



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

Society of Broadcast Engineers November 1999

BROADCASTERS CLINIC HIGHLIGHTS

By Kevin Ruppert

Don Borchert reports that the number of people attending this years Broadcasters Clinic was the most ever, and was over 200. The Clinic also had the highest number of exhibitors in its history at 83.

The annual National Meeting of the SBE was held in conjunction with the Clinic. The National Meeting included the fall Board of Director's Meeting, annual SBE Fellows Breakfast, Certification Committee Meeting, Annual Membership Meeting and the National Awards Reception and Dinner.

The Awards Dinner, which was held on Wednesday night, included awards presented to Chapter 24 for Best Frequency Coordination Program, headed by Tom Smith, Best Technical Article by a member to Neal Mc Lain, and Best Chapter Newsletter, editor Mike Norton (tied with Chapter 124).

Linda Godby-Emerick, Certification Director of the National SBE office, was presented with the first National Wulliman Award for service to the SBE Certification program.

Special Events chair Vicki Kipp and other Chapter 24 members worked along side the national staff to operate the SBE booth at the Clinic exhibits. There was plenty of traffic and interest at the booth. The booth workers sold books and SBE goods.

The annual Chapter 24 Bake Off was held once again at the booth and had its usual high level of interest. (Nothing crummy about this contest!)

Due to the late hour of the National proceedings, we were unable to present the award for the Cookie Bake Off at the Wednesday night meeting,

(continued on page 3)

Next Meeting:

**Thursday,
November 18, 1999**

SBE Student Night

**WISC-TV
7025 Raymond Road**

**Student Registration
at 5:00 PM**

**Pizza Party at
5:30PM**

**Meeting and
Program at 6:30PM**

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FCC CONCLUDES FIRST BROADCAST AUCTION

By Tom Smith

The FCC concluded its first auction of broadcast licenses on October 8, 1999. This auction was the twenty-fifth auction that the FCC has conducted to award licenses in various services. The broadcast auction started on September 28th and went 35 rounds. The final amount that the FCC will collect from the bidding is \$57,820,350. The bids totaled \$68,781,900, but many bidders were able to lower the final amount paid to the FCC by the use of bidding credits. Bidders who held no other media interests or were businesses grossing under an amount

set by the FCC were able to deduct up to a 35% credit from their final payment.

Auction revenue was also reduced by last minute settlements between applicants and some applicants dropping out. Those applicants settled or dropped out to avoid paying large amounts for the licenses in the auction. By law, if the particular license is not contested by two or more applicants, it cannot be auctioned. Only 12 of the 28 TV licenses went to auction, with 11 out of the 80 low power TV also going to auction. In the FM band 94 of 144 licenses went to auction, but only 1 out of 7 FM translator licenses went to

auction. In the AM band, there were 6 that were supposed to be auctioned, but in the end none went for auction.

The big winner in the TV band was the Winstar Broadcasting Corporation which was the winning bidder of 5 out of the 12 licenses up for bid. They also held the highest and lowest bids. Their highest bid was for channel 21 in Virginia Beach, Virginia for \$8,752,000 and their lowest bid was for channel 24 in Butte, Montana which they paid \$160,000. The highest LPTV bid was for Elizabeth, New York at \$842,400 after credits. The highest FM bid was

(continued on page 2)

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October Business Meeting Minutes

There was no formal Chapter 24 business meeting held in October, due to the National SBE meeting and the Broadcasters Clinic being held in Madison October 19th - 21st.

FCC BROADCAST AUCTION (continued)

\$5,055,000 for Oro Valley, AZ and the lowest bid was \$10,400 after credit on a \$16,000 bid for Belle Fourche, SD. The lone FM translator bid was for \$1,900.

In an article in the October 4th issue of *BROADCASTING AND CABLE*, there were quotes from a number of brokers stating that the bids and construction costs of these licenses were higher than the value of stations in similar markets. These comments were made after only the seventh round of bidding. In other services that the FCC has auctioned, there have a large number of cases where the winning bidders have been unable to complete construction, or have gone bankrupt due to the financial burden of a debt to the FCC because of very large final bid payments.

Here is a list of the winning bidders and the amounts bid for new licenses in Wisconsin. The first number is the gross bid and the second number is the net bid after the bidding credit is figured in.

City of Licence	Winning Bidder	GrossBid/Net Bid
Biramwood, WI	Results Broadcasting of Shawano	\$16,000 / \$16,000
Cornell, WI	Lawrence A. Busse	\$ 584,000 / \$379,600
Mt. Horeb, WI	David and Lynn Magnum	\$162,000 / \$ 162,000
Mukwonago, WI	Outlook Communications, Inc.	\$1,684,000/\$1,263,000
Neilsville, WI	Margaret L. Grap	\$150,000 / \$150,000
Nekoosa, WI	Todd P. Robinson	\$16,000 / \$12,000
Spooner, WI	BettyLutz	\$414,000 / \$ 269,100

Two Wisconsin licenses that were listed for auction did not go on the block, They were an FM license in Dickeyville and a channel 38 LPTV in Madison. They were both settled before the auction started, but the notice that stated they were no longer subject to auction did not state the outcome of the settlement.

