fees instead of ads could be very interesting both to a 'sat-caster' and to consumers. Since such a service would be, like XM, targeted specifically at vehicles, it would make sense to include channels dedicated to traffic, weather, local sightseeing, restaurant and hotel guides, etc. It is difficult to imagine how a local DTV broadcaster could justify dedicating bandwidth for such streams when the local mobile viewer ship would be a small percentage of his total audience.

European countries have a much better chance of using dTTb for mobile TV service. With a nationwide SFN or regional SFNs, continuity of service when traveling between cities would not be an issue. With such networks, combined with DVB-T and diversity receivers, there would be no technological hurdles to providing robust mobile DTV and data services to vehicles. But even in Europe, I don't see a business model that is not subscription-based, for the same reasons as in the U.S. --percentage of total viewer ship watching in cars would not be enough to affect ad rates.

-- Frank Eory



Subject: **SCRI's Industry Research Update .**

From: Des Chaskelson, Research Director, SCRI des_Chask@scri.com

SCRI is currently working on the questionnaires for two new surveys: **2002-2004 Broadcast/Pro Video Trends** and **2002-2004 Pro Audio Trends**. If your company would like to review the draft surveys and

provide survey inputs, please contact des_chas@scri.com ASAP. The Pro Audio Trends Survey is being conducted in conjunction with *DigitalProSound.com* and related *DigitalMediaNet* websites.

SCRI's [2002-2004 Streaming Media Trends Report](#) has been completed and is now available.

The new **Digital Cinema Survey** Questionnaire has been completed and goes online next week. Survey is being conducted in conjunction with *Digital Cinema Magazine* and related *United Entertainment Media* websites.

As usual, broadcast and pro video survey facility respondents get access to the SCRI Insider Report as well as other free Technology Reports (Pro DVD;; HDTV; MPEG-4; D-Cinema etc.) Surveys begin next week.

SCRI has several other [2002 Reports](http://www.scri.com/sc_reprt.html) available (http://www.scri.com/sc_reprt.html), including:

- [2002 Pro DVD Usage Trends and Brand Share Report](#)
- [H/DTV Migration 2002-2007 - TV/Cable](#)
- [H/DTV Migration 2002-2007 - Production/Post](#)
- [2002 Digital Media Facility Report](#)
- [2002 Broadcast/Pro Video Product Reports](#)
- [2002 Brand Awareness & Ratings Report](#)

Parting Short
By Larry Bloomfield



As I have mentioned many times, the need for engineers to attend such events as IBC and NAB cannot be expressed enough in their efforts to keep abreast of the latest technology. Since this is read in many parts of the world, it behooves you to attend which ever is most convenient. At the close of IBC2002 the final registration count reached 40,400. This compares to the NAB 2002 attendance of approximately 95,000 -- a 16% drop on the 113,000 attendees at NAB 2001. One would think that IBC would have had better attendance, but then television and broadcast in general, is structured much differently on the other side of the Atlantic than here.

"Looking at a breakdown of this headline figure, it is interesting to record that exhibitors have sent less staff, whilst the number of visitors is up," said Michael Crimp, IBC Corporate Affairs Director.

IBC President John Wilson commented, "The attendance is better than many pundits had forecast, but it is important to remember that IBC is about delivering a targeted, focused and high-quality audience as well as growing numbers. We achieved that both on the show floor and in the many memorable conference sessions."

It will be interesting to see the attendance figures for NAB this next spring. Will you be there?

One of the other things that has a tendency to get my dander up is the issue of copyright. I have always said and supported the idea that a person or company should always receive a fair stipend for their work, services, talents, intellectual property, etc, but despite this, we know that in our society, for what ever reason or blame, there always have been and, unfortunately, always will be pirates. There is a reasonable limit that should be applied to protection. We know that when someone makes a blanket statement saying "you can't do that," someone will. It may take awhile, but they will!

Tell some the basement savants of Silicon Valley that he or she can't crack a code and that's tantamount to throwing down the proverbial gauntlet: they will.

It appears that congress is taking up the copyright issues in some pending legislation. I hope they don't get absolutely ridiculous in their lawmaking process. The old adage: KISS – Keep It Simple, Stupid, should be the watch word. Protection is important, but it shouldn't be to the extent of making it necessary to make the citizenry paranoid should they wish to make a copy of their favorite TV show for later viewing in the privacy

of their own home or making a back up copy of one of their most used CDs. If Hollywood has its way, art may mimic life, but don't you dare make a digital copy of it.

When I saw the following, I couldn't help but wonder if this wasn't déjà vu time. The wide sweeping communications act of the last decade – remember the one that has created most all of our more recent problems and solve very little of the previous ones, is being addressed or should I say, amended with “The Emergency Communications and Competition Act of 2002” This tidy bit of legislation has been introduced by nine senators of both parties and would rename multichannel video and data distribution service (MVDDS) terrestrial direct broadcast service (TDBS) and would allow the Federal Communications Commission to assign licenses without auction.

