



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

Society of Broadcast Engineers

May 2001



TOWER INDUSTRY PART 5 - TOWER LOCATION

By Vicki W. Kipp

In this fifth article in a series about the tower industry, we will discuss tower location issues. Debate arises when a telecommunications provider wants to install a new tower that local residents do not want near their home. Some of the uncertainty about tower location can be traced to the Telecommunications Act of 1996. The Act empowered telecommunications providers to erect towers where they need them, but limited the FCC's power to intervene when local communities object to a tower location. For some cellular applications, disagreement can be alleviated by construction of a stealth site that conceals a tower and antenna.

TOWER USE

If we classify industrial towers by their purpose, they can generally be divided into the categories of broadcast towers or cellular/PCS (personal communications system) towers.

For broadcast towers, greater tower height gives the antenna a larger footprint and increased coverage area. Broadcast towers are typically 500 feet or taller. There isn't a maximum height limit for broadcast towers, but both the FAA and FCC have established that structures over 2000 feet above ground level are inconsistent with the public interest and the applicant will have the burden of overcoming that strong belief.

Cellular is a two-way system. Each site can handle a limited number of calls. To relay signals from one cellular tower to an adjacent tower, cellular towers must be in sight of each other. Cellular and PCS towers are much smaller and shorter than broadcast towers. Tower industry analysts predict increased frequency of construction for new cellular

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Next Meeting:

**Wednesday,
May 23, 2001**

**Local EAS Plan
and NAB Review**

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

**at J.T. Whitney's
674 S. Whitney Way**

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

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LOCAL LPFM APPLICANTS ANNOUNCED

By Tom Smith

On April 12th, the FCC announced the applicants for LPFM permits in Wisconsin. There were slightly more than 90 applicants the filed in the third LPFM filing window at the end of January. Wisconsin was one of 12 states that the FCC was accepting applications from, during the filing window that was opened on January 16, 2001 and closed on January 22, 2001.

Other states and territories include American Samoa, Colorado, Delaware, Hawaii, Idaho, Missouri, New York,

Ohio, South Carolina and South Dakota. There were slightly more than 500 applications that were accepted by the FCC. There were 39 applications filed from New York by the New York Department of Transportation and the New York Thruway Authority, and 16 applications filed from Colorado by a state agency called the Telecom Service.

There was one church group that had multiple applications for many locations with only the name of the community changed for each application. They also filed a number of applications for FM translators that

were also announced in the same notice. The Seventh Day Adventists filed a large number of applications in Hawaii. Multiple applications were acceptable as long as each application was filed by a separate entity that may be affiliated with other similar applicants such as different schools within a district, separate college campuses within a state system or separate churches within the same denomination. State transportation departments can also file for multiple licenses, but these applications will be granted only if there are no conflicting applications.

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April Business Meeting Minutes

Chapter 24 of the Society of Broadcast Engineers met on Thursday, April 26, 2001 at J T Whitney's Pub & Brewery in Madison, Wisconsin. There were 11 members in attendance, 9 of who were certified.

Vice-Chairperson Tom Smith was standing in for Chairperson Kevin Ruppert. Smith called the meeting to order at 7:16 PM. Minutes of the March meeting, as published in the April newsletter, were approved. Newsletter Editor, Mike Norton, reported the deadline for the next newsletter as midnight on Friday, May 4, with the folding party the following Wednesday, May 9 at WKOW-TV beginning at 5:30 PM.

On behalf of Sustaining Membership coordinator Fred Sperry, Vicki Kipp announced that Wisconsin Public Television is a new sustaining member for Chapter 24. Alpha Video, maney-logic, National Tower, Swiderski Electronics, and WMTV recently renewed their memberships.

Program Committee, Denise Maney, announced that the May program, EAS Update, will be held on May 23 at J T Whitney's Pub & Brewery. Dave Janda and Paul Stoffel will present that program. Certification, Jim Hermanson, reported that 24 people attended the CBNT seminar and exam on March 27. The next local exam period will be June 8 – 18. Applications are due by April 30.

