



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

Society of Broadcast Engineers December 1999

TELECOM INDUSTRY NEWS

By Neal McLain

**A HISTORY OF DANE COUNTY CABLE SYSTEMS
PART 2: JONES INTERCABLE, MARCUS, CHARTER**

By the time Charter Communications completes its pending acquisition of Bresnan Communications' cable systems, Charter will be the only cable television operator left in Dane County. This is the second of three articles relating the history of the "root" companies: the original cable companies that collectively became Bresnan and Charter.

This article is devoted to the companies in and near Dane County that became part of Charter via two intermediate companies: Jones Intercable and Marcus Cable. Next month, we'll complete the series with an article devoted to the companies that became part of Charter via a different route: Star Cablevision and Marcus Cable.

FITCHBURG CABLE COMMUNICATIONS GROUP

Fitchburg Cable Communications Group obtained the franchise in the Town of Fitchburg (now the City of Fitchburg) in 1980. But this story actually begins a year earlier, in Platteville.

In 1979, two Platteville businessmen, Jack O'Neill and George Walker, formed a partnership named Niall Communications Group with the intention of acquiring and building cable television franchises in Wisconsin. O'Neill was (and still is) a Professor at UW-Platteville; in this capacity, he was largely responsible for establishing the University's Communications Technologies Management program. Walker was the owner of several pharmacies in the area, including the Walker Pharmacies in Platteville and Darlington and the Bergmann chain in the Madison area.

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Next Meeting:

**Tuesday,
December 21, 1999**

**Streaming Media On
The Web**

**UW Engineering
Room 1610
Engineering Hall**

**Dutch Treat Pizza
Party at 6:15 PM**

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

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CHAPTER 24 STUDENT NIGHT A SUCCESS

By Kevin Ruppert

The program and topic for Chapter 24's November meeting was Student Night. Several young people from area high schools joined Chapter 24 for some pizza, a discussion about broadcast engineering and a tour of the WISC-TV studios.

The evening began with the group getting together for conversation and food. Some chapter members brought various trade publications for the students to look at and take home with them. During this discussion, it became apparent that the students

had an interest in video and audio production and wanted to learn more about the technical side of making television and radio.

You could see real mentoring taking place as members explained how to transfer film to video, and how to deal with everyday technical problems, such as finding the right audio adapter for a field mic.

A description of what SBE is and what it does for members was presented by chapter chair Kevin Ruppert. WISC vice president and general manager David Sanks then

spoke about the role of engineers in today's broadcast industry and how he as a manager depends on his engineering staff for technical direction.

Certification chairman Jim Hermanson talked about how he got involved in broadcasting while showing off his first engineering project, an audio console that he built from scratch in high school.

National Liaison Leonard Charles gave a truly inspirational speech about what he believes it takes to become a broadcast engineer.

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November Business Meeting Minutes

Chapter 24 of the Society of Broadcast Engineers met on Thursday, November 18, 1999 at the studios of WISC-TV in Madison, Wisconsin. There were sixteen members and seven guests present, twelve held SBE certification.

The meeting was called to order by Chair Kevin Ruppert at 6:22 PM.

Kevin opened this special Youth Membership Meeting by talking about careers in broadcasting, and the resources and benefits that SBE membership offers. Everyone in attendance was introduced. WISC-TV General Manager, David Sanks, spoke on the purpose and need for broadcast engineers.

WISC-TV Chief Engineer, Leonard Charles, spoke on what it takes to be a broadcast engineer on his staff. Kevin Ruppert spoke on Y2K issues and the broadcast engineer. Jim Hermanson spoke on careers in Broadcast Radio Engineering.

The regular SBE business meeting continued; the treasurer's report stated that Chapter 24's account is in the black.

Certification Chair, Jim Hermanson, announced the deadline to apply for taking SBE certification exams in February is fast approaching.

Frequency Coordinator, Tom Smith, announced that ABC did not coordinate frequencies for the Ron Dayne broadcast last week. He also warned of potential problems with the unlicensed Coach-Com radio communications system coming to Camp Randal Stadium.

Fred Sperry announced that WMSN-TV, Norlight, CTI and Panasonic renewed their sustaining memberships in Chapter 24. Denise Maney announced that the next two meetings have been set up.

