



Using Switched 56

By Al Rieland

Since 1989, Wisconsin Public Radio (WPR) has been using 2-Line Comrex equipment at its five regional bureaus for moving news stories and features back to the WPR's network headquarters in Vilas Hall on the University of Wisconsin - Madison campus.

The Comrex system uses frequency band-shifting, band-splitting and multichannel companding in order to create an audio connection from one site to another using standard phone lines. The resulting channel bandwidth is 5KHz. Due to the companding, the Signal-to-Noise is better than 60dB.

There are two problems however. The system does little to decrease the inherent distortion present in the analog telephone system and a third telephone line is needed when a two-way interview was conducted.

In 1992, WPR began production and national distribution of a weekly three-hour series called TO THE BEST OF OUR KNOWLEDGE (TTBOOK). TTBOOK heavily uses interviews on topical issues with expert guests located all over the nation.

When the guest is not in Madison, they either rely upon telephone interviews or they have local recordings made of the guest's answers which are then mailed to the producer and synchronized with the master recording made at WPR creating a "studio quality" interview. The first method suffers from the usual telephone quality. The second method suffers from the costs of recording and mailing the tape, as well as the time it takes to create a completed interview.

An alternative

In January of last year, after studying how other national interview programs

Continued on page 4

Plan to Attend All-Chapter National Teleconference

Make plans now to attend the 1993 Broadcasters Clinic and the Special Wednesday Evening Regional SBE program. Plans are underway now to do an hour long National Teleconference live from the conference room at the Holiday Inn Southeast here in Madison.

The distinguished panelists will include the SBE's National President, Vice President, Counsel Chris Imlay, and Executive Director John Poray.

The format will allow for questions from the floor of the conference room and, via the phone, from Chapters across the country holding their November meeting around a satellite downlink.

You need not be registered as a Clinic attendee to attend the SBE Regional program and Teleconference, but the agenda of this year's Clinic is intense and well worth being a part of. The Clinic dates are November 9 through 11 with the SBE Regional program on Wednesday evening November 10th beginning at 7pm. Mark your calendar now!

IN THIS ISSUE

✓ Your Label..... Page 5

Mic Data Needed..... Page 6

Scholarship Offered..Page 7

Local Legals.....Page 7

Included in this issue is an insert for the WBA Summer Engineering Seminar. A registration form is included.

JUNE MEETING

DATE: Thursday
June 17, 1993

AT: Brat und Brau
6654 Mineral Point Rd.

DINNER: 5:30 p.m.

MEETING: 7:00 p.m.

PROGRAM: 7:30 p.m.

ANTENNAS FOR HDTV

Joe Zuba from Dielectric will discuss options available for digital HDTV.

May Minutes

Chapter 24 of the Society of Broadcast Engineers met on Wednesday, May 19, 1993, for its regular monthly meeting at the Swiss House Restaurant, Hwy 51, Stoughton, WI. The attendance of the May meeting included 27 SBE members, 22 who were certified and two guests for a total attendance of 29.

Chair Leonard Charles called the meeting to order at 7:00 p.m. Secretary Kerry Maki read the minutes from the April meeting. The minutes were approved as read.

Treasurer and Newsletter Editor Paul Stoffel reported the chapter balance. He then reported deadline for newsletter articles. Paul also asked for help in finding someone to take over as Radio Editor for the newsletter.

Chair and Membership Chair Leonard Charles announced that the Chapter currently has 75 designated members, 20 of whom are currently in arrears. He reported 167 copies of the newsletter

Continued on page 8

CHAPTER 24 OFFICERS

CHAIR:

Leonard Charles (WISC-TV)
W - 271-4321
H - 274-0041

VICE-CHAIR:

Fred Sperry (WI Public TV/TOC)
W - 264-9600
H - 833-6074

SECRETARY:

Kerry Maki (WMSN TV)
W - 833-0047
H - 835-5195

TREASURER:

Paul Stoffel (WI Public TV)
W - 263-2175
H - 241-4621

COMMITTEE APPOINTEES

Past Chapter Chair:

Jim Hermanson

Program Chair:

Steve Zimmerman

Membership: Leonard Charles

Sustaining Membership:

Stan Sarch

Strategic Plan: Dennis Behr

Special Events: Kevin Ruppert

Certification and

Education: Jim Hermanson

Tim Trendt, Platteville

Freq. Coordinator: Tom Smith

work 608-263-2174
home 608-837-2729

Chapter Liaison: Steve Peck

608-246-9797

National SBE Liaison:

Terry Baun
414-449-5300 (voice)
414-449-5380 (fax)

An FCC Inspection - What They Checked

By Keith Retzer, Pittsburg State University, via WNIU-FM

Here is a brief outline of what happened when an inspector came knocking on the door of our non-commercial station. He checked station licenses, individual operator licenses, the chief engineer's license, randomness of EBS test transmissions, and that EBS tests were logged when sent and received.

He verified that there was no over modulation. We were at 100% with an active flasher. The inspector said, "Hitting it kind of hard aren't you?" All was okay when I explained that two subcarriers were in use. I showed him the peak indicator at 109% was not flashing.