The FCC held a second broadcast auction in early October for a lone FM license. When and how they will conduct future auctions for broadcast licenses will no doubt be known in the near future due the success of the first one.

From FCC Releases (www.fcc.gov) and *BROADCASTING AND CABLE*

PROGRAM IDEAS?

Is there a topic you would like to see covered at one of our local Chapter 24 meetings? Or, better yet, is there a topic that you are qualified to speak on at an upcoming meeting? Please forward any ideas to one of the Program committee members or to one of the Chapter 24 officers.

FCC ISSUES STUDY ON VSB VS. COFDM

By Tom Smith

The FCC issued an analysis of Sinclair Broadcasting Groups tests comparing the VSB versus COFDM modulation systems for the transmission of digital TV. The Office of Engineering and Technology did the report. The OET viewed a number of tests conducted by Sinclair and sought the views of others broadcast groups, including the major networks. Some of the interviewees had seen the Sinclair tests and others had done their own reception tests. Also discussed was a report by Oak Technology who makes DVB-T chipsets, as well as reception information from the original DTV tests and a paper on reception tests by Gary Sgrignola of Zenith. In discussions with both TV and broadcast equipment manufacturers, the FCC concluded that reasonable solutions to the multipath problems were being developed.

The FCC's description of the Sinclair tests were very similar to those in many of the trade magazines. In fact, the FCC analyzed many of the press reports. Their conclusions were that there were advantages and disadvantages to both the VSB and the COFDM systems, but in the end there were not enough benefits in the COFDM system to justify the cost of making a revision. The OET recommended that the VSB standard be retained.

From FCC Releases (www.fcc.gov)

Broadcasters Clinic Highlights (continued)

as is the tradition of this event. We plan on making a special presentation at the November meeting. At this time, Vicki is pledged to secrecy about who is the winner.

The Board of Officers of Chapter 24 would like to thank everyone who helped with the SBE events this year. I would also like to thank Don Borchert and Past Chair Fred Sperry for helping to get the National SBE involved in this year's Clinic and for organizing the event.

AMATEUR RADIO NEWS

By Tom Weeden, WJ9H

The Amateur Radio Spectrum Protection Act, HR.783, continues to gain support in the US House of Representatives with 182 cosponsors. Support remains bipartisan with approximately equal numbers of Republicans and Democrats. Only one of Wisconsin's nine representatives, Ron Kind (D-WI-3rd) had signed on to the bill as of October. The bill will likely not go to the House Commerce Committee until next year.

The FCC will hold the line on conducted emissions below 30 MHz from unlicensed consumer electronic and industrial, scientific and medical devices operating under Parts 15 and 18 of the Commission's rules. International emission limits, with which the FCC plans to agree, are "approximately 5 dB more stringent below 5 MHz and 1 dB more stringent above 5 MHz" than the existing standards for consumer equipment, the FCC said. The Commission said it was not persuaded by a National Association of Broadcasters' suggestion to impose much tighter standards—22 dB greater than present—to protect AM broadcasting. Interfering devices include such common household appliances as computers, TV sets, and microwave ovens.

AMSAT, the Amateur Satellite Corporation, has urged the FCC to reject Los Angeles County's application for an experimental license to develop a public safety video system on the 2.4 GHz band. The proposal targets the 2402-2448 MHz band. Amateurs have a primary domestic allocation at 2402-2417 MHz. In comments filed October 22 with the FCC, AMSAT-North America President Keith Baker, KB1SF, urged the FCC to deny the experimental license application because it could limit the use of the pending "Phase 3D" amateur satellite. Phase 3D includes transmitters and receivers on 2.4 GHz. The satellite is expected to be launched sometime next year. The decision to grant the proposed experimental license is up to the FCC Office of Engineering and Technology's Experimental Licensing Division.

(Excerpts from the American Radio Relay League's "The ARRL Letter" and November 1999 "QST" magazine)



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

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

TELECOM INDUSTRY NEWS

By Neal McLain

ABRIEF HISTORY OF DANE COUNTY CABLE SYSTEMS PART 1: BRESNAN

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 first of two articles relating the history of the original "root" cable companies that collectively became Bresnan and Charter.

This article is devoted to the Bresnan root companies: the companies in and near Dane County that became part of Bresnan or are expected to become part of Bresnan before the Charter acquisition is completed.

Let me state at the outset that these are going to be very disjointed articles. Very little archival material exists, so there are many gaps in the history.

COMPLETE CHANNEL TV, INC.

The Madison Common Council enacted a cable television ordinance, known as the Broadband Telecommunications Franchise Enabling Ordinance, in 1974. The ordinance authorized the franchisee to construct and operate a cable network it the City, and imposed numerous operational and technical requirements. Among other things, the ordinance required three dedicated access channels, one each for government, educational, and public access.

This ordinance had been written by a committee of citizens and council members. Notable members of this committee included Paul Soglin (as

alderman, although by the time the ordinance was enacted, he had been elected mayor); Chic Young, owner of a local television repair shop; and Merry Sue Smoeller, who subsequently became the city's first cable television enforcement official.