Frequency Coordinator, Tom Smith, gave an update on recent requests for frequency coordination. Clear Channel recently hired Greg Dahl as a broadcast engineer for their radio stations. Dahl asked Tom Smith for a list of frequencies for all of the local Clear Channel stations. Ray Simmons, WTDY, requested a copy of the STL RPU database. Comments on the Broadcast Auxiliary Spectrum Rulemaking are due by May 15.

For new business, Steve Paugh reminded us that ballots are due to WISC-TV by May 1 at 6:00 PM. Ballots will be counted that night. Jim Hermanson mentioned that Telstar 6 was out of service all day on Sunday, April 22. Tom Smith shared an article from Radio World magazine entitled, "Low Voltage, High Hassle Licensing." Minnesota now requires a license for any low-voltage wiring in a commercial building. The Wisconsin State government licenses Wisconsin electricians. Wisconsin does not have a low-voltage wiring license.

For professional announcements, Tom Weeden announced that WMTV-DT went on the air on April 5. It is being sent at low power and with a limited schedule of HD content. WMTV-DT is dealing with an audio challenge, and is sending NTSC audio with a digital picture for now.

Vice-Chairperson Tom Smith adjourned the business meeting at 7:40 PM. For the evening's program, Steve Paugh discussed the DTV demonstration at the UW Engineering Expo.

Submitted by Vicki W. Kipp, Secretary

Election Results

*Submitted by Steve Paugh,
Elections Chair*

The Chapter 24 election ballots were certified and counted on May 1st, 2001. There are 68 voting members in Chapter 24. We received 17 ballots and all ballots were certified as valid. Thirteen ballots were collected at the April 26th, 2001 chapter meeting and 4 ballots were received by mail prior to the chapter meeting. Congratulations to our newly elected officers.

Chairperson – Tom Smith
Vice Chair – Vicki Kipp
Secretary – Tom Weeden
Treasurer – Stan Scharch

The nomination committee members were Steve Paugh, Jim Hermanson, and Denise Maney.

SBE Short Circuits – May 2001

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

**RECORD NUMBER ATTEND
WORKSHOP, TAKE CBNT EXAM IN
LAS VEGAS**

A record number of 93 people sat for the Certified Broadcast Networking Technologist exam on Saturday, April 21 in Las Vegas. The exam was held following the Ennes Workshop on broadcast networking technology entitled "Putting the Pieces Together", presented by Terry Baun, CPBE, Chairman of the SBE Certification Committee and President of Criterion Broadcast Services in Milwaukee, WI. The Workshop was attended by more

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AMATEUR RADIO NEWS

By Tom Weeden, WJ9H

- The ground control team for the new AO-40 amateur satellite announced at press time that experimental transponder operation would start on Saturday, May 5, for approximately 10 days. This will give hams worldwide their first opportunity to try operation through the advanced satellite's transponders. Uplinks at 435 and 1269 MHz will be downlinked near 2401 MHz. The AO-40 ground controllers also plan to test the problematic VHF and UHF transmitters again, when conditions are favorable. VHF/UHF downlinks will be announced ahead of time "so that the 'big guns' can listen for weak signals," said AMSAT-DL President Peter Guelzow, DB2OS, an AO-40 team leader.

- US businessman and recently licensed amateur radio operator Dennis Tito, KG6FZX, made his first amateur radio contacts—ever—from his perch aboard the International Space Station. Tito spoke May 1 via amateur radio with his family as the ISS was passing over Hawaii. Interviewed on NBC's Today Show, Tito's son Mike said he got to speak with his dad for about 10 minutes. Tito reportedly will pay Russia a total of some \$20 million for the privilege of going into space. He took and passed the Technician exam earlier this month after a volunteer examination session was set up for him in Russia about a month ago.