He checked our power output and asked for a copy of the data we used to obtain our efficiency factor. We use a copy of the transmitter's factory test data. He took a set of readings and computed our output to see if it was legal and was close to the calculated value.

He did not visit the transmitter site to verify accuracy of the meter calibrations. Asked of the on-duty operator: How do you tell your operating power? What are your maximum power limits? What would you do if power was over 105%? How do you turn the transmitter off? How would you send an EBS test? We have our EBS messages on cart, so he checked to make sure the tones were not on the cart. We were told to put a short burst of tones on the air to verify that the EBS generator was functioning.

The chief engineer was asked for the EBS logs. The inspector looked for the signed, weekly checks of the transmitter logs. We were asked about any tower light problems. We showed him our log of tower light problems, repairs, and visual checks made to verify a faulty sensor.

We were asked if we had any other control points and if they were specified in writing. We operate overnight with a second and sometimes third control point. He visited the engineer's house (a remote control point) to check if an

EBS receiver was in place and operational and if we could send EBS tones from the remote point. Documentation required at the remote point included the EBS checklist, authenticator envelope, copies of the station/operator licenses, and state EBS plan.


He was concerned about overnights, with no one at the studio, but since our remote control can do all the necessary functions, he was satisfied.

He commented that his office had actually phoned the remote control point during the night to see if there was somebody to respond to the automatic transmitter dialing alarm system.

We have a written copy of our overnight plan. He said that written acceptance of our plan (especially the EBS part) from the Washington D.C. FCC office would have been desirable had there been any problems found in our inspection. With approval, we would not have been held accountable for approvals or waivers from the FCC's rules; if in doubt get it in writing!

Finally, he asked the manager for any complaint letters from the public, while he was performing an expansive check of our public inspection file.

(From the May 1993 issue of THE SIGNAL LOOP, SBE Chapter 26.)

Tower Erectors	Antenna Specialists
	
RICHARD WOOD PRESIDENT	
BROADCAST MICROWAVE LAND MOBILE	
1965 WEST RIDGE ROAD P.O. BOX 51 COTTAGE GROVE, WI 53527 (608) 839-4075	

CTI	8213 MIDDLETON SPRINGS DRIVE MIDDLETON, WISCONSIN 53582-2773
	608/831-4638 FAX 608/836-1848
COMMUNICATIONS TECHNOLOGIES INC.	
CONSULTING ENGINEERING FOR THE BROADCASTING AND CABLE TELEVISION INDUSTRIES	
DICK GALL	NEAL McLAIN

Ned White Branch Manager	
	
Roscor Wisconsin 11350 W. Theodore Tractor Way West Allis, Wisconsin 53214 Phone: 414-476-2800 FAX: 414-476-4949	

SBE NATIONAL NEWS

By Terry Baun
Chapter 28 Newsletter Editor

● Following up on the recent minor bylaws changes approved by the SBE Board, a revised copy of the SBE By-laws should be in the hands of members by the end of June, according to SBE Executive Director John Poray. The new version will reflect the two recent amendments and correct a few typographical errors.

● The SBE Summer Executive Committee Meeting will be held in Indianapolis in July. Members having comments for the officers or board should submit them to Terry Baun before July 1st.

● The SBE bookstore has been a solid success, with almost 100 books sold thus far. The SBE has now established itself as a primary source for obtaining hard to find books on telecommunications technology and engineering.

● Here's an update for the July 14th 1993 WBA/SBE Engineering Seminar at beautiful Lake Geneva. You'll have a chance to talk with SBE Executive Director John Poray and SBE General Counsel Chris Imlay.

● The SBE is pleased to announce that our Executive Director, John Poray, recently completed all of the requirements for recertification as a Certified Association Executive. This process demonstrates continued professional development in association management over a successive three year period, and includes the taking of a day long written examination covering more than 24 areas of association management. SBE President Richard Farquhar notes that it is particularly appropriate that the SBE, as a professional association strongly committed to the concept of member certification, employ as its Executive Director a person who himself holds certification in his vocational speciality.

AM UPDATE

Engineers who maintain AM stations need to remember, that in a little more than a year, you must start making annual RF emission bandwidth and spurious radiation measurements.

Back in 1990, stations were required to install NRSC pre-emphasis equipment and were waived from having to make periodic measurements per FCC 73.1590. This waiver

was for four (4) years. Therefore, after June 30, 1994, AM stations will be required to make the test as specified in FCC 73.44, at intervals not exceeding 14 months.

The best way to make the measurements is with a spectrum analyzer, however most engineers do not own one...plus they are quite costly. The rules states that an alternate method, using a communications receiver and a field intensity meter can be used.

Only caution using this method, is if you are inspected by the Commission, they will be using an analyzer. If it says you are out of tolerance....then you are out of tolerance regardless of what your communications receiver says. It's not to early to check your emissions now, so you won't be surprised next year.

(Information for this article came from John Battison, writing in the April Broadcast Engineering and was published in Chapter 118's May newsletter, Montgomery.)



● Seattle's FCC Engineer In Charge, Gary Soulsby reported another active month at the Commission.

One area that's come under scrutiny again is AM directional stations. In addition, ongoing problems include: inadequate public files, monitor points and tower base meters.

● The FCC is proposing the privatization of the administration of its commercial radio operator licenses.