The meeting was adjourned at 7:22 PM. A tour and detailed explanation of the WISC-TV studios followed

Submitted by Lloyd Berg, Secretary

CONGRESS MAY NIX LPFM

By Tom Smith

Congressman Michael Oakley has sponsored a bill called the Radio Broadcasting Preservation Act of 1999 that would prevent the FCC from creating a low-power FM service. There were four other members of Congress who co-sponsored the bill. NAB President Eddie Fritts has stated he is in support of the bill.

(From BROADCASTING and CABLE)

COOKIE BAKE OFF WINNER ANNOUNCED

By Vicki Kipp

After much speculation, it is time to announce the winner of the 1999 SBE Chapter 24 Cookie Bake Off. Thank you to all of the Chapter 24 Engineers who found time to make cookies! Although we only had four entries this year, there was plenty of competition between the desserts.

All of the cookies entered were very tasty, and the vote was close. However, one cookie rose above to claim first place. I would like to congratulate the bake off winner, Allan Johnson. Allan baked up a delicious batch of big peanut butter cookies. As the bake off winner, Allan will be awarded a \$30 gift certificate for Radio Shack. Thanks again to all of the participants and all of the voters!

Student Night Success (continued)

Then, the group took a look around the Channel 3 studios to see what goes on behind the cameras and to see what engineers do at a TV station.

This was our second student night and was once again a success. We believe that it is important to expose young people to the field of broadcast engineering to foster their understanding of what the job is like. If the student has an interest in media, he or she might not realize that their true interest is in the technical side of the business. By showing them what we do and how we do it, our guests on student night might find that engineering is the career that really interests them.

We hope to continue to have Student Night at least once per year. If you know of a student that might be interested in attending this or any of our chapter meetings, bring them along.

Our thanks to Dennise Maney for making the contacts with the students and arranging the food. Thanks also to those who spoke and took time to spend time talking with the students one on one.

AMATEUR RADIO NEWS

By Tom Weeden, WJ9H

The amateur license restructuring issue has reportedly moved to the front burner at the FCC, and a Report and Order could be released before the end of 1999. On August 10, 1998, the FCC proposed to phase out the Novice and Technician Plus licenses, leaving just four amateur license classes in place—Technician, General, Advanced, and Extra. The Commission also asked the amateur community to express its opinions on Morse code requirements for licensing and testing, but offered no specific recommendations. The American Radio Relay League proposed Morse code requirements of 5 words per minute for General and 12 WPM for Advanced and Extra class. The restructuring debate generated more than 2200 comments to the FCC, many of them from individual amateurs. Reports from several FCC sources suggest that the R&O draft is in its final stages and could be complete within a month or so.

The Voice of America says a problem at one of its shortwave broadcast transmitters apparently was responsible for causing a spurious signal to appear in the top end of the 20-meter amateur phone band. Several hams had reported hearing a broadcast signal on 14.340 MHz in recent weeks, a second harmonic of the 7.170 fundamental. A VOA engineer said the problem apparently was related to a faulty harmonic filter at a VOA transmitter in the Philippines. The station has switched to an alternate transmitter until repairs can be made.

(Excerpts from the American Radio Relay League's "The ARRL Letter")

CONGRESS MOVES UP AUCTION

By Tom Smith

Hidden in the Defense Department budget was an item that moved up the auction of the spectrum that was occupied by TV channels 60-62 and 65-67. The original auction was to have occurred after January 1, 2001, but Congress wants rules in place for the new service and the auction conducted with monies collected before September 30, 2000, which is the end of this fiscal year for the government.

This could affect the Consumer Electronic Associations proposed use of this spectrum called Mobile Multimedia Broadcast Service. This is a digital audio and data service using

COFDM. There is not enough time to persuade the FCC from creating another wireless communication service in that spectrum instead of the MMBS. The new services would have started in 2006 under the old law.

(From *BE RADIO and BROADCASTING and CABLE*)

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TELECOM INDUSTRY NEWS (continued)

Niall Communications Group obtained the franchise in the City of Whitewater in 1979, and began construction in 1980. With construction under way, the partners continued to apply for other franchises, and eventually obtained several franchises in Grant, Iowa, and Lafayette counties.

In 1980, Niall joined forces with Fitchburg real estate developer Gene Barrett to apply for the franchise in the Town of Fitchburg. Three other companies also applied for this franchise: Complete Channel TV, U.S. Cable of Viking, and Telephone and Data Systems (TDS). After considerable deliberation, the Town Board awarded the franchise to Niall.

