



**Chapter 24, Inc.
Madison, Wisconsin**

Society of Broadcast Engineers

September 2004

PLANNING FOR THE FUTURE

By Tom Smith

In last month's newsletter, we looked at who is using a TV broadcaster's off-the-air signal. The Media Bureau of the FCC was also looking at the same issue and had an inquiry in progress. The deadline for comments has passed, but its effect may have an impact on how TV broadcasters plan for the future. The Commission and Congress are looking for ways to speed up the DTV transition and shutdown analog TV. Many in Congress are still looking at the December 31, 2006 deadline and the FCC seems to be settling on a deadline of sometime by the end of 2009.

One of the things that Broadcasters have to do is develop and start to implement new business plans for the DTV signal. Is HDTV enough or must broadcasters develop other plans for DTV. Cable and satellite services have already started aggressive promotions of the HDTV offerings even if they are limited in number. Broadcast HDTV may be considered by the viewer as another part of the mix along with other HDTV services such as HBO, ESPN, Discovery, and HDNet. This could come back to haunt broadcasters, because if we are unable to provide a service of value to the viewer and our network partners, those networks could go around us and go directly to cable and satellite services. What are our options for the future? This issue was considered so important to the editors of *Broadcasting and Cable* that in the August 5, 2002 issue of the magazine, they did a three page editorial on the subject of TV broadcasters taking their place in the future.

HDTV and Off-the Air

In last month's newsletter, using numbers from the January 2004 Video Competition Report by the FCC, it was shown that the number of homes using off-the-air signals for all of their TV viewing is about 12-16%, and the total number of homes that have to rely on off-the-air for local TV including
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Next Meeting:

**Thursday,
September 16, 2004**

**DVD Production
Techniques**

**Dutch Treat Dinner
at 5:30 PM**

**Monona Garden
Family Restaurant
6501 Bridge Road**

**Meeting and Program
at 7:00 PM**

**VIP Duplication
6430 Bridge Road**

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Special Event - Digital Television Seminar

Greg Martin from Tektronix would like to cordially invite you to attend an informative seminar on Digital Television topics, presented by Tektronix Application Engineers and Roscor Corp on September 14, 2004. The event will be held at WHA-TV in Madison.

The Tektronix DTV Technology Seminar is a complimentary 6-hour event where you will gain valuable working knowledge of the technologies behind digital terrestrial television broadcasting that you'll need to know to survive the FCC mandated DTV transition.

Seminar Sessions

9:00am – 11:30am

– Introduction to Serial Digital Television.

- Overview of analog-to-digital conversion;
- SDI waveforms and their use;
- Physical layer measurements;
- Gamut measurements, timing and jitter;
- High Definition television terminology and measurements.

11:30am – 12:30pm

– Lunch

12:30pm – 3:30pm

- MPEG fundamentals;
- MPEG fundamentals;
- Essential ETR-290 measurements for digital television.

3:30pm - 4:30pm

- 8-VSB Digital Modulation.
- Learn about the fundamentals of 8-VSB digital modulation and FCC required measurements using the RFA300A digital modulation analyzer.

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August Business Meeting Minutes

Chapter 24 of the Society of Broadcast Engineers met on Wednesday, August 11, 2004 at Full Compass in Middleton, Wisconsin for the chapter's monthly meeting. There were 17 members in attendance, 13 of whom were certified and 4 guests.

The meeting was called to order at 7:03 PM by Chapter Chair Vicki Kipp. The minutes of the July meeting as published in the August newsletter were approved. The deadline line for the September newsletter will be Friday, September 3rd at midnight and the folding party will be held Wednesday, September 8th at 5:30 PM also at WKOW-TV. Treasurer Leslie Franzen submitted his reported that the chapter has a balance in the black.

Sustaining Membership Chair Fred Sperry reported on one new sustaining member- Full Compass. Recent renewing sustaining members are WMTV, Swiderski, Alpha Video, Roscor, Full Compass, and Token Creek Productions. There was one sustaining member who did not renew, so there are now 22 sustaining members. Special Events Coordinator Lonnie Cooks reported that he is working on a special event to happen sometime before the Broadcast Clinic.

Program Chair Steve Paugh reported the next meeting will be Thursday, September 16 at VIP Duplication on DVD productions. The October meeting will be during the Broadcast Clinic on Wednesday, October 13 and will be on tower safety. The November meeting is Thursday, November 18 and is tentatively a Certification night.

Certification and Education Chair Jim Hermanson reported a recent renewal had been lost in the mail and is being cleared up. The next certification period is November 12-21 with the deadline for applications being September 24th.

Frequency Coordinator Tom Smith reported no requests this month. The FCC has released a number of items on August 4th, including a number of DTV rules. A Report and Order on the Nextel channel change which will affect the 2GHz channel transition (256 pages) was also released.

National Liaison Leonard Charles reported that the National SBE election ballots have been mailed and need to be returned by September 9th. The National office is working on the Nextel channel assignment changes and implementation. The National office is also getting ready for the National meeting that will be held October 26-27 in Boston.

Under new business Chapter Chair Vicki Kipp reported that the national election ballot spreadsheet that recaps the voting records of the current Board Members has a couple of errors. The first error is that William Denne attended and participated in the October 14th national meeting and voted "Yes" on all motions—the spreadsheet incorrectly indicates that he was absent. The second error incorrectly depicts Barry Thomas was not a Board Member when he was—Barry also voted "Yes" on all motions.

