



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

Society of Broadcast Engineers

August 2004

Next Meeting:

**Wednesday,
August 11, 2004**

**Fiber Signal
Transport Basics**

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

**Tallard's Station
8152 Forsythia St.**

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

**Full Compass
Systems
8001 Terrace Ave.**

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WHO'S WATCHING YOUR TRANSMITTER?

By Tom Smith

With the FCC Media Bureau's inquiry of whom are the people who rely on broadcast TV for their TV viewing and the talk about an earlier shut-down of analog TV, it may be time to look into how many sets are using over-the-air TV—either directly or indirectly to receive their local TV service. Broadcasters have spent large amounts of money on transmission plants, most recently adding second transmitters for DTV. Each year there are louder claims that our transmitters and the spectrum they use is more irrelevant due to the large number of homes that subscribe to cable or DBS. It would be helpful to know what the true number of homes are that rely on over-the-air signals for local TV, and what the potential loss of viewers would be if analog TV goes away before a substantial number of off-the-air viewers have purchased DTV receivers.

Every year, the FCC issues a report on the use of various video program sources such as broadcast, cable, satellite, home video and others methods of receiving video such as broadband services. The first thing about trying to figure out where everyone is getting their TV service is that the numbers are not exactly accurate. Just determining the number of homes is difficult. The Census Bureau claims that as of July 2002, there were 119.3 million households in the US. The FCC in their report says there were 106,641,910 TV homes as of the end of 2003. Nielsen claims there are 108.4 million TV homes as of the end of June, 2004, as printed in the weekly TV ratings chart in *Broadcasting and Cable*. The number of these homes that do not watch off-the-air local TV and get their TV from subscription services is normally given as 85%.

The next thing to look at is the number of homes that subscribe to each subscription service. According the FCC's numbers either 65.9 million homes or 70.49 million homes subscribe to cable. In the text of the FCC's report, they listed the number as 65.9 million several times. In a chart at the back of the

(continued on page 4)

Borchert Named SBE Educator of the Year

By Vicki W. Kipp

Don Borchert is being honored as the 2003 Society of Broadcast Engineers (SBE) Educator of the Year for his many years serving as the chairperson of the Broadcasters Clinic held in conjunction with the Upper Midwest Regional Society of Broadcast Engineers Meeting. The Educator of the Year Award recognizes an individual who is dedicated to the education of broadcast engineers through personal writings, teachings, programs, and employment, and who furthers the goals and objectives of the Society. Borchert will be recognized

at the 2004 National SBE Awards Ceremony.

Founded in 1964, the Society of Broadcast Engineers is celebrating its 40th year as a professional growth organization for broadcast engineers. The Society of Broadcast Engineers offers continuing education, certification tests to demonstrate technical acumen, conferences, technical reference manuals, and a voice in FCC engineering issues. There are currently more than 5,900 members in 108 SBE Chapters, with locations in the continental U.S., Alaska, and Saipan.

Don has enjoyed a lengthy career in broadcast engineering. Don Borchert graduated from the Navy Pier Campus of the University of Illinois in 1949. His first job in broadcasting was as an engineer at WLSI Radio in Pikeville, Kentucky from 1949 - 1951. Borchert worked at various radio and television stations for Lee Broadcasting between 1951 and 1964. Don spent the years of 1964 - 1968 working at the Chicago office of RCA. These years were the height of the color television boom. To keep up on all of RCA's products and competing products, Borchert attended weekly technical update sessions. Even

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July Business Meeting Minutes

Chapter 24 of the Society of Broadcast Engineers met on Thursday, July 29, 2004 at Avid Technology, Inc. in Madison, Wisconsin for the chapter's monthly meeting. There were 15 members in attendance, 12 of whom were certified and 7 guests.

The meeting was called to order at 7:05 PM by Chapter Chair Vicki Kipp. The minutes of the June meeting as published in the July newsletter were approved.

