

Location of January's dinner and meeting is at CJ's in the Westgate Mall.



CHAPTER 24
MADISON, WISCONSIN



Society of Broadcast Engineers

January 1993

FCC PAYS A VISIT IN DECEMBER

WISC-TV and WNWC-FM were inspected by the FCC last month. Station personnel share their experiences:

● Stan Scharch, WISC-TV, "I answered the front door of the station at 6:20pm on a foggy night in December. The gentleman from the FCC said he was there to determine tower compliance. He asked to see the station license in order to determine the proper height for WISC-TV as compared to that shown on his computer printout. He expressed doubt whether our tower was actually 1007 feet tall. It didn't appear very tall to him. So we went outside and looked since he also wasn't sure whether we had the required number of beacons operating. After looking up, I told the FCC man that we weren't seeing even one half of the tower because of dense fog. He then thanked me for my assistance and then asked for directions to WNWC. The visit was very cordial and my first with the FOB in 12 years. He was only at the station for 15 minutes."

● Mark Croom, Chief Engineer, WNWC-FM, "We were visited by an FCC inspector who identified himself by presenting his credentials. He requested to see information and explained what question he had. It seems that the FCC's database information regarding WNWC stated that we had a tower in excess of 500 feet. In reality our tower is only 340 feet tall. He said he was concerned that when he looked at the tower, it appeared to be lighted insufficiently, were it really over 500 feet. He seemed satisfied with our explanation of the status of the tower and requested directions back to the tower site. Before he left, he explained that the inspection of tower facilities in the area was part of the Commission's recent step-up of tower regulation enforcement and that the Commission was not interested in any other aspects of station operation in this particular visit."


News From Chapter 28

● SBE Executive Director John Poray reported that the 1992 SBE National Convention in San Jose, California will net about \$25,000 for the Society, the first national convention in three years to show a profit. Although attendance was not as large as hoped for, rigorous cost-control measures insured that the San Jose get-together was a fiscally responsible undertaking.

● In early December, WTMJ, Inc. filed with the FCC for a major modification of its AM transmitter facilities. The application proposes to move the existing WTMJ transmitter site to a location 36.5 km south of the present site and operate at 50 KW daytime and 10 KW nighttime. The new array would require four towers daytime and six night. The station currently operates at 5 KW day/night, with one tower day and three night. The new location is somewhat south of the current WISN 50 KW AM array near Union Grove west of I-94 in Racine county. The current WTMJ Bluemound Road transmitter is one of the most historic sites in Wisconsin broadcasting, having been built in 1927 on what was then rustic farmland, miles from the big city.....

On November 24; the Wisconsin Department of Transportation held a public hearing on proposed rules to control towers and other tall structures (chapter Trans 56).

The WisDOT is still considering all of the testimony and written comments and has not issued a final set of rules. A Legislative committee has yet to be formed. This committee may decide to accept the rules, reject them or suggest modifications.

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

JANUARY MEETING

DATE: Wednesday,
January 20, 1993

AT: CJ's Westgate

Located in the Westgate Mall

Corner of Odana Road

and Whitney Way

DINNER: 5:30 p.m.

MEETING: 7:00 p.m.

PROGRAM: 7:45 p.m.

WKOW-TV


5727 Tokay Blvd

SEE INSERT FOR DETAILS
OF THE MEETING AND
PROGRAM

Borchert Retires from UW

For 44 years, Don Borchert, P.E. has been involved with broadcasting in many ways. His name, synonymous with the Broadcasters Clinic, is well known in our industry. This month Borchert begins his retirement following 25 years at the University of Wisconsin. His interest in electronics began in high school. While at the University of Illinois, Borchert worked part-time at Tung-Sol and summer relief at ABC radio and TV, where he found out that "broadcasting was much more fun than manufacturing." His resume includes radio and television engineer, consulting firm field engineer, RCA and the UW. While at the UW, Borchert was involved with major projects: radio and television facilities in Vilas Communications Hall, AM transmitting facilities at the Arboretum location, and tower & transmitting facilities for WHA-TV. Borchert recalled these major industry developments: "1950 - audio tape (previously disc recording), 1954 - black and white TV, 1960 - color television, 1962 - video tape, 1968 - early helical VTRs, 1975-93 - changes in technology too numerous to mention." In 1968 SBE Chapter 24 evolved when, said Borchert, "I invited Madison area broadcasters to noon lunches to discuss common technical concerns." Borchert will continue to be involved with the Madison candelabra project and the UW Broadcasters Clinic.

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TDR/FDR/LINE PULSING/LINE SWEEPING

What is it? Do I need it?