(continued on page 11)

AMATEUR RADIO NEWS

By Tom Weeden, WJ9H

- The Hurricane Watch Net (HWN) on 14.325 MHz has been working hand-in-hand with WX4NHC at the National Hurricane Center [www.wx4nhc.org] to relay weather data and damage reports as Hurricane Frances plowed through Florida.

At press time Amateur Radio Emergency Service (ARES) teams throughout Florida continued to prepare for another punishing storm as the state continues to recover from Hurricane Charley in mid-August. Some communities hard-hit by last month's storm were right in the potential path of Hurricane Frances. ARES volunteers were being recruited for shelter and Emergency Operations Center (EOC) communicator duty.



<http://www.ares.org/>

A fairly new all-CW (Morse code) entity, the National Radio Emergency Net (NREN), activated September 3 in response to Hurricane Frances. Net members have been asked to monitor 14,050 kHz and 7050 kHz for health-and-welfare, emergency traffic and hurricane information throughout the weekend. NREN is aimed at providing an alternative public service network geared to low-power, portable and mobile stations.

Hillsborough County Emergency Management Director Larry Gispert, KR4X, said in a message to the Tampa Amateur Radio Club that many emergency workers were "very impressed" by what amateur radio volunteers were able to accomplish during Hurricane Charley. "As I have mentioned before, in this day and age of ubiquitous Internet access and prolific cell phone usage, it is still amazing that when the chips are down the only reliable form of communication is a bunch of hams with their radios," Gispert said.

The National Hurricane Center reported a new storm is already in the wings, which could jeopardize Florida again. The NHC was issuing advisories on Hurricane Ivan, which was on a similar path as Frances.

- Broadband over Power Line (BPL) is still a hot topic at the American Radio Relay League. The ARRL has asked the FCC to immediately shut down a BPL field trial in the Cottonwood, Arizona, area because it is causing "severe interference" to amateur radio communication. Electric Broadband LLC and utility APS have been operating the BPL experiment at two Yavapai County sites since June under a Special Temporary Authorization (STA) the FCC granted to Electric Broadband in March. The first amateur radio complaint was filed in June. The ARRL's filing cited testing by the Verde Valley Amateur Radio Association (VVARA) in the 1.8-30 MHz range showing that BPL interference makes attempts at ham radio communication useless.

"The interference on typical Amateur Radio equipment shows received undesired signal levels in excess of 60 dB over S9 on the receiver's signal strength meter," ARRL General Counsel Chris Imlay, W3KD, told FCC officials on the League's behalf. "The utility and Electric Broadband were contacted, and no response was received." The ARRL asserted that both companies are aware that the BPL field trial has been causing harmful interference and "neither has taken any steps to either resolve it or terminate the test."

The VVARA and ARRL measurements, ARRL said, indicate widespread interference to Amateur Radio communication in an area within a mile of the BPL field trial and radiated emissions from BPL modems well in excess of what FCC regulations permit. One measurement cited was more than 32 dB higher than Part 15 allows. The ARRL said continued operation of the system while violating the conditions under which the STA was granted constitutes "willful and repeated interference," and both the utility and the BPL provider should be subject to fines as a result.

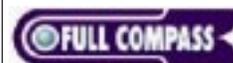
(Excerpts from the [arrl.org](http://www.arrl.org) and National Hurricane Center web sites)



SOUND  DEVICES

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Portable Audio Products for
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AUDIO VIDEO A / V LIGHTING

PLANNING FOR THE FUTURE (continued from page 1)

subscribers to other TV services besides cable may total 22-27%. There are a great number of subscribers to satellite and other services that may be satisfied with what the service gives them and do not even try to pick-up their local TV stations. So out of the 22-27% that need your off-the-air signal for local TV, you may be losing a few percent of you potential viewers because they not making any attempt to view you and your signal is not placed in front of them like it is on cable or local-into-local on the satellite.

And broadcasters have another problem as we make the transition to digital. We have become too complacent by letting the other guy provide our path into the viewer's home. We have gotten used to most of our audience viewing us via cable or now local-into-local on satellite that we have become dependent on paths that could go away or at the least have made us compete with 50 or more other channels, many that are owned by the same networks that provide our programming. This dependency was the first issue raised in the *Broadcasting and Cable* editorial. What would happen if must-carry or local-into-local would go away? If they did go away, and that is possible with a change in the law or a court decision, one of the things that could happen is the networks that feed our programs would no doubt sever their ties with the TV broadcasters and go directly to cable and satellite. The current edge that broadcasters have is that with must-carry and the ability to reach all the homes that rely on off-the-air signals, the networks can reach nearly 100% of the population.

Being digital does not help in this potential problem, but HDTV may help to some extent. One of the problems that satellite services have is a shortage of transponder space. Even with the

addition of more satellites, there is a limit to slots in space to keep adding satellites. There is also the question of placing more than one dish on the roof. This is where HDTV comes to a TV broadcasters aid. Because of the limited transponder space, it is unlikely that there will be local-into-local for HDTV for quite awhile. This will require those who want HDTV from their local station to use off-the-air. Most satellite receivers that are designed to pick-up high-definition programs on the satellite include a terrestrial HDTV tuner in them. This way, the satellite and broadcaster complement each other and your investment in the transmitting plant could reach 30% or more of the homes in your market. The number of homes using both broadcast and satellite HDTV could even increase as more people drop cable and subscribe to satellite. Satellite dishes seem to be popping up on roofs like mushrooms and at the same time, cable companies are running many ads on how cable is better than satellite, indicating that they may fear loses of subscribers to satellite. The FCC report also showed some decline in cable subscribers as satellite use has increased.