- The FCC's "Doctrine of Limited Pre-emption of authority over Amateur Radio antenna towers" (known as "PRB-1") could soon be introduced as a bill in the Wisconsin Legislature. The PRB-1 document, an 11 page Amateur Radio Memorandum Opinion and Order, was released by the FCC on September 19, 1985. PRB-1 states that local governments must reasonably accommodate amateur operations, but they may still zone for height, safety and aesthetics concerns. Hams in several states have successfully persuaded their legislatures to codify PRB-1 into state law. In Wisconsin, the bill has been drafted by Rep. Joan Wade (R-Montello) and will be sponsored in the state Senate by Senator Fred Risser (D-Madison). A public hearing on the bill, AB-368, is scheduled for Tuesday, May 15. The hearing is being held by the Committee on Urban and Local Affairs.

(Excerpts from The American Radio Relay League and Badger State Smoke Signals web sites)

FM AUCTION DELAYED

By Tom Smith

The FCC has postponed its next auction for FM broadcast construction permits from May 9, 2001 to December 5, 2001. This is the second time that this auction has been postponed. The auction was originally scheduled to

start on February 21, 2001. With this postponement, the FCC has lifted its freeze on minor change applications. Submission of the application form 175 for this auction is from September 24th to October 5.

From FCC Release (www.fcc.gov)

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TOWER INDUSTRY PART 5 (continued from page 1)

towers. They will be shorter and located closer together to increase system capacity and control.

LOCATION

Site acquisition specialists travel the country scouting appropriate locations for new towers and antennas. A good site is high and unobstructed by trees or other structures. Few small to medium cities have enough high structures (Figure 1), such as building rooftops, water tanks, or communications towers, suitable to meet the needs of a typical wireless grid. Building more towers remedies this shortage.

According to cellular providers' interpretation of the Telecommunications Act of 1996, telecommunications companies are empowered to erect towers where they need them. However, local municipalities frequently challenge this option.

Some state courts view towers as "utilities." This label leads wireless providers to argue that wireless communications facilities (towers and antennas) should be treated no differently than other public and private utility structures such as telephone poles, electric transmission line support structures, traffic signal poles, and expressway light fixtures. Based on this argument, they believe towers should be allowed in residential, institutional, commercial, and industrial areas as well as in public-use areas such as parks, schools, and community centers.

OPPOSITION

There are land-use acronyms that people use to express opposition to



Figure 1. Existing silo near I-90 supports a not-so-stealth cellular antenna.

having a tower located near their property. Following are some local reactions that occur when an entity is seeking approval for the proposed location of a new tower.

"Not In My Back Yard!" (*NIMBY*) is an oft-heard protest from landowners facing the siting of a tower near their home.

Another issue, *NIMNBY* (Not In My Neighbor's Back Yard), is an alternative to *NIMBY* (Not In My Back Yard.) If you had the option to install a tower in your backyard and generate revenue by renting out tower space, you may not be opposed to having a tower located in your back yard. However, your next door neighbor may not appreciate having a tower located so close to their residence.

LULU is an anti-tower strategy that is short for Locally Unwanted Land Use. Municipalities generally endorse this option to require towers to be built in less desirable, more remote areas.

Another siting acronym, *BANANA*, stands for Build Absolutely Nothing Anywhere Near Anyone. This would suggest that towers be built only in isolated areas. This strategy may make for an ineffective coverage pattern since the signal would be sent over a low population area.

Obstinate citizen boards and neighborhood groups often call for "visual impact studies" and environmental reviews, and inhabitants of affected neighborhoods may hire lawyers to protect their interests. Homeowners believe that towers in full view of their homes lower their property values and the aesthetic appeal of their neighborhood. The majority of people do not want obtrusive and non-conforming structures in their backyard. (An anti-tower lawyer advised his clients, "Don't let your cellular phone ring during a tower hearing," hinting that a ringing cellular phone demonstrates the usefulness of a cellular tower.)

When overwhelmed by new tower site applications, communities often impose a moratorium to give them time to enact a revised ordinance. Community ordinances typically require a collocation of at least three or four antennas per tower, and regulate tower height and spacing.

Many broadcasters have successfully handled zoning difficulties by banding together to build one community tower for all users, which zoning boards generally favor.