Part 2

by James M. Crooks

There appears to be a lot of confusion in the communications industry relative to transmission lines, antennae, connectors, waveguides, and when and where to utilize TDR (time domain reflectometer) and FDR (frequency domain reflectometer) techniques. [Editors note: Last month Crooks clarified some of the TDR misconceptions. This month, he explains the FDR.]

FDR

A FDR works on the basis of a frequency sweep generator where a sample of the sweep generator signal is used to calibrate a Scaler Analyzer or Tracking Generator. A directional coupler is used to separate the outgoing sweep and the reflected sweep. A properly designed FDR with Scaler data can provide the following:

- Spectrum analysis
- Insertion loss
- Return loss (VSWR)
- Group delay
- Fault location
- Antenna resonance

Looking at the most commonly required measurements, let's define them individually.

Spectrum Analysis

A Scaler FDR permits a frequency sweep of a transmission line and/or antenna to display any frequency related problems in the line or antenna. The resonance of the antenna is displayed to determine if the antenna is defective or if tuned to the proper frequency. A pre-determined sweep range is selected and any external signals being received by the antenna can be identified for receive level and frequency.

Insertion Loss

Insertion loss can be determined if both ends of a cable are available to directly measure the loss of the cable at the required operating frequency. The loss in a jumper cable, connector, duplexer, or combiner can be directly measured with the Scaler FDR.

Return Loss

Perhaps one of the most important and popular measurements, "return loss," permits the operator to directly measure the amount of loss in the line at any operating frequency. This loss can be checked against the calculated loss provided by the cable manufacturer. This determines the condition of the cable to accurately measure return loss. The operator must know the operating frequency, the length of the cable, and the VOP (velocity of propagation) of the cable.

From the amount of return loss, the operator can calculate or directly read the VSWR or the Voltage Reflection Coefficient of the cable. The smaller the VSWR reading, the better the cable and load match.

Fault Location

Although a TDR will provide a fault location in a transmission line, it is not capable of measuring that fault over a spectrum of frequencies, only time. A Scaler FDR using the Fourier transform relationship can measure the fault location at any pre-determined frequency. This is extremely important in the higher frequencies where cable connectors can greatly affect the VSWR. The FDR does not have a blind spot. The TDR is limited by the blind spot.

Antenna Resonance

The Scaler FDR generates a curve of the frequency sweep and indicates the return loss/VSWR at all frequencies of the sweep. Therefore, the resonant point of the antenna is plotted as well as the return loss.

Typically, TDR measurements are used at frequencies up to 450 MHz on coaxial cables, which covers up to 80% of the applications. However, above 800 MHz and in microwave frequencies, the FDR is highly preferred. The cost of a Scaler FDR will cost from \$40,000 to \$60,000 which is a substantial investment for a smaller company. Most companies will contract with a line sweeping firm to have their lines checked at the time of installation.

James M. Crooks, CEO of Broadcast Communications, New Glarus, has been in the communications industry for 36 years, designing and installing systems for a wide variety of end users.

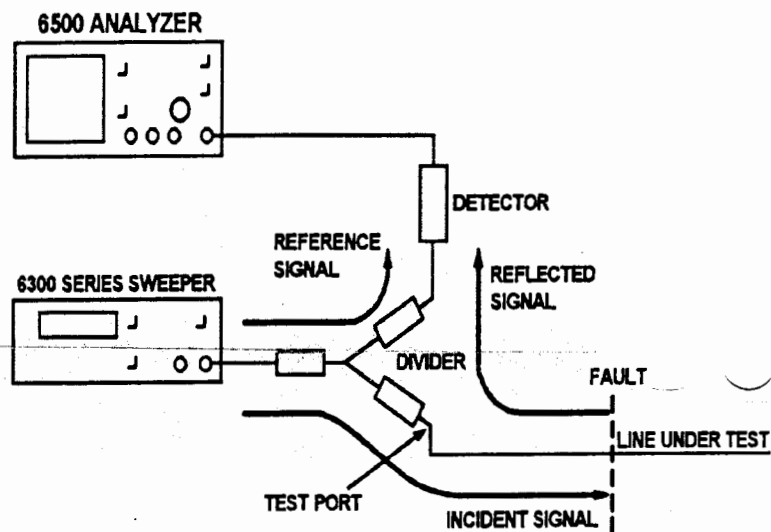


Figure 11 - shows the block diagram of a Scaler FDR setup for measuring distance to fault.

