Society of Broadcast Engineers

February 1993

January Minutes

Chapter 24 of the Society of Broadcast Engineers met on Wednesday January 20, 1993 for its regular monthly meeting at the studios of WKOW-TV in Madison. The attendance of the January meeting included 16 SBE members, 11 who were certified, and four guests for a total attendance of 20.

The meeting was called to order at 7:21 PM by Chairman Jim Hermanson. Secretary Fred Sperry thanked Vice Chairman Leonard Charles for compiling the December minutes. These minutes were read and approved.

In Treasurer Paul Stoffel's absence, Chairman Jim Hermanson reported the Chapter's account balance.

Sustaining Membership Chairman Stan Scharch announced two new sustaining members to Chapter 24. They are Clark Wire and Cable along with Teleport Minnesota. Stan reported that the Chapter now has 24 Sustaining Members.

Program Chairman Steve Zimmerman announced that the February program on the Video Toaster is still on despite the fact that the original meeting place RCC Systems Inc. has gone out-of-business.

Frequency Coordination Chairman Tom Smith had no new activity to report.

Chapter Liaison Steve Peck mentioned an upcoming seminar and equipment show in the Twin Cities being sponsored by the Twin Cities SBE Chapter and the Minnesota Broadcasters Association.

Continued on Page 3, MINUTES

MAGAZINES CEASE OPERATION

By Tom Smith

Two magazines aimed at broadcast and audio engineers recently ceased publication. R*E*P (formally Recording Engineer/Producer) published its last issue in September and RADIO GUIDE published its last issue as a special year-end issue.

This follows the closing of magazines, BM/E and CORPORATE VIDEO, a couple of years ago. BM/E was incorporated into TELEVISION BROADCAST and CORPORATE VIDEO was incorporated into VIDEOGRAPHY.

R*E*P was published by Intertec that publishes a number of magazines for various parts of the electronics industry. A couple of their magazines are BROADCAST ENGINEERING and VIDEO SYSTEMS.

RADIO GUIDE was published by Ray Topp of Rochester, Minnesota. R*E*P was 22 years old and RADIO GUIDE was 4 years old.

Both publishers stated that their closings were due to fewer ad sales. Many of the industry's suppliers' sales are down, so their ad budgets are also down. Other companies have ceased operations.

Even by adding a reasonable subscription fee to R*E*P, Intertec still felt that they could not make up for the ad losses. Ray Topp hopes to publish an ad-free magazine with a \$24.95 yearly fee.

R*E*P was considered one of the best pro-audio magazines and RA-DIO GUIDE, while a small magazine, was full of many helpful articles

FEBRUARY MEETING

DATE: Wednesday, February 17, 1993 AT: Perkins Restaurant (near the corner of Fish Hatchery Road and the Beltline Highway) DINNER: 5:30 p.m. MEETING & PROGRAM: 7:00 p.m.

SEE BACK PAGE OF THIS NEWSLETTER FOR MORE DETAILS

The enclosed flyer with information about this and upcoming programs can be displayed at your workplace's bulletin board.

IN THIS ISSUE

Bylaws Approved...... page 2
Recertification....... page 3
Radio News....... page 4
Amateur Radio....... page 4
FCC Rulemakings..... page 5
Local Legals....... page 7

and tips.

Before the broadcast, audio and video industries fully recover, more of the trade magazines will either undoubtedly fail, or we, as subscribers, will have to start paying for some of those free subscriptions.

Chapter 24 By-laws Approved

Chapter 24's recently published by-laws were approved by those members present at the January Chapter meeting. Several amendments were made to the by-laws that were originally published in the January newsletter. The following represents these amendments:

Article V Section 2 - This section has been amended to read as follows: 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 the same office for at least two years.

Item Amended: Underlined "the same" was added.

Article V Section 9 - This section has been changed to read as follows: 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. All records of the Treasurer 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.

Item Amended: "and all checks shall require signature by at least two Officers" has been struck from the second sentence.