Multicasting

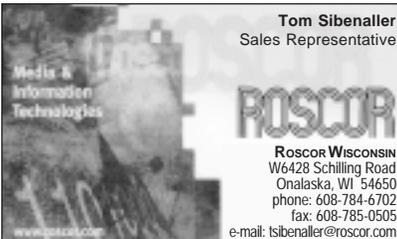
HDTV may help slow the erosion of off-the-air usage and loss of audience to the cable networks, but as the editorial in *Broadcasting and Cable* stated, broadcasters need a new business plan. That plan may be multicasting. And there are some examples of multicasting that broadcasters can examine. These example include the addition of one or more program streams by individual stations to their DTV transmissions, the Freeview service in Great Britain, and the USDTV service in the southwest US. There have been some announcements of multicast program services by some of the networks also.

Multicasting by local stations is being tried by a number of PBS stations including WMVS/WMTV in Milwaukee. Many other PBS stations carry both their analog program and a PBS HDTV service. A number of stations in small markets are carrying a second network, mostly the WB or UPN, and sometimes FOX. WISC in Madison carries its UPN cable channel as a second DTV program. WDJT in Milwaukee carries both its independent and Spanish language low-power stations in their DTV signal along with CBS programming. During the Presidential Conventions, ABC added a news network to its affiliates for multicast as well as to cable as a digital tier. NBC has proposed a weather network for multicast to its affiliates that would combine both local and nationally produced segments. In all these multicast plans, stations are doing it alone with occasional help from a network.

One of the problems with multicasting is finding programming and dealing with its cost. One untapped program source could be cable. Every year, new cable networks are launched and unable to find a slot on many cable systems. A broadcaster could possibly make a deal with a new network. The biggest hitch would be cost as most cable programmers charge a fee for number of subscribers, from 5 cents to a couple of dollars for a sports network. Even at 5 cents, if a broadcaster had to pay that for every home in the market, the cost would be too great. Any fee would have to be based on DTV penetration or ratings.

In the *Broadcasting and Cable* Editorial, the main thrust was that TV broadcasters need multiple program streams to compete with cable and satellite, and they would have to

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PLANNING FOR THE FUTURE (continued)

cooperate and work together to compete with cable and satellite. Fortunately there are two models to show broadcasters the way.

The first is FreeView, which is a free off-the-air broadcast multicast service. It is formed by the BBC, Crown Castle International, and BSKyB. BSKyB also runs a direct broadcast satellite service in Britain. Freeview carries up to 30 TV channels and 10 radio stations as well as data services using the digital transmitters of the five networks in Britain which are BBC 1, BBC 2, ITV, Channel 4 and Channel 5. All five networks are carried along with BBC 3 and 4, ITV 2, QVC, and a number of other networks. The other networks include 4 news networks, 2 music networks, 2 kids channels, a channel covering Parliament, a history channel, travel channels and several entertainment channels.

Freeview is the successor to a subscription based digital network that failed. Freeview followed and was successful for a number of reasons. The first is it used the same set-top boxes as the subscription service, the second was that it was free, the third reason was that the set-top boxes costs 50-120 pounds (about \$80-200). The fourth reason for success is that there are lots of suppliers of the set-top boxes, and finally cable penetration is not as high as in the United States. There are also a number of websites explaining the service and the British digital transition to the public. Last year at this time, there were a million boxes in homes. Early this year the number was up to 2.5 million with up to 100,000 being sold each week. The latest number is 3.5 million boxes in British homes.

Because of Freeview's success,

BSkyB satellite service is going to start a free satellite service. The only cost is a 150 pound fee for the dish, receiver and installation. It can be upgraded to the BSKyB pay service. BSKyB has 7 million subscribers.

In the United States, an over-the-air pay service is being started in the Southwest. It is called USDTV and it will use a set-top box that is available at Walmart and a electronics chain in the Southwest. The set-top box is \$199.95 at Walmart stores around the country, and not just in the markets that USDTV is currently in. The set-top boxes are \$99.95 with a one year subscription and receive all the DTV signals even if you are not a subscriber or drop the subscription. The markets that USDTV is currently in is Salt Lake City—which is the home to the company—as well as Las Vegas and Albuquerque. The cost of the service is \$19.99 a month. The service leases part of a number of stations digital streams to supply the programming.

The paid programming includes ESPN, ESPN 2, Disney Channel, Toon Disney, the Food Network, Discovery, TLC, HGTV, Lifetime, Lifetime Movie and Fox News as well as a program guide. In Salt Lake City, there are 10 DTV stations and with those station that multicast their own programming and with the USDTV programming, there are about 40 channels for of-the-air viewers. The number of program streams in Las Vegas and Albuquerque are not as great as there are fewer stations. USDTV is looking to move into more markets and has 8000 subscribers so far.

And EMMIS Broadcasting has proposed a similar multicasting service and has signed on a number of other broadcast groups to develop that plan.