Under the privatization scheme the FCC will enter into contractual agreements with a small number of Commercial Operator License Examination Managers (COLEMS). The COLEMS would charge a fee, \$35-50 is proposed.

(The above is from SBE Chapter 16's WAVEGUIDE, Seattle)

Chapter 24 BBS
608-277-5239
Chris Cain, Sysop

Leonard Charles is the editor for the Electronic Version of this Newsletter that is available on the Chapter 24 BBS.



SIGN-ON BREAKFAST

Chapter 24 will be having another "Sign-On Breakfast" on Wednesday, June 9 at 6:30 am. The location is Denny's Restaurant on Gammon Road in Madison (across from the West Towne Mall.) This breakfast is being sponsored by BTS and Steve Peck. Join us for coffee and conversation before going to work.



Milwaukee
Madison
Chicago

VIDEO IMAGES

Jim Braun
District Sales Manager

Video Images, Inc.
2137 S. Stoughton Road Madison, WI 53716-2851
(608) 221-8888

BTS

A PHILIPS AND BOSCH COMPANY

Steve C. Peck
Regional Sales Manager

Broadcast Television Systems, Inc. Direct (908) 246-9797
10600 W. Higgins Rd., Suite 500 Main (708) 803-8080
Rosemont, IL 60018 Rosemont, IL 60018 FAX (908) 246-8283

**AT&T - PANASONIC - S.W. BELL
TELEPHONE SYSTEMS**

Scharch Electronics Company

1105 Middleton Street
Madison, WI 53717-1078
608-831-2266

Stan Scharch

SWITCHED 56

Continued from page 1

were produced, we made inquiries at Wisconsin Bell regarding the availability of switched digital service in Madison. Specifically, we asked for a Switched 56 (SW56) connection into WPR's network Radio Operations Center (ROC) in Vilas Hall. You can think of SW56 as an extension of a portion of the telephone company's central office digital switch into your office or studio. The link to their switch runs at a rate of 56,000 bits per second. The link is duplex (2-Way) and uses a single copper pair. Note that Ameritech companies use a 2-Wire system called Datapath, while most other telcos use a 4-Wire version which uses different subscriber equipment.

The first contacts with Wisconsin Bell were frustrated by a lack of knowledge at every level about switched digital technology. By last summer, local representatives were going to seminars and demonstrations as well as receiving lots of encouragement and literature from my office. They were particularly surprised with our intended use for their product since the most common use for switched digital is between computers. Last fall tariffs were filed so they could price the service and by Christmas work began.

What's needed

Meanwhile, we had to decide what equipment to purchase. In SW56, the subscriber must provide the digital Data Service Unit (DSU). The DSU synchronizes with the telephone network equipment, provides the touchpad necessary for dialing up other switched terminals and connects via a V.35 connector to the Codec. The Codec is a deceptively simple box that converts audio to a digital format and back again. It typically has XLR connectors for both Input and Output along with an input level indicator. WPR purchased a model CM1056DP Data Service Unit from Integrated Network Corporation. It was one of the few manufacturers that provided a rackmountable box with an accessible touchpad made for the Datapath 2-Wire system.

For the Codec, we went to Comrex Corporation's Model DXR, a single rackmount box with XLR in and out on

the rear panel. Finally, we almost forgot the special (i.e. expensive) V.35 Cable that transfers the parallel digital datastream between the boxes. This Switched Digital Audio Terminal can connect to other units in the world assuming you are both using the same Codec Standard, the same Bit Rate (56 Kbps) and the same carrier (although this may not be resolved soon). When connected using the current standard G.722 compression algorithm, you'll get a channel with a bandwidth of 7.5KHz, Signal-to-Noise is better than 58dB and distortion below 0.5%. This is in BOTH directions.

Installation

The SW56 line was installed and tested at the telephone network interface in the basement of Vilas Hall in January of this year. The equipment arrived a week later. We immediately hooked it up, the DSU's sync light came on and all looked well... Until we tried to call out. Nothing happened! We called Wisconsin Bell who checked the line again with no indication of a problem. We called AT&T, our long distance carrier. It seems they were still installing Madison's new digital switch.

A few weeks later, they were ready and we tried it again. Again nothing. We couldn't call a local SW56 terminal because we were the only one! Another test by Wisconsin Bell revealed that their equipment didn't see our equipment. We had the UW Telecommunications technicians check the wiring from the Network Interface to WPR's ROC. They came back with embarrassed looks. Not only had the internal wiring tip and ring been flipped, but the ring had a broken connection. The only reason the front panel sync light was on was from the AC and rack grounds!

Since then, we have had very good luck using the system. If you are interested in SW56, don't be discouraged by my pitfalls. On May 15th, we did a two-hour live "Whad'ya Know?" with Michael Feldman's show from the Pabst Theatre in Milwaukee. We had Wisconsin Bell install SW56 in order to get the program back to Washington to be uplinked to the 140 stations that carry the program. They installed it in less than three weeks and it sounded great!