Thanks to everyone who was able to attend the January Chapter meeting and participate in a meaningful discussion of these bylaws. I would also like to thank the by-laws committee of Leonard Charles, Neal McLain, Tom Smith, Steve Zimmerman and Jim Hermanson. A special thanks to Jim for compiling and formatting the by-laws.

If you are interested in a copy of these by-laws, please contact either myself or Jim Hermanson.

----- Fred Sperry, Chapter 24 By-laws Committee Chairman

SBE's Newest Chapter #124 in Portland, OR

Jerry Whitaker, Chairman Steve Delmarter, Vice-Chair Gary Hilliard, Secretary Jerry Nichols, Treasurer



Dan Takkunen Regional Sales Manager

6545 Cecilia Circle • Minneapolis, MN 55439 (612) 941-0556 • FAX (612) 941-0940

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 Chapter Chairman: Steve Zimmerman

Membership: Leonard Charles

Sustaining Membership: Stan Scharch

Strategic Plan: Dennis Behr

Special Events: Kevin Ruppert

Certification and

Education: Doug McDonell 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 5300 W Garfield Avenue Milwaukee, WI 53208 414-449-5300 (voice) 414-449-5380 (fax)

MINUTES

Continued from Page 1

There was no old business.

In new business, Chairman Jim Hermanson announced the recently appointed Chapter 24 Elections Nominating Committee. The members of this committee are Steve Zimmerman, Denise Maney and Mark Croom.

Jim then presented Chapter Bylaws Committee Chairman Fred Sperry. A discussion of the recently published Chapter 24 By-laws then took place among those members present. Following this discussion and some minor amendments, the by-laws were voted on and approved.

There were no personnel announcements.

in professional announcements, Fred Sperry mentioned that the TOC was in the market for a used Sony BVW-10 Betacam deck. He asked that anyone who may know of an available unit to please contact either Dennis Behr or Pete Strand at 264-9600.

Tom Weeden then mentioned that past Chapter 24 member Dave Gerish had contacted him and indicated that there is a maintenance engineer position open at his station WRDC-TV in Raleigh, North Carolina. Dave can be reached at 919-790-6278

At this time, Program Chairman Steve Zimmerman presented Dan and Denise Maney of maney logic who gave a presentation of their News Timer Plus and demonstrated how it is used in WKOW's facility.

-Secretary, Fred Sperry

RECERTIFICATION OF MEMBERS

Submitted by Terry Baun National SBE Liaison

The SBE is now in the process of recertifying a large number of members, most of whom are claiming recertification credits for various chapter activities. The local SBE chapters must verify such activities before recertification credit can be granted.

PLEASE be sure that your chapter certification committee responds promptly to these verification requests.

SBE National includes an addressed and stamped envelope for return of each verification to Indianapolis.

Remember, the longer you delay in responding, the longer the delay in granting recertification to your members, and the longer the paperwork backlog in Indianapolis.

If you have questions, please don't hesitate to call or fax.

Thanks to all the Chapters for their continued cooperation in making the Certification Program so success-

Linda Godby **SBE Certification Secretary** 317-253-1640 317-253-0418 FAX

WBA Summer Engineering Seminar in Lake Geneva

The fifth annual Wisconsin Broadcasters Association Summer Engineering Seminar and State-wide SBE Meeting will be held on Wednesday, July 14, 1993, at the Interlaken Lodge in 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 program for the sessions and luncheon will be announced soon. The cost of registration, which will remain the same as last year, is \$25.00 for sessions and lunch, or \$40.00 for sessions, lunch, exhibits, reception and WBA Opening Banquet.

The program co-chairs this year аге:

Art Williams/ WBAY

Terry Baun/ Criterion Broadcast Services Chris Cain/ WISC

Mark Berg/ WLAX

Greg Dahl/ WROK

Look for further information and registration forms in upcoming Chapter 24 Newsletters.

IT'S ON FOX 47 MADISON!