Duopolies, With and Without Limits

Another way to increase multichannel programming is by owning more stations. There are a number of ways of doing that, but for many of the ways to increase any number of potential new stations to own, we will have to wait until the end of the DTV transition, but plans can be made now. The first method is what the FCC allows now, which is multiple ownership of existing stations in certain markets. But to avoid concentration of ownership, this option is limited. There are other ways to own more than one station in a market. The first can be done now to a limited extent and that is the use of low-power stations. A full power station could always own as many low-power stations as they could want. The main problem with attaining new low-power stations was the freeze on new LPTVs within 100 miles of the top 30 markets in anticipation of the DTV transition. That limited new stations, even though some got around it. The other problem was the one kilowatt transmitter limit. That allowed for a maximum of 15 to 20 kilowatts with an omnidirectional antenna in analog. The FCC has raised the radiated power limit to 150 kilowatt analog and 15 kilowatt digital. This can provide somewhat useful coverage; not the same as full power, but with planning, population centers can be covered.

Multiple LPTV transmitters can also be used to increase coverage. A number of small market stations are using LPTV to deliver a second network, normally the WB, UPN or FOX. In Milwaukee WDJT, which operates a full power CBS station on Channel 58, also operates a independent station on Channel 43 with 37 kilowatts, and a Spanish Language station on channel

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The *Chapter 24 Newsletter* is published monthly by SBE Chapter 24 Inc., Madison, WI.

Submissions of interest to the broadcast technical community are always welcome. E-mail articles to: MNorton@ecb.state.wi.us

PLANNING FOR THE FUTURE (conclusion)

65 with 137 kilowatts. Both can cover most of Milwaukee from antennas mounted 1100 feet above ground.

Another method for duopolies is to bid on channels 51 to 59 when they are auctioned. One of the allowable uses of the channels is digital broadcasting. Antenna height is limited to 1000 feet and a power limit of 50 kilowatts with an antenna pattern that does not lay down a signal higher than 3000 milliwatts at ground level, one kilometer from the base of the tower. Use of simpler antennas is restricted to one kilowatt radiated power.

Three of the channels have been auctioned off, including the band that is most favorable to local broadcasters. That band was band C, which consisted of paired TV channels 54 and 59. There were 734 licenses auctioned and some of the winners may be willing to sell. Because some of the licensed areas are small, power and coverage could be limited. But because of these limitations, many markets went for very little money. Capitol Broadcasting and Lin Broadcasting both bid and won a number of licenses in this band.

The other band auction was for band D, which is channel 55 only. There were six licenses available and each license covered several states. Qualcomm won 5 of the licenses and the sixth was for Pacific Islands.

There are still three bands left to auction. They are band A, which is channels 52 and 57, band B which is channels 53 and 58, and band E which is channel 56. The downside of these bands is that there are six licenses for each band which cover several states and will cost large amounts; this favors the large wireless communication companies. There may only be a couple of broadcast companies that can afford to bid against the phone and other communication companies that will seek the spectrum.

Finally, even with a smaller TV band, there should be some new channels available in non-metro markets due to the lesser interference restrictions with digital transmission.

Datacasting

The future of datacasting is questionable at best. It would be difficult to compete with the Internet for most data delivery. There are better systems to deliver Internet services and broadcasters do not have a ready return from the consumer. There are push services that broadcasters could do, but from experience with teletext in analog TV unless broadcasters develop and sell devices to receive, save and display the data, there is little possibility of success. The consumer electronic industry in the US is not interested. The European broadcasters were able to launch some successful teletext services because market forces are different there. The teletext experience also helped their transition to DTV by making the public aware of other uses of the TV receiver.

There are two proposals for datacasting that may work. PBS stations would like to use datacasting to supply data to schools intranet servers that is linked to their programming. They also are developing methods for distance education. This could include transmitting a lecture with graphics and audio to a PC or other device for either live or later viewing by the student. The teacher can be inserted in the corner as a video box.

The other datacasting possibility has been proposed by Disney. Disney is proposing to deliver a pay movie service to homes via datacasting. The subscriber would have a hard drive video recorder that would build a video file containing a movie or other program. The file would be built-up over a period of time depending on the amount of space the broadcaster has in their DTV stream for data. It would take more time to send than if it was a regular video stream, but the idea is to load the movie to the box and have the subscriber watch it at their leisure. There may be other potential datacast services, but anyone developing them will have to create the whole system, including the software and hardware.

With the introduction of the latest generation a DTV receiver chip that

may give the public truly trouble free reception which has never existed before, the fact that most of the DTV transmitters are now on the air, the future of multicasting, and the requirement that 8VSB broadcast and cable DTV tuners be installed in all new TVs in the next couple of years, there is much to be optimistic about as a TV broadcaster. But, there are still many hurdles to go. The public has to be informed and shown the possibilities of DTV and HDTV. This will include having consumer electronics retailers explain DTV to the buyer and stock the devices to make DTV work, including set-top boxes.

Broadcasters must also do their part in getting the word out. Copy protection has to be dealt with to allow home recording of programming. Consumers are used to their VCRs and TiVos and if there is not a digital replacement for them, the public will not accept DTV. They will not give up the conveniences that they have in analog TV when converting the digital.

But the most important thing broadcasters must do is to form a sound business plan for DTV and start to implement it. Just feeding the DTV transmitter your current programming without any special attention will not give the average couch potato anything to get excited about. We need to spice it up. And now the FCC has given TV stations an opportunity by removing the simulcast requirement for the time being.