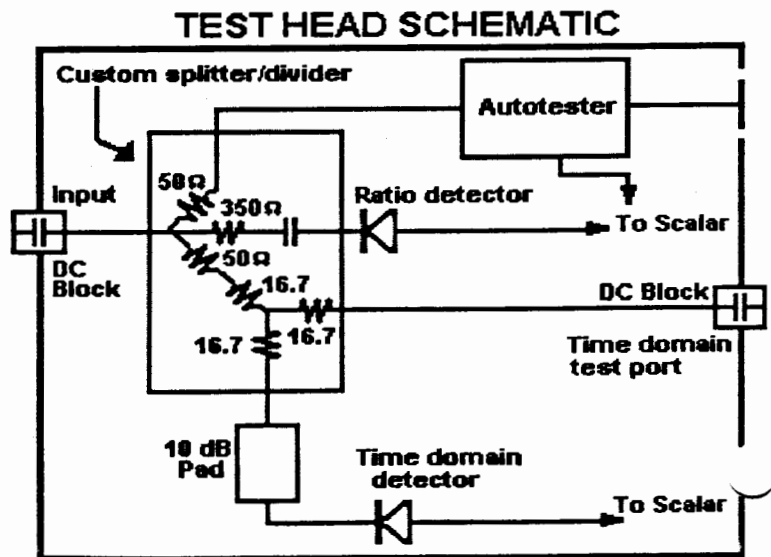


Figure 12 - shows the block diagram of the directional coupler test head for a Scaler FDR.

Arrangement for DTF Measurement

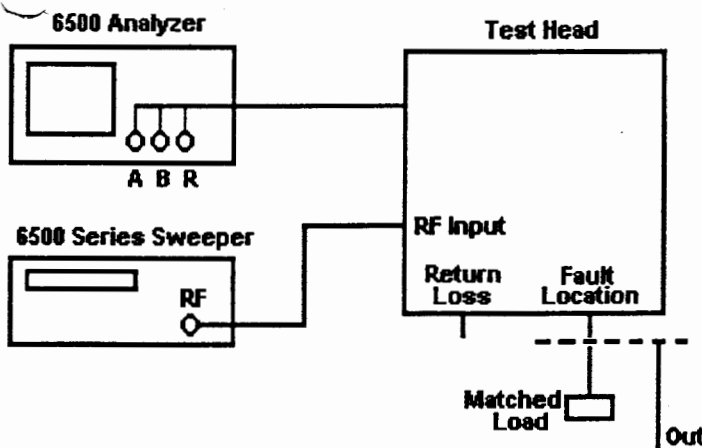


Figure 13 - shows the block diagram of the Scaler FDR setup for making insertion loss, return loss, VSWR and antenna resonance measurements.

VSWR FBI ANTENNA-01 100ms

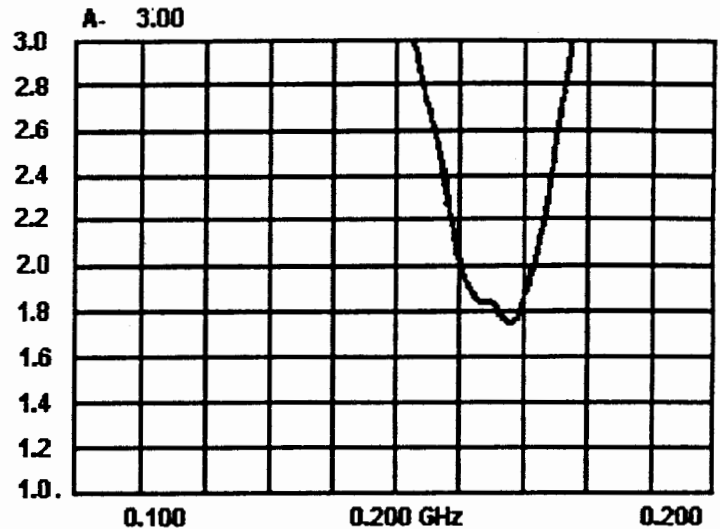


Figure 16 - Depending on testing configuration, this plot shows a typical example of either the VSWR plot of a transmission line or VSWR plot of an antenna.

VSWR 100ms

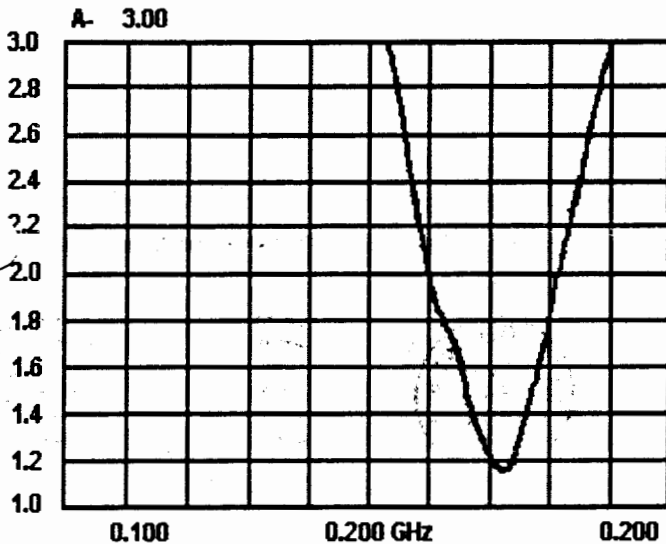


Figure 14 - shows a typical plot of distance to fault of a transmission line.