7847 Big Sky Drive Madison, WI 53719 608-833-0047

Panasonic

Panasonic Broadcast Systems Company Division of Matsushita Electric Corporation of Arr

1707 N. Randall Road, #1-C-3 Elgin, IL 60123-7847 (608) 493-2619 (708) 488-5160 HEI

(708) 468-5160 (608) 493-2519 (fax)

HERB VAN DRIEL Central District Sales Mar

BTS

Steve C. Peck

10600 W. Higgins Rd., Sulte 500 Rosemont, IL 60018

EMMONS ASSOCIATES INC

KEITH EMMONS



RADIO....

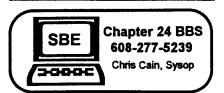
Compiled by Stan Scharch

• The FCC has issued a notice of proposed rulemaking (NPRM) that would adopt C-QUAM as the U.S. AM Stereo broadcast standard. Stations using other AM Stereo systems would be required to cease operation of such systems within a year of the date of adoption of the rule.

Commissioner James Quello is quoted as saying, "Nine or 10 years ago, I voted for a standard. When there wasn't one, I had to answer to a lot of broadcasters. "With prodding from Congress, we did (today) what we had to do 10 years ago," he said.

- The FCC has established a new working group to test emergency alerting equipment's compatibility with new EBS standards. The group was formed following a December demonstration of various equipment. The commission is expected to release a memorandum opinion and order sometime in mid-1993.
- Harris Allied will now distribute Scientific Atlanta. The change is expected to ease availability of equipment and credit.
- NAB's DAB Task Force has officially endorsed in-band, on channel DAB radio. The DAB Task Force said testing should focus on in-band because there is little chance of new spectrum allocation in the U.S. Some in the receiver industry say it is too early to endorse in-band until more tests have been made.

(Excerpts from Radio World)



AMATEUR RADIO....

Compiled by Tom Weeden, WJ9H

- The FCC's staffing shortages are affecting the processing of amateur radio license applications. The Gettysburg processing center recently announced that prospective hams should be prepared to wait up to 120 days from the time they pass their exams until they receive their licenses. Earlier in 1992, the tumaround time was closer to 6 to 8 weeks.
- The American Radio Relay League (ARRL) has filed reply comments in support of a proposed FCC rule to revise permitted communications, but against broadcasters seeking to revise "newsgathering" regulations. The proposed rule change is intended to allow amateurs to provide public service communications for special events such as parades and walk-a-thons which may be sponsored by a business, but would prohibit communications on behalf of one's employer. ARRL supports the rule change but has come down strongly against comments by the National Association of Broadcasters and the Radio-Television News Directors Association. NAB and RTNDA are jointly seeking relaxation of newsgathering restrictions on amateur radio. Current limits on ham newsgathering allow the use of a feed from a ham operator only when no other means could reasonably have been made available.
- The FCC has ordered the retesting of 20 amateurs who took exams administered by volunteer examiners in upstate New York in early 1992. The Commission's order said the retesting is necessary "due to apparent irregularities in the examination papers of certain applicants, indicating that applicants may have had advance access to examination materials." No examiners or examinees have been ac-

cused of wrongdoing, but the FCC is conducting an ongoing investigation.

 The Wisconsin Amateur Radio **Balloon Association (WARBA)** launched its "Earthbreeze" balloon on the morning of Saturday, January 30th. The balloon's onboard beacon sends a continuous Morse Code ID transmission using a 50 mW integrated circuit oscillator on 14.318 MHz. This frequency is 4 times NTSC color burst and conveniently falls into the amateur 20 meter band. The beacon's signal was heard for several hours after launch in southern Wisconsin, but was lost presumably after the balloon went over the horizon. WARBA hopes that the balloon will circle the earth's northern hemisphere and that the beacon will provide a means for approximating the balloon's position and altitude as the signal propagates via the ionosphere.