David and James Carley, best known as the owners of Carley Capital Group, a real-estate

investment firm, acquired a cable television franchise under this ordinance. To finance construction, they joined forces with several other entities to form an operating company known as Complete Channel TV, Inc. The founding stockholders were:

- Carley Capital Group, Madison, Wisconsin, 25%. Carley Capital provided financial advice and a portion of the construction capital. In the early years, both Carleys served on the CCTV Board of Directors and James Carley served as President.
• Tele-Communications, Inc., Denver, Colorado, 25%. At the time, TCI was already one of the country's largest cable television operators. TCI provided technical expertise as well as a portion of the construction capital, and one of its officers served on the CCTV Board.
• Midcontinent Cable Co., a

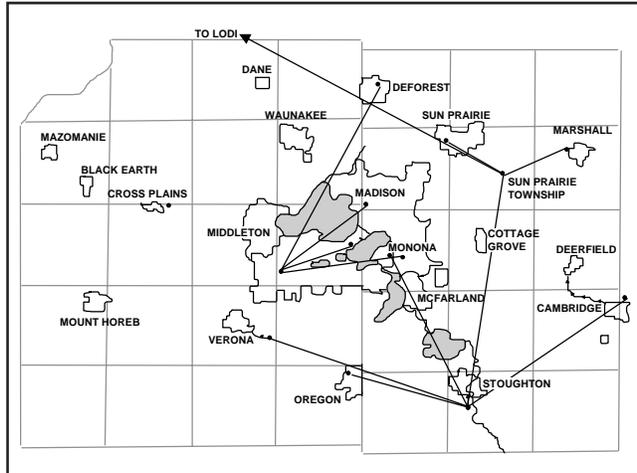


Figure 1. CCTV and Viking AML systems before technical integration. The CCTV transmitter on Tokay Blvd. transmits to four sites, three in Madison and one in DeForest. The Viking AML transmitter south of Stoughton transmits to five sites: Cambridge, Monona, Oregon, Sun Prairie township, and Verona. This figure also shows part of the old two-hop link to Portage (via Lodi), although this link had actually been removed before the Verona link was built.

subsidiary of Midcontinent Broadcasting Co., Minneapolis, Minnesota, 25%. At the time, Midcontinent also owned Midcontinent Broadcasting Co. of Wisconsin, licensee of WTSO(AM) and WZEE(FM). Midcontinent's CEO, Larry Bentson, served on the CCTV Board. Midcontinent provided, among other things, a parcel of land on which CCTV's studio, office, and headend facility was constructed. This building, at 5723 Tokay Blvd., stands to this day, although it has undergone numerous renovations.

- Several smaller partners, collectively 25%. This group consisted of a number individuals, and included John Walsh (a partner in a local law firm), James Fitzgerald (owner of Total TV, Inc., the cable television operator in the City of Janesville, and also owner of the Milwaukee Bucks basketball team); and Rod Thole (formerly, (continued on next page)

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TELECOM INDUSTRY NEWS (continued)

General Manager at WHA-TV).

Rod Thole joined the new company as General Manager. Under Thole's leadership, CCTV constructed the original cable network in Madison during the early 1970s. The initial network actually consisted of four separate networks connected by an AML microwave system (Figure 1). A three-path transmitter was constructed at the Tokay Blvd. site, and three receive sites were established:

- Downtown, at the office building at 131 West Wilson. Not coincidentally, this building was also the home of John Walsh's law firm.
- Northeast, at the Oscar Mayer Foods Corporation building.
- Southeast, at a new tower constructed near the intersection of South Stoughton Road and Pflaum Road.

At the time, very little original programming was available to cable television operators. There was, of course, no satellite programming available, so CCTV's offerings consisted of broadcast stations and local programming. The initial channel lineup included:

- Channel 2 Local programming, programmed by CCTV staff.
- Channel 3 Not used due to direct pickup of the signal of WISC-TV.
- Channel 4 Educational and Public access, programmed by the Madison Metropolitan School District and various public access groups.
- Channel 5 WMTV, Madison, NBC.
- Channel 6 Local programming, programmed by CCTV staff.
- Channel 7 W K O W - T V , Madison, ABC.

- Channel 8 WVTV, Milwaukee, Independent.
- Channel 9 WGN-TV, Chicago, Independent.
- Channel 10 WMVS, Milwaukee, PBS.
- Channel 11 WHA-TV, Madison, PBS.
- Channel 12 Government Access, programmed by the City of Madison.
- Channel 13 WISC-TV, Madison, CBS.

The distant broadcast stations (WGN-TV, WMVS, and WVTV) were received from Midwestern Relay Company (MRC), a microwave common carrier owned by Journal Communications of Milwaukee. MRC picked these stations up off the air and carried them to cable systems throughout Wisconsin and parts of Minnesota. (MRC is now known as Norlight, but its microwave network still carries WVTV throughout Wisconsin.)