In many ways after two years, the Broadcasting and Cable editorial is still relevant. We have met the FCC requirements, but we have not made the big breakthrough in capturing the public's imagination. Broadcast television will never again dominate 100% of the TV landscape as it did when it was the only way to get TV, but it still needs to remain relevant to a significant portion of the audience to survive.

Information from Broadcasting and Cable, BBC News (www.bbc.co.uk), USDTV (www.usdtv.com), Freeview (www.freeview.co.uk), and FCC (www.fcc.gov).



FCC Rulemakings

Compiled by Tom Smith

PROPOSED RULEMAKINGS

ET Docket No. 04-186, Unlicensed Operation in the TV Broadcast Band; ET Docket No. 02-380, Additional Spectrum for Unlicensed Devices Below 900 MHz and in the 3 GHz Band.

The FCC has extended the comment period for this Notice of Proposed Rulemaking from September 1, 2004 until November 30, 2004. The deadline for reply comments was moved from October 1, 2004 to December 30, 2004.

The Notice of Rulemaking proposes to allow Wi-Fi and Wide Area Wireless computer links to share the TV broadcast band. These units would be unlicensed and are to use various technologies to avoid interference with broadcast TV reception.

This action was taken on August 25th on request of IEEE 802.18 Radio Regulatory Advisory Group which sought extra time to develop standards for sharing of the TV bands. Intel Corporation, The New America Foundation, the Media Access Project and the Wharton School opposed the delay complaining that the continued warehousing of spectrum white space was not in the public interest.

**MB Docket No. 04-233
Broadcast Localism**

The FCC has extended the comment deadline for the inquiry into broadcast localism. Comments have been extended from September 1, 2004 with the new due date being November 1, 2004. Reply comments are now due on

December 1, 2004. The original due date was October 1st.

The National Association of Broadcasters, The Illini Media Company and Media Access Project all asked for extensions to the comment period. The action was adopted on August 3, 2004 and released on August 4th.

**EB Docket No. 04-296
Review of the Emergency
Broadcast System**

The FCC has issued a Notice of Proposed Rulemaking that looks more like a Notice of Inquiry. The Commission is asking for information on all aspects of the Emergency Alert System.

The Commission has asked for information on what part the federal, state and local governments should play in planning the Emergency Alert System, and how they can make the system uniform across the country. Comment on the roles of the FCC, Department of Homeland Security (DHS), Federal Emergency Management Agency (FEMA) and the National Weather Service (NWS/NOAA) in planning the system is also asked for. Also, the Commission asks if broadcasters and cable providers participation should be mandatory and at what level. They expressed concerns about program interruptions becoming burdensome on broadcasters and cable systems and if federal rules should set guidelines for the use of the system. That would include the use of mandatory EAS codes, how state plans would work, and if monitoring the NWS should be required. There are also questions concerning the current national monitoring system and it's workability or lack of.

The Commission discussed questions concerning the upgrading of EAS equipment and what upgrades should be mandatory. They ask about extending the EAS system to DBS, phone systems and other messaging services. They also ask about requiring TV sets and radios to be able to be turned on and play an alert when not in use. The FCC also looked at the security of the system, as well as the required testing, training of operators, costs, and enforcement of the EAS rules, including fines.

This notice is a top to bottom look at the Emergency Alert System. It was adopted on August 4, 2004 and released on August 12th. Comments are due on October 29, 2004 and replies are due on November 29, 2004.

FINAL RULEMAKINGS

**MB Docket No. 03-15
Second Periodic Review of the
Commission's Rules and Policies
Affecting the Conversion to Digital
Television.**

On August 4th, the FCC adopted its latest set of rules concerning the transition to DTV. In this action, the FCC created rules for final channel selection, set firm deadlines for increasing the power of their DTV stations to the maximum they are licensed to, eliminated the Simulcasting rules for the time being, provided clarity in the rules concerning interference protection on channels 51-69, and committed to a fast-track proceeding on distributive transmission technology including case-by-case deployments in the interim.

The FCC is also requiring the transmission of PSIP information to allow the use of program guides, captioning, v-chip, channel numbering, and other uses of PSIP information. To

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7847 BIG SKY DRIVE
MADISON, WISCONSIN 53719
(608)833-0047 • FAX(608)833-5055



1355 ARMOUR BOULEVARD
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FAX: (847) 949-9595
E-MAIL: SALES@CLARKWC.COM
WWW.CLARKWC.COM

SBE CHAPTER OF THE AIR:

HamNet meets the second Sunday of each month at 0000 GMT on 14.205 MHz. Hal Hostetler WA7BGX is the Control Station.

FCC Rulemakings (continued)

go along with the PSIP requirement, TV manufacturers will be required to include a v-chip in all DTV receivers. DTV closed caption rules are also clarified in this action.

The rules concerning channel election has a number of deadlines and dates for release of updated information. The channel election process started with an August 3rd freeze of all petitions for rulemakings for changes of DTV allocations, new DTV allotments, swaps of in-core DTV and NTSC channels, changes of DTV channels among two or more stations and requests to change an NTSC channel or city of license. The commission will not accept any petition to increase a DTV station's service area on channels 2-51 beyond what authorization or application existed on August 3rd. Only applications to correct interference problems will be accepted.

