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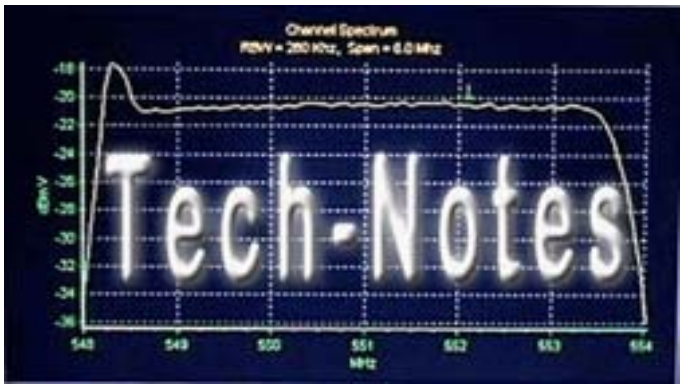

http://www.Tech-Notes.tv
September 29, 2003
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Our purpose, mission statement, this current edition, archived editions and other relative information is posted on our website.

This is YOUR forum!

Editor's Comments

Sorry for being so late and having so much in this issue. Computer problems here at our office are our only defense. We've expanded our sections to include other people's opinions and have added a section on New Products and Test Equipment. We'd also like to open up a section on folks looking for work or job offers. If we can only get this out every two weeks instead of once a month, it would be smaller.

If you have a problem with the large PDF files, we can change your subscription over to notify only. The e-mail you'll get will only say that we've posted the latest edition on our website; this would them permit you to see the larger file as and when you see fit.

Since this is usually the last part of the newsletter to be written, this just in: I heard that Mexico has decided to adopt ATSC. Korean Ministry of Communication made public today, that Mexico government will announce officially that they will adopt ATSC on 9 October this year: more on his later.

News

LARCAN-USA/Tech-Notes host a Seminar

By Larry Bloomfield

LARCAN-USA/Tech-Notes will be hosting not just a Seminar, but the same one in three different venues; Portland, OR, Eugene, OR and Medford, OR on November 4th, 5th and 6th and it is free. The subject matter will be LPTV, Digital Translators, Analog Translators, LPFM, FM Translators and Trick of the Trade. The scheduled presenters are David Hale, VP LARCAN-USA, Dr. Byron St. Clair, St. Clair Consulting, Kent Parson, DTV Utah Translator guru and one or two others yet to be scheduled.

Starting time: 10 AM at each venue and lunch is on us. All interested parties are welcome and should RSVP by Friday, October 31, 2003 so we can plan for lunch and chairs. For maps to venues, visit: www.Tech-Notes.TV - Select Educational Opportunities. Registrations forms are there also in PDF. If you have trouble doing the PDF thing, download it, fill it in and Fax it to: (503) 217-0712. You can also e-mail a filled in copy to Seminar@Tech-Notes.TV.

This same LARCAN-USA/Tech-Notes seminar is in the works for other locations, but the times, dates and places have not been confirmed with the participants as yet and are dependent on their schedules. For questions about this and future seminars, call or e-mail Tech-Notes. (541 + 902-2424 Seminar@Tech-Notes.TV).

LPFM Station activation to be speedup.

By Fred Lawrence

Since Tech-Notes is now partnered with LARCAN-USA, both now have a vested interest in LPFM and FM Translators. You will see reports in this are begin to be presented by Tech-Notes for your information.

As part of his “localism in broadcasting” strategy, FCC Chairman Powell plans to speed the activation of low power FM (LPFM) stations. Powell stated that he would soon open a settlement window for LPFM applications, and that the Commission would waive its processing rules to permit mutually exclusive applicants to use all available frequencies to resolve conflicts and gain new station licenses.

The Commission maintains that this settlement opportunity could push the total number of outstanding LPFM authorizations to over one thousand by year end.

For more information visit: http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-238057A1.doc

More on LPFM

From the CGC Communicator #589

The Media Access Project (M.A.P.), which works with potential LPFM applicants, wants the FCC to reevaluate FM translator policies to eliminate non-commercial satellite-fed translators ("satcasters") that do not originate local programming.

http://www.rwonline.com/dailynews/one.php?id=3787

Is Flat Where It's At?

By Larry Bloomfield

According to a recent CNN story, tech giants Sony, Sharp, and Samsung are posting flat screen TV sales that are outpacing forecasts. Remember back in the 1970s, when consumers snapped up color TVs to replace those old black and white sets? These manufacturer's would have you believe that "thin is in" in an effort to stir consumers to trade up to flat screen technology.

Industry watchers say what started out as a product for the luxury market is now seeing sales increasing every month. Predictions say that by 2006 chic geeks will snap up 19 million flat TVs; at least according to research firm Displaysearch.

For most consumers, price remains the deciding factor and flat screen TVs are still much more expensive. But prices are coming down.

Manufacturers such as Samsung say a 40 inch LCS TV selling today for just over $7,000 should come down to around $3000 in about two and half years.

It would appear, based on this information, that lots of people obviously have money to burn if they're willing to buy a $7000 flat screen TV today that will drop at least 80% in value in only two and half years (new ones selling for $3000 at that time). And why would anyone pay even $3000 for a 40 inch plasma or LCS TV when $700 50 inch nano emissive displays might be available soon after that?

Despite the very slow acceptance of digital television, the move is on. DTV's most significant enhancement, High Definition, is certainly a major factor in the sale of large screen TV's, but not everyone has room for a 40 inch plus display unless it can be "hung on the wall."

Falling prices may drive sales up, but it's not the only factor. Analysts say consumers must have a reason to replace their old sets like the ability to watch TV and surf the Net on one screen. There must be other reasons as it is difficult to believe Joe Beercan will find dual use of his Monday Night Football set with the internet.

Despite these observations, South Korea's Samsung expects sales of both plasma and LCD screens to surpass those of bulky tube sets in the next 5 years. In addition to this, there are other display devices whose technology is still being developed that may well surpass plasma and LCD while being even more cost effective.

To this end, Samsung's Mike McCabe says already the race is on to develop the next generation of flat screens. "Ourselves and other vendors are working on technology where we can have not only transparent but flexible screens which will be very much the future," he says.

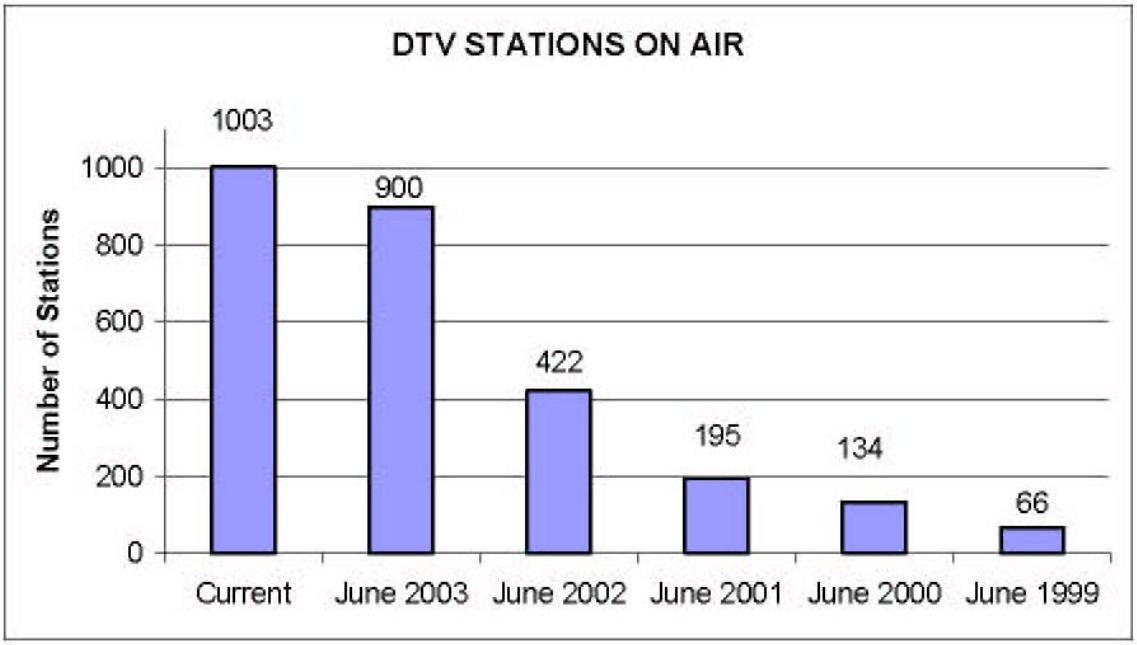
DTV Transition Scoreboard

From an NAB Press Release

The National Association of Broadcasters recently announced that 62 stations have joined the list of television stations broadcasting in digital, bringing the total number of DTV stations on air to 1,003 in 201 markets that serve 99.17% of U.S. TV Households.

"This is a milestone for local broadcasters, who have been champions of digital and high-definition television for many years," said NAB President and CEO Edward O. Fritts. "Our persistence and dedication to this transition is paying off for viewers, who now have access to free, clear digital and HDTV pictures from their local, over-the-air stations."

The momentum within the last year has pushed broadcasters to the more than 1000-station point. Since June 2002, over 580 stations have flipped the switch to digital.



In addition, in the following 16 markets, all of the stations are on air with DTV.