The local programming on Channels 2 and 6 included material from several sources:

- Programming produced by CCTV staff in CCTV's own studio.
- Prerecorded programming obtained from outside sources on U-Matic video cassettes. For several years, a classic-movie service called Home Cinema ran on Channel 2 during the evening hours.
- Network Restoration. Under FCC rules in force at the time, if a network-affiliate television station did not clear a network program, cable systems were permitted to import it from a distant station. CCTV imported network programming from Milwaukee and Rockford stations.
- Late-night programming from

distant broadcast stations. Another FCC rule provided that cable systems could carry any television station after all local commercial stations had signed off. CCTV carried late-night programming from WBBM-TV, Chicago and WITI-TV, Milwaukee. These stations were imported by Midwestern Relay Company.

In 1975, HBO launched its service nationally via satellite. Within months, two other services also launched nationally: Ted Turner's Atlanta broadcast station WTCG and Pat Robertson's Christian Broadcasting Network.

CCTV added all three services:

- WTCG replaced WVTV on Channel 8. Under FCC signal-carriage rules in place at the time, CCTV could not carry more than two distant independent commercial television stations; consequently, it had to drop either WGN-TV or WVTV to make room for WTCG. After a few years, Turner renamed his media company Turner Broadcasting System, and WTCG became WTBS.
 - CBN was placed on Channel 6. Since CBN was not a broadcast station, it did not count against the two-station limit. In subsequent years, CBN evolved into the advertising-supported service now known as The Family Channel.
 - HBO was placed on Channel 17, the first signal carried outside the Channel 2-13 broadcast band. Access was controlled by single-channel settop converters. Local TV repair shops soon discovered a sideline business: modifying old rotary tuners to receive Channel 17. After a few years, HBO was moved to Channel 2 so that it could be sold to hotels and
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TELECOM INDUSTRY NEWS (continued)

motels, and traps were installed for access control. The old single-channel converters were abandoned, although they continued to appear at garage sales and flea markets for years.

Rod Thole left CCTV in 1978 to become director of Iowa Public Television. However, he soon left IPT to join Hawkeye Cablevision, a cable television operator based in Des Moines. Although he never returned to Wisconsin, his name was destined to pop up again in connection with other Wisconsin cable systems.

Throughout the late 70s, CCTV had been extending its service beyond the Madison city limits. The first extensions reached three adjacent townships: the Towns of Blooming Grove, Burke, and Madison. For historical reasons, the Town of Madison is not a contiguous geographic area; consequently, CCTV's extension actually consisted of several small extensions.

In 1977-78, CCTV applied for, but did not obtain, the cable television franchise in the Village of Verona. The Village awarded the franchise to a subsidiary of Telephone and Data Systems (TDS). But TDS also owned Mt. Vernon Telephone Company, the local telephone exchange carrier in Verona. CCTV appealed the decision to the FCC, asserting that it was a violation of an FCC cross-ownership rule that prohibited common ownership of a telephone company and a cable television company in the same geographic area. This battle lasted until 1983, when TDS finally won the right to provide cable television service in Verona.

This setback notwithstanding, CCTV continued to grow. By the early 80s, it had extended its service to several other communities:

- Village of Cross Plains, fed from a new headend located east of Cross Plains in the Town of Berry.
- Village of DeForest, fed from a new microwave receive site at the village's water tower (Figure 1).
- Village of Maple Bluff, an extension

of the existing Madison network.

- City of Middleton, an extension of the existing Madison network.
- Village of Shorewood Hills, an extension of the existing Madison network.
- Town of Westport, an extension of the existing Madison network.
- Town of Windsor, an extension of the DeForest network. This extension provided service in the unincorporated communities of Morrisonville, Token Creek, and Windsor.

During the 1980s, as the popularity of satellite-delivered programming grew, CCTV expanded its channel capacity several times. As new services were added, channel capacity was extended to 260 MHz (29 channels), then to 300 MHz (36 channels), and eventually to 400 MHz (53 channels). More recently, the capacity has been extended much farther.

With satellite programming available 24 hours per day, CCTV dropped two of its original program services: network restoration and late-night programming from Milwaukee and Chicago.

Meanwhile, a number of changes were taking place in the ownership and management structure:

- In 1982, Richard C. Wegner was appointed General Manager, a position he held until 1986. Wegner was closely associated with the Carleys, having previously served in a management capacity at Viking

Media Corporation when the Carleys owned it. During his tenure, Wegner led CCTV through several turbulent changes. (Wegner subsequently served as secretary of the Department of Workforce Development, State of Wisconsin.)

In 1984, CCTV's stockholders purchased the Wisconsin assets of U.S. Cable of Viking. In the process, CCTV acquired cable systems serving several communities in Columbia, Dane, and Sauk Counties (separate story below). These systems were technically integrated with the existing CCTV network, a process that required extensive changes to two AML microwave networks (Figure 2).

In 1985, TCI (the parent company) bought out CCTV's other stockholders and assumed full ownership. For administrative purposes, CCTV was attached to TCI's Chicago office. At that point, TCI held 100% of the stock; however, the company continued to operate under the name Complete Channel TV, Inc. for a few more years.