The deadline line for the August newsletter will be Friday, July 30th at midnight and the folding party will be held Wednesday, August 4th at 5:30 PM at WKOW-TV.

Treasurer Leslie Franzen submitted his reported that the chapter has a balance well in the black.

Program Char Steve Paugh reported the next meeting will be Wednesday, August 11 at Full Compass and will be a presentation by Heartland Video on fiber signal transport. The September meeting will be held Thursday, September 16 at VIP Duplication on DVD production.

Frequency Coordinator Tom Smith reported that the recent ESPN Great Outdoor Games had a number of coordination requests by 3 support companies. Requests included aerial cameras and POV on 2 GHz as well as CP Communications needing 107 wireless mics. Also requested was coordination on an STL and a PCN for an STL in River Falls.

SBE National Board Member Keith Kintner reported on the upcoming SBE National Meeting in Marlborough, Massachusetts. Check other regional airports besides Boston for best rates. A round trip through Providence, Rhode Island was found for \$160. For the first time, SBE will have a complementary booth at the International Broadcast Convention in the Netherlands.

Under new business, the SBE National Awards have been announced. The Award for Best Regional Conference goes to WBA and Chapter 24 for the 2003 Broadcasters Clinic. The Best Chapter Newsletter (Class B) Award goes to Chapter 24 Editor Mike Norton. The Educator of the Year Award goes to Don Borchert.

Chriss Scherer, a candidate for Vice President of the National SBE, sent the Chapter a letter explaining his qualifications. Steve Epstein, former technical editor at Broadcast Engineering magazine, sent a letter supporting Scherer.

Larry Bloomfield stumped for National SBE Vice President Candidate Sam Garfield and cited his work in the field and support for local chapters.

There is a new used equipment website called Broadcasters Bulletin Board at broadcasters-bb.com from the publisher of the now defunct *Broadcasters ID* magazine. Text ads can be posted for free,

(continued on next page)

July Business Meeting Minutes (continued)

with a charge to post a picture or request a "blind box" ad.

RSI is holding a RF Awareness seminar in Milwaukee on Thursday, September 23rd. They are providing one free pass and will be awarded as part of the door prizes at the end of the Taste of NAB program.

When our chapter lent our SBE promotional material case to Chapter 80 for the WBA Summer Engineering Workshop and we gained a large gray SBE sign. Keith Kintner gifted Chapter 24 an extra SBE sign that he had. Thank you, Keith!

Under professional announcements, congratulations to Steve Paugh for the publication of his article "Ensemble 'Does Everything' for WISC" in the May 5th issue of *TV Technology*. Also congratulations to Jeff Juniet for his article "Acrodyne Makes Smooth Upgrade for WBUW" published in the June 23rd issue of *TV Technology*.

The meeting adjourned at 7:18 PM.

The evening's program was The Taste of NAB presented by Larry Bloomfield.

Submitted by Jim Magee, Secretary

2004 Broadcast Clinic Schedule Announced

The 2004 Broadcast Clinic program schedule has been released. Go to the sbe24.org web site and click on the program schedule link from the front page. Then mark your calendar for this year's event on October 12th, 13th, and 14th.



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AMATEUR RADIO NEWS

By Tom Weeden, WJ9H

- The new "Echo" amateur radio satellite (AO-51) was turned on for general use in FM repeat mode Friday, July 30, for a trial period of about three weeks. During that time, command stations on Earth will monitor AO-51's power budget and adjust the UHF transmitter power as needed for good battery management.

The 10-inch-square microsat, circling some 800 km above Earth in a sun-synchronous orbit, will permit voice communication using handheld transceivers.

Initially, the AO-51 downlink transmitter will be running at about 1 W, and the Amateur Satellite Corporation (AMSAT) says that at that power level, Earth stations will need a small directional antenna to hear it. If onboard power permits, ground controllers will slowly increase the transmitter's output during the trial period. The Echo FM voice uplink frequency is 145.920 MHz, and the downlink is 435.300 MHz. The downlink transmitter will come on when it hears an uplink signal with a 67 Hz CTCSS (PL) tone for about 1 second. "This operation is just like a terrestrial FM repeater with a 1 second 'kerchunk' filter and a 10 second hang time," AMSAT noted.

