

# OREGON STATE HAM Convention

**June 4-5-6, 1982**  
**Convention Center**  
**Seaside, Oregon**

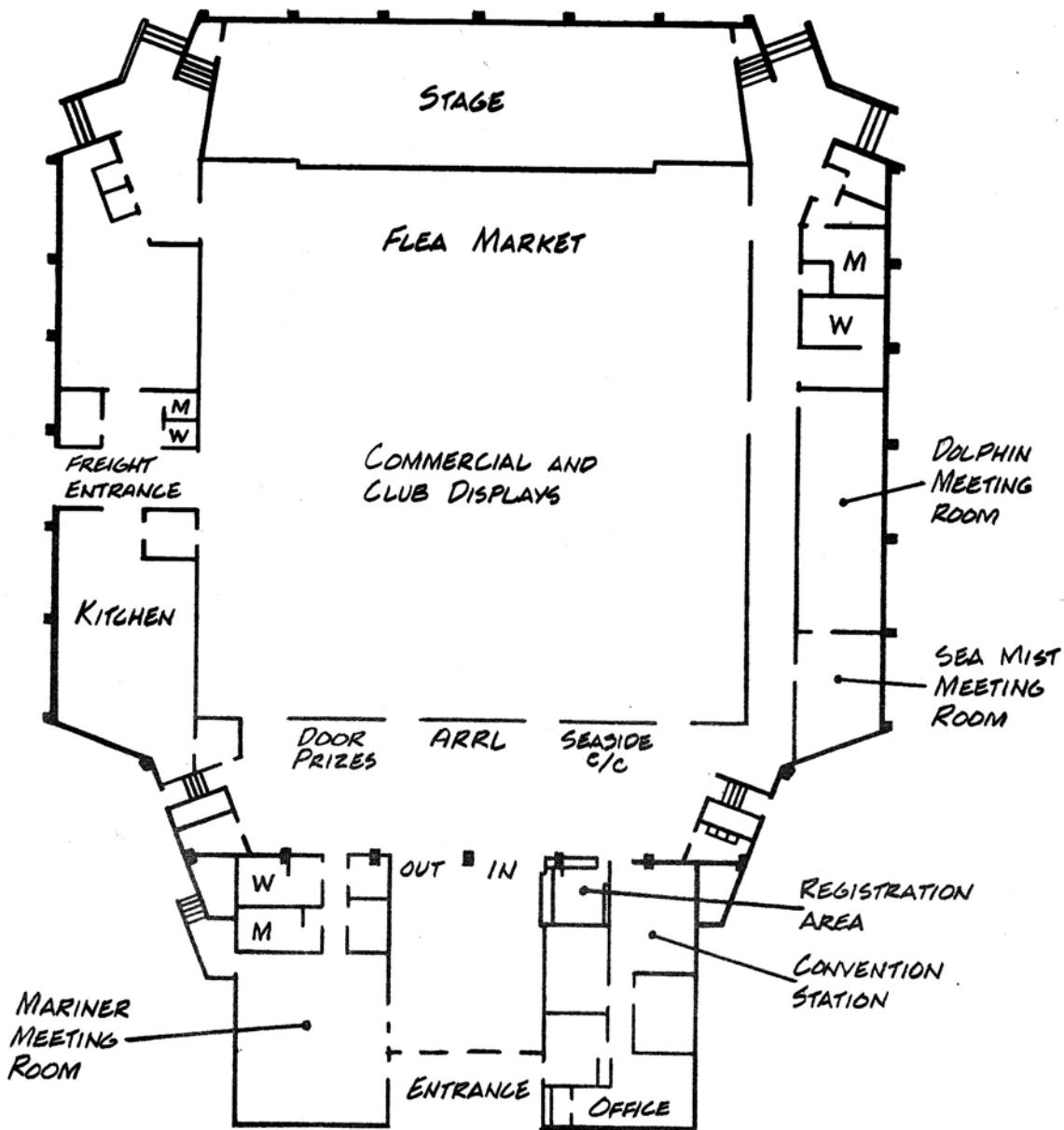


## *Co-sponsors*

Oregon Tualatin Valley  
Amateur Radio Club

&

North Coast Repeater Association



FOR CONVENTION INFORMATION  
AND ANNOUNCEMENTS LISTEN ON:  
146.52 (SIMPLEX)  
448.65 (REPEATER)

VICTOR ATIYEH  
GOVERNOR



OFFICE OF THE GOVERNOR  
STATE CAPITOL  
SALEM, OREGON 97310

June 1982

STATEMENT BY GOVERNOR VIC ATIYEH

My personal greetings to all of you taking part in this second annual state convention.