San Diego, CA, Cincinnati, OH, Knoxville, TN, Eugene, OR, Topeka, KS, Wheeling, WV-Steubenville, OH, Bangor, ME, Biloxi-Gulfport, MS, Sherman, TX-Ada, OK, Hattiesburg-Laurel, MS, Harrisonburg, VA, Lafayette, IN, St. Joseph, MO, Mankato, MN, Zanesville, OH, Victoria, TX, Presque Isle, ME and North Platte, NE. Of the 62 new stations, six are the first in their markets on air with a DTV signal. Those markets are Anchorage, AK; St. Joseph, MO; Eureka, CA; Bend, OR; Laredo, TX; and Zanesville, OH. See the following attachment for a complete list of the new stations on air (an asterisk indicates new markets). Also, Alaska's first DTV station - KYES Anchorage - just signed on.

Eighty percent of U.S. TV households are in markets with five or more broadcasters airing DTV, and 52% are in markets with eight or more broadcasters sending digital signals.

For more information, visit: www.nab.org.

Broadcast Station Totals as of June 30, 2003

From The FCC Database

Just for the record, here is the latest info from the FCC. This information is now being posted every quarter. Although the info for this quarter is not ready as yet, here is a link to their URL where it will show up: September 2003.

AM RADIO 4803	
FM RADIO	6189
FM EDUCATIONAL	2426
TOTAL	13,418
UHF COMMERCIAL TV	760
VHF COMMERCIAL TV	585
UHF EDUCATIONAL TV	254
VHF EDUCATIONAL TV	127
TOTAL	1,726
CLASS A UHF STATIONS	491
CLASS A VHF STATIONS	109
TOTAL	600
FM TRANSLATORS & BOOSTERS	3,795
UHF TRANSLATORS	2,664
VHF TRANSLATORS	2,095
TOTAL	8,554
UHF LOW POWER TV	1,596
VHF LOW POWER TV	525
TOTAL	2,121

Broadband over Power Line

A Technology Fraught with Potential Interference Problems

By Charlie Nulla.

Broadband over Power Line (BPL) proponents failed in their comments to the FCC to substantiate their claims that the technology will not cause widespread interference. In reply comments filed August 20--the FCC's deadline to receive comments in the Notice of Inquiry, ET Docket 03-104-- if the FCC is going to rely on industry statements in making decisions on BPL deployment, the industry should back up its assertions with technical studies and hard data and make these public.

Unfounded assurances that BPL will not cause interference are no substitute for real-world measurements, and the FCC should rely on documented test results and an impact of interference potential based on scientific, not marketing, criteria.

A form of power line carrier--or PLC--technology, BPL would use existing low and medium-voltage power lines to deliver broadband services to homes and businesses using frequencies between 2 and 80 MHz. Some BPL proponents--primarily electric power utilities--already are testing BPL systems in several markets and want the FCC to relax radiation limits.

Power lines are ubiquitous, and attempts by the BPL industry to obtain relaxed emission classifications based on operating environment are obviously illogical and frivolous. BPL would impact public safety low-band VHF systems and other mobile systems, not to mention over the air radio, television and other commercial/non-commercial broadcast services.

The National Telecommunications and Information Administration (NTIA) has weighed in on the FCC's BPL initiative. While urging the FCC to "move forward expeditiously" with its inquiry into BPL, the NTIA expressed "broad concerns" about interference to government users. The NTIA also has launched an extensive modeling, analysis and measurement program for BPL. A Commerce Department branch, NTIA administers spectrum allocated to federal government users.

Another organization expressing concern to BPL is the American Radio Relay League (ARRL); voice of armature radio operators in the United States. To dramatize its point, the League urged the Commission to view video
http://www.arrl.org/tis/info/HTML/plc/#video
shot during recent ARRL test-and-measurement forays to BPL field trial communities in four states.

The ARRL has, in fact, did what the BPL industry should have done--brought receiver equipment to the trial area. When it did so, the interference was manifest and widespread and would be so even to an untrained observer.

Conversely, it should also be noted that comments in the proceeding so far have been silent on the interference susceptibility of BPL to most all radio signal ingress. It has been predicted that even as little as 250 mW of signal induced into overhead power lines some 100 feet from nearly any communications transmitting antenna could degrade a BPL system or render it inoperative.

The FCC needs to stop acting like a cheerleader for BPL. It is past time that the Commission acted in its proper role as a steward of the radio spectrum and recognized the interference potential of BPL to the sensitive incumbent licensed services in these bands. The Commission cannot stretch the Part 15 regulations as far as would be required to accommodate BPL."

AT&T Official Expects Rates for Bandwidth to Fall Further

By Fred Lawrence

According to The Wall Street Journal, companies will never get back the billions of dollars they spent laying the groundwork for global data networks and more of them are likely to go under or be taken over, as the price of bandwidth on those networks continues to fall.

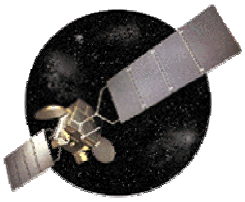
An AT&T official said his company expects the current trend of consolidation will continue among the companies who laid thousands of miles of fiber-optic cables in the boom days of the late 1990s and the early part of this decade.

The big question is: When will these rate drops be seen by the broadcast industry as more demands for digital services between stations, within networks and other services place demands on these resources?

TELSTAR 401 INOPERATIVE

Loral News Release

Sometime Friday, September 19, 2003, Loral Skynet's Telstar 401 ceased operating due to a catastrophic power buss failure. ABCNewsone quickly rerouted its news feeds to Telstar 5. Calls to Loral Skynet were not returned.



Loral Skynet, a subsidiary of Loral Space & Communications, said that its Telstar 4 satellite experienced a short circuit of its primary power bus at 8:56 a.m. EDT (1256 GMT), causing the satellite to cease operations. Loral Skynet immediately made capacity available to most Telstar 4 customers on Loral's Telstar 5 and Telstar 6 satellites.

Loral Skynet and Lockheed Martin, the manufacturer of the satellite, worked to determine the cause of the problem and to restore service on the satellite, but that appears not to be possible. The satellite is insured for $141 million.

Telstar 8, currently under construction at Space Systems/Loral, will replace Telstar 4, as planned, at 89 degrees West in mid-2004.

Telstar 4 coverage includes the continental U.S., Alaska, Hawaii, Puerto Rico, U.S. Virgin Islands, and southern Canada. Telstar 4 was launched in September 1995.

In the meantime, the porn channels have moved to T6, ABC has jumped to G3, G4 and T5, and CBS has moved to T5. PBS finally showed up at Telstar 6, channel 8. Here's the specific rundown:

PBS T6-8
Ten Max T6-1
Ten BluePlus T6-7
Ten Xtsy T6-14
ABC East G4-24
ABC East G3-5
ABC West G3-8
ABC T5-12
CBS West T5-14
CBS East T5-23

This failure may have some bearing on the price Intelsat will agree to pay for the North American satellites it will receive with its acquisition of the bankrupt Loral.

On another Loral front, EchoStar has made an informal offer to acquire Loral's entire Fixed Satellite Systems and the company's satellite manufacturing assets. The informal bid seeks the same fixed satellite assets for which Intelsat offered to pay $1.1 billion. The Loral bid supposedly is $1.5 billion. On August 18, 2003, the bankruptcy judge established a two-month procedure for selecting a successful bidder, with the auction to be held on October 20, 2003 and a sales hearing on October 22, 2003. The EchoStar bid is surprising because EchoStar already has a U.S. presence, its business is based on satellite broadcasting, not FSS, and Loral passed on a prior opportunity to purchase PanAmSat. The EchoStar proposal could be more favorable to Loral because it would allow Loral to keep the company intact, whereas the Intelsat offer leaves Loral only with its unprofitable satellite construction business. The FTC has issued its notice ending the antitrust waiting period for Loral and Intelsat, signaling clearance for the proposed transaction.

For additional information, go to: http://www.loral.com/inthenews/030819.html

SBE National Election Results Announced

From the SBE

The Society of Broadcast Engineers held its national elections for officers and board members and tabulated the results on Sept. 11.

Elected president of the Society is Raymond C. Benedict, CPBE. Benedict is director of spectrum management for Viacom in Washington, DC. Benedict has served the society as vice president, secretary and board member.

As SBE president, Benedict will lead the more than 5,300 member national organization for the coming year and will chair its board of directors. The SBE board is responsible for society governance and determines the policies and programs for the organization. As SBE president, Benedict is the official spokesman for the society and represents the SBE before other organizations and government agencies.

Other officers elected for one year terms include:

- Vice President – Samuel E. Garfield, CPBE CBNT, vice president, Dilicast/Technical Broadcast Consultants, Raleigh, NC.
- Secretary – Ralph Hogan, CPBE CBNT, assistant general manager-engineering services, Northwest Public Radio and Television and Washington Higher Education Telecommunications System, Pullman, WA.
- Treasurer – Robert J. Russell, CSTE CBNT, operations and engineering manager, KYMA-TV, Yuma, AZ.

Elected to two-year terms on the national board of directors were:

- Andrea Cummis, CBT, senior vice president, engineering and operations, Oxygen Media, New York, NY.
- Dane E. Ericksen, P.E., CSRTE, senior engineer, Hammett and Edison, Consulting Engineers, San Francisco, CA.
- Clay Freinwald, CPBE, senior facilities engineer, Entercom, Seattle, WA.
- David Hultsman, CSRE, broadcast channel manager, Continental Electronics, Birmingham, AL.
- Mark S. Olkowski, CPBE, engineering manager, Infinity Broadcasting, New York, NY.
- Henry B. Ruhwiedel, CPBE, chief engineer, WYIN TV, Gary, IN/Chicago, IL.