- The broadband provider that's been testing Broadband over Power Line (BPL) in the Village of Penn Yan, New York, now reportedly will "move away" from that technology. The western New York community of some 5000 residents has been considering various proposals with Data Ventures (DVI) to offer broadband service. The village reportedly would get 10 percent of the generated revenue. According to an article in the July 28th edition of the Finger Lakes Times Online, DVI now is proposing to employ wireless mesh technology instead of BPL.

The Finger Lakes Times report quotes DVI CEO Marc Burling as saying that his company didn't feel BPL was "commercially deployable." He also cited issues with the BPL trial including security concerns and interference—which will not be an issue with the wireless system.

The American Radio Relay League considers BPL a threat to amateur radio and other licensed radio services because of its RF radiation potential. "Not only will your citizens receive better service, but a serious radio spectrum pollution problem has been averted as well," wrote ARRL CEO David Sumner, K1ZZ, in a letter to DVI.

(Excerpts from the arrl.org web site)

Thank you to Avid Technologies, Inc for hosting the Taste of NAB at the July meeting. Special thanks to Jim Magee for unpacking, setting up, tearing down, and repacking the road show equipment.

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WHO'S WATCHING YOUR TRANSMITTER? (continued from page 1)

report, the number of 70.49 million was given—which is a difference of about 4% of the homes with TV. Direct broadcast satellite had 20.36 million homes as of the end of 2004, with more than another couple of million added since the beginning of the year. Satellite Master Antenna Systems (SMATV) service about 1.2 million homes, MMDS serves 200,000 homes and is fading fast. C-band satellite dishes are in 502,000 homes and those numbers are decreasing also. C-band satellite also serves 3500 hotels and 3000 SMATV systems. MMDS and C-band have lost 2.6 million homes, mostly to DBS. SMATV has lost about 400,000 homes to cable and DBS.

Adding up the 65.9 million cable subscribers, 23 million DBS subscribers, and the 1.9 million SMATV, MMDS and C-band satellite subscribers, the total comes to 90.8 million homes that subscribe to a TV service or 84% of the homes. The number goes to 95.4 million homes when the larger cable number is figured in. This is equal to 88% of the homes.

The next question is how many of those subscribers get their local TV station from their subscription service. First we know that all of the cable subscribers get their local stations from their cable company for at least one or more of their TVs. MMDS may or may not transmit the local stations. C-band users do not get any local TV on their dish. SMATV subscribers get local TV from their provider, but as this service mainly comes via C-band, the local stations are received from an off-the-air antenna in the apartment or condo complex. Finally, DBS subscribers may be able to receive local stations from their dish depending on the TV market they live in. According to the FCC report, 58% of all DBS subscribers do receive local stations via their dish with

that number running at 75% in the markets that the local-into-local service is an option. Some DBS users outside of any TV market get local stations from other parts of the country. All of the subscribers to cable or DBS may be getting their local stations off the air indirectly as most of the pick-up points for DBS use off-air signals, as do many cable systems. It is mainly the large metropolitan cable systems that receive local stations via cable or fiber from the stations' control room. Small rural and systems at a distance from the stations usually receive their signals over-the-air.

If we add up the 13 million to 17.6 million homes with no subscription TV service, the .5 million C-band users, the 1.2 million SMATV subscribers, the 200,000 MMDS subscribers and the 42% or 9.7 million DBS subscribers that don't get local into local, the total is 24.6 million homes or 22.6% of the homes with TV. If you use the smaller cable number, the total number of homes getting their local TV from off-the-air is 29.2 million or 26.9 percent of the homes with TVs. The 108.4 million homes figure from Nielsen was used for the total number of homes.

