

31ST ANNUAL
University of Wisconsin

BROADCAST ENGINEERING AND MANAGEMENT SEMINAR

(Formerly BROADCASTERS' CLINIC)
October 7-10, 1985

Supported in part by *Radio World* and *TV Technology*

THE UNIVERSITY OF WISCONSIN PROUDLY OFFERS...

... the 31st Annual **BROADCAST ENGINEERING AND MANAGEMENT SEMINAR** (formerly **BROADCASTERS' CLINIC**), long considered a "must" within the industry for broadcast engineers eager to remain on the leading edge of their profession.

The **1985 Broadcast Engineering and Management Seminar** is carefully planned to meet the often overlapping needs of broadcast engineering technical and management personnel. The program agenda for the four day seminar is intentionally varied to permit the professional broadcast engineer to come in contact with research and technical advances in many areas of broadcast engineering. We believe that it is vital that the well-informed broadcast engineer of the mid-1980's be aware of research trends and developments in all facets of our rapidly growing profession.

The program for Monday, October 7, will primarily emphasize broadcast engineering management issues, although the day's sessions are flexibly designed to accommodate the needs and interests of broadcast engineers at all levels. Seminar talks and case study presentations will be geared to assist the broadcast engineer in effectively meeting the growing challenges of communicating with station management, supervising staff engineers, and handling the increasing variety of complex decision-making challenges that face engineering management today.

The program for Tuesday through Thursday, October 8 through 10, will emphasize technical issues including state-of-the-art engineering research, emerging technologies, and a wide variety of other topics. The highly popular FCC Update panel and the Nuts and Bolts session moderated by Steve Brown will also return this year. Industry exhibits will be extensive and varied.

Plan to attend the University of Wisconsin **Broadcast Engineering and Management Seminar**, this year supported in part by Stevan B. Dana, publisher of *Radio World* and *TV Technology*. Help us celebrate our 31st year of valuable education and service to the broadcast engineering profession.



GENERAL CONFERENCE INFORMATION

DATES

Monday through Thursday, October 7 through 10, 1985.

LOCATION

All sessions of the Broadcast Engineering and Management Seminar will be held at the Holiday Inn Southeast, Highway 12 and 18 at I-90, Madison, Wisconsin, 53704. Phone: (608)222-9121.

FEE

BROADCAST ENGINEERING AND MANAGEMENT SEMINAR - \$175. Fee covers program materials, 4 continental breakfasts, 4 luncheons, 4 break refreshments and 3 evening receptions with hot hors d'oeuvres. The Tuesday evening dinner is optional at an additional charge of \$12.

BROADCAST ENGINEERING MANAGEMENT Session only (October 7) - \$65. Fee covers program materials, a continental breakfast, luncheon, break refreshments and an evening reception with hot hors d'oeuvres.

BROADCAST ENGINEERING TECHNICAL Sessions only (October 8, 9, 10) - \$125. Fee covers program materials, 3 continental breakfasts, 3 luncheons, 3 break refreshments and 2 evening receptions with hot hors d'oeuvres. The Tuesday evening dinner is optional at an additional charge of \$12.

You are entitled to an 80% refund if cancellations are received prior to October 1, 1985. Enrollees who do not cancel are obligated for the full fee. Substitutions may be made at any time.

ACCOMMODATIONS

Please make your own room reservations with the Holiday Inn Southeast, Highway 12 and 18 at I-90, Madison, Wisconsin, 53704. Phone: (608) 222-9121. We suggest that you make your reservations before September 20, 1985, while discounted rooms are being held for the seminar. Please specify that you are attending **BROADCAST ENGINEERING AND MANAGEMENT SEMINAR**.

CREDIT

Seminar enrollees can earn the following Continuing Education Units (CEUs) from the University of Wisconsin: **BROADCAST ENGINEERING AND MANAGEMENT SEMINAR**, 3.6 CEUs; **BROADCAST ENGINEERING MANAGEMENT Session only**, 0.8 CEU; **BROADCAST ENGINEERING TECHNICAL Sessions only**, 2.8 CEUs.

INFORMATION

For further seminar or exhibitor information, contact Don Borchert, Director of Engineering, WHA Radio and Television, 821 University Avenue, Madison, Wisconsin 53706. Phone: (608) 263-2157.