The elected board members will join six other members of the board who will begin the second year of their two-year terms. They include Ted Hand, CPBE, director of engineering, WTKR-TV, Norfolk, VA; Mark Humphrey, CPBE, chief engineer, WPLY-FM/Radio One, Media, PA; Keith Kintner, CPBE CBNT, Urbana, IL; Vincent Lopez, CEV CBNT, systems technician, WSYT/WNYS-TV, Syracuse, NY; Tom Ray, CSRE, corporate director of engineering, Buckley Broadcasting/WOR Radio, New York, NY; Barry Thomas, CPBE, CBNT, vice president of engineering, Westwood One, New York, NY.

Outgoing SBE president, Troy D. Pennington, CSRE CBNT, chief engineer, Cumulus Broadcasting in Mobile, AL, will continue to serve on the board of directors as immediate past president.

The newly elected officers and directors will assume their offices on Wednesday, Oct. 15 during the SBE Annual Membership Meeting in Madison, WI. The meeting is part of the SBE National Meeting, held in conjunction with the Broadcasters Clinic presented by SBE Chapter 24 and the Wisconsin Broadcasters Association.

To All SBE Frequency Coordinators & Other Interested Parties

From: David Otey, CSTE dotey@sbe.org
SBE National Frequency Coordination Director

SBE General Counsel Chris Imlay has informed me that the FCC has DENIED our request for a blanket fee waiver to allow BAS licensees to fill-in the missing data in so many incomplete ULS records. Please read the attached memo for details.

This is an issue of considerable importance to many broadcasters, and we are of course disappointed in the decision. Nevertheless, it is imperative that broadcasters move ahead with a concerted effort to bring the ULS database up to date. Unfotunately, doing so will require the filing of modification applications, with the standard filing fee of $120 (except for fee-exempt entities).

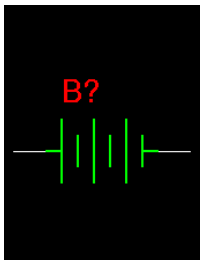
Please share this information with the broadcasters in your area. I encourage you to distribute copies of the attached memo at chapter meetings, and to forward it by e-mail as you are able.

Because it has taken so many months to get an answer from the Commission, we will request an extension of the six-month stay, now in effect until October 16, on implementation of the new PCN requirements for BAS fixed links. As we do not know whether that request will be granted, I advise all affected broadcasters to check their BAS licenses against the corresponding ULS records, and to file the necessary modifications as soon as possible to correct any incongruities.

303-713-1394

World's Largest Battery

By Edmund Conway



The world's biggest battery was plugged in late last month to provide emergency power to one of the United States' most isolated cities. The rechargeable battery, which at 2,391.98 square yards is bigger than a football field and weighs 1,300 tons, was manufactured by power components specialist ABB to provide electricity to Fairbanks; Alaska's second-largest city, in the event of a blackout.

Stored in a warehouse near the city, where temperatures plunge to - -59.8 degrees Fahrenheit in winter, the battery will provide 40 megawatts of power - enough for around 12,000 people - for up to seven minutes. This is enough time, according to ABB, to start up diesel generators to restore power; an important safeguard since at such low temperatures, water pipes can freeze entirely in two hours.

With no power lines between the state and the rest of America, Alaska is often described as an "electrical island" where tough environmental conditions and a sparse population make power cuts a way of life. ABB's battery, the first of its scale in the world, was commissioned by Golden Valley Electrical Association (GVEA) in Fairbanks, because the city suffers total blackouts every two or three years, as well as frequent swings in power supply.

The earthquake-proof contraption contains 13,760 NiCad cells - bigger versions of those used in many portable electronic appliances including laptop computers and radios. Each cell measures 16in by 21in and weighs more than 160 lbs.

ABB, a Swiss company listed in London, is one of the companies set to benefit from the US's decision to spend between $50 billion and $100 billion improving its power grid after the blackouts this past month. This follows a difficult year in which asbestos claims, corporate governance scandals and financial and business difficulties almost tore apart the company. Peter Smits, head of the company's power technologies division, said: "This battery will improve power reliability in an area where it is vital. We have entered it for the Guinness Book of Records." A spokesman from Guinness World Records said: "Well this battery certainly looks like being the biggest in the world, but of course we will have to check all the evidence when it comes in."

Colorful Electromagnetic Spectrum Chart Available

From: THE CGC COMMUNICATOR #592

The following chart shows U.S. frequency allocations from 3 kHz to 300 GHz and is available free on the web or in printed form for $7.50 from the U.S. Government Printing Office. http://www.ntia.doc.gov/osmhome/allochrt.html

THE "TIME LADY" PASSES

(From http://www.aftra.org/resources/pr/0703/janebarbe.html)

Jane Barbe, (pronounced "Barbie"), better known as "The Voice of America" and "The Most Heard Voice in The World" because of her voiceovers and recordings for phone companies, died Tuesday, July 22 in Roswell, Ga. Jane grew up in Atlanta and was a U. of Georgia drama grad. She was also a featured vocalist with the Buddy Morrow Orchestra for two years, and sang advertising jingles that she and her composer-husband John created and produced.

She started making professional announcements for the Audichron Company in Atlanta, Georgia (acquired by ETC in 1989) in the mid 1960s. Her friendly voice announced the time, temperature and weather, as well as personalized announcements for financial institutions, telephone companies and other time-temperature-weather sponsors. For the

1970s and 1980s recordings of Jane informed telephone callers when a certain number was disconnected or no longer in service. In addition, Jane's voice is heard on the National Bureau of Standard's Time Signal [WWVH] and on many hotel wake-up systems.

In addition to her work in broadcast advertising, Jane appeared on The Mike Douglas Show, I've Got a Secret, CBS News and Real People as the "Time Lady," and served several terms on AFTRA's executive board.

Barbe is survived by her husband, John, a daughter, Susan Stubin of Passaic, N.J.; a son, David, of Athens, Ga.; and seven grandchildren.

New Numbers Out On Sales Of DTV

From :HDTV MAGAZINE - Industry Update

The CEA reports on the sales of "DTV" products and offers still more evidence of the product category's strength. In an economy that many think is being cored out and grasping for life support, HDTV continues up the mountain like an old cog wheel full of eager skiers. I can assure you that ten years ago there were few executives in television in the United States, Japan, or Europe who thought we would be as far along with HDTV as we are today. Still, there are some signs to note with some caution, especially the mild increase reported in the July 2002 to July 2003 increase pegged at just 8%.The year-to-year comparison is much stronger but some analysis should be given to the question of why July to July was not stronger.

Dale Cripps

Dishing It Out -Industry Update

From: HDTV MAGAZINE

Who says DISH can't dish it out with the best of them?

The following should bring some joy to those debating over which satellite or cable service to join. And how about that PVR!?

EchoStar Communications recently announced that the company's DISH Network will begin offering four channels of high-definition entertainment in a single, low-priced package Sept. 16 when they offer ESPN HD, Discovery HD Theater, HDNet and HDNet Movies in a new package for less than $10.00 per month. DISH Network also offers high-definition channels such as CBS-HD, HBO-HD, Showtime HD, and DISH-On-Demand pay-per-view HD movies.

DISH Network's entry-level DISH 811, designed as the first affordable high-definition receiver/decoder, will be available this fall at an MSRP of only $399.

Dale Cripps

Satellite TV rates drop below cable for first time

According to a new study by J.D. Power and Associates.

The average price difference between cable and satellite TV service has narrowed significantly over the past five years, with the average monthly expenditure for satellite service falling below cable for the first time.

The study found that the average monthly expenditure for satellite TV service is $48.93—up 8 percent from 1998. However, cable spending increased 41 percent in the same time period, moving from an average of $35.15 per month in 1998 to $49.62 per month in 2003.

Accounting for much of the spending increase among cable subscribers are upgraded and/or additional services such as digital TV, video-on-demand and high-definition TV, which are being actively marketed to consumers.

While cable continues to be the dominant provider, satellite subscriptions are steadily growing. Currently, 60 percent of households surveyed subscribe to cable service, down from 68 percent five years ago, while satellite subscriptions have increased from 7 percent of households in 1998 to 17 percent in 2003.

“Digital cable hasn’t turned out to be the solution the cable industry needed to stem the tide of migration to satellite providers,” said Steve Kirkeby, senior director of telecommunications research at J.D. Power and Associates. “Although digital cable subscribers report higher satisfaction than do analog cable subscribers, both groups dramatically trail satellite subscribers in overall customer satisfaction, with cost of service being a key issue.”

One area where cable providers may have an opportunity to stem this migration to satellite is in bundling telephony and Internet access with cable TV service. With growing consumer desire to combine multiple services in a single bill for convenience and simplicity, the study found that 34 percent of cable subscribers want to combine their cable service with some other telecommunications product or service.

Both satellite providers in the study receive the top two customer satisfaction rankings among the 13 major providers of cable/satellite TV service. DirecTV ranks highest in overall customer satisfaction performance for the second consecutive year, followed closely by DISH Network. Among the six factors that contribute to overall satisfaction, DirecTV receives top ratings in performance and reliability; cost of service; billing; and

offerings and promotions. It also performs near the top in the remaining two factors: image and customer service.

Following DirecTV and DISH Network in the rankings are cable providers Cox, WideOpen West, Cable One, RCN and Time Warner, respectively.
The study, called the 2003 Residential Cable/Satellite TV Customer Satisfaction Study, is based on responses from 7,340 U.S. households that evaluated their satellite or cable TV providers.

For more information, visit: www.jdpower.com.

CEA Shouts From the DTV Mountaintops

The Consumer Electronics Association (CEA) recently submitted comments to the FCC as part of the Commission's ongoing review of the rules and policies affecting the digital television (DTV) conversion. "The FCC should maintain its current position on receiver performance standards, which relies primarily on market incentives and voluntary industry programs," the CEA stated.