Now we need to look at the overlooked numbers in measurement of TV audiences. These include sets in TV subscribers homes not hooked to the subscription service, TVs in hotels, dorms, second homes, and places of business. In most single family homes with cable, most of the sets are hooked to analog cable service. A number of years ago, that may have not been true when cable systems charged an additional fee per outlet, but since per outlet fees have gone away, most of the sets are now hooked to the cable. That may change as some systems are going to all-digital and existing analog sets will require a digital set-top box to

receive any cable TV. Cable service in apartments is another story. In many apartments, there is only one cable outlet in the living room, so any TV in another room such as a bedroom relies either on rabbit ears or a cable run down the hall. Homes with DBS differ from cable homes as far as sets that receive local TV from the DBS provider. We know that 42% of the homes do not get local-into-local service. When all markets get the local-into-local service the number should drop to the 25% level that currently exists in the markets with local-into local. But because many families are dropping cable and getting DBS to cut costs for subscription TV services, they may opt to use off-the-air instead of paying another 4 or 5 dollars. Also because it costs 5 dollars more per month to activate each additional DBS receiver plus the additional cost to purchase the receiver, not all sets in the home may have a DBS receiver. Finally all those DBS subscribers to VOOOM and the subscribers to DirecTV and Dish Network hi-definition services will need to use off-air DTV services to receive hi-definition programming from the broadcast networks. It is doubtful that there will ever be enough transponder space to provide local-into-local HD service to all markets.

The most forgotten users of off-the-air reception are places of business. One reason for this is that Nielsen does not rate the viewing of TV in hotel and dorm rooms or in offices. More and more hotels are subscribing to program packages from DirecTV or Dish and receive the local stations off-the-air. Both Dish and DirecTV provide local-into local to business, but many opt for off-the air to avoid the cost of additional satellite receivers and modulators. Many sports bars follow the same pattern. Other business must rely on

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WHO'S WATCHING YOUR TRANSMITTER? (continued)

off-the-air because the cable does not run past their building. Many cable companies did not run the cable in business or industrial districts because there were few potential subscribers. When was the last time you waited for you car at a dealership and saw a TV that did not use rabbit ears in the waiting room? Because of cable modems and the Internet, cable is now being extended to these areas.

The last place that may not be counted for over-the-air reception would be second homes. How many people would pay for cable or DBS for a place they may only use several times a year. Even if they use it more often, unless the vacation home is on a lake shore or other built up area, the cable probably does not pass the vacation home anyway.

When you add the 23 to 29 million homes that get local TV off-the-air, add the second, and possible third and fourth set in those homes, the sets in

DBS local-into-local homes that are not connected to receivers, the millions of TVs in hotels and other places of business, then the National Associations of Broadcasters estimate of 80 million TVs out of more than 300 million TVs in this nation are using off-the-air signals may be true. This would make your transmitter more important than just securing must-carry rights that broadcasters are required to receive. It also means that there would be large numbers of sets that would loose access to local TV service if analog transmitters are required to be shut down before the marketplace is ready.

Broadcasters need to know exactly whom they are serving to justify the costs of operation and updating of their transmitter plants, to be able to lobby for realistic shut-down of the analog service, and to justify the use of the remaining TV broadcast spectrum. The stakes are high as local broadcasters are the only providers of diverse local programming in all but a handful of

markets in this country. Cable provides local programming in a few markets and those numbers are decreasing. Cable access only provides limited service and for the most part is of low production and technical quality.

There are also job and economic considerations to contend with if broadcast TV were to lose it's ability to reach all viewers, as it is a 40 billion dollar a year business—with the networks earning 22 billion dollars. The ability to reach all the homes in the US no matter how the viewer gets the programming is what makes broadcast TV as important and valuable as it is. There are 1726 stations in the US that are transmitting TV programming, along with hundreds of low-power TV stations and thousands of translators that make up this service that is in many ways taken for granted.