There has been a frenzy of new tower zoning applications for construction of cellular towers, which is not likely to end soon. Although it is possible that a network of low-orbit

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TOWER INDUSTRY PART 5 (continued)

satellites may some day replace cellular towers, such infrastructure would be tremendously expensive and impractical for now.

FCC'S ROLE

You might wonder what role the FCC takes in tower siting controversies. According to the Telecommunications Act of 1996, final decisions in tower location cases can be appealed to either state or federal district courts where decisions are to be heard on an expedited basis. The FCC has no jurisdiction under the act to determine issues related to location, except for limited situations where the dispute involves issues related to the environmental effects of RF emissions.

Although the Act limits the FCC's authority, this had not disallowed the FCC from examining its authority to take action on tower site approval. The Act requires municipalities to make decisions on applications for wireless facilities within a reasonable time. A reasonable time is the time it would normally take a municipality to make similar development decisions for a non-tower application. Municipalities are barred from taking actions that prohibit or have the effect of prohibiting wireless service.

In 1997, the National Association of Broadcasters (NAB) and the Association for Maximum Service Television petitioned the FCC regarding local zoning regulations that make it impossible for many broadcasters to meet the schedule for introduction of DTV. At present, the FCC has not made any final decisions on this issue. Comments are still being reviewed.

TOWER ADVOCATES

Some people are able to appreciate towers in terms of their useful function, as feats of engineering, and as attractive structures. They may find the symmetrical latticework of a tower eye-catching. On many towers, there is a buoyant pattern of orange and white paint bands.

Some broadcast towers are monuments. Tourists are willing to pay admission and wait in line for the opportunity to ascend the tower. The Eiffel Tower and the Sears Tower are prime examples. The Eiffel Tower houses antennas for the International Time Service and French broadcasting. DTV, NTSC, and radio signals are broadcast from the top of the Sears Tower. Even Madison's own "Candelabra" tower could be considered an attractive structure.

STEALTH SITES

Stealth Network Technologies,

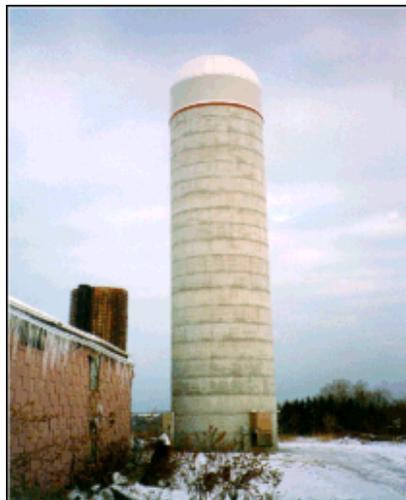


Figure 2. Stealth site silo antenna. Photo by Stealth Network Technologies, Inc.



Figure 3. Antennas are concealed inside this sign. Photo by Stealth Network Technologies, Inc.

Inc. of North Charleston, SC presents an alternative to the standard cellular tower site. They design and install antenna concealment sites. A stealth site is an antenna site that screens, hides, or camouflages an antenna (Figure 2, 3) with minimal reduction to the system's performance. Antennas are hidden behind StealthSkin V RF transparent foam panels. Panels can be painted to match any color. Textures include mirrored glass, sprayed or trowled stucco, or a custom matched brick structure. Panels have a high tolerance to windloading.

Stealth has hidden antennas inside rooftops, flagpoles, bell towers, crosses, clock towers, road signs, silos, water towers, monopoled towers, rooftop parapets, louvers, and artificial chimneys. More than 500 churches nationwide earn income from housing wireless communications antennas in their steeples. To assist wireless carriers in getting zoning approval, Stealth will provide free photo simulations of what the final stealth site will look like in that setting.

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LOCAL LPFM APPLICANTS (continued from page 1)

Wisconsin followed a pattern similar to applications in other states, where about 50 percent of the applications are from church groups and the rest are broken up into several smaller categories. In Wisconsin, just over 50 applications were from church groups with 10 from small clubs or interest groups, four from school districts, four from colleges, two from native American tribal groups, one public access TV group, four from individuals and a half dozen with a non-descript corporate name. A listing of the applicants for Madison and Southern Wisconsin is shown in Figure 1.