(Excerpts from February 1992 "QST" Magazine)







FCC Rulemakings

By Tom Smith

 On January 7, the FCC issued two rulemakings that will affect broadcasters:

Should the FCC ask on a license renewal application if a station is on the air at the time of the filing? If not, an applicant must state if they have discontinued operations. It seems that there are a larger number of stations that are ceasing operations for more than thirty days and not notifying the FCC. Comments due February 23 and replies March 10.

Also, the FCC is proposing that the VIR signal on line 19 of a TV signal be replaced with the proposed ghost-reduction signal. The FCC wants to know how the VIR signal is currently being used and if it should be retained.

In addition, they are proposing that the second half of line 21, field 2, be used for enhanced closed captioning information. There is currently active video on that line and the commission feels that, since that line of video is masked on all sets, it would be a good place to put this information. Comments due March 1, replies due on March 16.

 The FCC has just finished accepting comments on three issues relating to the cable industry. This is result of the cable regulation bill passed by Congress last fall.

These three rulemakings pertained to rate protection, ownership limits and program distribution and carriage. The last rulemaking affects program access by DBS and MMDS such as Skyview.

There will no doubt be more rulemaking actions because of the cable bill and broadcasters should keep an eye on them as some may affect their carriage rights and access to cable coverage.

UPDATES

By Paul Stoffel

 According to DOT's James Martin, the Wisconsin Department of Transportation (WisDOT) continues to consider all of the testimony and written comments surrounding their proposed rules, entitled Trans 56.

The rules set up an elaborate permit process for both new construction and modifications to existing towers and other tall structures.

In addition, the proposed rules would require marking and lighting of towers and tall structures in accordance with current FAA but would also ask the Secretary of WisDOT to require "additional marking and lighting as deemed necessary." *

A Legislature Joint Committee for Review of Administrative Rules will review the final set of rules and may accept the rules, reject them or suggest modifications. The committee chairs for Administrative Rules are Senator John Plewa and Representative Lary Swoboda.

A telephone call to the Wisconsin Legislature's computer bulletin board service (Greg Melde, sysop, 266-8103) said, "The bulletin board does not list all of the committee memberships yet because they haven't all been appointed. This information will be forwarded as soon as it is available."

Martin said people registered at the public hearing held last November 24 will be mailed a copy of the final rules. Those desiring a copy should call Martin at 267-5018.

* Information courtesy of the Wisconsin Broadcasters Association Beginning March 1, Madison TCI Cablevision subscribers will be able to order the "new basic" service for \$10 a month.

The new line-up on Channels 3 through 13 will include broadcast stations, public and government access, Chicago's WGN, and a TCI preview channel for marketing purposes. (TCI Channel 2 will remain HBO.)

In a Wisconsin State Journal article, Barry Orton, UW-Madison professor of telecommunications, was quoted, "The new [1992 Cable Act] regulates only the lowest tier of service.

By restructuring the lowest level of service that can be rate-regulated, TCI is bundling everything else in the higher, unregulated tier of service, protecting the bulk of its business from regulation."

Madison's TCI "new basic" line-up beginning March 8:

TCI Ch. 2 HBO

- 3 MEU/WHA Cable
- 4 WYOU (Community)
- 5 WMTV 15 (NBC)
- 6 TCI Preview
- 7 WKOW-TV 27 (ABC)
- 8 WMSN-TV 47 (FOX)
- 9 WISC-TV 3 (CBS)
- 10 School District
- 11 WHA-TV 21 (PBS)
- **12** Government Access
- 13 WGN-TV Chicago





MITCH MONTGOMERY
District Manager - RF Sales
8418 NW Beech
Kanses City, MO 84183
(816) 881-7300 FAX: (816) 881-852:

HARRIS CORPORATION P.O. Sox 4290, Quincy, Illinois & Broadcast Division 217/222-8200 OSCOR

Roscor Wisconsin 11350 W. Theodore Trecker Way West Allis, Wisconsin 53214 Phone: 414-476-2600 FAX: 414-476-4949 CHAPTER 24 PAGE 6

CALL FOR PAPERS

Abstracts are now being accepted for proposed engineering papers for the 1993 Broadcast Engineering conference of the SBE National Convention, September 29 - October 2 in Miami Beach, Florida.