Some information from the 2004 FCC Video Competition Report (www.fcc.gov)

Chapter 24 Celebrates National SBE Awards

By Vicki W. Kipp

SBE Chapter 24 members were recognized by the National SBE Awards Committee for our 2003 efforts in three areas.

Don Borchert was selected as the SBE Educator of the Year for his work as the Chairperson of the WBA/SBE Broadcasters Clinic and WBA Engineering Workshop. Newsletter Editor Mike Norton was recognized again for the Best Chapter Newsletter (Class B). This award is a testament to the first-class quality of the publication constructed by Mike Norton and to the content of all the contributors: Leonard Charles, Lonnie Cooks, Leslie Franzen,

Dave Janda, Keith Katers, Vicki Kipp, Darryl Lonowski, Jim Magee, Denise Maney, Matt Mommaerts, Mike Norton, Steve Paugh, John Poray, Kevin Ruppert, Tom Smith, Paul Stoffel, and Tom Weeden. WBA and SBE Chapter 24 were awarded the distinction of Best Regional Convention or Conference for the 2003 Broadcasters Clinic and SBE National Meeting. The efforts of Chairperson Don Borchert, the WBA Engineering Program Committee, Chairpersons Tom Smith and Vicki Kipp, and many other Chapter 24 members resulted in a successful conference.

In conjunction with the SBE National Meeting at Bos-Con, the awards will be

given out at the National SBE Awards Ceremony on October 27 held in Marlborough, Massachusetts near Boston. Don Borchert will accept his award in person at the ceremony.

As your chapter Chairperson, I would like to congratulate all of the Chapter 24 award nominees and award winners. Well done!

Web Site Changes

By Leonard Charles

The Chapter 24 Web Site (www.sbe24.org) is undergoing a face lift. The same information will be available, but the presentation will be in an easier to read format with better navigation aids.

The new site should be on line within the next few weeks. The site may be temporarily unavailable for a short time during the conversion. Sorry for any inconvenience.



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Borchert Named SBE Educator of the Year (continued from page 1)

after he left RCA, Don continued to receive weekly RCA updates for 15 years so he could stay current. Borchert became a Registered Professional Engineer (P.E.) in 1966. From 1968 - 1993, Don Borchert worked for the University of Wisconsin-Extension as the Director of Engineering for WHA radio and television. The University of Wisconsin asked Don to assist in planning the construction of Vilas Communications Hall. In the early 1970s, Don and several other Madison broadcast engineers worked together to start a Madison SBE Chapter known as Chapter 24. From 1993 to present, Don worked for the University of Wisconsin Research Park as an engineer for the construction and maintenance of the massive 1,423-foot Madison community broadcast tower.

The predecessor of the Broadcasters Clinic, the FM Clinic, was initiated by broadcast Engineer Jack Stiehl in 1955 and ran through 1974. When Stiehl changed employers in 1975, responsibility for the FM Clinic remained at the University of Wisconsin-Extension. Director of Engineering Don Borchert became active in planning the educational event. At this time, Madison broadcast engineers transformed the FM Clinic in to the Broadcasters Clinic for AM, FM, and Television, and widened their target audience to broadcast engineers throughout the upper Midwest. The new Clinic continued under the auspices of the University of Wisconsin-Extension through the efforts of Don Borchert. The Broadcasters Clinic for AM, FM, and Television built a solid reputation for enabling Midwest broadcast engineers to view new equipment and hear many of the industry's most knowledgeable speakers.

When Don retired from WHA in 1993, responsibility for the Broadcasters Clinic was transferred from University of Wisconsin-Extension to the Wisconsin Broadcasters Association (WBA). Since 1993, Don Borchert has worked for WBA to coordinate the Broadcasters Clinic which is held in conjunction with Madison SBE Chapter 24. When Don

began with WBA in 1993, WBA had separate planning committees for their Summer Engineering Workshop and the Broadcasters Clinic. Don merged the two planning committees into a single Engineering Program Committee with representatives from Midwest television, radio, and educational multimedia facilities.