This decision surprised many observers: Niall was the least experienced of the four applicants. The closest thing it had to an operating cable system was in Whitewater, and it had just barely completed construction. But unrelated political factors influenced the Board's decision:

- U.S. Cable of Viking was simply unprepared to deal with a township. Their effort was led by a representative from U.S. Cable's corporate office in New Jersey. He apparently didn't understand what a "town" is in Wisconsin: he kept insisting that Viking would wire the "entire town," but he also stated that Viking wouldn't provide service "out in the country." He just didn't comprehend the fact that the Town of Fitchburg, like many Wisconsin townships, is primarily rural even though it includes many urban areas.

- Complete Channel TV was handicapped by the fact that it was based in Madison, and it was proposing to extend its existing Madison network into Fitchburg. At the time, the City of Madison had recently attempted to

annex the entire Town of Fitchburg, and anti-Madison sentiment was still running high in Fitchburg. (Indeed, Madison's periodic annexation attempts eventually led to Fitchburg's decision to incorporate as a city.)

- TDS was in the midst of a standoff with Complete Channel TV over the cable franchise in Verona. At the time, the FCC's cross-ownership rules prohibited common ownership of a telephone company and a cable television company in the same geographic area. TDS had obtained the cable TV franchise in Verona two years earlier, but it hadn't started construction because it also owned Mt. Vernon Telephone Company, the local telephone exchange carrier in Verona. TDS had applied for a waiver of the cross-ownership rule, but CCTV had filed an opposition, and the issue had been tied up at the FCC ever since. Mt. Vernon Telephone also served parts of Fitchburg. It was obvious to all what would happen if Fitchburg awarded the franchise to TDS: TDS would apply for another cross-ownership waiver, CCTV would oppose it, and the whole thing would end up at the FCC.

- The Fitchburg Town Board wanted a cable company that would extend service throughout the entire township — one that would include both the Madison suburbs along its northern boundary and the rural areas to the south. Although the guy from New Jersey didn't even understand what this requirement meant, the rest of the applicants clearly did, and they weren't about to agree to it. All applicants had proposed to build new distribution plant whenever it was needed to keep up with new residential building construction, but they wouldn't agree to build plant in rural areas if it couldn't be justified economically. But Niall made a significant concession: each

year it would build three miles of new plant above and beyond the normal demands of residential building construction. Although this plan didn't fully meet the Board's desires, it did provide a mechanism for eventually extending service to the entire township.

- Perhaps most importantly, the Fitchburg Town Board wanted a cable operator that would build a cable system unique to Fitchburg, with a headend located in Fitchburg. Only Niall offered to do this. To appreciate the significance of this desire, one has to note how Fitchburg relates geographically to its neighbors (Figure 1). Fitchburg didn't have a central "downtown" to give its citizens a unifying sense of community; most of its citizens identified themselves more closely with one of the three neighboring municipalities, Madison, Oregon, or Verona. In some respects Fitchburg quite literally was split in three pieces: it was part of three school districts; its mail was delivered from three different post offices; and its telephone service was provided by three different

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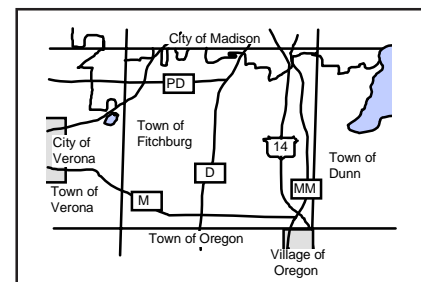


Figure 1. Town of Fitchburg, Dane County, circa 1980. Fitchburg was a township in 1980, surrounded on three sides by incorporated municipalities: Madison to the north, Verona to the west, and Oregon to the south. Although Fitchburg retained most of its original USPLS boundaries, several parcels along its northern boundary had already been annexed into Madison.

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TELECOM INDUSTRY NEWS (continued)

telephone companies. The Town Board had long sought ways to unify its citizenry, and it saw cable television as a tool in reaching this goal.

With its franchise in hand, Niall proceeded to the next step: construction. However, in order to finance construction, it was forced to take in additional partners. By the time the final agreements were in place, there were eight partners, and the partnership had changed its name to Fitchburg Cable Communications Group (FCCG). Besides O'Neill, Walker, and Barrett, the partnership included David Stauffacher (owner of the Exel Inn motel chain) and four other investors collectively known as The Mastenbrook Group. O'Neill and Walker retained seats on the board of partners, but they had essentially sold their franchise before it was ever built.