DECEMBER MEETING MINUTES

Chapter 24 of the Society of Broadcast Engineers met at the Brat un Brau on Thursday evening December 17, 1992. The attendance of the December meeting included 12 SBE members, 9 who are certified, and 3 guests for a total attendance of 15.

Chairman Jim Hermanson called the meeting to order at 7:07pm. Following the Treasurers account balance report, Jim gave a synopsis of a recent organizational meeting he attended for next years Broadcast Clinic. Jim offered the Chapter's assistance in assembly of a mailing list of SBE members from the region to be given to the University for use in distributing pre-clinic publicity fliers.

In Paul Stoffel's absence, Jim gave the January newsletter deadline and folding party dates and mentioned that next month's meeting date with maney_logic at WKOW TV may need to be changed to accommodate a scheduled production.

Special events coordinator, Kevin Ruppert, thanked everyone who assisted in making the SBE booth at the Broadcast Clinic a success. Kevin invited those with antique broadcast gear to think about displaying their wares at next year's clinic as the theme of the booth will probably remain the same.

There was no new frequency coordination information.

In a Bylaws committee update, Jim offered copies of the newly developed proposal draft of the Chapter bylaws inviting members to read them over as a vote on their acceptance at a future meeting will be forthcoming.

There was no old or new business to discuss.

In personal announcements, a round of congratulatory applause was offered to the newly married Chapter 24 members Dan Maney and the former Denise Jones, now Denise Maney. In addition to being Chapter 24 members, the Maney's own and operate maney_logic, a long time Chapter 24 sustaining member.

In professional announcements, Kevin Ruppert announced that David Riche had taken over the position of Chief Engineer at WORT Radio. Jim Rogers of Comark, a Chapter 24 sustaining member, then offered the latest HDTV spectrum handouts compiled by his company.

In technical tips, Kevin Ruppert described a recent visit from the FCC at WISC TV, where their only concern was a tower structure and lighting inspection. Mark Croom of WNWC Radio said they visited WNWC for the same purpose and Jim Hermanson said a similar visit was made at WKOW TV later the same evening. Dan Maney offered several technical tips on BetaCam maintenance encounters at WKOW TV and invited calls from anyone as he is keeping accurate documentation on common problems with their BetaCam gear.

Kevin Peckham from Sony, a Chapter 24 sustaining member, then asked stations not receiving maintenance bulletins regularly to contact him as part of the company's mailing list got corrupted.

Jim adjourned the meeting at 7:30 following an invitation for anyone to join him in the bar after the evening's program for a toast to the holidays.

Kevin Peckham and Bob Manes from Sony Broadcast then gave the evenings program on analog video disk recording (CRV).

Minutes compiled by Leonard Charles

dB 100ms

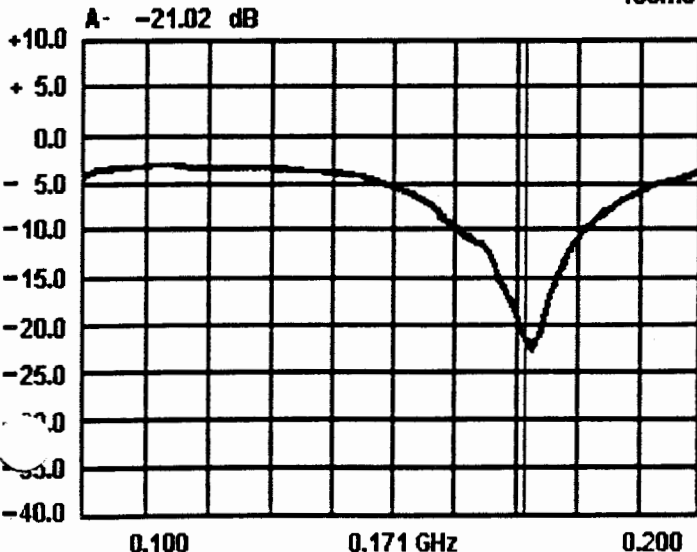


Figure 15 - Depending on testing configuration, this plot shows a typical example of either the return loss of a transmission line or the resonance plot of an antenna.


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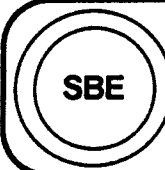
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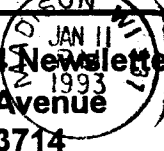
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Newsletter edited by: Paul Stoffel Typist: Joanne Stoffel
Contributors this month: Jim Hermanson, Kevin Ruppert, Stan Sarch, Tom Weeden,
Leonard Charles, James Crooks, John Laabs - WBA, and Chapter 28 Milwaukee
Thanks to Al Rieland for the use of the laser printer.