"The marketplace provides the strongest incentive for continued technical improvements to receivers," said Michael Petricone, CEA vice president of technology policy. "Government mandates seldom create business incentives or result in product innovations. When it comes to DTV receiver standards, manufacturers already are competing in a highly competitive market that requires products to exceed consumer expectations."

The CEA noted in the filing that a majority of the stations on-air with digital signals today are using facilities of less power than allotted by the Commission.

The Association also noted it's working with other DTV industry leaders through a Specialist Group of the Advanced Television Systems Committee (ATSC) to develop a "recommended practice for DTV receivers," which will provide the necessary flexibility required for the receiver market that a government mandate could not allow.

Companies Covet HDTV Subscribers

By Glen Warchol in the Salt Lake Tribune

Check out this story at: http://www.sltrib.com/2003/sep/09102003/business/91210.asp

A Mobile Phone That Tunes In TV

From: Mark A. Aitken, Director, Advanced Technology,
Sinclair Broadcast Group maitken@sbgnet.com

Just when it seems that the practical limits have been reached in terms of what electronics manufacturers are able to cram into a small handheld device, along comes something new that forces us to think again.

Having watched the evolution of the handheld computing and communications space for some years, it seemed only a matter of time before a brilliant team of engineers somewhere would devise the ultimate combination of a wireless communicator that handles voice phone calls, wireless e-mail and personal-organization functions. That has seemed, to many observers, an unreachable nirvana. Indeed, no one has found the perfect design and combination yet, though there have been many ingenious attempts.

Samsung's TV Phone: So we were a bit taken aback by news of a curious wireless phone from South Korean electronics giant Samsung, informally named the TV Phone. It is a mobile phone with a color display screen and high-performance antenna that can receive, of all things, over-the-air TV signals.

It comes at an interesting time in the relationship between digital devices--such as the PC and PDA--with the analog old TV set. PCs are increasingly able to record TV shows to their hard drives, and a few enterprising software companies have figured out very interesting ways to push those recorded shows from the PC. One company, Snapstream, which we noticed last November

It even allows you to watch recorded TV shows on a Windows-based PDA.

The TV Phone has an integrated TV tuner that allows it to receive over-the-air TV broadcasts, which in South Korea means four different channels. As yet, the phone is not available in the U.S., but there's no reason it wouldn't work as TV broadcasters still send their signals out over the air, even though most consumers watch TV over cable or satellite.

But TV signals, as anyone old enough to remember rabbit ears can attest, are finicky. The slightest weakness or interference can affect the picture. To address this, the phone has the ability to automatically lock on to the channel with the best signal. The screen, which is a 262,000-color TFT-LCD display can be adjusted to show the picture vertically or horizontally. Users can listen with headphones.

And get this: It can record from TV. Okay, not much. But it can record up to 50 frames of video, which you can later use as a background image. That's just enough, Samsung says, to capture a short scene, maybe a line or two from a sitcom or the play of the day.

Samsung says the phone will be available in South Korea for 700,000 Won, or about $600 U.S. It makes no mention of plans to release the phone in the U.S.--or anywhere else for that matter. But in a nation that loves TV as much as the U.S. does, can it be far behind?

Mark A. Aitken

Media Bureau To Terminate Temporary Broadcast Station Application Freeze; Revised Processing Guidelines Announced

From an FCC Public Notice

On September 3, 2003, the United States Court of Appeals for the Third Circuit issued an *Order* staying the effectiveness of the new media ownership rules adopted by the Commission on June 2, 2003. The Court ordered "that the prior ownership rules remain in effect pending resolution of these proceedings." In response, the Commission established a freeze on the filing of certain commercial broadcast station applications and amendments.

The *Order* requires that the Commission process broadcast station applications under the prior ownership rules. Accordingly, the Media Bureau is issuing this Public Notice to announce revised processing guidelines for broadcast station applications filed on Forms 301, 314, and 315. The prior versions of these forms will be effective and available for use upon publication of this Public Notice in the *Federal Register*. The temporary application filing freeze will be terminated simultaneously with this *Federal Register* publication.

Applications filed on June 2002 Versions of Forms 301, 314, and 315: The staff has resumed the processing of these commercial radio and television station applications. Applicants are not required to demonstrate compliance with the ownership rules adopted in the *Report and Order*. The invitation to file amendments demonstrating compliance with these rules is withdrawn.

Applications Filed on July 2003 Versions of Forms 301, 314, and 315: Commercial and noncommercial educational station applications filed on or after August 14, 2003, on the July 2003 versions of these forms must be amended by resubmitting complete applications on the June 2002 versions of these forms. Applicants should promptly submit these filings following publication in the *Federal Register* of this Public Notice. Waiver requests must be submitted for applications that do not comply with the prior

ownership rules. The failure to submit a waiver request will result in an application's dismissal. All applications will retain originally assigned file numbers.

New Applications on Forms 301, 314, and 315: Commercial and noncommercial educational broadcast station applicants must use June 2002 versions of Forms 301, 314, and 315. The Media Bureau will begin accepting new applications on these forms following publication in the *Federal Register* of this Public Notice.

Noncommercial Educational Station Application Freeze: To facilitate the transition to the June 2002 versions of the affected forms, the Media Bureau will no longer accept any applications or amendments filed on the July 2003 versions of Forms 301, 314, and 315. This freeze is effective immediately. Accordingly, the current temporary filing freeze is extended to include all noncommercial educational radio and television station applications filed on these forms.

FCC Lifts Condition On AOL's Instant Messaging

By Jim Mendrala

The FCC has lifted a condition on the merger of AOL and Time Warner that prevented the company from offering video and other advanced services over its Instant Messaging (IM) system. The FCC originally imposed the prohibition when approving the merger of AOL and Time Warner because of concerns that the combined AOL-TW entity would create a monopoly on advanced IM services. The FCC listed certain situations under which the agency would lift the condition, including loss of dominance by AOL-TW in the Internet. AOL-TW argued that the FCC should lift the condition because AOL-TW was losing Internet subscribers and could no longer be considered dominant in the Internet market. It is expected that AOL-TW will roll out advanced instant messaging services later this year.

For additional information, go to:
http://hraunfoss.fcc.gov/edocs_public/attachmatch/FCC-03-193A1.pdf

FCC EASES DIGITAL TV TRANSITION FOR CONSUMERS

Competition, Convenience, and Simplicity Cited as Key Goals of "Plug and Play" Rules

From an FCC Press Release

The Federal Communications Commission (FCC) today took another step forward in the transition to digital television. The FCC adopted rules for digital "plug and play" cable compatibility, which is a key piece of the digital television puzzle. In a "plug and play" world,

consumers can plug their cable directly into their digital TV set without the need of a set-top box. The FCC said the new rules will ease the transition to digital TV by promoting competition, convenience and simplicity for consumers.

On December 19, 2002, the cable and consumer electronics industries filed with the FCC a Memorandum of Understanding (MOU) containing both voluntary and inter-industry agreements and a package of regulatory proposals. Today's *Second Report and Order* adopts the proposed technical, labeling and encoding rules with certain modifications.

The new rules will permit TV sets to be built with "plug and play" functionality for one-way digital cable services, which include typical cable programming services and premium channels like HBO and Showtime. Consumers will have to obtain a security card (often called a "POD" or "cable card"), from their local cable operator, to be inserted into the TV set.

Consumers will still need a set-top box to receive two-way services such as video on demand, impulse pay-per-view and cable operator-enhanced electronic programming guides. The FCC noted that the cable and consumer electronics industries continue to work on the development of an agreement for two-way "plug and play" receivers that would eliminate the need for a set-top box to receive these advanced cable services. The FCC encouraged the cable and consumer electronics industries to consult with interested parties and affected industries as the two-way negotiations progress.

The cable and consumer electronics industries also filed a model license for the DFAST scrambling technology, which protects content from unauthorized use. Although the parties did not seek regulatory action on the license, it contemplates FCC review of certain issues in case of dispute. The FCC concluded that, given the importance of these products as a portal into consumers' homes for content in the digital age, further consideration of how changes and innovations should be approved is warranted. The Order initiates a *Second Further Notice of Proposed Rulemaking (FNPRM)* to examine these issues, and adopts an interim policy by which CableLabs would make preliminary determinations regarding new outputs and/or associated content protection technologies, subject to FCC review.

The FCC also noted that it will address Digital Broadcast Copy Protection issues in the near future.

Specifically, today's *Second Report and Order* and *Second FNRM* take the following actions:

Digital Cable System Transmission Standards and Support Requirements

- Transmission standards – All digital cable systems must operate in conformity with specific technical standards. Small cable systems can obtain a waiver where the requirements would be unduly burdensome.
- POD Security Cards – All cable operators must maintain a sufficient supply.
- High-definition set-top boxes - Starting April 1, 2004, cable operators must

supply, upon request, high-definition set-top boxes with functional 1394 "firewire" connectors. By July 1, 2005, all high-definition set-top boxes would also require a digital visual interface ("DVI") or a high definition multimedia interface ("HDMI").

Labeling and Consumer Disclosures

- Labeling – Manufacturers who label their DTV receivers as "Digital Cable Ready" must meet certain technical standards, complete a testing and verification process and equip their receivers with a DVI or HDMI interface using high-bandwidth digital content protection ("HDCP") technology. The interface requirement would be gradually phased-in on a receiver screen-size basis along a similar timeframe as the DTV broadcast tuner phase-in schedule.
- Broadcast Tuner – DTV televisions labeled "Digital Cable Ready" must include an over-the-air DTV tuner.
- Consumer Disclosures – Manufacturers are required to include post-sales material, such as an owner's guide, language informing consumers about the functionality of the device and the need to obtain a security card from their cable operator. Additionally, the FCC is encouraging manufacturers and cable operators to provide this information to consumers before the sale occurs. The FCC is asking in the Further Notice whether it should take action to require pre-sale notification.

