THE UNIVERSITY OF WISCONSIN—EXTENSION PROUDLY OFFERS...

... the 30th Annual BROADCASTERS' CLINIC, long considered a "must" within the industry for broadcast engineers eager to remain on the leading edge of their profession.

This year BROADCASTERS' CLINIC is being held in conjunction with a BROADCAST ENGINEERING MANAGEMENT Seminar on Monday, September 24, 1984. This Seminar is designed 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.

BROADCASTERS' CLINIC 1984 on September 25, 26 and 27, 1984, will feature the most impressive array of speakers, topics and exhibits to date. Over two dozen leading engineers, technologists, researchers and administrators from around the country will address a number of topics of vital concern to the broadcast engineer: dealing with emerging technologies; interpreting recent FCC decisions; designing broadcast facilities; and understanding state-of-the-art research in the field of broadcast engineering. The popular "nuts and bolts" broadcast engineering forum will return in an expanded format this year. Industry exhibits will be extensive and varied.

Plan to attend both BROADCASTERS' CLINIC and BROADCAST ENGINEERING MANAGEMENT this year. Help us celebrate our 30th Anniversary—30 years of valuable education and service to the broadcast engineering profession.

GENERAL CONFERENCE INFORMATION

DATES

BROADCASTERS' CLINIC, Tuesday, Wednesday and Thursday, September 25, 26, 27, 1984.


LOCATION

All sessions of both BROADCASTERS' CLINIC and BROADCAST ENGINEERING MANAGEMENT will be held at the Holiday Inn Southeast, Highway 12 and 18 at I-90, Madison, Wisconsin, 53704. Phone: (608) 222-9121.

FEE

BROADCASTERS' CLINIC—$100. Fee covers program materials, 3 continental breakfasts, 3 luncheons, 3 break refreshments, and 2 evening receptions with hors d'oeuvres. The Tuesday evening dinner is optional at an additional charge of $12.

BROADCAST ENGINEERING MANAGEMENT—$50. Fee covers program materials, a continental breakfast, luncheon, break refreshments, and an evening reception with hors d'oeuvres.

BROADCASTERS' CLINIC and BROADCAST ENGINEERING MANAGEMENT—$135.

You are entitled to an 80% refund for these conferences if cancellations are received prior to September 17, 1984. 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 1, 1984, while discounted rooms are being held for the conferences. Please specify that you are attending BROADCASTERS' CLINIC and/or BROADCAST ENGINEERING MANAGEMENT. If you are handicapped and desire special accommodations, please advise us at least two weeks before the conferences. Requests will be kept confidential.

CREDIT

Conference enrollees can earn the following Continuing Education Units (CEUs) from UW-Extension: BROADCASTERS' CLINIC, 2.3 CEUs; BROADCAST ENGINEERING MANAGEMENT, 1 CEU; BROADCASTERS' CLINIC and BROADCAST ENGINEERING MANAGEMENT, 3.3 CEUs.

INFORMATION

For further conference or exhibitor information, contact Don Borcherdt, Director of Engineering, WHA Radio and Television, 7136 Vilas Communication Hall, 821 University Avenue, Madison, Wisconsin 53703. Phone: (608) 263-2157.
PROGRAM: BROADCAST ENGINEERING MANAGEMENT SEMINAR

Monday, September 24, 1984

7:45 a.m.  Registration and Continental Breakfast

9:00  INTRODUCTION AND WELCOME
 Don Borchert, Director of Engineering, WHA Radio and Television, Madison, WI

9:30  LET'S TALK TECHNICAL MANAGEMENT
 Professor Dale D. McConkey, University of Wisconsin—Extension, Management Institute, Madison, WI

12:00  Luncheon and Address:
 EVERYBODY’S FAVORITE CHIEF ENGINEER
 John Cummuta, Management Editor, Radio World; and Operations Manager, WCFL, Chicago, IL

2:00 p.m.  FINANCE AS IT APPLIES TO BROADCAST ENGINEERS
 Harrison Klein, Director of Engineering, Westinghouse Broadcasting, New York, NY