In addition, it pleases me to have this opportunity to express my sincere thank you to each and every Ham for the public service you provide year in and year out. This kind of volunteer effort--especially in times of emergency--provides invaluable aid to city, county, state and federal officials and, of course, to Oregonians in general.

I know we can count on such dedicated service in the future to provide communications for all Oregonians.

May you have an excellent three days in Seaside.

Sincerely,

A handwritten signature in black ink, appearing to read "Vic Atiyeh".

Vic Atiyeh  
Governor

# Schedule of Program

## **Friday, June 4**

Noon to 9 p.m.	Registration open. Convention Station open for duration.
Noon to 5 p.m.	Ladies' Treasure Hunt
7 p.m.	
8 p.m.	

---

## **Saturday, June 5**

All Day	Snack Bar, Ladies' Treasure Hunt
8 a.m. to 7 p.m.	Registration open.
9 a.m. to 5 p.m.	Exhibits open. Flea Markets open.
10 a.m.	Kid's Cartoons until 4 p.m. (Stage). FCC Testing (by previous appointment)
	Landmark Motor Hotel, Room 125
12 Noon	
1 p.m.	
2 p.m.	
3:30 p.m.	
4 p.m.	ARRL Forum (Seamist Room)
6 p.m.	Cocktail Hour (Convention Center Foyer)
7 p.m.	Banquet (Convention Center)

---

## **Sunday, June 6**

8 a.m.	Registration open.
9 a.m.	Exhibits open. Flea Markets open. Kid's Cartoons until 11:30 a.m. (Stage)
12 Noon	Prize Drawings
2 p.m.	Convention closes. "Hope to See You Next Year"

# Events ... June 4-5-6

## MARINER ROOM

## DOLPHIN ROOM

- 
- |        |  |
|--------|--|
| 7 p.m. | <i>Apple Computers &amp; RTTY:<br/>A Low Cost Implementation.</i><br>Neil Robin, WA7NBF. |
| 8 p.m. | <i>Amateurs &amp; Packet Radio.</i><br>John Beaston, N6TY.                               |
- 

- |           |  |   |
|-----------|--|---|
| 10 a.m.   | <i>Satellite TV: What It Is and How to Receive It.</i><br>Tom Hill, WA3RMX (2 Hours).                        | <i>Towers &amp; Zoning.</i> The Honorable Greg Milnes W7AGQ (1 Hour).                     |
| 12 Noon   | <i>Amateur Radio &amp; China: A Trip to Remember.</i> Henry Oman, K7HO.                                      | <i>Working Amateur Radio Satellites: A Many Faceted Activity.</i><br>Dave Barnard, W7LSV. |
| 1 p.m.    | <i>Mt. St. Helens' 1980 Eruption &amp; Amateur Radio Service to Science.</i><br>Prof. Leonard Palmer, N7AQA. | <i>Feeding Phased Arrays.</i><br>Roy Lewallen, W7EL.                                      |
| 2 p.m.    | <i>Contesting: Why &amp; How.</i><br>Mark Nelson, AA6DX.   | <i>The ARRL, The FCC &amp; Other Interesting Things.</i><br>Rick Palm, K1CE (QST).        |
| 3:30 p.m. | <i>Trends in Modern Receivers.</i><br>Wes Hayward, W7ZQI.  | Seminar by Dentron Radio Engineers.   |
- 

- |        |            |
|--------|------------|
| 8 a.m. | NASA Films |
|--------|------------|

- |        |   |
|--------|---|
| 9 a.m. | Bunny Hunt Starting Point<br>2 Meters . . . Good Luck!<br>(P.S. Wear good shoes!) |
|--------|---|

**Note:** The convention's sponsors reserve the right to alter the convention schedule.

# *Guest Speaker:*

## **"PHOTOGRAPHY from SPACE"**

### **Richard W. Underwood**

Technical Assistant to the Chief  
Photographic Technology Division  
NASA Johnson Space Center  
Houston, Texas



NASA Photo

**Education:** Bachelor of Science degree in Geology, University of Connecticut; advanced studies, Colorado School of Mines, University of Wyoming, George Washington University, and the University of Houston.

#### **SPECIAL HONORS AND AWARDS:**

NASA Exceptional Service Medal for Apollo Project.

Outstanding Service Awards for Apollo Eleven, Gemini Project, and Lunar Orbital Science Team  
Fort Bartlett Award of American Society of Photogrammetry

Award for Excellence from Texas Industrial Photographers.