In other LPFM news, the FCC has granted the first 25 construction permits for stations in California, Georgia, Indiana, Louisiana, Maryland and Oklahoma. This action was announced on April 16th. On April 10th, the FCC announced that the last two filing windows for LPFM applications will be merged and applications from both groups of states and territories will accepted during the same dates. Those dates are June 11, 2001 through June 15, 2001. The States and territories are Alabama, Arizona, Arkansas, Florida, Guam, Iowa, Kentucky, Massachusetts, Montana, Nebraska, New Jersey, New Mexico, North Carolina, North Dakota, Oregon,

Pennsylvania, Tennessee, Texas, US Virgin Islands, Vermont, Washington and West Virginia.

From FCC notices (www.fcc.gov) with additional information from BE Radio (www.BERadio.com)

Applicant	Frequency	Location
Christ The King Church	95.9 MHz	Monroe, WI
Kettle Moraine Community Radio, Inc.	92.9 MHz	Mukwonago, WI
Wisconsin Polka Appreciation Society, Inc. ...	97.1 MHz	Dane, WI
Hope Lutheran Church, Inc.	92.9 MHz	Milton, WI
Health Writers, Inc.	99.1 MHz	Madison, WI
Woodland Educational Radio, Inc.	92.9 MHz	Milton, WI
Come Pray With Us Radio Association	92.9 MHz	Whitewater, WI
Heart To Heart Educational Association	106.7 MHz	Beaver Dam, WI
Boys & Girls Club of Dane County	99.1 MHz	Madison, WI
JMJ Dove Radio Association	92.9 MHz	Janesville, WI
Gateway Technical College	92.9 MHz	Elkhorn, WI
St. Anne Education Association	107.9 MHz	Fon Du Lac, WI
Father Solanus Casey	103.3 MHz	Fort Atkinson, WI
St. Isidore Radio Association	95.9 MHz	Darlington, WI
Center For Prevention and Intervention	99.1 MHz	Madison, WI
Board of Regents of the University of Wisconsin System	99.1 MHz	Madison, WI
St. Jerome Educational Association	92.9 MHz	Beloit, WI
Mt. Zion Education Association	92.7 MHz	Baraboo, WI
Lake City Church, Inc.	97.1 MHz	Madison, WI
St. John Radio Association	105.7 MHz	Watertown, WI
St. Raphael Educational Association.....	97.1 MHz	Sun Prairie, WI
Cornerstone Church	99.1 MHz	Madison, WI
St. Matthew's Evangelical Lutheran Church ..	99.1 MHz	Madison, WI
Youth With A Mission, Inc.	99.1 MHz	Madison, WI
Common Ground Church	99.1 MHz	Madison, WI
Wisconsin Academy	96.7 MHz	Columbus, WI

Figure 1. List of LPFM Applications from Southern Wisconsin. Order of applicants as listed in FCC notice.

TOWER INDUSTRY PART 5 (continued)

Critics of stealth sites point out the extra expense involved when concealing an antenna. Another potential drawback of stealth sites is limited antenna capacity. The flag pole stealth sites can only hold one antenna per flagpole. Stealth technologies cannot be used to hide broadcast towers because broadcast towers are simply too large to be made unobtrusive.

CONCLUSION

The provisions of the Telecommunications Act of 1996 relating to tower location are the subjects of considerable debate. Uniformity in interpretation of these provisions may develop as appellate courts establish opinions. In the meantime, location issues will continue to lead to court battles. Next

month, we'll continue our discussion of the tower industry.

Information for this article came from the following sources:

Ben Campanelli, "Cellular Tower Guide" 1997; Edward S. Hammerstein, "Digital TV Tower Siting Facts" and "Facilities Siting" Tower Times 2000; Stealth Network Technologies, Inc. Stealth Zoning Book.