Despite being semi-retired from broadcast engineering, Don devotes significant time and energy to keeping informed on our industry and sharing that information with us. Borchert has been attending the National Association of Broadcasters (NAB) Engineering Conference since the 1950s. Don continues to attend the NAB Conference each year because he finds NAB an excellent opportunity for industry updates. He attends NAB to learn about new technology and to maintain his national contacts. While at NAB, Don visits exhibitors and speakers to encourage them to come to the Broadcasters Clinic. Even though he is semi-retired, Don Borchert still makes a point of reading several industry trade magazines. All of Don's efforts in staying current with technology and industry leaders culminate in him being able to bring to Madison national-caliber presenters and exhibitors at the Broadcasters Clinic regional conference.

SBE Chapter 24 is grateful to Don Borchert for coordinating educational events such as the Broadcasters Clinic and Summer Engineering workshop where he brings an impressive array of broadcast engineering industry leaders to Wisconsin to present to us. Don's recognition as SBE Educator of the Year is a fitting acknowledgement of his effort to bring engineering education to us.

Chapter 24 Web Site 
<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.

FCC HOLDS ANOTHER LOCALISM HEARING

By Tom Smith

The FCC held a fourth localism hearing on July 21st in Monterey, CA. The FCC has held three hearings and is planning on two more. FCC Commissioners Kathleen Abernathy, Michael Copps and Jonathan Adelstein were to preside at the Hearing. Chairman Michael Powell was not to attend. Copps and Adelstein have been at all the localism hearings, the rest of the Commissioners have attended one or two of them.

There was little coverage of the hearing in the broadcast press. Coverage seems to decrease with each hearing. The hearing followed the same format of the previous hearings with two panels of invited speakers consisting of a 50/50 mix of broadcasters and persons representing public interest and civic groups, including local government. After the two panels are done speaking, there is then an open mike for the public to speak. The open mike was to last for one hour and 45 minutes.

At the hearing at Rapid City SD, the open mike went until after midnight. The whole hearing is normal scheduled to start at 5:30 or 6:00 PM and last until 9:30 or 10:00 PM. Interest in the hearings is high and the halls have been filled to overflowing.

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

Are you an aspiring technical writer that can explain the technology used in broadcasting? Submissions of interest to the broadcast technical community are always welcome. You can email articles to: MNorton@ecb.state.wi.us

SBE's Short Circuits – August 2004

By John L. Poray, CAE
SBE Executive Director

AWARD RECIPIENTS ANNOUNCED

The Society of Broadcast Engineers has announced the winners of the 2003 SBE National Awards. Winners will be recognized during the SBE National Awards Dinner, held during the 2004 National Meeting being held October 26 - 27 in Marlborough, Mass. This year's National Meeting is being held in conjunction with Bos-Con, the Chapter 11 SBE Regional Convention.

A full rundown of the winners can be found in the August issue of the SBE SIGNAL.

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 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!)

Everyone is invited but we especially hope that many SBE members in the New England area will attend the event. 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 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

New Tower Goes Live

By Tom Weeden,
WMTV Chief Engineer

As of 4:30 AM Saturday, July 31st, WMTV began transmitting from its analog channel 15 antenna on top of the new WBUW/WMTV tower. Our height above average terrain has increased from 1,154 to 1,361 feet. The ERP has decreased slightly, from 955 kW to 891 kW. WMTV's antenna is a Harris Wavestar which was originally installed in 1993.

At press time WMTV-DT is still on its antenna on the old WMTV tower. WMTV-DT (19) and WBUW-DT (32) will share a Dielectric side-mount panel antenna on the new tower. WMTV-DT expects to switch to that antenna during the first week of August. WBUW (57) expects to begin transmitting from a new Dielectric top-mount antenna also during the first week in August.

made this possible.