All stations must correct any FCC database information by October 1, 2004 with the FCC issuing the corrected database in October, 2004.

In November of 2004, all stations must certify that the database information is correct and give their intent to replicate or maximize on their transition channel.

In December, 2004, stations with two in-core channels select which channel they wish to use, and stations with one in-core channel elect whether to use that in-core channel.

In July of 2005, stations without an in-core channel will select an in-core channel from those available after round one.

In January of 2006, stations not assigned a DTV channel or with a DTV

channel on channels 2-6 may select a channel from those available from round two.

After each round, the FCC will announce which channels are protected, are in conflict, and which are available. Stations with conflicts may decide to accept interference and stay on the elected channel or move to the next selection round. After the last round, the FCC will resolve the remaining conflicts, and in August of 2006, they will issue the final Table of Allotments.

All ABC, CBS, FOX and NBC stations in the top 100 markets must be able to serve 100% of their analog population coverage by July 1, 2005, if they keep their current DTV channel. All other stations must have constructed their full authorized DTV facilities by July 1, 2006. if they stay on their current DTV channel. Stations that receive a new DTV channel must cover 80% of the analog population coverage on that date. Stations that meet these deadlines will be able to carry-over their maximization service area to their new DTV channels.

As of September 3rd, the FCC has not released the full Report and Order. The only release is a four-page press release with three additional pages of comments from three of the Commissioners, including Chairman Powell.

MB Dockets 04-55 to 04-68 Digital Output Protection Technology and Recording Method Certifications.

There are thirteen docket numbers in this report and order, as the FCC issued authorizations for 13 different companies to produce electronic recording equipment to record digital

video information. Systems authorized include a system from TiVo, JVC's D-VHS recorders, and Microsoft's Window Media software, along with others manufacturers. The FCC gave authorization based on security, ability to upgrade, interoperability, licensing terms, and consumer friendliness.

The notice does not give away any secrets, but does give some basic information on what kind of copying each system will and will not allow.

This action was taken on August 4, 2004 and released on August 12, 2004.

WT Docket 05-55 Improving Public Safety Communications in the 800 MHz Band, Consolidating the 800 and 900 MHz Industrial/Land Transportation and Business Pool Channels

ET Docket No. 00-258 Amendment of Part 2 of the Commission's Rules to Allocate Spectrum Below 3 GHz for Mobile and Fixed Services to Support the Introduction of New Advanced Wireless Services, including Third Generation Wireless Systems

ET Docket No. 95-18 Amendment of Section 2.106 of the Commission's Rules to Allocate Spectrum at 2 GHz for use by Mobile Satellite Service.

The FCC has issued a 256 page Report and Order on the Nextel frequency swap where Nextel is giving up spectrum in the 700 MHz band to get spectrum in the 2 GHz band, currently used by TV broadcasters for remote pick-up. The section of this notice that is of importance to TV broadcasters is paragraph 229 to paragraph 276. If

(continued on next page)



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FCC Rulemakings (conclusion)

you wish to print this information, print pages 123 through 136. These are the pages that deal with the 2 GHz Broadcast Auxiliary Service transition.

The BAS transition will be done in two stages, with stage one being completed in the first 18 months and stage two being completed within 30 months of the effective date of the FCC's order in this action. Nextel, NAB, SBE, and MSTV must submit a plan to the Commission listing the markets that are in stage one and how disruptions to ENG operations will be minimized. In stage one, all BAS licenses in the markets that Nextel wishes to deploy first will be moved, along with any adjoining markets that require inter-market coordination and interference protection. The rest of the markets will be moved to the new frequency plan within 30 months. Nextel will have to file a report with the FCC at the end of 12 and 24 months in to the transition.

Nextel will be responsible for all up front payments, even if a Mobile Satellite Service is launched on the band. The MSS operators will have to pay Nextel for the moving of BAS operations on a pro-rated basis. Nextel will have until February 28, 2005 to negotiate with stage one relocations and December 31, 2005 for stage two relocations. The estimated cost of the transition is \$512 million.

Finally, because of the speed of the BAS transition under the Nextel agreement, BAS users in the top 30 markets will not have to speed up the transition to the smaller band because of the launch of a MSS system.

The FCC took this action on July 8, 2004 and released the notice on August 6, 2004.

*From FCC Notices and Releases
(www.fcc.gov)*

SBE's Short Circuits – September 2004

*By John L. Poray, CAE
SBE Executive Director*

CHAPTERS TO RECEIVE SBE 40th ANNIVERSARY CD

A copy of "40 Years of Service," the SBE 40th Anniversary program on CD, originally presented during the SBE Membership Meeting at NAB this year, will soon be sent to each chapter. The elaborate MS PowerPoint presentation includes 80 photographs and is professionally narrated. The program is about 20 minutes long and would be an ideal presentation at chapter meetings. Copies are expected to ship about the middle of August to each Chapter Chairman.

SBE MEMBERSHIP HITS NEW HIGH

Total membership in the Society of Broadcast Engineers at the end of June reached 5,939, a new all-time high. That was 66 more than the previous all-time high recorded on June 30, 2003. There were 447 new members the first half of 2004.

5,400 SBE CERTIFICATIONS!