Honorary Lecturer at NASA Marshall Space Flight Center

President's Award, 1976. Institute for Incorporated Photographers (Great Britain)

First Honorary Life Member, California Council on Geographic Education

NASA Certificate of Commendation for uses of space photography

#### **TECHNICAL PAPERS:**

Mr. Underwood has authored and presented many papers in the field of photogrammetry, photographic sciences, and aerospace photography in the United States and abroad, including NATO/SHAPE Conference in Paris; guest lecturer for Photogrammetry Weeks at Karlsruhe Technical University in West Germany, and Royal Photographic Society Focus '77, London. He has lectured at many universities in the United States, Canada, and the United Kingdom as well as in Sweden, Italy, Mexico, Panama, Guatemala, and West Germany. He was a co-author for the "Manual of Color Aerial Photography" of the American Society of Photogrammetry.

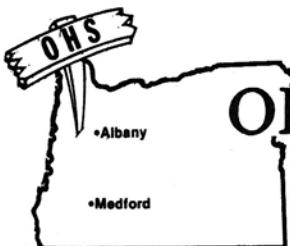
Since the beginning of history, man has dreamed of soaring above his planet and recording his impressions. Others dreamed of a journey to the Moon, to the other planets, and indeed to the stars. NASA cameras have changed the dreams to stark reality. Space photography is not only striking in beauty, but also permits us to unlock many of the secrets of our universe.

"Photography from Space" will take you on a photographic journey around the world and let you see it exactly as if you were an astronaut. Beautiful photographs reveal valuable information to geoscientists in such fields as geology, oceanography, meteorology, agricultural sciences, forestry, urban and land use studies, environmental sciences, cartography, and many others.

NASA Apollo cameras let the world witness such monumental events as the first recorded "Earthrise" from lunar orbit, Neil Armstrong's first footprint on the Moon and Gene Cernan's last, and all the exciting events such as looking into deep canyons, driving up high mountains, visiting other spacecraft, and the excitement of the Apollo 13 rescue operation.

In three Skylab missions astronauts record with cameras the problems of extended living in space, complex scientific experiments, and the remarkable view of the Earth from multispectral cameras, forcing the Earth to give up even more of its secrets. Apollo Soyuz let us witness a joint international space venture.

NASA's unmanned space probes permit us to observe close up the stark and searing surface of Mercury; a cloud covered Venus; the canyons, mountains, and monumental dust storms of Mars from high above as well as fist-sized rocks from its surface. Volcanic eruptions on a moon of Jupiter and the massive and violent storms of Jupiter produce awe as does a flight along the rings of Saturn.



# OREGON HAM SALES

Jim Walburn-WB7TAZ  
Owner

Sales ★ Trade-ins ★ Consignments  
*We Buy Complete Estates*

HUGE SURPLUS INVENTORY  
Complete Service Department - Both Stores



## ALL MAJOR BRANDS



★ ICOM      ★ KENWOOD      ★ DRAKE      ★ YAESU  
★ TENTEC      ★ DENTRON      ★  
★ HYGAIN      ★ CUSHCRAFT      ★ HUSTLER  
and many many more!



## NOW 2 LOCATIONS

409 W. 1st Ave.  
Albany, Ore. 97321  
503-926-4591

Mon. - Fri. 9:00am - 5:30pm  
Sat. 9:00am - 3:00pm

2665 Crater Lake Hwy.  
Medford, Ore. 97501  
503-773-7557

Wed. - Fri. 10:00am - 5:00pm  
Sat. 9:30am - 5:30 pm

*Drive Safely - - -*  
*& Obey Local Traffic Ordinances*

## SPEAKER TOPIC INFORMATION

**Apple Computers and RTTY: A Low Cost Implementation.** Neil A. Robin, WA7NBF, licensed since 1959, got his first Model 15 in 1962. Neil, a manager in engineering at Tektronix, has a variety of interests including microwave experimentation. During the last two years he has combined several of his hobbies—computers, ham radio and RTTY—and will be sharing some of what he has learned. His talk will include a description of RTTY, the advantages of using a computer, descriptions of his hardware and software, a system demo, and a discussion of RTTY repeaters and their standards. We welcome Neil to our opening seminar.

**Amateur Radio & Packet Radio.** John Beaston, N6TY, has a strong background in microprocessor based data communications. He was involved in the early work on m/p based RTTY stations and has had some articles published on m/p based amateur radio equipment. John will discuss the potential of packet radio, what has been done so far with packet radio, and what an amateur needs to get started in this new field.