We've made the decision to replace all of our 2-Line Comrex equipment to switched digital as soon as possible,

either SW56 or ISDN as it becomes available (they are compatible). One real problem was how to locate other SW56 users. Since this information is difficult to obtain, I called around to my contacts at the major radio production studios that use SW56 and put together the SWITCHED DIGITAL AUDIO TERMINAL DIRECTORY. It lists over 100 verified SW56 and ISDN terminals and contact numbers in 80 Cities in the U.S., Canada and Australia. It was "published" on May 24th, 1993 and is available free. It will be posted on the SBE BBS for free distribution.

Costs

Wisconsin Bell charges \$646 for installation. The monthly line rental is \$83. The Long Distance calls run about \$0.20 a minute. Switched 56 is available via Wisconsin Bell in parts of Madison, Eau Claire, Stevens Point, Menomonie and Milwaukee. ISDN service will become available in many areas starting next year. It will be cheaper and compatible. CCS has brought out a new Codec which uses the Musicam Algorithm which when connected to other's using this mode will pass 10KHz with a S/N greater than 80dB. It is also compatible with the older G.722 standard units.

Some Data Service Units (DSU) for 2-Wire systems:

Integrated Network Corp. (INC)
Bridgewater, NJ
908-218-0804

Transtream
Agoura Hills, CA
818-706-3252

Some Codec Manufacturers:

Comrex Corp
Acton, MA
508-263-1800

Corporate Computer Systems (CCS)
Holmdel, NJ
908-946-3800

RE America
Westlake, OH
216-871-7617

Al Rieland is the Director of Engineering and Operations for Wisconsin Public Radio.

CHECK YOUR MAILING LABEL

by Leonard Charles

Our membership list has been collaborated with the National list as of May 11. Please check your mailing label for the code number in the upper right corner. If your number is a 1, you are an official member of Chapter 24 and are current in your dues. If you have a 2 on your label, you are a member of Chapter 24 but are currently in dues arrears. Please remember to send in that renewal card. (NOTE: If you mailed in your renewal on or after May 11, you are current and our list will reflect that soon.) A 3 means you support our Chapter as a Sustaining Member. A 4 means you receive our newsletter through a special arrangement and a 0 indicates you are receiving the newsletter complimentary. If you appreciate the information you get in this newsletter, becoming an official member. Attending our regular meetings is the next step to helping yourself in your career. Contact me for the necessary form to join. Many of your colleagues consider it worth while as Chapter 24 has a membership total of 75. If you are complimentary and don't desire to continue receiving this newsletter, please contact me, we can save the stamp.

Volunteer Needed

We are in need of a volunteer to hold the seat designated to the local SBE Chapter on the Dane County Telecommunications Commission. It is a full voting position. This Commission is an advisory entity to the City Council and County Board to advise on expenditures and specifications approval on all communications needs. Everything from the rate the City radio shop charges for its service to outside interests, to and including approving new tower sites and budgets for expanding communication capability in the world of local government.

I have been serving on this commission for a number of years now and am ready to pass the torch in light of my new responsibilities as Chapter Chairman. The group meets once a month on the fourth Wednesday at 5:15pm at the traffic department offices off of John Nolen near the Coliseum. Please contact me for more information if you are interested.

Leonard Charles



Help Wanted

■ WRPQ AM 740, C-QUAM Stereo, Baraboo, WI is seeking help. An Engineer is needed to move the transmitting equipment from its current building to a new building. A Nautel 250 Watt rack sized transmitter with all processing and Stereo Exciter equipment is located in the transmitter room and will remain in the same configuration in the new building. The remote control unit also needs to be adapted to a no-operator situation. Beyond this project, the station is seeking an on-going Engineering agreement on an emergency call in basis. If you are interested in either or both of these needs, contact Manager Jeff Smith at 608-356-3974.

27
WKOW
MADISON

(608) 274-1234
Fax# (608) 274-9514

5727 Tokay Boulevard, Madison, WI 53719

4155 SIBLEY MEMORIAL HWY.
EAGAN, MN 55122-1904
(612)890-8920 • FAX (612)890-7009

EMMONS ASSOCIATES, INC.
DISTRIBUTORS AND REPRESENTATIVES • TELEVISION EQUIPMENT

KEITH EMMONS



MITCH MONTGOMERY
District Manager - RF Sales
8418 NW Beech
Kansas City, MO 64153
(816) 891-7300 FAX: (816) 891-8323

HARRIS CORPORATION Broadcast Division
P.O. Box 4290, Quincy, Illinois 62305 217/222-8200

SONY


Kevin Peckham
Account Manager
Broadcast Products Division

Sony Communications Products Company
1200 North Arlington Heights Road
Rasca, Illinois 60143
Telephone (808) 271-3778
(708) 773-8046

Service Center (708) 773-8037
Emer. Tech. Assiat. (201) 833-9533
National Parts Center (800) 538-7550

CHAPTER 24 SUSTAINING MEMBERS

- Maney-Logic
- Electronic Industries
- The Tape Co.
- WMTV 15
- Clark Wire and Cable
- Teleport Minnesota
- Emmons Associates
- CTI
- Panasonic Broadcast
- Comark Communications
- WMSN 47
- Broadcast Communications
- BTS
- Skyline Communications
- Harris Allied Broadcast
- Video Images
- Fuji Film I&I
- Roscor Wisconsin
- WKOW-TV 27
- Scharch Electronics
- WISC-TV 3
- Sony Broadcast