The technical conference will address the hands-on needs of engineerings and technical managers at radio an television stations, post production facilities and corporate video centers.

If you are interested in preparing a technical paper for presentation at the conference, submit an abstract outlining the scope of the paper and its importance to the industry no later than March 5, 1993.

If you are interested in participating in a panel discussion or serving in some other capacity, please submit a letter stating your desire. Because of the number of contacts required to organize a program as large as the '93 SBE Convention, only written abstracts and letters of interest can be accepted.

The SBE will again this year publish a Proceedings of the conference, which will be distributed at the convention.

Authors should be prepared to submit a camera-ready manuscript by August 13, 1993. Send your correspondence to the following address:

Broadcast Engineering Conference Chair Society of Broadcast Engineers P.O. Box 20450 Indianapolis, IN 46220



The SBE National job line is: (317) 253-0474. For information on how it works, call (317) 253-1640, and talk to Elberta. Each listing has a code number and basic information, including location. SBE provides this listing as a service to its members. SBE is not responsible for actions taken by persons at the companies listed, nor is a party to any agreement made between the listed companies and job applicants. If you are looking for employment, or seeking a qualified applicant, call the SBE National Job Line; these services are provided free.

BRADFORD RETIRES

After 30 years of service with the Commission, Phillip Bradford from the FCC Chicago Office retired January 2, 1993. Bradford was Engineer in Charge at the Chicago Office.

Bradford was a familiar participant on FCC panel discussions heldduring past Broadcasters Clinics.

According to the Chicago Office, Mr. Williford Gray has been designated Acting Engineer in Charge until the position is posted.

CHAPTER 24 SUSTAINING MEMBERS

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

SONY

Kevin Packham Account Manager Broadcast Products Division

Sony Communications Products Company 1200 North Arington Heights Road Issca, Illinois 60143 Tetephone (608) 271-3778 C708) 773-6046 Servoc Conte (708) 773-6037 Emer. Tech. Assist. (201) 833-9533 National Paris Center (800) 538-7550



RICHARD WOOD PRESIDENT

> BROADCAST MICROWAVE AND MOBILE

1965 WEST RIDGE ROAD P.O. BOX 51

COTTAGE GROVE, WI 53527 (608) 839-4075

NEWS from the THE BROADCAST NEWSLETTER SBE Chapter 28, Milwaukee, WI

SBE "ROAD SHOW" PROVES A HIT IN BIRMINGHAM

The SBE's visit to the heart of Dixie went very well indeed as over 60 engineers from five southern states attended the first 1993 Ennes Regional workshop on January 23rd in Birmingham. Designed to fit into the Alabama Broadcasters Association winter meeting, the daylong workshop featured separate radio and television sessions as well as two joint sessions. All of the SBE's officers and several Board members had the opportunity to meet and chat with the attendees. The next Road Show is scheduled for the Midwest, to be held at Saint Louis in late June or early July.

SBE FILINGS WITH THE FCC

Dane Ericksen's FCC Liaison Committee has recently filed official comments on two matters currently pending before the Commission. In the first, the SBE is objecting to the Satellite CD Radio, Inc. petition to use the a portion of the 7 GHz TV Broadcast Auxiliary Band for satellite uplinking which would interfere with existing TV broadcast auxiliary operations on Channels B-7 and B-8. The second filing has to do with the FCC's proposed reworking of the EBS system. The SBE is proposing adoption of a "web" system to interconnect staions rather than the "domino" now in use. This would permit the system to work even if several key stations were unable to pass along the alert. Other provisions include signaling on subcarriers or non-broadcast radio links, and a requirement that any alerting device be microprocessor-based and capable of automatic logging of tests.

SBE DAY at NAB

Look for another 'SBE Day" at the NAB convention. The SBE is programming the technical sessions for Tuesday, April 20th. The sessions will include: Dealing with RF Interference, Designing a Serial Digital Plant, Dealing with Disasters, an EBS Summit Conference, and a Contract Engineering Workshop.