Limits on Copy Protection Mechanisms

- Authority – The FCC asserted its authority under Section 629 and its ancillary jurisdiction.
- No Impact on Copyright Law – The FCC stressed that its rules are not intended in any manner to affect the copyright rights and remedies of consumers and content owners.
- Selectable Output Control – The current use of selectable output controls by all multichannel video programming distributors (MVPDs) is prohibited.
- Down-resolution – Down-resolution (reducing the resolution of high-definition programming to standard-definition) is prohibited for broadcast programming by all MVPDs; the FCC said that down-resolution of non-broadcast programming will be addressed in the Further Notice. In the interim, MVPDs intending to use down-resolution for non-broadcast programming are required to notify the FCC at least 30 days in advance.
- Caps on Copy Protection Encoding - The encoding rules, which are applicable to all MVPDs, are modeled generally upon the Digital Millennium Copyright Act:
    - (i) Copy never: pay-per-view, video-on-demand
    - (ii) Copy once: basic and extended basic cable service
    - (iii) No restrictions on copying: broadcast television

Application of the rules does not extend to distribution of any content over the Internet or an MVPD's services offered via cable modem or DSL. The Order includes a petition process for new services or business models that may be developed in the future. This process would involve case-by-case determinations of whether specific encoding rules are in the public interest.

DFAST License

- FCC Oversight – The MOU included a model agreement for the use of patented scrambling technology for the POD-Host Interface. While no regulatory action was requested on the license, it does contemplate FCC appellate oversight in cases of dispute over compliance and robustness rules. The FCC said that parties with complaints may file petitions for special relief to resolve these disputes.

- Approval of New Connectors and Content Protection Technologies – The DFAST license anticipates FCC appellate oversight in cases of dispute over CableLabs determinations regarding the use of new connectors and content protection technologies. The Order follows the proposed DFAST license procedures as an interim policy while initiating a *Second Further Notice* seeking comment from the public, including other industries and consumer advocacy groups, on whether additional methods for approving new technologies should be adopted.

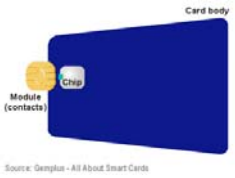
Second Further Notice of Proposed Rulemaking

Issues raised in the Second FNPRM include:

- Potential processes for approving new digital output and content protection technologies, including potential use of "objective criteria";
- Potential requirement of pre-sale consumer disclosures;
- Potential use of down-resolution for non-broadcast programming;
- Potential applicability of rules that apply to 750 MHz cable systems to also apply to 550 MHz systems

FCC approves digital cable accord on TV cards

By Fred Lawrence



It would appear that a "deal" has finally been struck between TV set manufacturers and cable operators to replace digital signal converter boxes with slots on new TV sets and has been approved by the FCC. This will accommodate the small, so called, "smart cards"

This move is expected to simplify connection to digital services both on the air and via cable. It is also a move to spur cable operators to expand their presence in retail stores. For additional information, visit:
http://finance.lycos.com/home/news/story.asp?story=35648149

DISH Network's DISH Player Digital Video Recorder

From: Business Wire

EchoStar Communications Corporation recently announced that it's DISH Network has sold its 1 millionth digital video recorder (DVR). They say it Skips Recorded TV Commercials, Pauses Live TV, it walks, it talks, and washes your dishes (Don't believe the last part).

http://finance.lycos.com/home/news/story.asp?story=35786435

New 100-Hour DVR

By Michael Gros, CRN

Samsung Electronics recently introduced a 100-hour Digital Video Recorder that the company said can be used by solution providers working in the home networking space.

The DVR, which is to be used with DirecTV and Tivo services, contains a 120 GByte hard drive -- the largest storage available on DVR device so far, according to Samsung.

Viewers can record up to 100 hours of television, and can simultaneously record and watch up to three television shows, according to the company. The DVR's TiVo capability lets users pause, rewind or fast forward live television. The device can also be programmed to automatically record every show in a series, or can search for and record programs with a viewer's favorite sports teams, actors or any other interest, with a large number of variables.

The 100-hour DVR is not designed for high definition TV, though one optimized for HDTV will be introduced in the future.

http://www.crn.com/sections/BreakingNews/dailyarchives.asp?ArticleID=44161
http://crn.channelsupersearch.com/news/crn/44161.asp

New Products & Test Equipment

Sencore Introduces a 'Pocket PC' ColorPro Color Analyzer

The new CP5001 All-Display ColorPro is a portable color analyzer for calibrating all video display technologies including DLP, LCD, plasma, CRT and more. The CP5001 calibrates front and rear projectors as well as direct view displays.

The easy-to-use graphical interface greatly decreases calibration time with easy to follow measurement screens. The CIE and RGB screens make calibrations simple by illustrating exactly which colors need adjusting.

The portable, handheld operation and high-resolution color display of the CP5001 makes it easy to align displays on location—the home theater, mall, medical operating room, convention center and more. The performance specifications of the CP5001 mean you can calibrate video display anywhere with lab grade accuracy. The specifications of the CP5001 are NIST traceable.

The CP5001's custom software lets you download calibration data to a PC for documentation, data storage and report generation.

The CP5001 comes supplied with an attractive, durable carrying case for protecting your instrument between calibration jobs as well as a 30' serial extension cable and camera tripod-mounting bracket for calibrating front projector displays.

Sencore Introduces a Family of 'VideoPro' Portable, Multimedia Video Generators with DVI, RF ATSC, HDTV Component Video Outputs

The *'VideoPro' Multimedia Video Generator* family includes your choice of four new products that generate the video signal outputs you need for testing, calibrating and servicing any video display type & input. The 'VideoPro' Multimedia Video Generators produce high quality video signals giving you confidence in your calibration with the video bandwidth required for testing HDTV displays to their full performance capabilities. The generators provide all HDTV formats for testing a video display in all operating modes.

The VP400 Generators provide innovative test patterns for determining a video display's performance and making quick adjustments including Linearity (circles), Pluge, and Color Decoder Check, Color Decoder Adjust and more.

The VP400 Family Multimedia Video Generators are handheld, portable and battery operated so you can service, test and calibrate video displays wherever the job takes you.

VideoPro Multimedia Video Generators

Sencore Model #s	Composite NTSC/PAL	S-Video NTSC/PAL	Y Pr Pb Component HDTV/SDTV	R G B H V Analog VESA Mac	NTSC – RF, Ch. 2, 3, 5, 6	D.V.I. VESA/Mac /HDTV	ATSC – RF 8 VSB, Ch. 2-4, 7-10, 30-32
VP400	YES	YES	YES	YES	NO	NO	NO
VP401	YES	YES	YES	YES	YES	YES	NO
VP402	YES	YES	YES	YES	YES	NO	YES
VP403	YES	YES	YES	YES	YES	YES	YES

All 'VideoPro' generators include the video cables and connectors required for connecting to the various display types. A carrying case is optional.

Features & Opinions

Burt I. Weiner biwa@earthlink.net
Localism in today's market...

In the southern California area, there are a ton of different markets, fast food places, banks and the like. Everything is not part of a "few chains" - so far.

Radio WAS better before consolidation. I keep hearing about the different stations under one ownership, supposedly in competition with each other. In reality I see numerous stations, each with a different PD, but under one overall PD. It's hard to tell the stations apart. They're running the same promos, but with different calls; the same voices, the same everything.

With very few exceptions, I've seen the mega monster companies buy small stations all over the country side and they change the format every other week. Most of the time they're simulcasting one of their other station's, which changes from month to month.

You're right, in today's market it isn't practical to do it the way we used to do. And it IS because of the business climate. When you have so many stations under one roof, under one control, there will not be the honest difference between stations. The bottom line is the dollar, not the quality or diversity of anything else.

When these folks talk this up, it sounds to me like a lot of the supportive comments are nothing more than employees waving their company's banner in an attempt to be a "good employee". Many of them are young and have no knowledge of what we did in the past. The physics of radio has not changed, just the content as a result of management that is only sales driven.

In spite of the interference issues, AM is probably one of the most reliable ways to communicate to the general public.

What's more frightening is the consolidation of TV properties across the country. Will TV go the way of Radio?

Burt

Editors Note: *What follows is a commentary that does a fine job of exemplifying some of the reasons conservatives are getting on board the movement opposing media consolidation. Larry*

Please Touch That Dial

By Ron Marr, CNSNews.com Commentary

Common sense tells us that knowledge is power. No one knows this better than the media conglomerates that determine what we read in print and view on the flickering tube.
Those who reside in the boardrooms of the news and entertainment biz (and the line between the two has been non-existent for a long time) realize that controlling the portals of information is essential to their long-term self- interest. They need the most broad customer base possible, not only so that they may enjoy a healthy bottom line via advertising dollars (convincing us to buy the "right" brand of cereal) but as well the

attainment of their own social and ideological agenda (blatant support for potential senators or presidents).

You rarely receive balance from the major networks or the giants of print. What you do receive is a subjective diatribe leaning heavily toward left or right. Usually the tilt goes to the former, and it was a dissatisfaction with such one-sided reporting that led to the success of more conservative outlets such as Fox News and the Washington Times.