PROGRAM: BROADCAST ENGINEERING AND MANAGEMENT SEMINAR

Monday, October 7, 1985

- 7:45 a.m. Registration and Continental Breakfast
- 9:15 **Introduction and Welcome to the Engineering Management Seminar**
Don Borchert, Director of Engineering, WHA Radio and Television, Madison, WI
- 9:30 **Changing Roles for Engineering Managers**
Larry Busse, Executive Vice President, Gillett Communications, Nashville, TN
- 10:30 **Introduction to Problem Solving Through the Case Study Method**
H. Richard Hiner, Director of Navy Broadcasting Services, Washington, D.C.
- 12:00 p.m. Luncheon and Address:
Instinctive Management
John Cummuta, General Manager, WCFL, Chicago, IL



- 2:30 **Problem Solving Through Engineering Management Case Studies**
H. Richard Hiner, Director of Navy Broadcasting Services, Washington, D.C.
John Cummuta, General Manager, WCFL, Chicago, IL
- 4:30 Reception, Cash Bar and Equipment Exhibits

Tuesday, October 8, 1985

- 7:45 a.m. Continuing Registration and Continental Breakfast
- 9:15 **Introduction and Welcome to the Broadcast Engineering Technical Seminar**
Don Borchert, Director of Engineering, WHA Radio and Television, Madison, WI
- 9:30 **More Applications of Time-Delay Spectrometry**
Jim Brown, Chief Engineer, Bridgewater Sound, South Holland, IL
- 10:15 Break
- 10:30 **Principles of Operation of Digital Audio Computers**
Jim Woodworth, National Sales Manager, Compusonics, Denver, CO
- 11:15 **FCC Update**
Garrett Lysiak, FCC, St. Paul, MN
George Sklom, FCC, Chicago, IL
- 12:00 Luncheon and Address:
Current Broadcast Transmission Alternatives
John Patterson, Engineer, Midwestern Relay Co., Milwaukee, WI
- 2:00 p.m. **AM Stereo Proof of Performance Techniques**
Al Resnick, Chief Engineer, WLS-AM, Chicago, IL
- 2:45 **Advancements in Applications Utilizing Small Format Camera Tubes**
Jerry Cohen, Product Manager, Sony Broadcast, New York, NY
- 3:30 **Non-Ionizing Radiation: Meeting the ANSI Standard**
Donald L. Markley, Consulting Engineer, Peoria, IL
- 4:30 Reception, Cash Bar and Equipment Exhibits
- 6:00 Dinner (Optional)

Wednesday, October 9, 1985

- 7:45 a.m. Registration and Continental Breakfast
- 8:30 **Building an AM Directional Antenna from Scratch**
Mark Persons, President, M.W. Persons and Associates, Brainard, MN
- 9:15 **Making the Directional Array Play**
Doug C. McDonell, Broadcast Engineering Consultant, Madison, WI
- 10:00 Break
- 10:15 **Maintenance Fundamentals for Microprocessor-Based Broadcast Equipment**
Chuck Kelly, Sales Manager, International Tapetronics/3M, Bloomington, IL
- 11:15 **Practical Tips on OP AMP Use in Your Console**
Bill Sacks, President/Chief Engineer, Straight Wire Audio, Arlington, VA

- 12:00 p.m. Luncheon and Address:
Dealing with Non-RF Interference
Mark Durenberger, Director of Technical Development, Hubbard Broadcasting, St. Paul, MN
- 2:00 **Methods of AM/FM Technical Measurements: Avoiding Errors**
Garrett Lysiak, Engineer in Charge, FCC, St. Paul, MN
- 2:45 **Multi-Station FM Broadcast Antennas**
Ron Fisk, Principal Engineer, Harris Broadcast, Quincy, IL
- 3:30 **Service and Maintenance of Audio Cart Machines**
Dave Montgomery, Technical Service Manager, International Tapetronics/3M, Bloomington, IL
- 4:30 Reception, Cash Bar and Equipment Exhibits
- 6:30 **Broadcast Engineering Forum (Nuts & Bolts Session)**
Stephen Brown, Moderator, Chief Engineer, WLTE, Minneapolis, MN

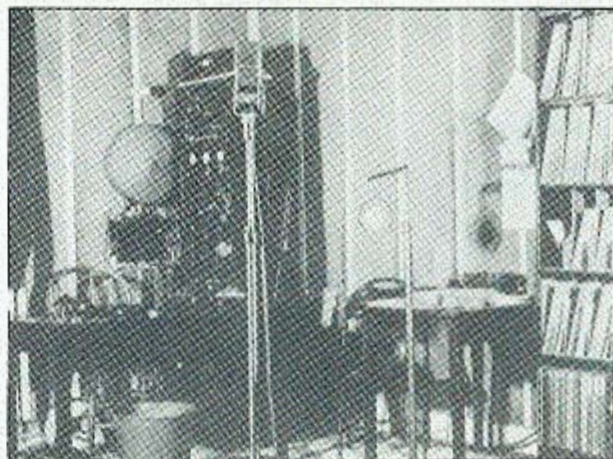
Thursday, October 10, 1985

- 7:45 a.m. Continental Breakfast
- 8:30 **Advancements in Stereo Generation for Television Audio**
Geoff Mendenhall, Vice President, Engineering, Broadcast Electronics, Inc., Quincy, IL
- 9:15 **Review of SMPTE RS-422 Interface and its Impact on the Broadcast Industry**
Ray Dulye, Senior Support Product Engineer, AMPEX Corporation, Redwood City, CA
- 10:00 Break
- 10:15 **Practical Transmitter Conversion for Television Stereo**
John Shipley, Product Manager, RCA Broadcast, Camden, NJ