At this point, Complete Channel TV protested the award on grounds that the FCCG was not the same company that had originally applied for the franchise. But the Town board stuck with its decision. FCCG began construction immediately, and turned on the first subscribers by December.

A month later, the City of Verona, weary of the ongoing stalemate between TDS and Complete Channel TV, accepted bids for a second cable franchise. The FCCG partners

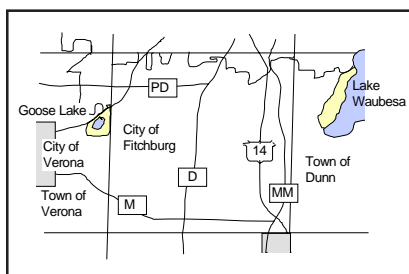


Figure 2. City of Fitchburg, Dane County, circa 1985. By 1985, Fitchburg had become a city, forever invulnerable to further annexations by surrounding municipalities, and Jones Intercable had purchased its cable system. Jones extended service into two adjacent townships: the Town of Dunn (the Goodland Park neighborhood long the western shore of Lake Waubesa) and the Town of Verona (the Goose Lake neighborhood).

submitted a proposal under the name Verona Cable Communications Group (VCCG); Complete Channel TV and U.S. Cable of Viking also submitted proposals. The Verona City Council reached a decision quickly: it selected U.S. Cable on the first vote. U.S. Cable had apparently learned a lot from its experience in Fitchburg.

Four years later, in 1985, the FCCG partners sold the system to Jones Intercable of Englewood, Colorado.

TOTAL TV, INC.

Total TV was founded in the 70s by James Fitzgerald of Janesville. Fitzgerald's name has appeared elsewhere in this narrative: he was one of the original owners of Complete Channel TV, Inc., and at the time, he also owned the Milwaukee Bucks basketball team. Although Total TV wasn't based in Dane County, its subsequent history closely parallels the history of the Fitchburg system.

In addition to Janesville, Total TV acquired and built many other franchises in Wisconsin; a partial list includes Ashwaubenon, Burlington, Clinton, Delevan, Dodgeville, Edgerton, Evansville, Fort Atkinson, Jefferson, Johnson Creek, Hustisford, Lake Mills, Manitowoc, Mayville, Milton, Mineral Point, Monroe, Shawano, Waterloo, and Watertown. But none in Dane County.

Total TV provided signals to many of its systems from common headends. Dodgeville and Mineral Point were connected by cable. Systems in the eastern part of the state were interconnected by two large AML microwave networks, one based in Janesville and one in Hustisford.

Around 1984, the owners of Total TV sold all of their systems to Jones Intercable of Englewood, Colorado.

JONESINTERCABLE, INC.

And that brings us to Jones Intercable. Jones had been founded several years earlier by Glenn Jones. Its first systems were in Colorado, and over the years it had grown rapidly, partly by building new franchises and

partly by buying existing systems.

Jones financed most of its expansion through limited partnerships. It acted as managing general partner, and obtained financing by selling partnership units to institutional investors. It was through this mechanism that Jones acquired the FCCG and Total TV properties: although Jones managed them, the true legal owner was a partnership known as Cable TV Joint Fund II.

During the early 80s, Jones acquired several other Wisconsin cable properties in addition to FCCG and Total TV. In one of its largest single purchases, it acquired Teltron Cable TV from The Journal Company, thereby extending its service to Stevens Point, Wausau, and Wisconsin Rapids.

Under Jones' management, all of its Wisconsin systems continued to grow. In Dane County, it extended service to three townships:

- In Fitchburg, it duly added the required three miles per year within the township and extended service into two adjacent townships: the Town of Dunn and the Town of Verona (Figure 2).
- In southeastern Dane County, it built an extension from its Edgerton system to serve the Town of Albion (Figure 3).