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AMATEUR RADIO NEWS

Compiled by Tom Weedon, WJ9H

● A recent Notice of Inquiry (NOI) from the Department of Commerce regarding future spectrum needs was answered by the American Radio Relay League (ARRL) in support of amateur radio. ARRL noted the recent explosion in the number of hams, now over 580,000 in the US, and mentioned several needs for spectrum expansion in the future. Among frequencies on the "wish list" are: a new low-frequency allocation near 190 kHz, another around 5 MHz, and "a narrow band of frequencies between 30 and 50 MHz." The NOI sought public comment on current and future for radio spectrum and the technology trends that would affect its use.

● The FCC has proposed several changes in the 222 and 1240 MHz amateur bands. The first would set aside a 150 kHz segment, from 222.0 to 222.15 MHz for weak-signal work where repeaters would be prohibited. The second proposal would give Novice operators access to the full 222-225 MHz band, rather than just a portion of it as is currently permitted. The final proposal would allow Novices to act as control operators and licensees of repeaters in the Novice subbands. Presently, only Technician class operators and higher are permitted to act as repeater control operators. The comment deadline on Docket 92-289 is February 23.

● The Wisconsin Amateur Radio Balloon Association (WARBA) hopes to launch another balloon in January. The project, named "EarthBreeze," is designed to ascend to around 80,000 feet and circle the earth. The balloon will carry a Morse code transmitter on 14.317 MHz to provide altitude information and to assist in tracking. WARBA estimates that a complete circuit of the earth will take between 10 days and 4 weeks, depending on high-altitude wind patterns.

(Excerpts from January 1993 "QST" and "Badger State Smoke Signals" magazines)

RADIO NEWS

Compiled by Stan Sarch

● The Consumer Electronics Show at Las Vegas this month will usher in a new era of radio receiver. Ten radio manufacturers will display RBDS (Radio Broadcast Data System) sets. Five area FM stations will transmit the 57Kc RBDS subcarrier.

● The NAB has filed a petition to deny Satellite CD Radio's proposed satellite digital audio radio service application. Satellite CD Radio plans to operate a subscription based nationwide multi-channel system. NAB says the FCC action is premature because the commission lacks sufficient policy for DAB implementation.

● Motorola has introduced a new low-cost 24-bit digital signal processor (DSP) to provide digital audio and ambience effects for automotive and consumer electronics. The chip can accurately compensate for acoustic limitations of the listening area and also null out cyclical noise patterns. It has been endorsed by several radio manufacturers.

(Excerpts from Radio World)

TV NEWS

Compiled by Kevin Ruppert

● Will the pace of new television technology advance in the new year? The answer may well be found in the attitudes of President elect Bill Clinton and Vice President elect Al Gore towards High Definition TV and other new broadcast technology. Bill Clinton has announced that Gore "will be given the responsibility and authority to coordinate the Administration's vision for technology and lead all

CHAPTER 24 SUSTAINING MEMBERS

Our newest sustaining members are:

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Comark Communications
WMSN 47

Broadcast Communications
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Maney Logic
WMTV 15

WKOW-TV 27
Anpder

Scharch Electronics
WISC-TV 3

Sony Broadcast

government agencies, including research groups, in aligning with that vision." According to a Gore aid, the Vice President elect is "very, very excited about the technology and understands the needs for standards..." Gore has stated that the Federal government should, in fact, be responsible for technical standards. The aide suggested, however, that the selection process for a broadcast standard would not be interfered with by the new administration. Gore has been the author for important articles on the future of telecommunications in America. While in the Senate, Gore consulted with leading scientists and became the Senate's most knowledgeable member on digital communications.

● In the area of emerging new communications technology, interactive television is on the verge of becoming a viable player in broadcasting. TV and cable engineers and marketers are now studying ways to fit this innovative service into their programming mix. With interactive TV, viewers will be able to use their television to respond to what they are watching in real time. Wireless interactive TV will, for example let consumers respond to game shows, play along with sporting events, and voice their vote in local or national opinion polls. The FCC last year at this time set aside the band of frequencies from 218 to 219 MHz for use by companies wishing to offer interactive TV services to consumers. The licensing process has begun for nine of the top 10 Metropolitan Statistical Areas in the US.