- About the same time, TCI (again, the parent company), purchased the assets of Hawkeye Cablevision, the Des Moines-based company where
- (continued on next page)

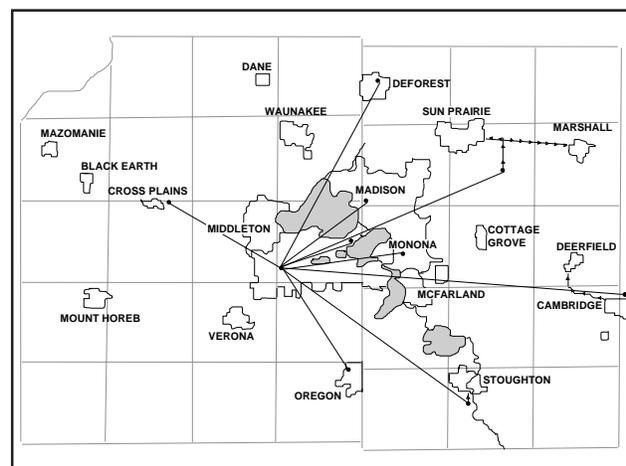


Figure 2. CCTV and Viking AML systems before technical integration. The CCTV transmitter on Tokay Blvd. transmits to nine sites: Cambridge, Cross Plains, DeForest, Madison downtown, Madison northeast, Madison northwest, Oregon, Sun Prairie township, and Stoughton. The old Viking link to Monona was removed, and Monona was connected directly to CCTV's existing Madison system. The old Viking link to Verona was removed because the Verona system was not purchased by CCTV.

TELECOM INDUSTRY NEWS (continued)

Rod Thole had landed. This purchase included Wisconsin cable systems serving Baraboo, Lake Delton, Wisconsin Dells, and nearby townships.

- In 1986, CCTV purchased the cable system serving Columbus, Wisconsin (Columbia County) from Peoples Broadband, a subsidiary of Peoples Telephone of Randolph. Peoples retained ownership of a nearby cable system in Rio which, at the time, was fed from the Columbus headend. CCTV continued to provide signals to the Rio system for several months until Peoples built a separate headend for Rio.

- Also in 1986, TCI instituted a major reorganization of all of its cable television properties. In the wake of this reorganization, CCTV was placed under the Rapid City, South Dakota, regional office, and became the state administrative office for all of TCI's Wisconsin properties. Beside CCTV itself, its responsibilities included TCI systems in Richland Center, Walworth, and the former Hawkeye systems in Columbia and Sauk Counties.

- A year or so later, the company was officially renamed TCI Cablevision of Wisconsin, Inc.

During the 90s, TCI of Wisconsin rebuilt the entire distribution network in Madison and suburbs. All old aerial cable was replaced with new aerial cable, but most of the old underground cable remained in service. The old AML microwave system was replaced with fiber optics, and the total number of hubs was increased from nine to about 200.

Beginning in early 1998, another series of changes occurred in the

ownership and management structure:

- In February, 1998, TCI announced plans to transfer several of its cable systems to a new entity known as the "Bresnan Partnership," a joint venture owned by TCI and Bresnan Communications, a New York-based cable television company. This agreement covered all of TCI's Wisconsin systems as well as systems in Michigan, Minnesota, and Nebraska. Under the terms of the partnership agreement, TCI retained legal control but Bresnan assumed operational management. Because TCI legally controlled the partnership, this transaction did not constitute a "transfer of control"; hence, it did not require the approval of local franchising authorities.

- Later in 1998, AT&T agreed to purchase all of the cable television assets of TCI, including its interest in the Bresnan Partnership. Unlike the earlier transfer to Bresnan, this transaction constituted a transfer of control requiring local approval.

- Also in 1998, AT&T purchased the assets of MediaOne, Inc., a Denver-based cable operator formerly owned by U S West. In the wake of this acquisition, AT&T decided to sell its interest in the Bresnan Partnership in order to avoid exceeding the FCC's 30% rule (an FCC rule that prohibits any single company from controlling more than 30% of the cable television subscribers in the United States). Charter Communications, a St. Louis-based cable television operator, has agreed to purchase Bresnan. Again, local approvals are required. This transaction is expected to close in 2000.

- In September 1999, Bresnan agreed to purchase four cable

television systems operated by Communication Technologies, Inc. (CTI), of Middleton, Wisconsin: Belleville, Brooklyn, Cottage Grove, and Town of Middleton. This transaction is expected to close in 2000 before the Charter/Bresnan transaction is completed.

As this article is written, two transactions are still pending: Bresnan's acquisition of the CTI systems and Charter's acquisition of Bresnan.

Disclosures: I was employed by Complete Channel TV, Inc. from 1976 to 1979 and from 1983 to 1986. I am presently employed by Communication Technologies, Inc.

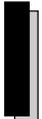
VIKING CATV ASSOCIATES D/B/A U.S. CABLE OF VIKING

Viking was founded, as Viking Media Corporation, by J. Robert Burrell, an entrepreneur, educator, and businessman who, at one time or another, has been associated with Telephone and Data Systems, Madison Area Technical College, and UW-Whitewater. Viking Media acquired and built the franchise in the City of Stoughton around 1970.

In 1971, David and James Carley purchased Viking Media from Burrell, but continued to operate it under the same name. Under the Carleys, Viking extended service to Cambridge, Marshall, Monona, Oregon, Portage, Sauk City, Sun Prairie, and several nearby townships.