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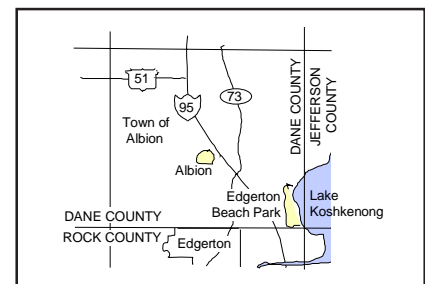


Figure 3. Town of Albion, Dane County, circa 1990. As part of its purchase of Total TV, Inc., Jones had acquired the cable system in the City of Edgerton. By 1990, Jones had extended service into two areas in the Town of Albion: the unincorporated village of Albion and the Edgerton Beach Park neighborhood along the western shore of Lake Koshkenong.

TELECOM INDUSTRY NEWS (continued)

A few years later, Jones sold a partial interest in its Wisconsin properties to a new cable company, Crown Media, Inc., and the name was changed to Jones Crown Partners. Crown Media was based in Dallas, and had received its financial backing from Hallmark Cards; hence, the name "Crown". At this point, Rod Thole's name enters this narrative once again: Thole was by now the president of Crown Media. Both of Thole's previous cable-industry employers (Complete Channel TV and Heritage Communications) had since been absorbed by TCI.

In the early 90s, Jones sold its remaining interest to Crown, and Crown assumed 100% ownership. But Hallmark Cards' interest in the cable business was short-lived. By 1996, Crown Media had disappeared, and the Wisconsin systems had been sold again, this time to Marcus Cable. And Rod Thole had moved to Australia to assume responsibility for yet another cable television firm: the cable arm of Telstra, the Australian national telephone company.

MARCUS CABLE PARTNERS L.P.

Marcus Cable was also based in Dallas. It had been founded by a former cable operator, Jeff Marcus, but most of its owners were investment companies. Goldman Sachs & Co. led the investment group; one of the investors was the Wisconsin Investment Board.

Marcus was growing rapidly during the 90s. Since there weren't many unbuilt cable franchises left, Marcus' growth came primarily from acquisitions. During this period, it acquired, among other things, the cable television assets of Crown Media and Star Cablevision. These two purchases included many cable

systems in Wisconsin, and several in Dane County. After these two purchases closed, virtually every cable system in Dane County was owned by either Marcus or TCI. The only exceptions were:

- Four systems managed by Communication Technologies, Inc., serving nine communities: the Villages of Belleville, Brooklyn, and Cottage Grove, and the Towns of Cottage Grove, Cross Plains, Exeter, Middleton, Montrose, and Springfield.

- Spring Green Cable's system serving the Village of Blue Mounds.

By 1998, Marcus was the nation's ninth-largest cable company, providing service to about 1.2 million subscribers.

In the late 90s, with the increased importance of the internet, cable operators began offering high-speed internet connections to their subscribers. The value of cable television systems began to rise in tandem: cable systems that had previously changed hands at \$2,000 per subscriber were suddenly commanding prices above \$2,500, and some were selling for as much as \$3,000.

Into this market came Paul G. Allen, co-founder of Microsoft Corporation, Microsoft's second-largest stockholder, and the world's third-richest person. In a complicated series of transactions, Allen's investment firm, Vulcan Ventures Inc., acquired several cable television companies including Marcus Cable (1.2 million subscribers at \$2,300 each) and Charter Communications (1.2 million subscribers at \$3,700 each). All of Vulcan's cable properties operate under the Charter name.


CHARTER COMMUNICATIONS, A WIRED-WORLD COMPANY

In recent months, Charter Communications' name has become almost synonymous with Paul Allen's. In fact, however, Charter had existed for five years before Allen bought it. It was originally founded in 1993 by a group of St. Louis investors, many of whom had previously worked in the cable industry. Charter's growth was almost exclusively through acquisitions; indeed, it had no other option because by 1993, just about every community that could conceivably support a cable TV system already had one.


Charter's new parent company, Vulcan Ventures, invests in a variety of entertainment and communications companies. Some of them are well-known: CNET; DreamWorks SKG; DrugStore.com; Egghead Software; Portland Trail Blazers; Seattle Seahawks; USA Networks; USSB. Others are less well-known: Certicom (cryptograpy); Colorado Microdisplays (flat-panel displays); Liquid Audio (internet music-distribution software); Purple Moon (interactive software for pre-teen girls); Raycer (3-D graphics hardware); RCN (residential fiber—optic networks providing cable television, telephone, and internet access); Terastor (high-capacity storage devices); ZDTV (Ziff Davis' cable TV channel). They're all part of Allen's grand strategy: the creation and delivery of entertainment and information to consumers.