**Satellite TV: What It Is and How to Receive It (2 Hours).** Tom Hill, WA3RMX, is heavily involved in microwave experimentation and communication in the Pacific Northwest. Tom has designed and built his own satellite TV receiver system which will be available for a demonstration and viewing during his talk. He will cover an overview of Satellite TV, its history, standards, technical parameters and proposed future systems. Common reception problems and solutions will be discussed, and if local conditions permit, he will have live signals from several satellites.

**Towers & Zoning.** The Honorable Gregory Milnes, W7AGQ, is the presiding Circuit Judge for Washington County. He has been a licensed amateur for 20 years and is presently using a 100 foot freestanding tower for his tri-bander. He will be discussing how to comply with your local government regulations when erecting your tower. If you are planning a tower or are having trouble with one this is a 'must attend' seminar.

**Amateur Radio & China: A Trip to Remember.** Henry Oman, K7HO, was one of four fortunate hams who were invited by the Chinese Government to China to describe and demonstrate amateur radio equipment and operation. China had been without amateur radio for 32 years and is now reintroducing the activity. Henry is a senior engineering supervisor at Boeing, has written many papers on electricity and solar power and is active with the IEEE. He will be sharing some of what they saw and did while in China and has some excellent slides.

**Working Amateur Radio Satellites: A Many Faceted Activity.** Dave Barnard, W7LSV, is an AMSAT member and has been working satellites since 1978. He holds a Satellite DX Achievement Award. Dave has been licensed for 25 years and presently works with the Spectrum Analyzer group of Tektronix. Dave's presentation is aimed at both old-timers and newcomers to amateur radio and may offer the new twist you've been looking for. He will start with the basics, cover what's up now including the new Russian RS series, show how to calculate what's in range and how to work them. Dave will also share the latest plans for the Phase III B international amateur telecommunications satellite.

**Mt. St. Helens' 1980 Eruption and Amateur Radio Service to Science.** Prof. Leonard Palmer, N7AQA, Ph.D. Environmental and Engineering Geologist and active observer of the 1980 Mt. St. Helens Eruption, will present slides and video images collected from his TV reporting and his book on the subject. Scientific access to Volcano Observation was dependent upon Safety Communications provided by Amateur Radio. Radio control cameras and Emergency Data for the State of Washington were almost entirely Amateur Radio based.

**Feeding Phased Arrays.** Roy Lewallen, W7EL, has experimented extensively with antennas, has written several QST articles and contributed numerous times to technical correspondence. Roy will discuss the basic principles of Phased Array operation. He will also cover some popular phased array feed systems that don't work and explain some methods which do work. Roy has installed a system of phased verticals which allows directional operation in a number of directions.

**Contesting: Why and How.** Mark Nelson, AA6DX, is an Assistant Director of the ARRL, an active member of the Northern California Contest Club and the sweepstakes holder for both phone and CW in the Sacramento Valley section. In 1979, he made 22,000 contest contacts. Mark plans to show contesting techniques, contest human engineering and how individuals and small clubs can get involved. He will discuss contesting benefits including operator skills, technical knowledge, emergency operation and just plain fun. He will describe how to "Sunday Drive" a contest, and how to prepare for contest R&I. If you've ever heard, thought about or entered a contest don't miss this presentation.

**The ARRL, The FCC and Other Interesting Things.** Rick Palm, K1CE, is coming to our convention from the ARRL where, along with his other activities, he edits the *Mailbag* for QST. He will be sharing information on the FCC's positions, cable TV problems, league activities and more. This will be the seminar to visit for the latest information.

**Trends in Modern Receivers.** Wes Hayward, W7ZOI, author and ARRL technical advisor, will be discussing the evolution in receiver design, the advantages of the modern designs, as well as their disadvantages. Wes will cover in simple terms the fundamental phenomena that affect receiver performance, including phase noise problems, and will discuss simple receivers suitable for home construction.