GORDY DAILEY
BROADCAST SALES

ELECTRONIC INDUSTRIES INC.
19 E. IRVING AVE • P.O. BOX 208 • OSHKOSH, WI 54902
distributors of electronic equipment and supplies

PHONES: 414-235-8830
414-739-8900
FAX: 414-235-4233

IN-STATE WATS: 1-800-445-0222
OUT OF STATE WATS: 1-800-558-0222



Tim Galassini
801 Sivert Drive
Wood Dale, Illinois 60191
708-595-3113 Phone
708-595-0052 Fax

ORDERS: Contact
Order Processing

Company

Quality People...Quality Service

Wireless Microphone Information Needed

By Tom Smith
Chapter 24 Frequency Coordinator

I have received a number of requests for information on wireless microphone frequencies. There is currently very little information filed concerning who is using what frequency and the number of users.

Because of this, I am requesting that all users of wireless microphones send me the information about their unit's frequency. I would like to know if the unit is on a fixed frequency. Or, if your unit is tunable over a range of frequencies, give me the range of frequencies. I would also like to know if the units are or are not licensed. All frequencies will be filed whether licensed or not.

Because video and film production companies are also covered under Part 74 of the FCC rules, I am also requesting information on their wireless microphone units. A request for information will be published in the local ITVA Newsletter.

There is no way to protect all wireless microphones from interference. There are a great number of units that are owned by non-Part 74 users, including churches, bands, nightclubs and theater groups. They are under other parts of the FCC rules. Fortunately, most of these microphones are used in fixed locations, for limited periods of time and, because of their limited range, present minimal interference.

My main concern is that broadcast and video production users do not interfere with each other when they show up at a common venue such as an event on the Capitol Square.

In order for the frequency coordination to work, all users of broadcast auxiliary frequencies must cooperate and supply information on their frequency usage.

Please send your wireless microphone (and wireless IFB and intercom) information to WHA-TV, 821 University Ave, Madison, WI, 53706.

Ennes Regional Workshop Comes to St. Louis

The Society of Broadcast Engineers and the Ennes Educational Foundation brings the Ennes Regional Workshop program to St. Louis, Missouri, June 18-19.

Working with SBE Chapter 55, two days of informative, hands-on workshops are planned that cover some of today's "cutting edge" technology. Technology you and your members have wanted to see and hear about but always seems to be displayed at some far off and expensive place.

Friday's sessions deal with computers - Network Operating Systems, Hardware Options for Networks and the Application of Computer Systems at a Broadcast Station. It will include exhibits of a number of computer systems, with representatives present to answer your questions.

Saturday features the following topics: FM & TV Antenna Impedance, The Care and Feeding of CD's, Surviving an FCC Inspection (by Kansas City FCC Field Rep), Digital Audio-The Audio Vault, Telephone Interface Technology and ENCO Digital Audio Systems. The last session includes the opportunity for "hands-on" examination. Registration begins at 8 a.m., and each day's sessions end at 4:30 p.m. Times are CDST.

In addition, you will enjoy continental breakfast and coffee breaks both days and lunch on Saturday. All great opportunities to share knowledge and experiences with your peers in broadcast engineering.

The very reasonable price for the entire two days of workshops, meals and breaks is only \$94! Where else can you find this variety and quality of program, for this low price, this close to home?

To register, use the registration form you received in the mail or call the SBE office at (317) 253-1640 and ask for Linda Godby. Linda can register you for the workshop with your VISA or Mastercard.

Members of Chapter 55 are eligible for a special, half-off, discount. Call your Chapter for details. If you call the SBE office to register, be sure to tell Linda that you are a member in good standing of Chapter 55.

The location for this Regional Workshop is the Henry VIII Hotel, conveniently located on Lindbergh Boulevard (US 67), one half mile north of I-70 and one mile south of I-270 on St. Louis' northwest side.

A special SBE room rate of \$60 has

been arranged. Up to four persons can share a room at that price.

To make reservations from outside Missouri, call 1-800-325-1588. Within Missouri, call 1-800-392-1660.

(From the National SBE Office)

maney-logic
4535 Thurston Lane
Madison, WI
53711-4787
608-277-8001

News Timer Plus
with base sixty calculator

Time Remain Time Out
10:28 **28:57**

TELEPORT MINNESOTA
A communication service of Midwest Cable & Satellite, Inc.

Mark Durenberger 11th on the Mall
Director of Minneapolis, MN 55403-2450
Technical Operations FAX (612) 330-2401
(612) 330-2433

15
WMTV
615 Forward Drive, Madison, Wisconsin 53711
Phone: 608-274-1515
Fax: 608-274-2737



"35 Years of Devotion to the Broadcast Industry"

Broadcast Communications™
Turn-Key Tower Installation
24-Hour Emergency Repair
AM/FM Broadcast Consulting
Tower Management Services
Antenna and Line Installation
Tower Maintenance & Service