Since its purchase by Vulcan Ventures, Charter has continued to grow by acquiring additional cable companies. In May 1999, it purchased Denver-based Fance Communications; as part of this

(continued on next page)




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TELECOM INDUSTRY NEWS (conclusion)

transaction, it acquired the franchise in Blue Mounds. Charter is now the country's fourth largest cable company, after AT&T, Time Warner, and Comcast.

But even Paul Allen's bank account isn't inexhaustible. In order finance its continued expansion, Charter has turned to the capital markets. In a recent initial public offering, Charter raised \$3.23 billion, the third largest IPO in American history (a record that was broken the very next day by UPS).

Charter has agreed to buy Bresnan Communications Company Limited Partnership, the legal entity that actually owns Bresnan's Wisconsin cable systems, for about \$3.1 billion (see "Charter to Buy Bresnan," *Newsletter*,

August 1999, p. 4). That works out to about \$4,350 for every one of Bresnan's 690,000 subscribers. This transaction is expected to close early next year.

For its part, Bresnan recently purchased the four cable TV systems managed by Communication Technologies, Inc. So as this article goes to press, there are only two cable companies left in Dane County, Bresnan and Charter. A few months from now, there will be only one: Charter.

Next month, we'll conclude this series with an article devoted to the root companies that became part of Charter via Star Cablevision and Marcus Cable.

Credits: thanks to Joe Browning (Charter Communications), Barry Nelson (ProLine Integrated Systems) and Bob Ryan (Cross-Country Cable) for information used in this article.

Correction: in last month's article I incorrectly identified the Des Moines-based cable television operator as Hawkeye Cablevision. The correct name is Heritage Cablevision.

Disclosure: I have been employed by three of the companies named in this article: Complete Channel TV (1976-1979 and 1983-1986), Niall Communications Group (1979-1981), and Communication Technologies, Inc. (1988-1999).

SBE'S SHORT CIRCUITS - DECEMBER 1999

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

SBE MEMBERS GET DISCOUNT ON NAB SPRING CONVENTION

Once again, SBE members will be able to register for the NAB Spring Convention in Las Vegas at the NAB Member rate, a savings of \$330. NAB will be sending registration materials for the April 2000 event soon. They already have on-line registration available at their web site: www.nab.org. If your station is not a member of NAB, be sure to take advantage of this great SBE member benefit. The savings are equal to SIX times the cost of ONE year of SBE membership!

MILLENNIUM PROJECT TICKS DOWN TOWARDS CONCLUSION

The next time you're reminded of the continuing countdown to the year 2000, remember that the clock is also

ticking off the time remaining for you to participate in the Millennium Certification Project. For the first and only time, SBE is offering engineers with lapsed certifications the opportunity to have those certifications restored without taking a test.

If your career and interests have kept you current in broadcast technology over the past several years, your SBE certification CAN be restored to you...but only if you act before midnight on December 31st! Contact Linda Godby-Emerick, Certification Director, for more details (lgodby@sbe.org), or go to the SBE web page (www.sbe.org) to read all about it. All it takes is a little effort on your part. But, you have to act before 1999 is over! Shouldn't you care as much about your career as about that silly calendar in your computer?

NEW SBE MEMBERSHIP DIRECTORY & BUYERS' GUIDE PUBLISHED


The 1999-2000 edition of the SBE

Membership Directory & Buyers' Guide has been mailed to all SBE members. The new directory includes listings of members alphabetically and by state. A special classified section (yellow pages) lists Sustaining Members by product or service. There is also a handy list up front of National Board and staff, with a list of who to contact for over three dozen member services and programs.

A few copies have been reported as missing some pages. If you find that your copy is not complete, contact Angel Bates at the SBE national Office at (317) 253-1640 or abates@sbe.org for a replacement.

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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FCC Rulemakings

Compiled by Tom Smith

PROPOSED

MM Docket 99-325; FCC 99-327 Digital Audio Broadcasting Systems and Their Impact On the Terrestrial Radio Broadcast Service

The FCC has released a Notice of Proposed Rulemaking asking for comments on how the Commission should approach the introduction of Digital Audio Broadcasting (DAB). The aim of this notice is not to select any system for DAB, but to set up the criteria and methods for the selection of a new DAB system. Like Digital TV, there will be a series of rulemakings to determine the final system and its introduction.