● According to some industry sources, 1993 is also expected to be the year of digital video compression and improved ghost canceling. Broadcast equipment manufacturers are expecting revenue growth despite the fact that many broadcasters are

CHAPTER 24 OFFICERS

CHAIRMAN:

Jim Hermanson (WKOW TV)
W - 274-1234
H - 231-2005

VICE CHAIRMAN:

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

SECRETARY:

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

TREASURER:

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

COMMITTEE APPOINTEES

Program Chairman and
Past Chairman: Steve

Zimmerman

Membership: Leonard Charles
Sustaining Membership: Stan

Scharch

Strategic Plan: Dennis Behr (Chair)

Special Events: Kevin Ruppert
Cart/Ed: Doug McDonell

Tim Trendt, Platteville

Freq Coordinator: Tom Smith
work 608-263-2174
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Chapter Liaison: Steve Peck
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saying that they are deferring purchases because of the upcoming future of HDTV. (Excerpted from TV Technology, Broadcast Engineering and Television Broadcast magazines)

JANUARY MEETING

SBE CHAPTER 24 MADISON, WISCONSIN WEDNESDAY, JANUARY 20, 1993

Our January dinner and meeting will be held at CJ's, located in the Westgate Mall, corner of Odana Road and Whitney Way, Madison, Wisconsin.

Visitors and guests are welcome at all our SBE meetings!

Dutch Treat Dinner at 5:30 p.m.

Business Meeting at 7:00 p.m.

The Program will start at 7:45 p.m. at WKOW, 5727 Tokay Blvd.

PROGRAM: Putting your old 4.77 MHz 256K PC to optimum use as a state of the art control room timing system.

Dan and Denise Maney of maney_logic will present News Timer Plus (NTP) as it is used at WKOW TV for timing newscasts and for commercial productions. WKOW senior director, Jill Knuteson, will demonstrate specific uses for newscasts. See how WKOW employs remote monitoring of NTP via composite video screens in the control room for use by the video switcher and audio operator as well as in the studio for the floor crew and talent. Remote time-of-day is displayed in Master Control on the single rack unit LED DISPLAY via an RS-232 link. The Netlock decoder monitors ABC/NBC/CBS VITC (vertical interval timecode) or WWV Radio to keep NTP phase locked and drift free.

UPCOMING MEETINGS:

- February 17, 1993, Wednesday: Video Toaster demonstration.
- March 18, 1993, Thursday: Grassland Media Inc. We will visit the facility of Grassland Media Inc., and look at their edit suites, ADO, Chyron and PC-based Computer Graphics.
- April 27, 1993, Tuesday: NAB REVIEW. Attendees will talk about what they found interesting at the 1993 NAB.
- May 19, 1993, Wednesday: Nuclear Accelerator in Oregon, WI. Ed Rowe will show our members some of the electronics behind the nuclear accelerator.

Program Chairman Steve Zimmerman

SE

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TO ALL CURRENT CHAPTER 24 SBE MEMBERS:

Enclosed you will find a copy of Chapter 24 By-laws recently created by the Chapter's By-laws Committee. Please review and forward any comments or concerns to any one of the Chapter 24 officers prior to the Chapter meeting in January. These by-laws will then be voted upon by those members present at the January meeting.

Thank You for Your Cooperation,

Chapter 24 By-laws Committee

P R O P O S E D
BY-LAWS OF
CHAPTER 24
SOCIETY OF BROADCAST ENGINEERS
MADISON, WISCONSIN
(As proposed January, 1993)

ARTICLE I

Name

The name of this organization shall be Chapter 24 of The Society of Broadcast Engineers, herein referred to as the Chapter.

ARTICLE II

Object

The Chapter is a part of a non-profit professional society known as The Society of Broadcast Engineers, herein referred to as the Society. The Society and the Chapter are designed to serve the professional needs of those persons engaged in broadcast engineering. This includes radio, television, and related fields.

ARTICLE III

Members

Section 1. The membership of the Chapter shall be limited to members in good standing with the national office of The Society of Broadcast Engineers, and may include any student and honorary life members.

Section 2. Term of membership shall be concurrent with that of the national organization.

Section 3. Those wishing to be included as a member of Chapter 24 must have communicated this desire to the national office of the society.

ARTICLE IV

Sustaining Membership

Section 1. Corporations, organizations, and individuals are eligible to be members of the Chapter's sustaining membership program.

Section 2. To participate in the Chapter's sustaining membership program a donation of \$50.00 per year is to be paid to the Chapter. No Refunds. Donations will go into the Chapter's general account. There is no specific nor prohibited use of funds generated through this program.

Section 3. Sustaining members are entitled to an equal sized advertisement in 12 consecutive Chapter 24 newsletters. The advertisement will be generated from a photo copy ready, business card sized master provided by the Sustaining Member with paid application. Advertisements may be reduced equally to allow better use of space and neatness of publication in the newsletter. Each new Sustaining Member will be announced at the next monthly meeting. The Sustaining Member will receive a copy of the Chapter's newsletter for each month that they remain a Sustaining Member.

Section 4. The Elected Officers may award a Sustaining Membership, for a period of one year, to any organization or individual that provides an amount of service that is equivalent to the value of the yearly Sustaining Membership fee.