There are now 5,400 SBE certifications held by approximately 5,000 different members and non-members. The number of certifications is an all-time high and indicates that the program's acceptance within the industry continues to grow. This achievement is the result of the collective hard work of the chapter Certification chairmen, national Certification Committee, and Certification staff. Congratulations to all those who have made this possible.

SBE 2004 NATIONAL MEETING

The SBE National Meeting will be held October 26-27 in conjunction with the Bos-Con Regional Convention sponsored by Chapter 11 in Boston. The event will take place at the Best Western Royal Plaza Hotel & Trade Center in Marlborough, Massachusetts.

The SBE National Meeting includes the fall Board of Directors Meeting,

annual Fellows Breakfast, Annual Membership Meeting and the National Awards Reception and Dinner. The regional Convention includes an Ennes Workshop on Tuesday (only \$25 to attend and includes lunch) and a broadcast equipment trade show Tuesday evening and all day Wednesday (free!).

Marlborough is easily accessible by car. For those of you who plan to fly, Marlborough is approximately 45 miles west of the Boston airport, 50 miles north of the Providence, RI airport and 50 miles south of the Manchester, NH airport. Check all three to get the best rates and arrival and departure times from your location.

SBE TO EXHIBIT AT IBC

For the first time, the Society of Broadcast Engineers will participate as an exhibitor at the IBC (International Broadcasting Convention) in Amsterdam, Netherlands. The event takes place September 10-14, 2004 at the RAI Convention Center.

SBE International Committee Chairman, Chuck Kelly, CBT worked with IBC organizers to provide SBE with a complimentary booth. This paved the way for SBE's participation. Executive Director, John Poray will represent SBE at the show. Poray will be promoting SBE membership, certification and other services to the more than 39,000 people who are expected to attend. SBE currently has members in 30 countries besides the United States.

If you will be attending IBC, plan to visit the SBE "Stand," #8.196, which is in the Audio/Radio Hall. The booth will contain many of our free literature items, explaining SBE benefits and programs including the many technical books we have available.

The schedule of EAS Required Weekly Tests (RWT) and Required Monthly Tests (RMT) times to be sent on Wisconsin Public Radio is listed on the web. It can be found at: www.wpr.org/eas

WBA/SBE BROADCASTERS CLINIC 2004

The annual Broadcasters Clinic will be held October 12-14, 2002, at the Marriott-Madison West. This is an excellent opportunity to increase your knowledge on timely broadcast engineering topics. The cost is \$130 for any two days, or \$150 to attend all three days of sessions.

There is an early bird rate available: \$115 for any two days, or \$130 for all three days if you register before September 15th.

To register, call the Wisconsin Broadcasters Association at 608-255-2600, or 800-236-1922.

Tuesday October 12

- Virtual Combined Studio Tour
- Digital Audio Router and Control Surface
- Ins and Outs of 0's and 1's
- IBOC Extended Uses
- Split Combining
- Real World HD Radio, continued
- Engineering Nuts & Bolts

Wednesday, October 13

- RF Exposure Field Measurements

- Trade Secrets of a Guy with a Network Analyzer
- Advances in Coax, Twisted Pair and Fiber
- Broadcasters Guide to MXF
- Fiber for Long Haul Networking
- Synchronous FM Broadcasting--A New Approach
- Upper Midwest Regional Society of Broadcast Engineers Meeting
- Tower Tech Safety

Thursday, October 14

- Next Generation SNG (IP Transmission)
- Enhanced VSB & The Latest DTV Receiver Technology
- Consumers View of DTV
- HD and SD SDI Waveform Monitoring and Testing
- P2, It's All About Partners & Process
- XDCAM Professional Optical Disc
- Monitoring High Power DTV Transmission Lines
- Digital Antenna System

Go to the sbe24.org web site and click on the program schedule link from the front page for more detailed information.

Token Creek Mobile Television Plans Open House

By John Salzwedel

Token Creek Mobile Television will be hosting an open house at our new facilities at 4275 Acker Road (just north of the airport, off of Hwy 51) on Wednesday, October 13, from 4:00 to 10:00pm.

We will be premiering our new 53 foot digital production truck, "Hiawatha" with equipment manufacturers and vendors on site. Join us for beer, brats, sauerkraut, cheese & more at our Oktoberfest celebration!

Special Event - Digital Television Seminar (continued from page 1)

Jim Edwards, a Tektronix Television Systems Application Engineer with over 42 years experience in the industry will be on hand to present, give live demonstrations, and answer your tough questions about the FCC mandated DTV transition.

Who Will Benefit from Attending this Seminar?

Cable Operators, Television Engineers, and Development personal updating CATV Systems from Analog to Digital as well as VOD (video on demand) wanting a better understanding of both Digital Video, MPEG, and RF Modulation as it relates to their environment.

Also Government personal looking to become more familiar with Digital Video, Standard and High Definition, along with MPEG Video Compression.

WHERE: WHA-TV/Vilas Hall
821 University Avenue
Madison, WI 53706

If you would like to register for this seminar, please reply to this email or contact Aubrey Escobar at 800-255-2958, ext. 1331.



Visit Chapter 24 on the World Wide Web

<http://www.sbe24.org>

Steve Paugh is the editor for the HTML Version of this Newsletter, available monthly on the SBE Chapter 24 web page.