LOCAL **LEGALS**

Submitted by Doug McDonell

- Application granted to commercial television broadcast station (WMVT Channel 15) assignment of license from Brissette Broadcasting Corporation, Madison, Wisconsin, to Brissette TV of Madison, Incorporated. Form 316 Stephen C. Brissette, attorney.
- Voluntary assignment of license (WYZM 105.1 MHz) from Ronald and Janice Fedler, Waunakee, Wisconsin, to Horizon Media, Incorporated. Form 316 Assignee address: 6313 Odana Road, Madison, Wisconsin 53719



Mark Durenberger Director of **Technical Operations** (612) 330-2433

11th on the Mali Minneapolis, MN 55403-2450 FAX (612) 330-2401





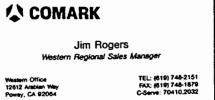
N-STATE WATS: ONES: 414 235-8930 414 729-8900 FAX: 414 235-4233 OUT OF STATE WATS: 1-800-858-0222 maney_logic

vare & Interfacing

Dan Maney Systems Designer Marketing/Sales

4535 Thurston Ln. • Madison, WI 53711-4767 • (608) 277-8001









SBE CHAPTER 24 Dinner, Meeting and Program February 17, 1993

5:30 p.m. Dutch Treat Dinner at Perkins Restaurant,
1410 Damon Road (near the intersection of Fish Hatchery Road and the Beltline)

7:00 p.m. Business Meeting at the Public Broadcasting Center,
3319 West Beltline Highway,
4th floor conference room
The Program will follow the business meeting.

PROGRAM: Demonstration of the Video Toaster from Newtek

James Lloyd of CI Studios, Ed Smith of VideoGraphix and John Reuter of Wisconsin Public Television will present the Video Toaster. The Video Toaster is an expansion card that goes into an Amiga personal computer manufactured by Commodore, Inc. A couple of Toasters will be setup for hands-on demonstrations.

The Toaster is an "all-in-one" video device. It has a 4-input video switcher, character generator, 24-bit paint program, 3-D design and animation program, DVE, dual frame-buffers, luminance keyer, still store, frame grabber and color processing. It is estimated as many as 100,000 Toasters have been sold.



SBE Chapter 24 Newsletter 3538 Concord Avenue Madison, WI 53714





CONSULTING ENGINEERING FOR THE BROADCASTING AND CABLE TELEVISION INJUSTRIES

OIDX GALL

NEAL MELAIN

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

Scharch Electronics Company

1105 Middleton Street Madison, WI 53717-1078 606 831-2266

Sten Scharch

Tom Weeden 6802 Putnam Road Madison, WI 53711-3959

FEBRUARY MEETING and PROGRAM

Society of Broadcast Engineers CHAPTER 24 MADISON, WISCONSIN February 17, 1993

5:30 p.m. Dutch Treat Dinner at Perkins Restaurant 1410 Damon Road (near the intersection of Fish Hatchery Road and the Beltline)

7:00 p.m. Business Meeting at the Public Broadcasting Center
3319 West Beltline Highway
4th floor conference room

The Program will follow the business meeting.

Visitors and guests are welcome at all our SBE meetings!

PROGRAM: Demonstration of the Video Toaster from Newtek

James Lloyd of CI Studios, Ed Smith of VideoGraphix and John Reuter of Wisconsin Public Television will present the Video Toaster. The Video Toaster is an expansion card that goes into an Amiga personal computer manufactured by Commodore, Inc. A couple of Toasters will be set-up for hands-on demonstrations.

The Toaster is an "all-in-one" video device. It has a 4-input video switcher, character generator, 24-bit paint program, 3-D design and animation program, DVE, dual frame buffers, luminance keyer, still store, frame grabber and color processing. It is estimated as many as 100,000 Toasters have been sold.

UPCOMING PROGRAMS:

- 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.