2:45  Break

3:00  PROBLEM SOLVING THROUGH CASE STUDIES
 Engineering Panel:
 James Wulliman, WTMJ, Milwaukee, WI
 Elmo Reed, Post Corporation, Green Bay, WI
 Harry Priester, WLS-FM, Chicago, IL

Mark Durenberger, Director of Technical Development, Hubbard Broadcasting, St. Paul, MN
Garrett Lysiak, FCC, St. Paul, MN

Reception and Cash Bar

PROGRAM: BROADCASTERS' CLINIC

Tuesday, September 25, 1984

7:45 a.m.  Registration and Continental Breakfast

9:00  INTRODUCTION AND WELCOME
 Don Borchert, Director of Engineering, WHA Radio and Television, Madison, WI

9:30  TIME DELAY SPECTROMETRY: PRINCIPLES, INSTRUMENTATION, AND APPLICATIONS
 Jim Brown, Chief Engineer, Bridgwater Sound, South Holland, IL

10:15  Break

10:30  REBUILDING THE AM SYSTEM: A CASE STUDY
 Doug C. McDonell, Broadcast Engineering Consultant, Madison, WI

11:15  FCC UPDATE
 Garrett Lysiak, FCC, St. Paul, MN
 George Sklon, FCC, Chicago, IL

Luncheon and Address:
 KU BAND SATELLITE DELIVERY SYSTEMS
 Donald W. Kivell, Director of Plant Communications, NBC, New York, NY

2:00 p.m.  SWEEPING FM AND TELEVISION ANTENNAS
 Harrison Klein, Director of Engineering, Westinghouse Broadcasting, New York, NY

2:45  OP AMPS: HANDS ON TRICKS FOR HANDS OFF OPERATION
 Mark Durenberger, Director of Technical Development, Hubbard Broadcasting, St. Paul, MN

3:30  A COMPARISON OF TWO AM STEREO SYSTEMS
 Donald L. Markley, Consulting Engineer, Peoria, IL

Dinner (optional)
Wednesday, September 26, 1984

7:45 a.m.  Continuing Registration and Continental Breakfast

8:30  INTERFACING THE NATIONAL WEATHER WIRE SERVICE TO THE 21ST CENTURY
      Mike Henderson, Group Chief Engineer, Hedberg Broadcasting, Blue Earth, MN

9:15  A DIAGNOSTIC SYSTEM FOR FM TRANSMITTERS USING A VIDEO SCREEN
      James Tucker, Design Engineer, Broadcast Electronics, Inc., Quincy, IL

10:00  Break

10:15  AN INTRODUCTION TO IC DESIGN AND MANUFACTURE: AM STEREO CHIP
      Motorola Semi-Conductor, Mesa, AZ

11:15  PULSE DURATION MODULATION
      Grant Bingeman, Design Engineer, Continental Electronics, Dallas, TX

12:00  Luncheon and Address:
      IN THE FOREFRONT OF TECHNOLOGY
      Dr. Frank Marlowe, RCA Laboratories, Princeton, NJ

2:00 p.m.  AUDIO PROCESSING AND PEAK OVERMODULATION IN FM BROADCASTING
      Nigel Brainwell, President, Audio and Design, CALREC, Bremerton, WA

2:45  PEAK OVERSLEEPS IN FM MODULATION MONITORS
      Joseph Wu, President, TFT, Santa Clara, CA

3:30  SECOND GENERATION TECHNIQUES FOR AM STEREO EXCITER DESIGN
      Stan Salek, AM Stereo Design Engineer, Broadcast Electronics, Inc. Quincy, IL

3:30  Reception, Cash Bar and Equipment Exhibit

4:15  BROADCAST ENGINEERING FORUM (Nuts and Bolts Session)
      Stephen Brown, Moderator, WLTE, Minneapolis, MN

6:30  11:15

Thursday, September 27, 1984

7:45 a.m.  Continental Breakfast

8:30  PREVENTING TERRESTRIAL INTERFERENCE IN TVRO APPLICATIONS
      William Johnson, Chief Engineer, Microwave Filter Company, East Syracuse, NY

9:15  DE-MYSTIFYING A/D AND D/A CONVERTERS
      Pete Thorpe, Chief Engineer, B-108 Radio, Anoka, MN