CALL 608/527-5670
98 Highway 69 North P.O. Box 710 New Glarus, Wisconsin 53574

COMARK
Jim Rogers
Western Regional Sales Manager

Western Office TEL: (819) 748-2151
12812 Arabian Way FAX: (819) 748-1879
Poway, CA 92064 C-Serve 70410.2032

a THOMSON - CSF Company

FUJI FILM I & I
Imaging Information

SEDATE HOLLAND
ACCOUNT REPRESENTATIVE
PROFESSIONAL PRODUCTS
MAGNETIC PRODUCTS DIVISION

FUJI PHOTO FILM U.S.A., INC.
1285 HAMILTON PARKWAY
ITASCA, IL 60143
(708) 773-7200 • (800) 877-0555

LOCAL LEGALS

Compiled by Tom Smith

OWNERSHIP CHANGES

Applications

● WJNW(TV) Ch. 57, Janesville, WI, 646 KW-V, 64.6 KW-A at 403 ft., seeks assignment of construction permit from Tri-M Communications headed by Harry Monk to Harish Puri for \$65,000. Neither has any other broadcast interest. Filed April 27.

Actions

● WWRS(TV) Ch. 52, Mayville, WI, 2,510 KW-V, 251 KW-A, antenna 820 ft. Sale granted from the estate of Wayne R. Stenz, deceased, to TV-52, Inc. Assignor is headed by Jean L. Danor, executor. Buyer is headed by Lyle R. Evans who is sole proprietor of WEZR(FM), Brillion, WI.

NEW STATIONS

Applications

● Reedsburg, WI, Sauk Broadcasting Corp. seeks 102.9 Mhz, 3.6 KW at 129.1 meters. Address is P.O. Box 630, 1710 North Central Ave., Marshfield, WI 54449. Applicant is headed by Nathan Goetz and is licensee of WRDB(AM)-WNFM(FM), Reedsburg, WI. He also holds interest in WDLA(AM)-WLJY(FM), Marshfield, WFAW(AM)-WSJY(FM), Fort Atkinson, WQJY(FM), West Salem, and is purchasing WOSX(FM), Spencer. All are located in Wisconsin. Filed April 6.

● La Crosse, WI, Sabbath, Inc. seeks 99.5 MHz, 6KW at 100 meters. Address is P.O. Box 371, Indianapolis, IN 46206. Applicant is headed by Craig S. Gill and has applied for nine other FMs. Filed April 19.

Actions

● Whitewater, WI, granted application of Scott M. Trentadue for 106.5 MHz, 3 KW at 100 meters. Address is 1231 Orchard Lane, Fort Atkinson, WI 53538. Applicant has interest in Sauk Broadcasting Corp. (See above)

(From *Broadcasting & Cable*)

Chapter 24 Offers WBA/SBE Scholarship

Chapter 24 is offering two scholarships consisting of full day paid registrations to this year's WBA/SBE Engineering Seminar. The scholarships will be awarded on the basis of the following criteria and maximum number of points accumulated:

- 1) Must be a current member of Chapter 24
- 2) Attendance at 6 of the prior 12 meetings
- 3) Employment in or a student of a broadcast related field
- 4) Must have SBE National dues paid for the current year

Points will be assigned as follows:

- a) 5 points for each month applicant has at least one article published in the Chapter 24 newsletter
- b) 5 points for certification, any level
- c) 2 points for each monthly meeting attended in excess of the 6 required

In the case of a tie, final selection will be by the elected officers of Chapter 24 or by a committee appointed by those officers, excluding any whom may have applied.

If more than one applicant, an alternate will also be selected based on the second highest number of points. The scholarship winners will be required to write a summary article to be published in the chapter newsletter.

Applications should be in the form of a letter which is signed, dated and received no later than June 30th by Fred Sperry at the following address:

Wisconsin Public Television, TOC
3319 W. Beltline Hwy.
Madison, WI 53713

This year's WBA/SBE Engineering Seminar will take place on July 14th at Interlaken Lodge in Lake Geneva.

Chapter 24 also has plans to offer a two day scholarship to this year's Broadcasters Clinic. More details regarding this scholarship are forthcoming.

RADIO....

By Stan Sarch

● Digital Audio tests that were presented at NAB '93 show that the combination of two or more data compression systems degrades audio. Several New York Engineers participated in the tests. The degradation experienced varies from loss of separation to severe distortion.

● RBDS (Radio Broadcast Data System) is on the air on 50 radio stations in the U.S. In a recent EIA survey, over 50 percent of all U.S. stations said they would begin broadcast of RBDS as soon as radios are being sold.

● The NAB, EIA and Harris Corp. have filed comments with the FCC in favor of C-QUAM as the U.S. AM Stereo standard. At present, 591 U.S. Stations are using the C-Quam system. 20 are using Kahn ISB. Several comments say that more testing of the systems is needed.

(Excerpts from *Radio World*)

Stan Sarch and the newsletter editor seek a volunteer who works in radio broadcasting to write this radio column. Contact the editor.

Panasonic



Panasonic Broadcast Systems Company
Division of Matsushita Electric Corporation of America

1707 N. Randall Road, #1-C-3
Elgin, IL 60123-7847
(608) 493-2619
(708) 468-5180

HERB VAN DRIEL
(608) 493-2519 (fax) Central District Sales Manager



Susan Clark
1-800-222-5348

CLARK
WIRE & CABLE

Your most responsive
source for broadcast
audio - video cables.

1801 Holste Road Northbrook, IL 60062

Everybody knows it's on ...