In addition to other criteria favorable to our old friends at Northpoint, there's this interesting, seemingly clear sub-paragraph of congressional intent:

"(4) To ensure the universal carriage of local television stations, including any Emergency Alert System warnings, by multichannel video programming distributors in all markets, regardless of population." If the bill ever becomes law, that certainly looks like an INTENTION to require carriage of DTV stations by cable, satellite, and TDBS (the bill only REQUIRES carriage of broadcasters by TDBS and, even then, only what's already in cable must-carry). To read the bill, go to this site: <http://thomas.loc.gov> and enter S. 2922 as the bill number.

You and I both know that Microsoft wants into the television business so bad that they'd do nearly anything to make it all happen. So what have they been up to recently? In a nutshell, Microsoft has released a version of Windows XP that turns a PC into a media center supporting music, pictures, photos, DVD and TV. It also includes a Digital Video Recorder for TV programming, but this feature includes a Microsoft Digital Rights Management feature that prevents copying or distribution of recorded TV shows via a network.

HP just announced the Media Center PC; based on the new Microsoft OS, it is expected to sell for \$1,500 to \$2,000 without a monitor, depending on the configuration. HP would not disclose final model details but said that each PC would come with at least a 2GHz Pentium 4 processor, 512MB of RAM, 100GB or more of storage, a DVD+R/RW drive, a CD-ROM drive, a 64MB Nvidia GeForce 4 graphics card, a Creative Labs Audigy sound card, five USB 2.0 and two FireWire ports, and 200-watt Klipsch speakers--Pro Media 2.1 on most models and the 5.1 version on the \$2,000 PC.

If any of you have ever worked on a computer with video, you know you'll need all this capacity and much more just to be comfortable.

If this product category takes off it will be subject to the FCC DTTV tuner mandate in July of 2007.

For more information, visit: <http://zdnet.com.com/2100-1103-956285.html>

To quote an article I recently saw, “Believe it or not, digital must-carry still isn't ready for prime time,” and that's a shame too. You've seen it here many times before: digital must carry is one of the key ingredients to the success of over the air digital television. Without it, over the air digital television is more than likely doomed to failure.

It is consoling to know that FCC Chairman Michael Powell expresses the same attitudes. He's determined but has as yet to get his three fellow commissioners to agree on how to settle the longstanding debate over cable carriage of broadcasters' digital TV signals. As a result, it doesn't look like they'll be taking up the issue soon.

Nevertheless, Powell is expected to push negotiations in hopes of issuing a proposal before November's meeting. When approved, the mandate would determine the primary business relationship between broadcasters and cable systems for the foreseeable future. This is a must!

Although we can expect that the FCC will conclude that broadcasters are entitled to cable carriage of the entire free portion of their signals, things are still up in the air as to how strongly worded that conclusion will be. In an effort to win consensus, Powell had moderated a proposal that would have left little doubt the commission considered mandatory carriage of all free programming the way to go but would have sought comment on the constitutionality of that decision. Even a less definitive version failed to win the necessary three votes.

With full carriage unresolved, the debate over which cable tier digital programming must be carried on was shelved.

One decision that looks solid: The FCC will reject broadcasters' demand for carriage of both digital and analog signals during the transition. But then, what else is new?

In a positive for broadcasters, however, the FCC appears set to forbid cable companies to diminish the quality of a station's digital signal like the Direct to Home services have done to cram more stations into their limited bandwidth. Some broadcasters worry cable systems will degrade signals offered in the highest-quality, 1080i or 720p high-resolution formats.

Broadcasters were left frustrated by the commission's failure to resolve the carriage debate. They say full carriage of their digital offerings, including multicast channels, electronic program guides and the other enhanced services, including PSIP, is necessary to push the government-mandated transition from analog signals. This certainly makes sense. Why make the transition to something that's no better than what you're transitioning from?

The burden on cable systems posed by full digital carriage is probably much less today, they say, than when Congress ordered carriage of all local stations in their markets in 1993. "It's almost an insignificant burden. Yet there's holy war," said Jack Goodman, an attorney for the National Association of Broadcasters.

Well, we've got another big issue here. Hopefully we'll get our issues out more often than one a month, so they can be smaller. This new format with picture does take much more time to put together and I'll be glad when Jim Mendrala, our Digital Cinema guru, gets done fooling around with his Wright Flyer and can get back to letting us all know what is going on within that part of our industry.

Just want to mention the **Order of the Iron Test Pattern**. Our new association with them is moving very smoothly. If you haven't visited their new website, take a look: <http://www.OITP.org> Hope you enjoy some of the things we've developed there for them. Chances are really good that most of you reading this qualify for membership. There are no dues and the only costs are for certificates and lapel pins. Give it a shot.

Well that's it for this time, let's go to press!

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