10:00  Break

10:15  IMPROVED UHF COVERAGE THROUGH CP OR DUAL ANTENNAS
      Jim Seamon, TVX Corporation, Virginia Beach, VA

11:15  LINEAR AND NON LINEAR DISTORTION
      Hans Schmid, ABC Engineering, New York, NY

12:00  Luncheon and Addresses:
      PRACTICAL CONSIDERATIONS FOR UHF CIRCULAR WAVEGUIDE
      Gaeta Di Enes, Senior Advisor, Andrew Corporation, Chicago, IL

3:00 p.m.  Adjournment

RF SUBSYSTEMS IN SUB ATOMIC PARTICLE RESEARCH
      Quentin Kerns, Instrumentation Group Leader, Fermi Laboratory, Batavia, IL.
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SPECIAL 1984 CONFERENCE FEATURES

New roomier conference location
Expanded conference program
Enlarged exhibit area
Attendance certificates
Door prizes

1984 PROGRAM COMMITTEE

Don Borchert, WHA Radio and TV, Madison, WI
Elmo Reed, Post Corporation, Green Bay, WI
Warren Shulz, WFYR, Chicago, IL
Ray Hernday, WTMJ, Milwaukee, WI
Stephen Brown, WLTE, Minneapolis, MN
Harry Priester, WLS-FM, Chicago, IL
John Freberg, WXRT, Chicago, IL

WE’VE COME A LONG WAY...

9XM: “The Oldest Radio Station in the Nation”

<table>
<thead>
<tr>
<th>Year</th>
<th>Power</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>1914</td>
<td>2000 watts</td>
<td>475 meters</td>
</tr>
<tr>
<td>1915</td>
<td>2000 watts</td>
<td>475 meters</td>
</tr>
<tr>
<td>1916</td>
<td>4000 watts</td>
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<tr>
<td>1932</td>
<td>1000 watts</td>
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</tr>
<tr>
<td>1934</td>
<td>2500 watts</td>
<td>590 kilocycles-special</td>
</tr>
<tr>
<td>1941</td>
<td>5000 watts</td>
<td>940 kilocycles</td>
</tr>
<tr>
<td>1942</td>
<td>5000 watts</td>
<td>970 kilocycles</td>
</tr>
<tr>
<td>1969</td>
<td>5000 watts</td>
<td>970 kilocycles</td>
</tr>
</tbody>
</table>

WHAM-AM

- 1947 1 kilowatt 88.7 megacycles
- 1969 10 kilowatts 88.7 megacycles

WHATV

1954 12 kilowatts
1984 759 kilowatts

9XM-WHA

“The Oldest Station In the Nation”

On this campus pioneer research and
experimentation in “wireless” led to suc-
cessful 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 13, 1922. Thus, the University of
Wisconsin station, under the calls 9XM and WHA,
has been in existence longer than any other.

Mary E. Bickel 1938
REGISTRATION FORM

BROADCASTERS' CLINIC
September 25, 26, 27, 1984  Fee: $100  (T-43-5044-0278)

BROADCAST ENGINEERING MANAGEMENT
September 24, 1984  Fee: $50  (T-43-5044-0277)

BROADCASTERS' CLINIC and BROADCAST ENGINEERING MANAGEMENT
September 24, 25, 26, 27, 1984  Fee: $135

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

Social Security Number: ___________________________  Phone: {  (area code)  daytime number/evening number
(Not mandatory — used only to ensure accessibility of accuracy of your educational record.)

Name: __________________________________________

Organization/Station: ____________________________

Title: __________________________________________

Business Address:  street  city  state  zip

How many years have you attended Broadcasters' Clinic? (Include those years when it was called "FM Clinic"): __________________________

Payment Enclosed:  □ BROADCASTERS' CLINIC — $100
  □ BROADCAST ENGINEERING MANAGEMENT — $50
  □ BROADCASTERS' CLINIC and BROADCAST ENGINEERING MANAGEMENT — $135
  □ Optional Dinner, BROADCASTERS' CLINIC, September 25, 1984 — $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 53703. Phone: (608) 262-7942.

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