ARTICLE V
Officers and Duties

Section 1. The membership of the Chapter shall elect the Officers, which Officers shall consist of a Chairperson, a Vice Chairperson, a Secretary, and a Treasurer for a term of one year.

Section 2. An officer may be elected to consecutive terms, but shall not serve more than two consecutive terms in the same office, after which he or she cannot be elected to office for at least two years.

Section 3. No officer or chairperson shall receive any compensation for services performed in his or her official capacity, but shall be reimbursed for reasonable expenses incurred in the performance of official duties upon presentation and verification of such expenses.

Section 4. The Executive Committee shall consist of the Elected Officers and the Immediate Past Chairperson.

Section 5. The terms of office for the elected officers shall run from May 1st of one year to May 1st of the next year.

Section 6. The Chairperson shall preside at the regular meetings of the Chapter and shall perform all other duties normally associated with that office.

Section 7. The Vice Chairperson shall assume the duties of the Chairperson in his or her absence or incapacity and shall otherwise assist the Chairperson.

Section 8. The Secretary shall be responsible for all records and books of account of the Chapter, shall record the minutes of all meetings of the Chapter and the Officers. He or she shall send meeting reports and attendance records to the Society Executive Secretary, and shall keep any other Chapter records as may become necessary.

Section 9. The Treasurer shall supervise and be responsible for all accounts and moneys of the Chapter and shall establish such accounts as shall be designated by cooperative agreement of the Officers. A checking account shall be established for the Chapter and all checks shall require signature by at least two Officers. All records of the Secretary shall be open to inspection by members in good standing at reasonable times. The Treasurer shall furnish an annual financial report to the Society Executive Treasurer and keep any other Chapter financial records as may become necessary.

Section 10. The Immediate Past Chairperson shall be a member of the Executive Committee, for a term of one year (unless the newly elected Chairperson is later elected for a second term, in which case the term of the Immediate Past Chairperson shall be for two years) beginning with the commencement of the term of a new Chairperson.

ARTICLE VI
Appointed Officers and Committees

Section 1. Committees, either as standing or special committees, shall be appointed by the Chairperson as necessary.

Section 2. The Chairperson of each standing or appointed committee shall be an Appointed Officer. Appointees to the committees must be members of the Chapter.

Section 3. The following standing committees are to be appointed by the Chairperson.

- a. Program
- b. Newsletter
- c. Certification and Education
- d. Frequency Coordination
- e. Computer Bulletin Board System Operations
- f. Membership
- g. Sustaining Membership
- h. Strategic Planning
- i. Special Events
- j. Chapter Liaison

Section 4. The Membership Chairperson shall retain and be responsible for a Chapter membership database, periodically collaborating it with the National SBE Office's chapter listing, and shall provide mailing labels for newsletter distribution. The Chapter membership database may be used by sustaining members and members in good standing as a source for making job openings known. No Chapter membership database information may be released to any party without case-by-case approval of all Chapter Elected Officers.

Section 5. The Newsletter Editor shall elicit pertinent material for publication in a monthly Chapter newsletter and may solicit help from the membership to construct and mail the newsletter. Acceptance of articles for publication in the Chapter newsletter shall be at the discretion of the Newsletter Editor and the Chapter Elected Officers. Job openings may be announced in the newsletter. An electronic version of the newsletter may be uploaded to appropriate computer bulletin board services.

Section 6. The Frequency Coordinator shall maintain a local frequency database and provide information on request, but shall not assign specific frequencies.

Section 7. Access to a computer bulletin board system operated by the Chapter shall be determined by the Chapter Officers and the System Operator. Access to a computer bulletin board system not operated by the Chapter, but providing services to chapter members shall be determined by the System Operator. The Chapter shall provide the System Operator with information needed to determine access to the system

Section 8. Duties of standing and appointed committees shall be defined by the Elected Officers.

ARTICLE VII

Meetings and Programs

Section 1. The Chapter shall normally meet once each month, with the meeting dates, times, and location to be determined as early as practical by the Chapter officers, with advance notice to the Chapter membership.

Section 2. Special meetings may be called by the Chairperson, and shall be called upon written request of seven members of the Society. The purpose of the meeting shall be stated in the call. Except in cases of emergency, at least three days' notice shall be given.

Section 3. The general order of business at the meetings shall be as follows:

- a. Remarks or address of the Chairperson
- b. Report of the Secretary
- c. Report of the Treasurer
- d. Reports of Committees
- e. Unfinished Business
- f. New Business
- g. Anything For The Good Of The organization
- h. Business Meeting Adjournment
- i. Program (if scheduled)

Section 4. Ten percent of the registered membership of the Chapter shall constitute a quorum.