The liberal press pushed their desire to con the public just a bit too far - believing as they do that people are incapable of independent thought. When the support of issues and candidates by the leftist media became ridiculously biased, citizens hungry for "truth" rose up in a sort of passive revolt. In short...they picked up the remote and clicked the channel buttons with reckless abandon. They logged on to the internet and began a search for presentations and explanations more real and plausible than the monotonous gruel of CNN, CBS or the New York Times.

But neither side is pure in their motives. Objectivity, that much heralded attribute which journalists claim to be the bedrock of their professional philosophy, is at best a bald-faced lie. From the CEO of a broadcasting giant to the most lowly features writer, it is impossible to report fairly on a topic if it is in direct opposition to one's personal beliefs. That's just human nature.

So I wasn't surprised when, in the face of consumer alienation, traditional media mega-stores pressured the FCC to relax long-standing rules that prevented them from enjoying a total information monopoly. Last June, with the support of the Bush administration, the FCC declared that networks could now own local stations reaching 45 percent of the national audience. The FCC also declared that media Goliaths could not only own a TV station, but as well a newspaper and several radio stations in the same market.

It was a sham, nothing but an attempt to put small media out of business, enhance advertising bucks and offer a stilted view of issues and events. Of course, big media offered a different reason. Gee whiz boys and girls...they only wanted to give better service. And...oh me oh my...these monster companies that already were allowed to promote their views to 35 percent of America just might not make it if they didn't have a bigger piece of the pie.

Even Chicken Little did a reverse flip with a quadruple twist when he heard that one... the network's interpretation of a falling sky. Behemoths like Viacom actually had the nerve to say they needed more local stations in order to compete against cable, satellite TV and the internet. I'm amazed they didn't ask for food stamps.

The reality is that network honchos are enraged that people no longer view their talking heads as the voice of indisputable fact. People have gone to the net, cable, and satellite out of the suspicion that modern news presentations are little better than a late night infomercial. And they are right.

The monopoly almost happened; it still might. Luckily though, Congress for once did something right. The Senate recently approved, 55-40, a resolution that would roll back the new, FCC rules which effectively forbid diverse opinions and interpretations. However, The House is still in favor of permitting complete control to the multi-national firms who would tell us how to think, as is President Bush (he's threatened to veto the bill if it reaches his desk).

Big media should be forced to play by the same rules as small media; if you want viewers then provide a quality product. Provide news that is as objective as possible. Attempt to inform, rather than indoctrinate. Quit trying to appeal to the lowest common denominator, and instead offer information and entertainment that challenges the collective IQ and inspires viewers and readers to question, to seek and to learn for themselves.

Fat chance of the networks embracing that premise. When people started thinking for themselves one of their first moves is to flip off the TV.

(Ron Marr is the founder of The Trout Wrapper, the official magazine of Montana's Tobacco Root Mountains. The publication believes in "big guns, big dogs and big bar tabs." Founded in 1994, The Trout Wrapper says it is "dedicated to hunting down and publicly tormenting the humor impaired," and it espouses the "wholesale abuse of all things politically correct.")

Bringing back fond memories...

By Larry Bloomfield

Early on, the film industry adopted the Hubbell Twist-Lock ac power plugs and receptacles for its "standard" microphone connector system.

Many years later ... decades, really ... first the Cannon "P", and, later, the Cannon "UA", and still later, the Cannon XL (now XLR) would be adopted, on a case-by-case basis.

So, it is not that unusual to see film and sound reinforcement systems with Hubbell ML-1 and similar connectors, for their low-impedance mikes.

Some radio stations followed the established film practice of using these Hubbell power connectors.

Note that the Cannon "P" connector, so very much favored by RCA Broadcast, was actually a power connector (hence the "P" designation) and was rated 15 amps.

Sync-sound "interlock" systems used these "P" connectors for their original purpose ... providing three-phase power and/or Selsyn interlock signals to the camera(s) and recorder(s).

Editors Note: *Talk about a loser! A CRT can never equal the dynamic range of a DLP or LCD in my book. Plus it scans the picture across the screen instead of presenting the whole picture one frame at a time. CRT phosphors will never equal pure RGB color. Jim*

Crystal View 2 CRT Video Projector

From: Doug McDonald" McDonald@SCS.uiuc.edu

The actual fact is that the current generation of DLP and LCD RPTV systems are superior to all CRT TVs, be they direct view, rear, or front projection.

No, they don't look like film, at least not when transmitting video - originated material. They don't try to look like film. Some people seem to want video to look like film. "ISF Calibration" of projection CRT systems aims to make the things look as much like film as possible ... including one adds the very low brightness.

These new technologies look better. When viewing good material they look more real than film. Even with 9 inch tubes in a projection system, CRTS cannot ... at least at reasonable (i.e. may times brighter than film) brightness ... generate an MTF in the critical low-mid to high-mid frequencies as high as the DLP or LCD can (and they can, of course, approach and in some cases reach almost 100% MTF all the way to the Nyquist frequency). The color rendition of these new technologies can be ... and in some cases is ... substantially more accurate than film, though they still have some problems with getting things right throughout the brightness range.

Even the holdout film-look lovers are collapsing in heaps over the new Panasonic PT50LC13 LCD sets, as they have over the older Samsung DLP sets (modulo being able to see the rainbows, of course.) Over on avsforum a couple of days ago a big film-lover holdout ... who works in the film industry ... had a religious experience when his new PT50LC13 was delivered to his home. He noted that on film-based or film-look material it wasn't QUITE filmic, with some deficiencies in trying to look "as good as film" .... BUT, when the PBS outdoor demo loops are running, or some of the ABC sitcoms, he finally admitted that he could not help himself, it was BETTER THAN FILM. He said he almost broke down when this epiphany hit him full force.

And of course, both the Panny and the Sammy are 720p sets. The Panny, of course, has light on 100% of the time, though it does have about a 50% video hum at 300 Hz. The Panny has a superb cross-convert system for 1080i material, and the Samsung STB are also exceedingly good at this (the combo I have is the Panny set and a Sammy STB.)

Just imagine what it will look like when we get 1080p sets like these and they properly deinterlace 1080@24p or 1080@30p originated material!

Doug McDonald

EtherGuide Prophecy

By John "pulling rabbits out of hats" Willkie

I'm at the point where I believe what follows contains information that I want the broadcast industry to know about, so, of course you can use it in an article with attribution.

My system also has several unique aspects that I will only hint about until the first beta site has been operating with no unpredicted blips for at least 30 continuous days.

Accurate, real time broadcast schedules & metadata

Digital Broadcasting

Digital broadcasting will be much more than snazzy techniques to transmit the video and audio streams that made analog TV famous.

Broadcasters must exploit analog channels into rich digital streams and effectively publicize programs to viewers before exploring new media services will be discovered.

For ATSC TV stations, this effectiveness requires the power of Program & System Information Protocol (PSIP), the fundamental DTV system in the ATSC toolkit that has no analog equivalent beyond printed program schedules.

What is Program & System Information Protocol (PSIP)?

- Electronic Program Guide (EPG) transmitted in the same "physical" channel with video, audio and data streams.
- Defines channels, programs and elementary stream
- Emits schedules 12 to 384 hours in advance
- Listings include titles, content ratings and even det
- Unicode text strings in multiple languages

- Defines viewer help messages for station's EPG
- Provides day, time, zone data & daylight time status
- Spot or program substitution by demographics or area
- Can redirect equipped sets upon virtual channel end
- Rich data, using fewer than 750,001 bits per second
- Overlaps MPEG-2 Program Association & Map Tables

PSIP in a Nutshell:

- Feeds on screen displays and EPG for viewers and shortens tuner stream acquisition times
- Station-controlled direct pathway to TV viewers: cable must pass along program-related PSIP
- Enriches viewer experiences by organizing audio, associated video and data by language.
- Stations can use channels 2-99, regardless of "physical" channel.
- ATSC mandatory specification, currently optional per FCC
- Can be used to define how a channel is identified on digital cable
- Carried in user private MPEG-2 tables, but is a technology unique to ATSC system

PSIP systems must be seamless

- Minimal (or zero) routine operator involvement
- Notification before data absence is a problem
- Input from traffic system logs and follow automation system in real time
- Acquire broadcast descriptions from news and asset management systems, syndicators, perhaps even program listing services
- Slave to encoders for data integrity & consistency
- Must be an accurate source of schedule information at all times and in all cases.