The first thing that the FCC asks for comment is on what criteria they should use. The FCC has listed the following criteria, including enhanced audio fidelity, robustness to interference and other signal impairments, compatibility with existing analog service, spectrum efficiency, flexibility and ability to provide auxiliary services, potential for updating, accommodation for existing broadcasters, coverage and costs.

The FCC is asking if the In-Band On-Carrier system is preferable or if a system that requires additional spectrum in another band be used, such as the Eureka 147 system which is used in Europe and Canada. One proposal is to use TV channel six after the transition to DTV is made. There is only one DTV station assigned to channel six, but there are 57 analog stations, some which may want to move their digital operations to channel six. One question raised if new spectrum is selected is if a multi-class system of allotment should be use as in the current FM system, or if all stations should be given the same service area.

Another issue raised is the occupied bandwidth of an IBOC system, and how it would affect current analog stations and particularly the proposed low power FM stations. In the FM band, the FCC is considering reducing or eliminating the third and possibly the

second adjacent channel restrictions. In both the AM and the FM IBOC systems, the occupied bandwidth will double as the digital signal is located below and above the current analog signal. As part of this discussion, the FCC is asking about sunsetting the current analog system and whether the digital signals could be moved into the analog spectrum or if the IBOC systems will require the digital signal to remain in its original configuration. The analog information could be replaced with digital information such as data. USA Digital Radio, one of the IBOC proponents, is proposing that analog transmissions end twelve years after the start of digital.

Finally the FCC is asking if a committee should be created similar to the one that selected the DTV standard.

This notice was adopted and released on November 1, 1999 and published in the FEDERAL REGISTER on November 9, 1999 on pages 61,054-61,056. Comments are due on January 24, 2000 and replies on February 22, 2000.

MM Docket No. 99-339; FCC 99-353 Implementation of Video Description of Video Programming

The FCC is proposing limited requirements for television video description. This is a service for those with sight impairment, where a narrator describes the action during breaks in the dialog. This service is transmitted on the SAP audio channel.

The FCC is proposing that affiliates of ABC, CBS FOX and NBC along with cable systems in the top 25 markets be able to pass the descriptive video audio track and that those 4 networks along with the major cable networks (those whom reach over 50% of the homes) provide 50 hours per calendar quarter. Public stations are exempt due to limited finances of many of them, particularly because of the digital transition. Commercial digital TV stations will be required to provide the service in the future as well as direct broadcast

satellite, open video providers, wireless cable (MMDS) and satellite master antenna systems. The rules will be extended to smaller markets and networks in the future, along with increases in the amount of programming.

This notice was adopted and released on November 18, 1999 with comments due on January 24, 2000 and replies due on February 23, 2000. The notice was published in the FEDERAL REGISTER on December 1, 1999 on pages 67,236-67,267.

Report No. AUC-99-28-A (Auction 28); DA 99-2594 Supplemental Closed Broadcast Auction Scheduled for March 21, 2000

The FCC has announced that it will conduct an auction for one TV and 10 LPTV/translator licenses. This is a closed auction and is limited to applicants for previously contested licenses. Some of the LPTV/translator licenses are for channels to replace channels lost to new DTV stations, and are being sought by a number of displaced license holders. Normally, a LPTV station seeking a replacement channel is not subject to competing applicants, except when there is a conflict cause by a lack of channels available to multiple displaced LPTV stations. This notice seeks comment on bidding procedures on licenses that would have overlapping signals. An example would be if there are three stations with one overlapping to other two. If the one that overlaps the other two has a bid that exceeds the other two combined, he would get the license, otherwise the two non-overlapping stations would win.

The FCC is also asking for comment on minimum bids and on some fine tuning of the auction rules. Comments were due on December 6, 1999 and replies are due on December 16, 1999. The notice was released on November 19, 1999 and was published in the FEDERAL REGISTER on December 2, 1999 on pages 67,569-67,575.

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

NEW SPECTRUM MANAGEMENT POLICY

By Tom Smith

On November 18th, the FCC issued a policy statement on the guiding principles for managing spectrum. They stated that the principles would enhance competition and encourage the development of new communications technologies. Much of the discussion in this notice concerned the proposed reallocation and auction of 202 MHz of spectrum as required by Congress under the 1993 and 1997 Budget Acts. There is also discussion of other potential spectrum that could be reallocated and auctioned.