COURSE II OF LEADER SKILLS SET

SBE will be presenting Course II of the Leader Skills Seminars in August and September. Course II will be held in Indianapolis on August 11-13 and in Atlanta on September 28-30. Dick Cupka is the instructor for both courses. Registration for the course in Indy has closed but there are a limited number of seats for the Atlanta course still available. Attendance at Course II requires that participants have previously attended Course I. Contact Angel Bates at abates@sbe.org or (317) 846-9000 for more information.

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FCC Rulemakings

Compiled by Tom Smith

PROPOSED RULEMAKINGS

MB Docket No. 04-232; FCC 04-145 Retention by Broadcasters of Program Recordings

The FCC has extended the comment period on the proposed rulemaking that would require broadcasters to record all of their programming and keep those recordings for 60 to 90 days. The Arizona and Kentucky Broadcasters Associations requested a 45 day extension to the comment period, which was to originally end on July 30th for comments and August 30th for replies. Comments are now due on August 27th and replies are due on September 27th.

This notice was adopted on July 21, 2004 and released on July 22nd.

MB Docket No. 04-261 Violent Television Programming and it's Impact on Children

On March 5, 2004, 39 members of the US House of Representatives Committee on Energy and Commerce ask the FCC to hold an inquiry into violence on Television. On July 15th the Commission adopted a Notice of Inquiry on the Subject.

Information that the FCC is seeking includes the amount and trends of violence on TV, the effects on children and other viewers, if specific portrayals of violence have deleterious effects on children and others, kinds of programming that should be of focus of policymakers and whether they should address all violence or just excessive and gratuitous violence. The Commission asked for comment on the

effects of TV ratings and the V-chip and if there should be additional mechanisms to controlling exposure to violent programming. The final question asks if there are legal restraints to Congress and the Commission in developing further policy on violence on TV.

This debate has been going on since shortly after the beginning of TV service and is addressed by the FCC or Congress every few years. The last time this was addressed was with the Telecommunications Act of 1996 and the FCC Rulemaking in 1998 that require all new TVs to have the V-chip.

The Full Notice was released on July 28th and comments are due on September 15, 2004 and replies are due on October 15, 2004

FINAL RULEMAKINGS

ET Docket No. 03-201: FCC 04-165 Modification of Parts 2 and 15 of the Commission's Rules For Unlicensed Devices and Equipment Approval

The FCC has adopted a number of rules concerning unlicensed operation and equipment in the 902-928 MHz, 2.4 GHz and 5.7 GHz unlicensed bands. These rules will allow Wireless Internet Service Providers (WISPs) greater flexibility in designing their transmission systems. The new rules will allow for sectorized and phased array antennas, the use of one watt power amplifiers, different modulation methods, and new testing procedures.

The new antenna rules will allow for sectorized antennas including phased array type antennas. By using sectorized antennas, providers would

be able to reuse different frequency groups in different directions, which would allow for more users of the system. Currently WISPs are limited to non-directional coverage. When they use multiple antennas, power is limited to that would be fed to a non-directional antenna. Under the new rules, the combined output of an antenna with six sector beams would be allowed a combined power output of 8 dB greater than an omni antenna. Users of antenna systems with more than six beams must reduce the power to each antenna so the total combined power does not exceed allowed 8 dB combined increase of EIRP. The total power in each beam cannot exceed the EIRP of a point to point antenna system, including areas of beam overlap from two adjoining antenna beams.

The new rules will allow for higher gain antennas, as long as the systems is certified for their use. FCC certification will be based on the highest gain antenna with the manufacturer providing addition data on other lower gain antennas that can be used with the system. All systems must use a unique connector so uncertified antennas cannot be used. Output power of the transmitter system must be decreased by 1 dB for every 3 dB increase in antenna gain over 6 dbi.