Schedule distribution doesn't end at PSIP

- Regular email schedule distribution
- Hot HTML and text email, wireless text messages to viewers, agencies & clients of last minute schedule changes.
- XML data streams
- Use by Interactive Voice Response (IVR)
- Personal Video Recorders (PVR) data sources
- Program Listing Services
- Any future services that may be developed

Benefits of Real Time Digital Schedules

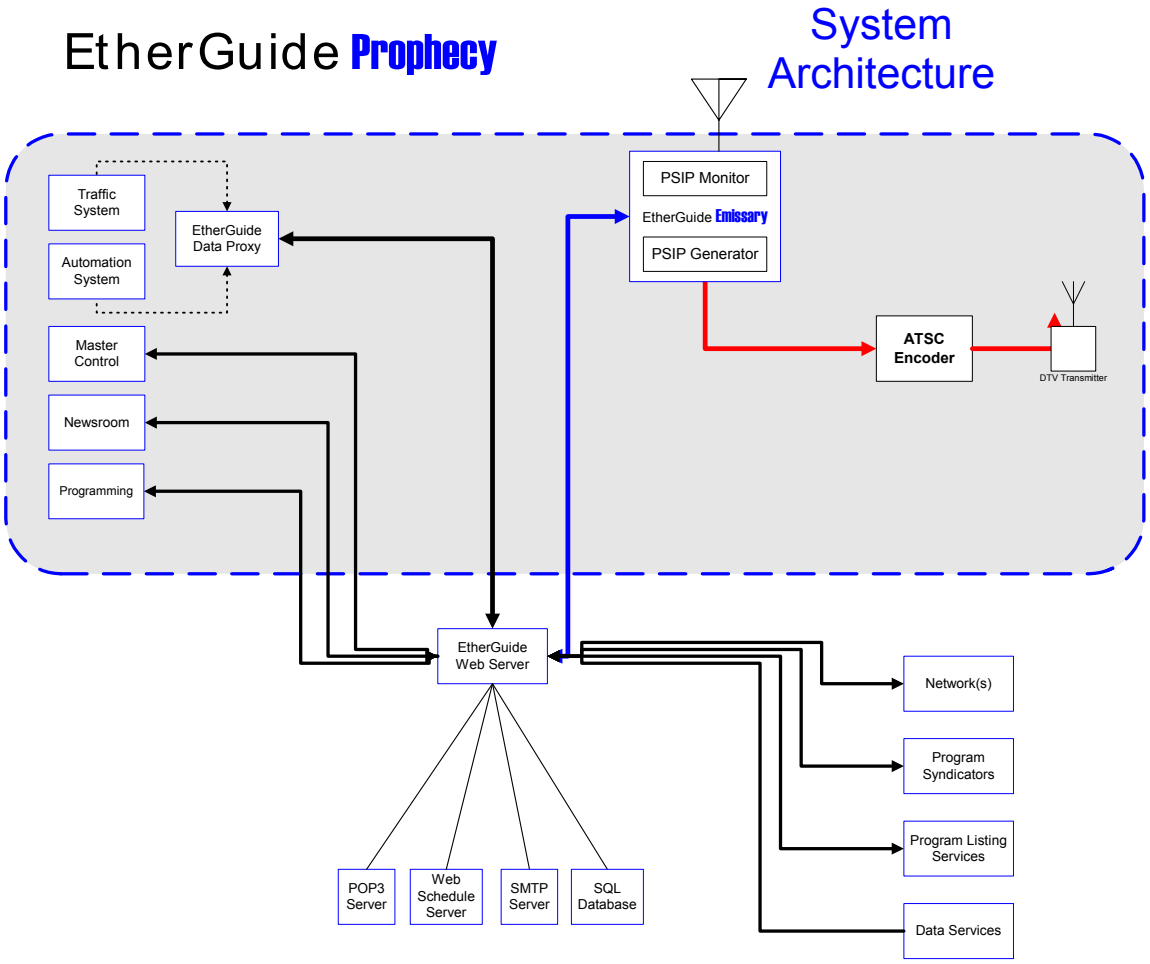
Schedule changes often accompany breaking news, when viewers need accurate and consistent information. Station is the best "What's on?" source. Cable and satellite get EPG data from the single best source: your digital signal. Live newscasts can provide rundown or highlight important or breaking news

The “PSIP Dilemma”

Few stations use “real” PSIP, due to iffy hardware & interfaces to station systems. With little “real” PSIP, set manufacturers have little reason to improve PSIP in sets. With PSIP in sets less than optimal, broadcasters has less incentive to make their PSIP work better. Only broadcasters suffer from the dilemma as expensive TV sets are embedded into the homes of viewers’

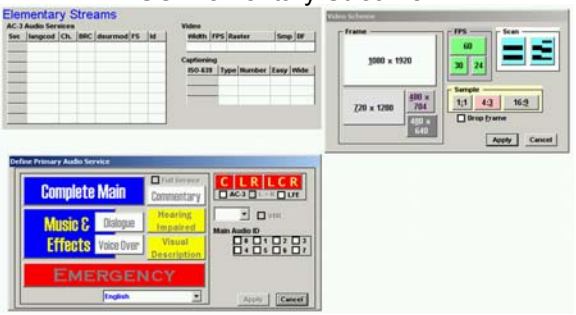
Basic PSIP Generator Requirements

Interfaces with other station systems to minimize operator overhead to insure real-time data consistency regardless of schedule status; Monitors and logs itself; Underlying software is automatically updated to reflect current A/65 edition and any bug fixes; Can be remotely controlled and monitored



EtherGuide Prophecy — User Control Examples

ATSC Elementary Streams



ATSCvideo

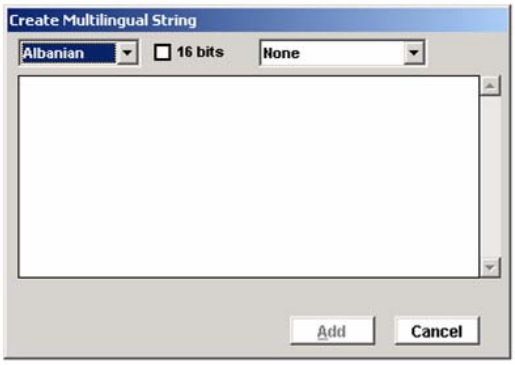
AC3AudioService

All displayed controls are subject to change, including being improved

EtherGuide Prophecy — Multilingual Text Controls

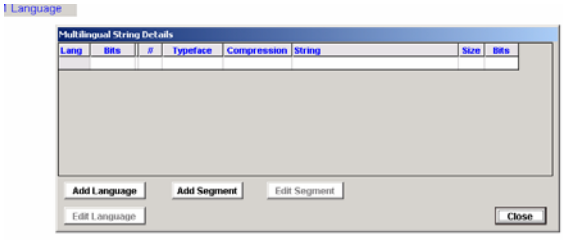
No Strings

MxIcon



Define Multilingual String

Multilingual String



All displayed controls are subject to change, including being improved

- Ether Guide Prophesy
- Development Status
- Need real world testing:
- Emissary 10/100 base-T output to encoder, user authentication & Internet communications subsystems
- Need to finish in a real station:
- Processing of traffic system logs into schedules;
- Interfacing to automation system;
- Input from news system(s) and master control;
- Interface to ATSC receiver card;

Then integrate:

- Emissary interface to web server;
- Interactive web server interfaces;
- Microsoft Windows Installer (MSI) packages

Benefits of Beta Site Involvement

- System will meet your desires at modest price;
- Powerful opportunity to influence direction of technology;
- You master technology before any competitors;
- Your system will work reliably before any others;
- You will see improvements and extensions first;
- You will be in the best position for quick adoption of improvements;
- First call on possible later products and services;

Future Enhancements

- Monitor program streams and change PSIP to assure metadata consistency;
- Control of zoned programs & messages via traffic and automation systems;
- EtherGuide proprietary data tables with station operational and technical data;
- Live transmitted log via encrypted data;

System Extensions

- DVB-SI ("Current/Next" and detailed) EPG output
- ATSC A/90 Data Broadcast
- ATSC A/100 DASE
- ATSC A/70 Conditional Access
- MPEG-2 SI
- MPEG-7
- Microsoft Windows metadata
- Streaming Media Interface Language (SMIL)

A different opinion

From Doug in Orange County, CA as posted on www.creativekarma.com
Occupation: Senior Web Applications Engineer

The U.S. television broadcasting industry is on a forced march to convert to digital broadcasting. People are dying in the pursuit of this conversion, and for what?

Only about 15% of all American homes still rely on over-the-air signals for their television. By and large, those people either do not care about TV enough to pay for cable or satellite, cannot afford cable or satellite, or are so far into the sticks that cable does not reach them. Whatever the reason, most of those people will not be buying expensive new DTV sets, and making them buy set-top converters in order to continue watching TV is senseless.

The pursuit of broadcast DTV has had casualties. Last September, two men were killed and three injured in Nebraska when the 1965-foot tower used by KDUH collapsed while they were strengthening it to be able to hold the DTV antenna equipment.

More recently, three more men were killed in Huntsville, Alabama when the 985-foot tower used by WAAY collapsed while the men were strengthening it to hold the DTV antenna equipment.

If there was a point to the conversion to digital broadcasting, it would be different.

Genesis of the NTSC II 29.97 Hz frame rate

From: Donald C. McCroskey mccroskey2@earthlink.net

For an old semi-retired television broadcast engineer, it is fascinating to hear of all the twists and turns in the road leading to DTV. The offerings require a lot of reading and distillation to come up with useful information. Even the best of the contributors often repeat themselves for emphasis, or in response to repetitious questions or statements.

I believe it would be helpful to examine some of the statements made by contributors to try to separate opinion from fact, and to provide some amplification on how things came to be.

GET RID OF THE NTSC 29.97 FRAME RATE.

Wouldn't that be wonderful! The color sub carrier frequency in the development stages of NTSC II in 1951-52 was originally 3,583,125 Hz. This figure was 455 times (13 X 7 X 5) the half line rate (15,750/2). The NTSC I line period (1/15,750 sec) and frame period (1/30 sec) were thus retained. Field tests in the summer of 1952 revealed that a few existing monochrome receivers showed a visible "wavy line" pattern caused by an

interaction between the sound carrier and color sub carrier. (4,500,000 - 3,583,125)/ H / 2 = 116.43. Since this was not an integral relationship, the interference moved through the picture, attracting attention. Further examination showed that the affected receivers were not of good design. The NTSC II members felt that this anomaly was not serious and would soon be solved by attrition. However, the FCC was adamant that no interference to any existing receivers be allowed. RCA proposed raising the sound carrier frequency to 4,504,500 Hz so that the difference frequency was an even multiple of H/2. Tests showed that this change caused no sound reception problems, and the "wavy line" interference went away. Still, the FCC would not allow such a change. At the time, the only solution was to choose the color SC and H frequencies so that the difference frequency divided by H/2 was an integer (177). This resulted in the color sub carrier frequency of 3,579,545.00 Hz and the H line frequency of 15,734.264 Hz.