The spectrum that the FCC will be auctioning in the next three to five years includes 216-220 MHz, 698-746 MHz (TV channel 52-59), 1390-1395 MHz, 1427-1429 MHz, 1432-1435 MHz, 1670-1675 MHz, 1710-1755 MHz, 2160-2165 MHz, 2300-2305MHz, 2385-2390 MHz, and 4635-4660 MHz. The FCC has proposed to license a number of mobile services in these bands, including new land mobile channels in the three bands between 1390 and 1435 MHz.

The National Telecommunications and Information Agency has identified four bands to substitute for 15 megahertz that was required to be reallocated from the 1990-2110 MHz band. These frequencies include 944-960 MHz, 1390-1400 MHz, 1427-1432 MHz, 1670-1675 MHz, unauctioned parts from 2500-2690 MHz and 3650-3700 MHz. Note the proposed reallocation of the 944-960 MHz band. This is the band that the aural STL frequencies (944-952 MHz) are located in. Of the bands the NTIA has identified, all of them have already been auctioned or will be auctioned under existing law except for the 944-960 band and the unauctioned parts of the

2500-2690 band. An auction was held in 1996 for 66 MHz of the 2500-2690 MHz band which is used for wireless cable TV.

In this policy statement, the FCC proposed the use of a number of new technologies and allocation methods. The FCC would like to promote technologies such as spread spectrum and ultra-wideband digital. They would also like to use different auction methods, allow for licenses to negotiate among themselves to control interference and auction spectrum to "band managers," who would resale the spectrum to small users such as land mobile users. They also proposed to make it easier to transfer licenses so that the spectrum would be used "by the highest value end users." They would also like to clear spectrum for new users by providing incentives to existing users to move to different frequencies, which are normally located in higher frequency bands, or to non-wireless systems like wired or fiber-optic cable. Fees for the use of spectrum were suggested as one method to discourage unneeded spectrum usage.

This policy statement and the FCC strategic planning paper titled *A New FCC for the 21st Century* give spectrum users a look into the future and their place in it.

From FCC Release (www.fcc.gov)

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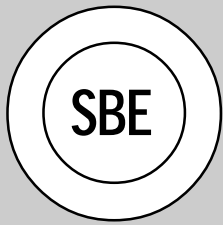


FIRST CLASS MAIL

Newsletter edited on Pagemaker 5.0 by: Mike Norton
Contributors this month: Vicki Kipp, Kevin Ruppert, Neal McLain, Tom Smith, and Tom Weeden.
Thanks to Leonard Charles for his work on the Chapter 24 WWW page.

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DECEMBER MEETING and PROGRAM



**Society of Broadcast Engineers
CHAPTER 24 MADISON, WISCONSIN
Tuesday, December 21, 1999**

Streaming Media On The Web

The originally scheduled presentation on DTV PSIP implementation has been postponed. Dave Devereaux-Weber of the Doit Center will discuss streaming video over local area networks and the WEB.

There will be a live demonstration of streaming video over the campus network. The meeting for this month will be held in Room 1610 of Engineering Hall on the UW Engineering campus. See the map on the back of this announcement for location and parking details.

A tour of the Engineering Hall A/V facilities will also be given.

We will have Pizza and beverages brought into the meeting site for the Dutch Treat Dinner. The cost of the dinner is \$5 per person.

**Dutch Treat Pizza Party at 6:15 p.m.
Meeting and Program at 7:00 p.m.**

**at UW Engineering Campus
1610 Engineering Hall**

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

2000 UPCOMING MEETING/PROGRAM DATES:

<u>Day</u>	<u>Date</u>	<u>Program</u>
Wednesday	January 19	ITU-R 601 Digital Video Testing

Program Committee:	Kerry Maki 833-0047	Denise Maney 277-8001	Steve Zimmerman 274-1234	Mark Croom 271-1025	Steve Paugh 277-5139
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DECEMBER MEETING/PROGRAM PARKING

Enter the Engineering Hall building (36) from the north side, use the entrance on the right when facing the building. Once inside the building, turn left immediately to get to the main lobby. We will meet in room 1610 (the auditorium). You can park in LOT 18 or 17. Enter LOT 18 from Monroe Street. You get to LOT 17 via LOT 18, driving between the stadium (121) and the Sports Center (120) and around the McClain facility (75). The street directly in front of the Engineering Building is under construction, so you will need to use the Monroe Street entrance to get to LOT 17.