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FCC Rulemakings

Compiled By Tom Smith

FINAL RULEMAKINGS

MM Docket 00-108; FCC 01-133

Major Network/Emerging Network Merger Prohibition from Dual Network Rule

On April 19, 2001, the FCC amended the dual network rule to allow one of the four major networks – ABC, CBS, Fox or NBC – to own, operate, maintain, or control the UPN and/or the WB network. This notice allows Viacom to retain ownership on the UPN network along with the CBS network. Previously, Viacom would have had to spin off the UPN network after they had purchased CBS.

In the 1940's, the FCC ruled that one entity could not own more than one radio or TV network – which forced NBC to divest one of its radio networks, which became ABC.

In 1977, the FCC lifted the rules concerning radio, which allowed the ownership of more than one radio network. This was because of ABC's creation of multiple networks, and the rule now allows Westwood to operate a number of networks also.

In the 1996 Telecom Law, the big four networks were prohibited from purchasing each other or UPN and the WB. They could create a new over-the-air network or merge with a new network that started after 1996. This allowed NBC to purchase a share of the PAXNET (Paxson). The FCC stated that this ruling was required for the UPN network to survive and would prevent failure of many of UPN's affiliates. This ruling does not allow for any merger between the big four networks of ABC, CBS, FOX or NBC.

The Commissioners voted 3 to 1 in favor of this rule, with Commissioner Gloria Tristani dissenting. Her dissent was due to her concerns that there has been to

much consolidation in the broadcast industry already.

MM Docket No. 93-177; FCC 01-60

An Inquiry Into the Commission's Policies and Rules Regarding AM Radio Service Directional Antenna Performance Verification

In this ruling, the FCC reduced the requirements in measuring the pattern of an AM directional antenna. The FCC requires a directional AM station to do field strength measurements to verify that the antenna system is operating within licensed parameters.

In this notice, the FCC reduced the number of monitoring points, by reducing the number of radials from eight to six for simple patterns, and no more than 12 for a complex pattern. The number of measurement points on each radial is reduced from 20 to 30 points down to 15. For a partial antenna proof, the number of radials is reduced to a minimum of four, with the number of measurement points reduced from ten to eight. The minimum length of a radial is reduced to 15 kilometers.

The FCC also deleted the requirements for a partial proof when replacing antenna sampling components or changing monitoring points, submitting maps and driving directions to monitoring points and base current meters with approved antenna sampling systems. Stations may use GPS coordinates as part of their descriptions of monitor points along with other description information. Antenna reactance is no longer required to be maintained at zero ohms.

Finally, the FCC deleted the critical array designation to all outstanding authorizations. A critical array was one where its field limits were kept to a higher tolerance to prevent interference.

This action was adopted on February 14, 2001 and released on

March 7, 2001. It becomes effective on May 25, 2001 and was published in the FEDERAL REGISTER on April 25, 2001.

FCC File No. EB-00-IH-0089/FCC 01-90

Industry Guidance on the Commission's Case Law Interpreting 18 U.S.C. 1464 and Enforcement Policies Regarding Broadcast Indecency

In this notice, the FCC provides guidance to the broadcast industry regarding the interpretation of case law in the Federal Court decision 18 U.S.C. 1464. The FCC divided this notice in five sections. In section one, the FCC explained the background of the broadcast indecency rules from a statutory basis, and the judicial history of the rules. Section two covered the safe harbor for broadcast of indecent material from 10 PM to 6 AM. Section three discusses what the FCC considers indecent material and the community standard requirements for determining indecency. This section also describes past complaints of broadcast indecency, and the rulings on such cases. The descriptions of many of these cases are quite graphic. Section four explains how a complaint is filed and how the FCC processes it. Section five is the conclusion and final summary of this notice.

The notice in the FEDERAL REGISTER is three pages long and is only a thumbnail of the notice. To determine what falls into FCC policy, one must read the full notice and other FCC actions on broadcast indecency.

This notice was adopted on April 6, 2001 and published in the FEDERAL REGISTER on May 5, 2001.

From FCC Releases (www.fcc.gov) and the FEDERAL REGISTER (www.access.gpo.gov)

Thanks to Denise Maney for arranging the April meeting, and to Steve Paugh for his work on the UW Engineering Expo DTV demo.