Viking constructed an AML microwave network to serve most of these properties (Figure 1). From a

(continued on page 8)



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TELECOM INDUSTRY NEWS (conclusion)

400-foot tower located south of Stoughton, Viking transmitted programming to receive sites in Cambridge, Monona, Oregon, and Sun Prairie township. A further two-hop link carried the signals all the way to Portage via a relay station near Lodi. Only Sauk City was served from a separate headend.

This microwave network included a return channel so that programming from outlying communities could be fed back to the Stoughton headend for retransmission to all subscribers. For several years during the 70s, Viking cablecast sporting events from local schools. On one famous night, Stoughton cable subscribers watched the Stoughton High School basketball team defeat the Portage team on the Portage team's home court.

Such successes notwithstanding, Viking Media was not successful financially. In 1979, the Carleys sold the company to Viking CATV Associates, a New Jersey limited partnership led by U.S. Cable Corporation, a small cable operator with properties in several states. U.S. Cable operated the business under the name U.S. Cable of Viking, a name consistent with its practice of naming all of its properties "U.S. Cable of XXX" where XXX was usually a geographic name.

Viking CATV Associates was an unwieldy company. The partnership included over two dozen limited partners in addition to U.S. Cable itself. Many of the limited partners were from unrelated fields (dentistry; airlines), and viewed the company solely as a financial investment but took no part in management.

Nevertheless, Viking continued to grow. Like all other cable systems, it added channel capacity to keep up with the growing popularity of satellite-delivered programming.

But adding channel capacity to its microwave network proved to be prohibitively expensive, particularly along the two northerly hops that carried programming to Portage.

Constructing a new headend in Portage proved to be less costly than upgrading the microwave network.

This decision proved fortuitous: on January 1, 1981, the Lodi relay tower collapsed, apparently due to vandalism. Viking Chief Engineer Eric Olsen recorded the event in the transmitter log as follows: "Lodi died, cause by vandals, on Jan 1, 1981. May it rest in peace." The new Portage headend went on line within days.

During this same time period, Viking was a party to one of the strangest franchise battles on record — a battle that pitted it against TDS, CCTV, and Verona Cable Communications. Recall that TDS had acquired the franchise in the Village of Verona in 1979. Because TDS also owned Mt. Vernon Telephone Company, the local telephone company in Verona, Complete Channel TV appealed the decision to the FCC, asserting that it was a violation of an FCC cross-ownership rule that prohibited common ownership of a telephone company and a cable television company in the same geographic area. TDS applied for a waiver of this rule, asserting that it intended to serve the entire "exchange area," not just the village itself.

By late in 1980, few things had changed. The Village of Verona had become the City of Verona, but the standoff between CCTV and TDS was still dragging on at the FCC. The City, apparently growing weary of the conflict, solicited proposals for another franchisee. Three parties responded: CCTV, Viking, and a new entity calling itself Verona Cable Communications Group (VCCG) was backed by the same partners that held the franchise in the Town of Fitchburg — more about this story next month). TDS, of course, didn't have to respond because it already held a legal franchise.

The City awarded the second franchise to Viking CATV Associates. Viking proceeded on the assumption that it would begin construction in the spring of 1981 as soon as weather would permit.

The Friday before Viking planned to start construction, TDS received its waiver from the FCC, began construction immediately, and worked furiously through the weekend. By Monday morning, it was too late for Viking to do much except complain and threaten to file suit. Eventually, the two companies joined together in a sort of shotgun wedding: TDS finished the construction of the distribution system, and Viking built a microwave link to provide signals from its main headend in Stoughton (Figure 1).

Two years later, Viking CATV Associates signed an agreement to sell most of its assets to Complete Channel TV. Under the terms of this agreement, Viking sold all of its wholly-owned cable television properties and its AML microwave network. But this agreement did not include its interest in the Verona system. Eventually, Viking sold its Verona interest to TDS, and TDS built a separate headend. After a five-year battle, TDS had finally won the right to provide cable television service in Verona.

Disclosure: I was employed by Niall Communications Group from 1979 to 1981. Niall, under a contractual arrangement with Verona Cable Communications Group, prepared the franchise application on behalf of VCCG.

SBE RESUME SERVICE

Want to get your resume out to employers? Participate in SBE's new Resume Service, available to SBE members only free of charge. Call the SBE National Office at (317) 253-1640 or e-mail Scott Jones at kjones@sbe.org for a Resume Service participation form.



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SBE'S SHORT CIRCUITS - NOVEMBER 1999

By John L. Poray, CAE,
SBE Executive Director

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?

GOOD CROWD ENJOYS NATIONAL MEETING AND BROADCASTERS CLINIC

SBE held its annual National Meeting in Madison, Wisconsin in conjunction with the Broadcasters Clinic. The Clinic has been presented for more than 40 years, providing three days of broadcast technical papers and a two-day equipment exhibit. The National Meeting included the fall Board of Directors Meeting, annual SBE Fellows Breakfast, Certification Committee

Meeting, Annual Membership Meeting and the National Awards Reception and Dinner. Clinic organizers reported greater attendance and exhibitor totals than in previous years. Some of the sessions were standing room only and good exhibit floor traffic was reported.