FOX
47
WMSN
MADISON

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

Minutes

Continued from page 1

are currently being sent out. In Sustaining Membership, Chair Stan Sarch indicated there are 24 sustaining members.

Program Chair Steve Zimmerman announced the new members of the program committee. Next month's program will be presented by Joe Zuba of Dielectric discussing antennas and transmission lines for HDTV. Steve also asked that anyone with ideas for future programs should contact either him, or another member of the program committee by June 6, 1993. Special Events Chair Kevin Ruppert announced Chapter 24 will once again operate a booth at the annual Broadcasters Clinic this fall. He indicated old gear would once again be on display; if you have equipment suitable for the display, please let him know. He would like to thank Kevin Peckham of Sony for the last sign-on breakfast. The next sign-on breakfast will be sponsored by BTS, details will be announced in a forthcoming mailing.

Certification and Education Chair Jim

Hermanson announced upcoming Chapter 24 certification exams will occur June 4-14. The next opportunity to take the certification exam is at the National SBE Conference on October 1, 1993. The deadline for registering with the National SBE office is August 6, 1993. The next local certification exam will occur November 5-15, registration deadline for this exam is September 10, 1993.

Frequency Coordinator Tom Smith indicated he has had several requests recently for information regarding wireless mic frequencies. He also indicated he is thinking about starting a wireless mic database.

Chair Leonard Charles announced National Liaison Terry Baun provided a WBA Technical Conference informational packet. He encouraged anyone interested in going to the conference to grab a hand-out with the details. He and Jim Hermanson attended a Broadcasters Clinic Program Committee meeting at which they learned Chapter 24 could program all of Wednesday evening. He would like to have a panel discussion, with panelists consisting of National SBE officers.

No old business.

In new business, Fred Sperry announced

the officers had decided at their meeting to offer two scholarships for the WBA full day conference and dinner, and later in the year one scholarship for two days at the annual Broadcasters Clinic this fall. The deadline for applying for the scholarships to the WBA is the end of June. Chair Leonard Charles indicated the criteria for applying for the scholarship is the same as stated in the by-laws. He also indicated that he would like someone to take his position on the Dane County Telecommunications Commission due to his additional duties as Chair. Also at the officers meeting, the regular business meeting dates for the next year were scheduled.

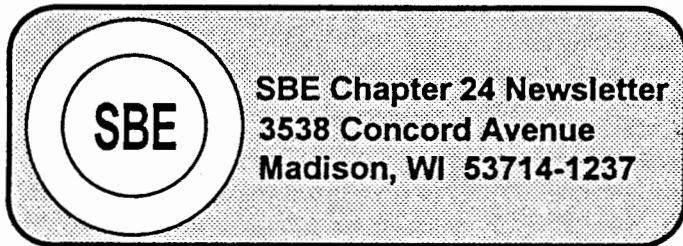
Personal Announcements: Denny Behr introduced Michael Hansen as the newest addition to the technical staff at the TOC.

In Professional Announcements, Mark Croom announced he has accepted a full-time position at WNWC.

Chair Leonard Charles adjourned the meeting at 7:22 p.m.

Program Chair Steve Zimmerman instructed everyone to meet at the UW Synchrotron Radiation Center for the evening's program.

Kerry Maki, Secretary



SBE Chapter 24 Newsletter
3538 Concord Avenue
Madison, WI 53714-1237

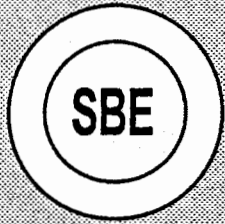


FIRST CLASS MAIL

Tom Weeden
6802 Putnam Road
Madison, WI 53711-3959

Newsletter edited by: Paul Stoffel Typist: Joanne Stoffel
Contributors this month: Tom Smith, Fred Sperry, Stan Sarch, Leonard Charles, Kevin Ruppert, Terry Baun, Al Rieland, Chapter 26, Chapter 16, Chapter 118, and the National SBE

JUNE MEETING and PROGRAM



Society of Broadcast Engineers CHAPTER 24 MADISON, WISCONSIN Thursday, June 17, 1993

5:30 p.m. Dutch Treat Dinner
at *Brat und Brau*

6654 Mineral Point Road
(Located in Clock Tower Court)

*Chapter 24 members are encouraged to patronize the Brat und Brau Restaurant,
as they furnish Chapter 24 with a meeting room free of charge.*

7:00 p.m. Business Meeting

PROGRAM:

Antennas for HDTV — Considerations and Requirements

Presented by Joe Zuba

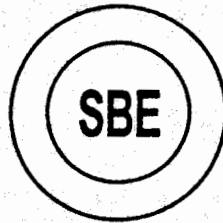
Digital HDTV will require all new rf equipment from the transmitter up through the antenna. But will the antenna be much different from the NTSC versions? This presentation will discuss the options available for digital HDTV. Test results from Dielectric's UHF HDTV antenna supplied to the HDTV Advanced task force will be discussed. As time allows, other HDTV related R & D projects will also be briefly touched upon.