Section 5. The rules contained in the current edition of *Robert's Rules of Order Newly Revised* shall govern the Society in all cases to which they are applicable and in which they are not inconsistent with these bylaws and any special rules of Order the Society may adopt.

Section 6. Monthly membership meetings of the Chapter are to held in environments in which smoking is not allowed and, as a courtesy to others, smoking will not be allowed at meetings.

Section 7. While most functions and programs are open to all members and their guests, there may be times when due to expense or other considerations that the Chapter reserves the right to limit access to certain functions and programs to SBE members only.

ARTICLE VIII

Nominations and Elections

Section 1. A Nominations Committee shall be appointed by Chapter 24 Officers at least 60 days prior to elections for Chapter Officers. This committee shall be made up of at least three Chapter 24 members who are in good standing who are not currently Chapter Officers. The Nominations Committee is responsible for determining how to solicit nominations for Chapter Officers and should attempt, when possible, to nominate two members for each office.

Section 2. The Nominations Committee should make ballots along with candidates' biography's available to Chapter members through the Chapter newsletter. These items should appear in the April newsletter preceding the election.

Section 3. Elections shall take place at the April Chapter meeting. Only Chapter 24 members in good standing are eligible to vote. Those members unable to be present at the April meeting are permitted to send the ballots from the April newsletter to the Nominations Committee. These ballots shall remain sealed until ballots are officially counted.

Section 4. The Nominations Committee is responsible for counting election ballots. Once the ballots have been tallied, the Nominations Committee is responsible for communicating the results to the election candidates. The Nominations Committee should then inform the Chapter Officers of the election results. These results will then be published in the May newsletter and sent to the SBE National Office.

ARTICLE IX

Disbursement of Funds

Section 1. Payments, purchases, honorarium, reimbursement, of over \$300 (Three Hundred Dollars) must be voted on by the general membership.

Section 2. Payments, purchases, honorarium, reimbursement of between \$50 and \$300 (between Fifty and Three Hundred Dollars) must be in unanimous agreement by all the elected officers.

Section 3. Payments, purchases, honorarium, reimbursement of less than \$50 per occurrence not to exceed \$150 total per month may be executed by any elected officer of the chapter at his or her discretion when it is in accordance with guidelines established by the current elected board of chapter 24.

Section 4. At any point that the treasury drops below \$500 the above guidelines are no longer active and any expenditure must be voted on by the membership.

Section 5. The chapter funds must remain liquid in a "not for profit" account set up for chapter 24 Madison.

ARTICLE X

Member Awards

Section 1. The Chapter Officers, at their discretion, may present an annual Special Recognition Award to a member of the Chapter that they determine to be deserving of such an award.

Section 2. Criteria to be used in selection of a candidate for a Special Recognition Award should include the following:

1. Active work toward chapter membership growth
2. Unselfish volunteer work for the chapter
3. Genuine desire for the betterment of the industry, broadcast engineering, and the place of the broadcast engineer
4. Must be a member in good standing
5. Has exhibited involvement in Chapter activities above and beyond the call of duty

Section 3. The Special Recognition Award should be presented in the form of a plaque and is paid for with Chapter 24 funds.

Section 4. The Chapter Officers, at their discretion, may present a Nominee For National SBE Award to any individual in the Chapter who has been nominated by the Chapter for any annual National SBE award.

Section 5. Recipients of the award of Nominee for National SBE Award may be any Chapter 24 member in good standing who has been nominated by Chapter 24 Officers for an SBE National Award. This nomination may be made for any individual directly involved in the award in question.

Section 6. The Nominee For National SBE Award should be presented in the form of a paper certificate purchased with Chapter 24 funds.

ARTICLE XI

Annual Chapter Scholarship

Section 1. Each year, account balance permitting, Chapter 24 will offer an education scholarship. The use and amount of the scholarship will be determined by the reigning executive committee and will be awarded based on the following criteria and points accumulated:

1. Must be a current member of Chapter 24
2. Attendance at six of the twelve meetings prior to the application deadline.
3. Employment in or a student of a broadcast related field. Points will be assigned as follows:
 - a. Five points for each month applicant has at least one article published in the Chapter 24 newsletter spanning the 12 issues prior to application deadline.
 - b. Five points for certification, any level
 - c. Two points for each monthly meeting attended in excess of the six required

Section 2. 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.

Section 3. The scholarship winner will be required to write a summary article to be published in the chapter newsletter.

Section 4. Application is required in the form of a letter to a designated Scholarship Chairman, signed, dated and received by the published deadline.

ARTICLE XII

Amendment of Bylaws

These bylaws may be amended at any regular meeting of the Society by a two-thirds vote of the members present, provided that the amendment has been submitted in writing at the previous regular meeting and published in the Chapter newsletter prior to the election.