The Awards Dinner featured a presentation by guest speaker, Jim Haynie of Dallas, Texas, a member of the Board of the American Radio Relay League. Douglas W. Garlinger, CPBE and Richard W. Burden, CPBE were inducted as SBE Fellows and Dane Ericksen, P.E., CSRTE received the Broadcast Engineer of the Year Award. Two members received the Educator of the Year Award: Mike Scott, CPBE and Bruce Zieminski, CPBE.

Several chapters were recognized for outstanding achievements. They included Chapter 24 in Madison for Best Frequency Coordination Program, Best Technical Article or Program by a Member (Neil McLain) and Best Chapter Newsletter, editor, Mike Norton (tied with Chapter 124).

Also receiving awards were Chapter 126, Saipan, for Highest Member Attendance Percentage at Chapter Meetings, Chapter 111, Huntsville, Alabama for the Greatest Percentage Growth in New Members, Chapter 132, Ft. Meade, Maryland for the Most Certified SBE Chapter, Chapter 37 in Washington, D.C. for the Best SBE Chapter Web Site, and Chapter 16, Seattle, for the Best SBE Regional Convention. Chapter 124, Northwest Oregon, was recognized for the Best Chapter Newsletter (tie with Chapter 24), editor Kent Randles.

A special technology Award went to the sponsoring organizations of

the DTV Express. Jerry Butler, Project Executive Director for PBS and Judson French, Project Executive Director for Harris Corporation, were on hand to receive the awards.

Linda Godby-Emerick, Certification Director at the SBE National Office, was presented with the first National Wulliman Award for service to the SBE Certification program. The Award was presented by the National Certification Committee.

SBE CERTIFICATION EXAM OPPORTUNITIES ANNOUNCED FOR 2000

The Certification Committee has released dates for Certification Exam opportunities in 2000. Four exam periods will be held in chapters along with an exam period during the NAB Convention, April 11 in Las Vegas. Check out the upcoming Certification exam dates below. One may be right for you. For more information about SBE Certification, see your Chapter Certification Chair or contact Linda Godby-Emerick, Certification Director at the SBE National Office at (317) 253-1640 or lgodby@sbe.org.

CHAPTER REBATE DEADLINE APPROACHES

All Chapters are reminded to submit evidence of at least five chapter meetings held during 1999 by December 31. This will qualify the chapter for a cash rebate, which will be paid on June 1, 2000. Chapters may submit newsletters, meeting notices or reports to Scott Jones at the SBE National Office. They can be sent by e-mail to kjones@sbe.org, by fax at (317) 253-0418 or by mail to: SBE 8445 keystone Crossing, Suite 140, Indianapolis, IN 46240.



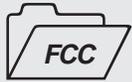
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FCC Rulemakings

Compiled By Tom Smith

PROPOSED

MM Docket No: 99-292; FCC 99257 Broadcast Services; Radio Stations, Television Stations

The FCC is seeking comment on a proposal to give certain Low-power TV Stations some degree of primary status. This new class of stations would be called Class A LPTV Stations. Their new status would give them some protection from being displaced from their channel during the transition to DTV. This notice is a result of a petition by the Community Broadcasters Association.

The Commission is seeking comment on a number of methods to provide for a new class of stations with some sort of protection from disruption due to displacement by new DTV stations. Currently, LPTV stations are considered a secondary service and most cease broadcasting when it is the cause of interference to an existing or new full power TV station. Because of the potential overlap with many new DTV stations, many LPTV stations may have to quit broadcasting.

Under the proposals of the CBA and the FCC, LPTV stations would be required to provide three or more hours a week of local programming to qualify as a Class A station. The FCC is also asking if these stations should meet minimum signal coverage requirements over their community of license. The FCC proposed many different protection combinations between Class A TV and full power TV stations. One thing the FCC stated in the notice was that the proposed Class A station cannot increase interference to existing full or low-power stations, or to any new DTV station that is currently being allocated.

Much of the discussion was on treatment of Class A stations if room could not be found for them and other LPTV stations. Class A stations could

be given the opportunity to move to a new channel if displaced by a DTV station without being subjected to competing applications. The FCC also asked if the proposed Class A stations should be protected from displacement by DTV stations that are allocated in the future. This proposed rule could have an existing Class A TV station prevent a full power DTV from being allocated. There are also issues concerning other LPTV stations and TV translators, and what protections they should receive from the proposed Class A stations.

The creation of the Class A TV stations is a complex issue with many considerations. A full reading of the notice is required as nearly every paragraph discussed raises a new issue.

The FCC adopted this notice on September 22, 1999 and released it on September 29, 1999. Comments are due on December 21, 1999 and replies are due January 20, 2000.

The notice was published in the FEDERAL REGISTER on October 22, 1999 on pages 56,999-57,010.

MM Docket No.99-325 Digital Broadcasting System and Their Impact On the Terrestrial Radio Broadcast Service

On November 1, 1999 the FCC adopted and released a notice to start the rulemaking process to establish digital audio broadcasting. The FCC was originally expected to take up this issue at its October 21, 1999 meeting. The FCC will accept comments for 75 days after the notice is published in the FEDERAL REGISTER.