SBE Short Circuits – May 2001 (continued)

than 220 people, which was also a record attendance for an Ennes Workshop.

The Workshop was presented in conjunction with the NAB Broadcast Engineering Conference. Moderator for the Ennes Workshops is Richard A. Farquhar, CPBE, President of RAF Consulting in Canal Winchester, OH.

Our thanks to Terry Baun and Rick Farquhar for their work in presenting a most successful program.

SBE MEMBERSHIP DRIVE CONTINUES THROUGH MAY 31

There is less than one month left in the 2001 SBE Membership Drive. This year's drive offers even more prizes than before and any member that recruits a new member will get a discount off his or her membership renewal in 2002. The top chapters will also be recognized. All members received a special Membership Drive mailing in February explaining the details. To qualify for prizes and the renewal discount in 2002, new member applications must be received by the SBE National Office by May 31. If you have questions, call Angel Bates, Membership Services Coordinator at the SBE National Office at (317) 846-9000 or e-mail her at abates@sbe.org.

SBE Tutorials

Special Tutorials continue to be presented by SBE in conjunction with state broadcaster associations. Two different programs are being presented. The first is on broadcast networking technology and is titled, "Putting the Pieces Together." It covers network installation principles and practices, hardware requirements and data processing,

and a connectivity overview. Participants may sit for the SBE Certified Broadcast Networking Technologist (CBNT) certification exam following the tutorial. The "FCC Boot Camp" tutorial walks participants through what a FCC inspector looks for and how to prepare your station for a successful inspection. Both tutorials are presented by Terry Baun, CPBE, President of Criterion Broadcast Services. For more information, contact the SBE National Office at (317) 846-9000 or the sponsoring state broadcasters association.

SBE RELEASES EFD CD-ROM

The Society of Broadcast Engineers, working with representatives from a number of manufacturers, stations and networks, is developing a proposed standard for communicating technical project information between manufacturers and clients. Titled, "Engineer Friendly Documentation" or EFD, its purpose is to combine equipment and technical specs from various manufacturers into an efficient Web-based delivery system. EFD is an effort to define a set of suggested templates to make it easier for engineers to find the technical information they need to plan a smooth project.

When this project is completed, EFD specifications will have consistency in content, so valid comparisons can be made across manufacturer's product lines. EFD content will be portable to all forms of Web devices, from PC's to phones to PDA's. Queries of EFD will be on the "feature" level, using a plain English interface. EFD data will integrate into CAD programs, spreadsheets, E-commerce and ERP applications.

A sub-committee of the SBE EFD Task Force has developed a CD that demonstrates the concepts and provides the basics of the XML format that EFD version 1.00 is based. A limited supply of CDs is available free from the Society's national office by calling (317) 846-9000. Production of the CD was underwritten by grants from RAF Consulting, Inc. and MARSAND, Inc.

SBE MEMBERSHIP RENEWALS

Forget to mail your SBE membership renewal in by April 1? It's not too late. Get yours in as soon as you can so you won't miss any publications or lose access to the SBE JobsOnline, insurance coverage and other benefits and discounts.

If you have not received your membership renewal notice in the mail, call Scott Jones at the SBE National Office at (317) 846-9000 or e-mail Scott at kjones@sbe.org.

SBE LEADS 2 GHZ TEST PLAN GROUP

The Society of Broadcast Engineers is lending leadership to an industry effort to develop test plans that will help markets implement the 2 GHz transition required by the FCC. SBE organized a meeting of more than 40 industry engineering representatives from around the country during the NAB Convention in Las Vegas to discuss the issue. The meeting was led by SBE Vice President and Chairman of the SBE Frequency Coordination Committee, Rick Edwards. A task force was created from that group to develop a test plan. That group planned to meet in Chicago on May 3 to begin their work. Updates on their progress will be forthcoming.