Chapter Photo at Broadcasters Clinic

By Vicki W. Kipp

Since the last group photo of Chapter members was taken in 1977, I think that it is time to take a new photo of our current Chapter members. You can see the 1977 photo in the archives at sbe24.org, and at the Chapter 24 booth at the Broadcasters Clinic.

The group photo will be taken before the SBE meeting at the Broadcasters Clinic on Wednesday, October 13.

Please meet for the photo at 6:50 PM in the back of the meeting room at the Marriot. Although guests are welcome at all of our meetings, you must be current members to be in this photograph. I'm seeking a volunteer photographer to take the picture. Camera equipment will be supplied.

Thanks to Steve Paugh for arranging the August program on fiber optics, and to Full Compass for providing the location.



LOCAL LEGALS

Compiled by Tom Smith

PROPOSED

A new Low-Power FM has been applied for by the Wisconsin Polka Appreciation Society, Inc. for Dane, WI. The proposed LPFM would operate on 97.1 MHz. The acceptance of the application was announced on August 17, 2004.

GRANTED

The following construction permits for new FM translator stations were granted on August 16th and announced on August 23rd. FM translator W253AV on 98.5 MHz in Lancaster, WI and W237CB on 95.3

MHz in Darlington were both granted to Edgewater Broadcasting, Inc.

FM translator W225AS on 92.9 MHz was granted on August 25th to Sister Grace, Inc. The notice was announced on August 30, 2004.

Madison's first low-power FM construction permit has been issued to Lake City Church on Milwaukee Street. The transmitter is to be located on Church property with the antenna at mounted at 21 meters above ground and operating at 24.8 meters above average terrain. The new station will operate on 97.1 MHz and is a Class FM 100. The construction permit was granted on August 25th and announced on August 30, 2004.

From FCC Daily Digest (www.fcc.gov)

August Business Meeting Minutes (continued)

Chair Kipp passed around a letter from National SBE Vice President Candidate Sam Garfield explaining why he is qualified for the position.

Chair Kipp has made some modifications to the SBE Booth Display signage which includes a photo of Chapter members taken in 1977. She would like to take a more updated photo before the Broadcast Clinic meeting on October 13th. She has also checked to make sure that all of the literature is up to date.

Under old business Leonard Charles reported that the Broadcast Clinic program schedule has been updated. The schedule is available on the Chapter's web site. The Broadcast Clinic is October 12-14.

Under other announcements, Tom Weeden provided an update on the

WMTV tower project. WMTV analog went on the new tower on July 31st and WBUW analog went on August 8th. WMTV digital is to be on before the start of the Olympics.

Webmaster Leonard Charles reported that the Chapter's website has been redesigned and went live August 9th.

Kevin Peckham reported that Full Compass has created a broadcast museum on the 2nd floor of their facility and are looking for radio and television artifacts. The museum has been setup as a non-profit organization.

The meeting adjourned at 7:14 PM

The evening's program was a fiber signal tutorial presented by Mitch Hayden of Network Electronics and was introduced by Mark Bartolotta of Heartland Video Systems.

Submitted by Jim Magee, Secretary

CHAPTER 24 SUSTAINING MEMBERS

RECENT RENEWALS:

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- Sony Broadcast
- Sound Devices, LLC
- Swiderski Electronics
- Token Creek Productions
- WISC-TV 3
- WKOW-TV 27
- WMTV-TV 15
- Wave Communications
- Wisconsin Public TV

Thanks to WKOW-TV for providing copying and folding facilities for the Chapter 24 newsletter!

Thanks to WISC-TV for maintaining the web server for the Chapter 24 Web page!

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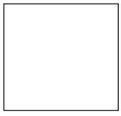
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SBE Chapter 24 Newsletter
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FIRST CLASS MAIL

Newsletter edited on Pagemaker 7.0 by: Mike Norton
Contributors this month: Vicki W. Kipp, Jim Magee, John Salzwedel, Tom Smith, and Tom Weeden.
Thanks to Leonard Charles for his work on the Chapter 24 WWW page.

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SEPTEMBER MEETING and PROGRAM



**Society of Broadcast Engineers
CHAPTER 24 MADISON, WISCONSIN
Thursday, September 16, 2004**

DVD PRODUCTION TECHNIQUES

Jim Brooks, Vice President of VIP Duplication & Media Services will discuss the current techniques and processes for producing DVDs. Jim will also cover the pre-production steps required to prepare program material for mass duplication.

Travel information: West Broadway is being resurfaced. If you are arriving from the west and taking the South Town exit from the Beltline, stay in the left lane, nearest the closed center lane. Just before South Town Mall, the center lane is closed and the right lane takes you into the Mall.

**Dutch Treat Dinner 5:30 PM
Monona Garden Family Restaurant
6501 Bridge Road**

(across the street from VIP, no reservation, just gather together)

**Meeting and Program at 7:00PM
VIP Duplication & Media Services
6430 Bridge Road**

(intersection of W. Broadway & Bridge Rd, just east of South Town Mall)

Visitors and guests are welcome at all of our SBE meetings!

2004 UPCOMING MEETING/PROGRAM DATES:

<u>Day</u>	<u>Date</u>	<u>Program</u>
Wednesday	October 13, 2004	Broadcast Clinic/Tower Safety
Thursday	November 18, 2004	Certification Night
Wednesday	December 15, 2004	Holiday Party

Program Committee:

Steve Paugh
277-5139

Fred Sperry
264-9806

Steve Zimmerman
274-1234