Reply comments will be due 30 days after the closing date for the acceptance of comments. A complete summary of the notice will be in next months newsletter.

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

ABC 720P TRUCK TOUR

By Mike Norton

On Sunday, October 31st, a group of SBE members from Chapter 24 traveled from Madison to Green Bay for a tour of a 720P HDTV production truck. The mobile facility was in Green Bay to be used by ABC Sports for HDTV coverage of the Packers/Seahawks game during Monday Night Football.

We gathered early Sunday morning at the Wisconsin Public Broadcasting Center to car pool to Green Bay. After a few hours, we exited on Lombardi Avenue and arrived at Lambeau Field. Herb Van Driel of Panasonic was present to help facilitate our tour. Currently, Panasonic owns the truck.

The HDTV semi-trailer was 55 feet long, with double expanding sides; 6" street-side and 5 feet curb side. We were given an explanation of the dual fiber optic cabling system used to connect the cameras in the stadium to the truck. The HD cameras were native 720 line progressively scanned. A total of seven HD cameras were available with the truck, three of which were hand-held.

The transmission area of the truck held various video and audio routers (HDTV, SDI, AES/EBU), the CCUs, upconverters for SD sources, Dolby 5.1 audio encoders, and HD video encoders. The large production control room featured all color plasma displays for the various sources.

The production of the HDTV feed is independent of the SDTV feed, with separate cameras, VTRs, Director, and crew. There are not, however, separate announcers for the broadcast. During the actual game, the HDTV feed switches it's program video to closely match what the announcers are talking about.

The actual transmission from the event was via satellite, with a 45 MB/s signal to the uplink truck, then to ABC in New York, and finally to ABC DTV stations for ATSC encoding and broadcast.

Thanks to Synergistic Technologies, Inc, ABC Sports, and Panasonic for making this learning experience possible.

INTERESTED IN SBE YOUTH MEMBERSHIP?

A SBE Youth Member is a member of the Society of Broadcast Engineers that is of high-school age and who has an interest in broadcast engineering.

Youth Members receive various benefits by belonging to the organization, such as:

- Three issues/year of SBE's Youth Member Newsletter containing technical articles, career and internship information and news about student-run stations;

- Information on the various fields that make up the broadcast engineering industry;

- Information on schools specializing in electronics and broadcast engineering - both two-year and four-year schools;

- SBE Youth Membership Card;

- Information on internships available across the country;

- An invitation to participate in a local SBE Chapter program designed for high school students to learn more about career opportunities;

- SBE Member rates on technical books and publications about broadcast engineering;

- A copy of the annual SBE Membership Directory;

- Access to available jobs listed on the SBE Job Line which is updated weekly;

- Opportunities to develop mentor relationships with active professionals in the industry, exposing you to what broadcast engineers do each day. This experience can be invaluable as you

prepare to make career decisions that will affect your future;

- Information on scholarships for those interested in broadcast engineering careers;

Who Should Join SBE?

Students in grades nine through 12 who have an interest in the technical side of broadcasting are eligible for Youth Membership in SBE.

If you are active with your school radio or television station, an amateur radio club or have your own amateur radio station and have an interest in the technology that makes them operate, then Youth Membership in SBE is for you! Maybe you have not had the opportunity to get involved in one of the station activities mentioned, but you have an interest in communications technology, - computers, transmitters, audio and video equipment - membership in SBE can help you learn more about the field.

How To Join SBE

Simply fill out a Youth Membership Application, sign it and return it to the SBE National Office with your dues payment. Youth Member dues are \$10 per year. Your membership expiration date will be one year from the end of the month in which you join.

Once approved, you will receive your SBE membership card and will be placed on the mailing list for the Youth Member newsletter. The newsletter is mailed in September, January and May.

For more information on SBE, please contact the SBE National Office at (317) 253-1640, or visit the SBE National web site at www.sbe.org.

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**Steve Paugh is the editor for the Electronic
Version of this Newsletter, uploaded monthly
onto SBE Chapter 24's web page.**



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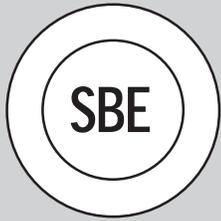


FIRST CLASS MAIL

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

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NOVEMBER MEETING and PROGRAM



**Society of Broadcast Engineers
CHAPTER 24 MADISON, WISCONSIN
Thursday, November 18, 1999**

SBE Student Night

The meeting this month will be the second Chapter 24 Student Membership Night. A presentation and facility tour will follow the meeting, along with a question and answer session for the students.

All members are encouraged to attend!

Student Registration starts at 5:00 p.m.

Pizza Party at 5:30 p.m.

Meeting at 6:30 p.m.

**at WISC-TV
7025 Raymond Road**

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

1999-2000 UPCOMING MEETING/PROGRAM DATES:

Day	Date	Program
Tuesday	December 21, 1999	DTV PSIP Implementation
Wednesday	January 19, 2000	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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