- 11:15 **Fiber Optic Applications for Non-Telephony Services**
Mike Galli, Engineer, Grass Valley Group, Grass Valley, CA
- 12:00 p.m. Luncheon and Address:
The Broadcast Engineer and AT&T
Steve Eliason, Senior Account Executive, AT&T Communications, Minneapolis, MN
- 2:00 **System Design for Stereo Television Operation**
James Swick, Engineer, WTTW, Chicago, IL
- 3:00 Adjournment

During the past 30 years, Broadcasters' Clinic has provided significant management information and technical updating for the broadcast engineer. This will continue to be the goal of the University of Wisconsin. The 1985 Broadcast Engineering and Management Seminar welcomes the support of Stevan B. Dana, publisher of *Radio World* and *TV Technology*.

Don Borchert



1985 PROGRAM COMMITTEE


Don Borchert, WHA Radio and TV, Madison, WI
Steven Brown, WLTE, Minneapolis, MN
John Freberg, WXRT, Chicago, IL
Ray Hernday, WTMJ, Milwaukee, WI
Gary Mach, UW-Green Bay, Green Bay, WI
Harry Priester, WLS-FM, Chicago, IL
Warren Shulz, WFYR, Chicago, IL



Among the many exhibitors at the 1985 Broadcast Engineering and Management Seminar will be the following:

3M CORPORATION
 ALCOA-NEC
 AMPEX
 AUDIO BROADCAST GROUP
 AUDIO-SONICS CORPORATION
 AVC SYSTEMS
 AVONIX, INC.
 BRADLEY BROADCAST SALES
 BRIDGEWATER SOUND
 BROADCAST AUDIO CORPORATION
 BROADCAST ELECTRONICS, INC.
 EEV, INC.
 EMMONS ASSOCIATES
 ENTERPRISES, INC.
 FULL COMPASS
 HARRIS BROADCAST
 INTERNATIONAL TAPETRONICS

LENCO, INC.
 M.W. PERSONS AND ASSOCIATES
 MICROPROBE ELECTRONICS
 PRO AUDIO GENERAL STORE
 RCA BROADCAST
 ROSCOR CORPORATION
 SKYLINE COMMUNICATIONS
 SONY BROADCAST
 TEKTRONIX, INC.
 TODD COMMUNICATIONS, INC.
 VICTOR DUNCAN
 VIDEO IMAGES
 VIDEO MIDWEST
 ...and many more!!



9XM-WHA

"The Oldest Station In the Nation"

On this campus pioneer research and experimentation in "wireless" led to successful transmissions of voice and music in 1917, and the beginning of broadcasting on a scheduled basis in 1919.

Experimental station 9XM transmitted telegraphic signals from Science Hall until 1917 when it was moved to Sterling Hall. In that year Professor Earle M. Terry and students built and operated a "wireless telephone" transmitter.

In 1918, during World War I, when other stations were ordered silenced, 9XM operated under special authorization to continue its telephonic exchange with U.S. Navy stations on the Great Lakes. After the war, programs were directed to the general public.

The WHA letters replaced the 9XM call on January 15, 1922. Thus, the University of Wisconsin station, under the calls 9XM and WHA, has been in existence longer than any other.

Marker Erected 1958

REGISTRATION FORM

Broadcast Engineering and Management Seminar

October 7, 8, 9 and 10, 1985

Holiday Inn Southeast, Highway 12 and 18 at I-90, Madison, Wisconsin 53704 / (608) 222-9121

Social Security Number: _____

(Not mandatory—used only to ensure accessibility and accuracy of your educational record.)

Name: _____

Phone: (_____) _____

area code

daytime number/evening number

Title: _____

Organization/Station: _____

Business Address: _____

street

city / state / zip

Payment Enclosed:

- Broadcast Engineering and Management Seminar, October 7, 8, 9, 10 — \$175
- Broadcast Engineering Management Session only, October 7 — \$65 (A-86-8400-0276)
- Broadcast Engineering Technical Sessions only, October 8, 9, 10 — \$125 (A-86-8400-0277)
- Optional Top Sirloin Steak Dinner, October 8 — \$12

To register, phone or mail this form along with your check made payable to UW-Extension to: Registration Office, The Wisconsin Center, 702 Langdon Street, Madison, WI 53706. Phone (608) 262-7942.

This information is collected to enhance the programming efforts of University of Wisconsin—Extension and is voluntary.

SEX: Female Male

BIRTHDATE: Month _____ Day _____ Year _____

HERITAGE: American Indian Asian Black

Hispanic White or Other

OCCUPATIONAL AREA

100 Professional, technical and managerial occupations

700 Other Occupations _____

This program is supported in part by funds administered through UW-Extension as part of a coordinated statewide Extension program.

Please advise us at time of registration if you are handicapped and desire special accommodations. Requests will be kept confidential.

UW-Extension provides equal opportunities in employment and programming including Title IX requirements.