The new rules will also allow for the addition of a power amp of up to one watt to be added to some unlicensed systems. The power amp cannot be used with spread-spectrum systems that use frequency hops of less than a specified number depending on the band. The lower frequency hopping systems are limited to .125 watts, and .25 watts in the 902-928 MHz band.

The FCC is also allowing for new bandwidth standards for the different spread spectrum modulated hopping

(continued on next page)



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LOCAL LEGALS

Compiled by Tom Smith

PROPOSED

WBKY (FM) Portage, WI

Magnum Communications, Inc. seeks to have the FCC reallocate FM channel 240A from Portage, WI to Stoughton, WI. If this move is approved, it will be the first local broadcast service licensed to Stoughton. The proposed coordinates are 89-16-59/42-50-21. These coordinates are one mile

Northeast of the intersection of Highways 14 and 159 between Brooklyn and Cooksville.

WBKY (FM)'s transmitter is currently at 89-34-16/43-48-17. WBKY (FM) shares the transmitter site with WIBU (AM)/ WNNO (FM) in Wisconsin Dells. The difference between the proposed site and the current site is 57 miles. Comments are due on August 12th, with replies due on September 3rd.

The notice was published in the FEDERAL REGISTER on July 19, 2004.

FCC Rulemakings (continued)

data signals. The Commission also updated a number of rules on the testing and certification of this equipment to the FCC.

One point of interest is that the FCC called the use of phased array and sectorized antennas as "advanced antennas" and in his comments, Chairman Michael Powell referred them as "smart antennas." The use of directional antennas that transmit different signals and information to specific areas has been around since the first use of directional antennas in AM. The cell phone industry has been using this technology since it began. It seems that the technology that is allowed in these new rules is nothing other than reinventing of the wheel. In this and other recent rulemakings such as cognitive radios, the Commission is claiming that new variations of old technology will allow for increased use of the spectrum without interference.

The rules were adopted on July 8, 2004 and released on July 12, 2004

From FCC Releases (www.fcc.gov)

UPCOMING EVENTS

Technology-based fields change rapidly, so you need to keep up. There are some future broadcast conferences which offer educational opportunities for broadcast engineers. To find out more about the scheduled sessions, visit the listed web site.

Broadcasters Clinic

Date: October 12, 13, and 14
Location: Madison Marriott West, Middleton, WI
Contact: Wisconsin Broadcasters Association at (608) 255-2600
Registration: For more info go to www.wi-broadcasters.org

Iowa DTV Symposium

Date: October 5, 6, and 7
Location: Des Moines Marriott, Des Moines, IA
Contact: Karen Schaeffer karen.schaeffer@iptv.org (515) 242-4139
Registration: Register online at www.iowadtv.iptv.org

CHAPTER 24 SUSTAINING MEMBERS

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

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FIRST CLASS MAIL

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

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AUGUST MEETING and PROGRAM



**Society of Broadcast Engineers
CHAPTER 24 MADISON, WISCONSIN
Wednesday, August 11, 2004**

FIBER SIGNAL TRANSPORT BASICS

Signal transport using fiber optics has some similar and some dissimilar aspects as compared to signal transport over copper (wire). We will discuss the basic technology, different physical parts of the fiber transport chain, signaling techniques, and discuss optical budgets. Additionally, we'll discuss some examples of fiber transportsystems in place today. At the end of the presentation, you will have a good overview of the what, how, and why of signal transport over fiber – with an emphasis on transporting typical television broadcast signals.

**Dutch Treat Dinner at 5:30pm
Tallard's Station
8152 Forsythia Street, Middleton
(off Airport Road, west of Zimbrick Acura/Volkswagen West)
(no reservation - just gather together)**

**Meeting and Program at 7:00pm
Full Compass Systems
8001 Terrace Avenue, Middleton
(use the front door entrance)**

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>
Thursday	September 16, 2004	VIP – DVD Production
Wednesday	October 13, 2004	Broadcast Clinic/Tower Safety
Thursday	November 18, 2004	Certification Night (tentative)

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