About the Company: Dielectric Communications has been the leader in rf coaxial components and rigid transmission line for over 45 years. Based in Raymond, Maine, Dielectric products can be found in most high power television and radio stations in the country and around the world as part of large communications project such as Voice of America, and Radio Free Europe, and in scientific applications as partical accelerators and supercolliders. Dielectric purchased RCA's broadcast antenna division in 1986. The Voorhees, NJ location remains the largest dedicated broadcast antenna facility of its kind in the world.

About the presenter: Joe Zuba has a B.S. in Electrical Engineering from Penn State University and a MBA from Rutgers University. Zuba's work experience has included: 3 years broadcast engineering at WVIA-TV 44, Scranton PA, 6 years as antenna design engineer for RCA Antennas/Dielectric, 1 year as systems engineer of cellular radio for Western Union Corp., 3 years (1986-1989) as antenna product manager for Dielectric, and 4 years (1989-present) as Director of Broadcast Sales & Marketing for Dielectric.

Visitors and guests are welcome at all our SBE meetings!

Program Committee: Mark Croom Kerry Maki Denise Maney Steve Zimmerman
271-1150 833-0047 277-8001 274-1234



SBE Chapter 24 Madison, Wisconsin

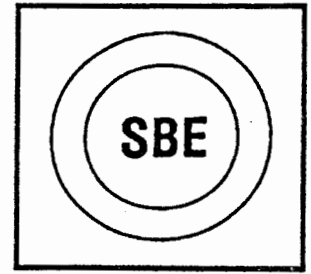
✓ **Mark Your Calendars**

1993 - 1994 MEETING/PROGRAM DATES

July 20, 1993	Tuesday	T.B.A.
August 18, 1993	Wednesday	T.B.A.
September 16, 1993	Thursday	T.B.A.
October 19, 1993	Tuesday	T.B.A.
November 10, 1993	Wednesday	All-Chapter Teleconference
December 16, 1993	Thursday	T.B.A.
January 18, 1994	Tuesday	T.B.A.
February 23, 1994	Wednesday	T.B.A.
March 31, 1994	Thursday	T.B.A.
April 26, 1994	Tuesday	Elections <i>and</i> T.B.A. program
May 25, 1994	Wednesday	T.B.A.



PRESENTING THE FIFTH ANNUAL
WISCONSIN BROADCASTERS ASSOCIATION
SUMMER ENGINEERING SEMINAR
AND REGIONAL SBE MEETING



WEDNESDAY, JULY 14th, 1993
AT
WBA SUMMER CONVENTION
INTERLAKEN RESORT--LAKE GENEVA

JOIN YOUR ASSOCIATES AT THE WBA SUMMER CONVENTION FOR A FULL DAY OF TECHNICAL SEMINARS DESIGNED TO ADDRESS ISSUES OF CONCERN TO BOTH ENGINEERING AND MANAGEMENT. THE SPECIAL FOCUS THIS YEAR WILL BE ON "LIVING IN THE DIGITAL WORLD" AND WILL EXPLORE WAYS IN WHICH DIGITAL TECHNOLOGY WILL IMPACT BROADCAST OPERATIONS OF BOTH RADIO AND TV STATIONS IN THE COMING YEARS. SPECIAL GUEST SPEAKER AT THE REGIONAL SBE MEETING AND LUNCHEON WILL BE CHRIS IMLAY
SBE GENERAL COUNSEL AND NOTED COMMUNICATIONS ATTORNEY speaking on "FEDERAL REGULATION IN THE DIGITAL AGE"

SPECIAL SEMINAR EMPHASIS: LIVING IN THE DIGITAL WORLD

Topics Include: o Digital TV RF Systems (Comark, Harris) o Digital Inband Radio--Project Acorn (USA Digital) o Desktop Audio o Desktop Video o Digital Test & Measurement Equipment (Tektronix) o New Digital Video Formats (Sony, Panasonic) o Digital Radio remotes via Wire (Comrex) o Electronic Troubleshooting and Maintenance for RF Antenna Systems (Broadcast Communications)

Sessions begin at 8:30AM and conclude at 4:00PM.
Registration for the full conference is just \$40, which includes the full day of technical sessions, the SBE Lunch with Chris Imlay, Exhibits, Reception, and the WBA Dinner Cruise on Lake Geneva. Or, if you prefer, attend only the conference sessions and the SBE luncheon for \$25.
Same price since 1991!

To register, send your check for \$40 or \$25 per attendee before June 30, 1993 to:

Wisconsin Broadcasters Association
44 East Mifflin Street, Suite 900 Madison, WI 53703

Note: On-site registration will also be available between 8:00A-8:30A on Wednesday, July 14th, but please call WBA to reserve your place 1-800-236-1922

1993 WBA ENGINEERING SEMINAR REGISTRATION FORM

Name: _____ Station: _____

Address: _____

- () Enclosed is \$40.00 for Full Registration, Lunch, Exhibits, Reception, Dinner/Cruise
- () Enclosed is \$25.00 for Seminar Registration and Lunch Only

EXHIBITOR INFORMATION: CALL JOHN LAABS at WBA 1-608-255-2600
Staying overnight? The Interlaken Resort can be reached at 414/248-9121
ATTENDANCE AT THIS SEMINAR WILL EARN CREDITS FOR SBE RECERTIFICATION
Please duplicate this form for additional registrations!