This was not a popular solution at the time. With vacuum tube receivers, still to be around for over 15 years, it guaranteed that many screens would display a moving horizontal bar, often accompanied by sync offset distortion--the result of internal 60 Hz power leakage superimposed on the desired 59.94 Hz field rate. Video tape and VT editing were still in the future, but it seems likely that many of the NTSC II members foresaw the time reference problems which would cause problems in the future.

So it shouldn't have happened at all! But it is not a simple matter just to "change it." Yes, we're only talking about a frequency change of 1 part in a 1,000, and many receivers probably wouldn't care. As for modern broadcast equipment, nearly all engineers who really understand how things work believe a change to a 30 Hz frame rate is completely impracticable. Even if equipment could be easily and reliably modified, how would an industry wide changeover be effected? How would legacy material be handled? What about the time code differences? Enough said.

This is the short version of how our color sub carrier and frame rate evolved, and may be more than you ever wanted to know. If you would like the full two page version, let me know. A PDF version is available.

Don McCroskey

Tower Paint

From: Mike McCarthy towers@mre.com

I have used Wasser MC Luster (moisture cure urethane) with great success. I have three towers right now which are 9 years into their last paint job and now just starting to show pink...but still legal. Another is 8 years old and still in the middle of the chart. White is as bright as ever on all 4. No rust. A new tower added to the site 5 years ago using latex Sherwin Williams paint is in need of re-painting NOW. The paint has faded into the dark orange range; the white has lost much pigment, and is pealing.

This paint is also not sensitive to low temperatures like oil and latex and sticks to nearly everything. The specs allow for application to occur from as low as +20 to +100deg. F, but the spec sheet has it's lowest tested temp as 50 deg. (Try that with latex). Of course drying time increases as the temperature decreases; hence the reason why I like painting in October/November with this stuff. Its tough stuff...is used on sea-borne ships and industrial/chemical plants.

The International Orange paint has the MOST pigment of any paint I've ever seen. Its "off the scale" with the brilliance when looked at. Its at the top end when compared to the in-service color chart. Sherwin Williams latex paint is not even close.

http://www.wassercoatings.com/Files/data/MC-Luster.pdf

It's not cheap at $80/gal. But when labor accounts for 80% of the tower's repainting cost, this is a bargain since it eliminates a full iteration of painting....and power cutbacks/make goods/engineering time to manage the project. A gallon will do one band of up to 75' on a 30" guyed tower.

Sherwin Williams does distribute the line. However, you will need to locate an industrial paint dealer to buy it and they only sell them in 4 gallon increments. I buy direct because I buy in quantity.

I'm sure Sherwin Williams has a MC paint as well. But I've not used it...why mess with a good thing. Get a sample of each and try them out on some fence posts. You'll see what I mean. I compared 5 commonly used paints for 5 years: SW, Anchor, Benjamin Moore's oil based, Carbonate, and the MC Luster. The MC Luster won hands down.

Maybe it's time for me to do another 5 year comparison with SW's MC and epoxy coatings as well as a few others in the same range. Latex is NFG.

The only reason riggers use latex is because it's cheap and they'll know they will be back in 3-5 years. They hate me for that reason. Long term owners hate the up front costs of better paint, but appreciate it when they know they won't pay it out again in 5 years and all the other related labor and internal costs. In today's "NOW" finances, it can be a tough sell if the cost differential is over 10% of the total project cost. So go into the approval process well armed with finance data to back up your desire to use a far superior product.

MM

HDTV Trends Report -- FREE -- limited time only!

NewsBriefsFrom: Des Chaskelson, Research Director, SCRI scri@scri.com

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Parting Shots

By Larry Bloomfield

We had some computer issues here at our offices, so my time in the bully pulpit has been cut short for this edition while I tried to solve these issues. I was successful.

There two things, however I can't pass up. One has to do with a government agency who is constantly crying poverty and yet has the funds go through the motions adopted a Notice of Inquiry to gather comments and information on the impact that communications towers may have on migratory birds. Isn't this a bit much? Birds are not the smartest critters on earth. Just ask the folks who have birds fly into any of a number of structures. I just want to know how I can get some of this "stupid" money. If you really want a laugh, check it out at:
http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-238058A1.doc

The other has to do with the so called "LOCALISM IN BROADCASTING" INITIATIVE" launched by FCC Chairman Powell. It is beyond me how these folks continually talk out of both sides of their month. There is no way we can retain localism in broadcasting so long as the FCC continually whittles-away the ownership rules and permits more and more concentration of ownership of broadcast properties. We have said it a hundred times, if not more than once, that there is no way hub-casting or one owner

owning most of the broadcast properties in one market while managing them from afar will ever suit the fiduciary responsibilities of that broadcaster to serve his or her community. Remember when seven licenses of any particular type were the tops any one owner could hold? There are now companies who own thousands of commercial broadcast licenses and pump out their same old dribble over each of them. Congress was right to bring this landslide push on the ownership rules to a screeching halt. If you really want a belly full of garbage, go to the FCC's web site and read up on this double-talk issue. http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-238057A1.doc

That said, it's always good to watch what you say as it may come back to haunt you one day. I went back into our archives and got this editorial I did nearly five years ago. Check it out. Was I on track or was I deluded? Let me know.

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Why the news and news letters? We are at a very interesting and historic time in broadcasting history. Moving to digital television (DTV) is similar to moving from AM radio to FM radio. The difference is, AM is still around: analog TV will go away completely within 7 years. The DTH folks have been doing digital for a few years now, but this is all very new to broadcasters and has some very new implications. If you are interested in a history of how digital TV got started, I recommend a book by Joel Brinkley, "Defining Vision."

5 days ago, November 1st was a very historic day. That is the very first day of the DTV era. 42 of the 1700 television station in the United States began their ATSC, DTV service in addition to their analog, NTSC service. Over this 7-year period, all television broadcasters will be expected to make the "migration" from analog - NTSC to digital - ATSC. If they don't they're out of business! To comply with this migration, each television station has been given a second channel to operate on and at the end of the transition, will be required to surrender one of the to channels, retaining their DTV service only. The FCC plans then to auction off the surplus.

In smaller markets, cost usually plays a bigger roll, in what equipment will be purchase, irrespective of quality or reliability. It is unfortunate when non-technical or inexperienced people decide what equipment their station will buy and use. With all the new technology we will be required to buy, install and use over the next several years, a trend back to relying on good experienced engineering input is most essential to avoid major disaster.

There is much to be said for the engineer who has been with his or her station or network position since dirt was invented. They are truly the backbone of their operation. These are the folks the Chief Engineer turns to when he wants to know what route a particular "temporary" feed takes that was installed back in "02" from Studio A to Master Control. To compliment these "old timers" are the engineers who have been around the

block a few times or who have done freelance work. They bring to the staff a wealth of experience. These are the engineers who have seen and know how to do the same job several different ways. They help balance out the people whom, when asked why, say: "That's the way we've always done it." A good mix of people is essential for a good balance of know how. It will be these experienced people and the "old timers" that the intelligent managers will turn to in the decision making process. These are the people who need to be educated about products, software and service. They will be the best salespeople - from within!

Stay on Course

It is said that those who don't learn from history will be condemned to relive it. In this day and age of very rapid change, words were never truer. It is absolutely imperative to keep ourselves informed. Many of you don't even have television sets, much less watch TV. Who is it that said: "A picture is worth a thousand words?" Since we play a major roll in aspects of the broadcast industry, and hopefully that roll will increase, it is my intention to share with you not only all that is new, but to temper it as best as I can with what has happened. There is no question that both the computer and broadcast industries, which includes all of us, are setting sail on uncharted waters. If we can share with each other our trials, tribulations and solutions, we can get through all this with out reinventing the wheel at every turn.

This is the time to learn not only what your piece of the puzzle is, but where it fits into the bigger picture as well. This can be done by finding out what's going on in both industries. Share information with your fellow engineers. Attend professional meetings and other seminars. Keep abreast of what is going on or you'll get left behind. As the saying goes, "you are the captain of your own destiny," to which I feel compelled to add, lead, follow or get out of the way.

Engineers from the days of Harry Lubke at W6XAO . (W6XAO first signed on the air in December, 1932) have always shared their knowledge and solved the industries common problems. This is not the time to change any of that. You can associate, solve common problems and exchange ideas with other engineers at other venues with out giving away the plans for the conquest of the world, programming secrets or sales strategies. I never knew an electron that ever gave two hoots or a holler over whose cable they were going down or what network they were helping to stay on the air. If we are to succeed, we must be a fraternity. There is no such thing as a stupid question! If there is anything in either the broadcast or computer industries you don't understand, let’s try to find the answers together.

It is said that those who know "how" will keep their jobs and those who know "why" will lead the rest. Remember this: If you're good at what you do and you're not having fun, you probably don't know what you're doing and are probably doing it wrong. Just remember: "Never try to teach a pig how to sing. First you will annoy the pig and second you will waste your time." If you want to learn and move forward to greater knowledge, you are certainly not a pig!

These are some thoughts on how to make our jobs easier and, at the same time, have fun. Let's hear your thoughts.

Larry – November 05, 1998 9:50 AM

Stay tuned.

Larry@Tech-Notes.TV

A color wheel for the CBS mechanical scan color system

From Last edition:
Know what these two pictures are?

The CBS mechanical scan color system test pattern