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SBE DTV EXHIBIT A HIT AT EXPO

By Steve Paugh

About 1000 people toured the Digital TV demonstration sponsored by SBE Chapter 24 during the University of Wisconsin 2001 Engineering EXPO. EXPO ran from Thursday, April 19th through Saturday, April 21st. We demonstrated over the air reception of each of the TV stations currently on the air. WISC-DT was received on an RCA DTC-100 set top box and displayed on a standard 4:3 consumer television using NTSC analog video connections. With this setup we demonstrated how your existing TV will work with a DTV converter box. We also demonstrated the concept of virtual channels with WISC 3-1 and 3-2 programming. We were also able to show the improvement that DTV offers when we compared off-air analog channel 3 with off-air digital channel 3-1.

WKOW-DT was received on a Harris professional decoder with the VGA output going to a hi-res 4:3 computer display and to a 16:9 data projector. WKOW played HD tapes during EXPO and the public was impressed with the quality of the HD material. In this part of the exhibit we demonstrated that in addition to improved standard definition broadcasts, we can also offer high quality, widescreen HDTV programming. A PSIP (Program and System Information Protocol) analyzer was also connected to the Harris decoder where we demonstrated bit allocation between program streams and the bits left over for opportunistic data. A spectrum analyzer was also set up to show the comparison of analog channel 27 with digital channel 26.

WMTV-DT was received on an RCA DTC-100 connected to a high-res computer display. WMTV ran a server

loop of some widescreen standard definition video. The public was appreciative of the increased video quality of standard definition digital video. On Saturday all three stations broadcast upconverted network programming. The public could tell that the picture quality of upconverted NTSC when broadcast digitally equaled or surpassed that of analog transmissions, noticeably the lack of ghosting and interference. Many visitors stayed quite a while and asked intelligent questions. I would suspect we made a few "sales" during the show. The only hindrance to mass acceptance of DTV and HDTV is the cost.

I would like to thank the following people who helped make the DTV exhibit a success: Craig Bluschke and his staff for providing the venue, support equipment, setup and tear down assistance; Tom Weeden for his WMTV presentation and RCA DTC-100 and VGA monitor display; Steve Zimmerman for playing the HD tapes; Kevin Ruppert for the WISC display and setup assistance; Jim Hermanson, Kerry Maki, Mike Kulis, and Stan Scharch for manning the exhibit and educating the public about DTV; WISC for providing the Harris decoder, PSIP analyzer and RCA DTC-100; and of course to Chapter 24 for sponsoring the exhibit and printing the DTV handout. The DTV handout will be made available on the Chapter 24 web site and may be reproduced intact for distribution to further public education.

SBE Chapter 24 has proven to the public that DTV is real and available in the Madison market. Hopefully in two years, when the next EXPO is scheduled, DTV will be so pervasive in the market that another DTV exhibit will be unnecessary! Thanks again for everyone's help!

CHAPTER 24 SUSTAINING MEMBERS

LATEST RENEWALS:

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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 5.0 by: Mike Norton
 Contributors this month: Vicki W. Kipp, Steve Paugh, Tom Smith, and Tom Weeden.
 Thanks to Leonard Charles for his work on the Chapter 24 WWW page.

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MAY MEETING and PROGRAM



**Society of Broadcast Engineers
CHAPTER 24 MADISON, WISCONSIN
Wednesday, May 23, 2001**

Local EAS Plan Introduction and NAB Review

Dave Janda, Dane County Emergency Management, and Paul Stoffel, WHA-TV, will introduce the new Dane County Local EAS Plan. The Local Plan has been approved by Gary Timm, Wisconsin Emergency Communications Committee Broadcast Chair. The Plan will continue to be a work-in-progress until the FCC decides to adopt proposed additional event codes. Feedback about your individual station's EAS participation and procedures will help determine an implementation process. We will also talk about the latest products shown at NAB. If you attended the convention, please join in and share what you saw.

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

**at J.T. Whitney's
674 S. Whitney Way**

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

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

2001 UPCOMING MEETING/PROGRAM DATES:

Day	Date	Program
Wednesday	June 20	Candelabra/DTV Update

Program Committee:	Denise Maney 277-8001	Steve Paugh 277-5139	Fred Sperry 264-9806	Steve Zimmerman 274-1234
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