# PORTLAND RA

1234 S.W. STARK STREET • PORTLAND

We welcome you

## Oregon State Hamfest



"Stop by & visit us while you're here"

Ken KA7 CGQ, Ron WB7UZZ Joe W7PNS  
Gordon K7TRB

- \*\*Special Convention discounts!!
- \*\* Let us test your equipment for free!!
- \*\* The best in amateur lines!!

 hy-gain



**ICOM**



SERVING THE ELECTRONICS II

# TRIO SUPPLY

OREGON 97205 • (503) 228-8647

to the

## Ham Convention



## BONUS BUCKS

This KENWOOD BONUS BUCKS coupon is presented to any factory authorized dealer in TRIO-KENWOOD COMMUNICATIONS program. It may be used as partial payment in the amount of \$30.00 toward the purchase of a new KENWOOD model R-1000, TR-8400 or TR-7730 with MC-46 or basic U.S. version of the TS-130SE amateur transceiver as purchased in the period Mar. 1 through Jun. 15, 1982. It may also be used as partial payment in the purchase of any KENWOOD model R-1000, TR-8400, TR-7730, TS-130S, or TS-530S amateur transceiver. The purchase must be made during the period Mar. 1 through June 15, 1982. The customer must present a separate coupon (one only) for each of the listed models purchased. Additional coupons are available from other authorized dealers in the KENWOOD program. No cash value or exchange for the face amount of this coupon. Not transferable. Not redeemable for any product other than amateur equipment. Not redeemable for any service. Not redeemable for any product specified in the foregoing. Offer valid only in U.S. where taxed or prohibited by law. Resellers are not eligible to participate in this program. This coupon is a part of TRIO-KENWOOD COMMUNICATIONS BONUS BUCKS sales program. It has no value unless submitted in compliance with the rules of this program prior to June 15, 1982.

Model Purchased	/ 1982
Dealer Name	Date Purchased
Name	Call Sign
Address	
City _____ State/Zip _____	
Customer Signature _____	

 **KENWOOD**  
TRIO-KENWOOD COMMUNICATIONS  
1111 West Walnut, Compton, California 90220

KD-BB/82

Good Mar. 1 through Jun. 15, 1982

TR-8400 - \$30.00 OFF!

TR-7730 - \$30.00 OFF!

TS-530S - \$15.00 OFF!

R-1000 - \$30.00 OFF!

TS-130S or TS130SE - \$15.00 OFF!



 DRAKE

 **KENWOOD**  
... pacesetter in amateur radio

INDUSTRY SINCE 1932

## **EXHIBITORS**

ABC Communications, Seattle, Wash.  
Amateur Radio Relay Group, Portland, Ore.  
Astoria Sunset Empire ARC, Astoria, Ore.  
Bud's Specialties, Richland, Wash.  
C-Comm, Seattle, Wash.  
Computer 'n' Stuff, Tacoma, Wash.  
C & R Engraving, Vancouver, Wash.  
Denny's Watt Shop, Oregon City, Ore.  
Dentron, Stow, Ohio  
Harry Lewis W7JWJ Code Contest, Bellevue, Wash.  
Hats and Shirts by Cline, Seaside, Ore.  
Heathkit, Vancouver, Wash.  
Icom West, Seattle, Wash.  
Labelkraft, Aloha, Ore.  
Larsen Electronics, Vancouver, Wash.  
Northwest Radio Supply, Tacoma, Wash.  
Hoodview ARC, Gresham, Ore.  
Oregon Tualatin Valley ARC, Beaverton, Ore.  
Oregon Ham Sales, Albany & Medford, Ore.  
Portland ARC, Portland, Ore.  
Portland Radio Supply, Portland, Ore.  
Spectrum West, Seattle, Wash.  
Spokane Convention '83, Spokane, Wash.  
Tektronix, Beaverton, Ore.  
Texas Instruments, Portland, Ore.  
Willamette Valley DX Club, Portland, Ore.

*Special Listing:*

Old Time Radio

Private Collection of F.W. Sloat W7AHK,  
Representing the Antique Wireless Association,  
Vancouver, Wash.

**Note:** Due to publication deadlines, we apologize if there  
are any exhibitors not included in the above listing.

## **PRIZES**

### **MAJOR PRIZES**

Special Pre-Registration Choice of 2AT, 3AT or 4AT

First Prize: ICOM IC730 Transceiver

Second Prize: Yaesu FT290R All Mode 2 Meter Portable

Third Prize: Heathkit SB201 Linear Amplifier

Fourth Prize: Kenwood TR7730 2 Meter Mobile

Special Banquet Prize: Dentron GLA-1000 Linear Amplifier

### **Prize Donors**

Amateur Radio Callbook

Dentron

Heathkit

Icom West

Larsen Electronics

Labelkraft

Oregon Ham Sales

Portland Radio Supply

Robot Research

Mor-Gain

World Radio Magazine

### **Seaside Donors**

Cornet Store

Coast To Coast

Leggs Pharmacy

Plain & Fancy Restaurant

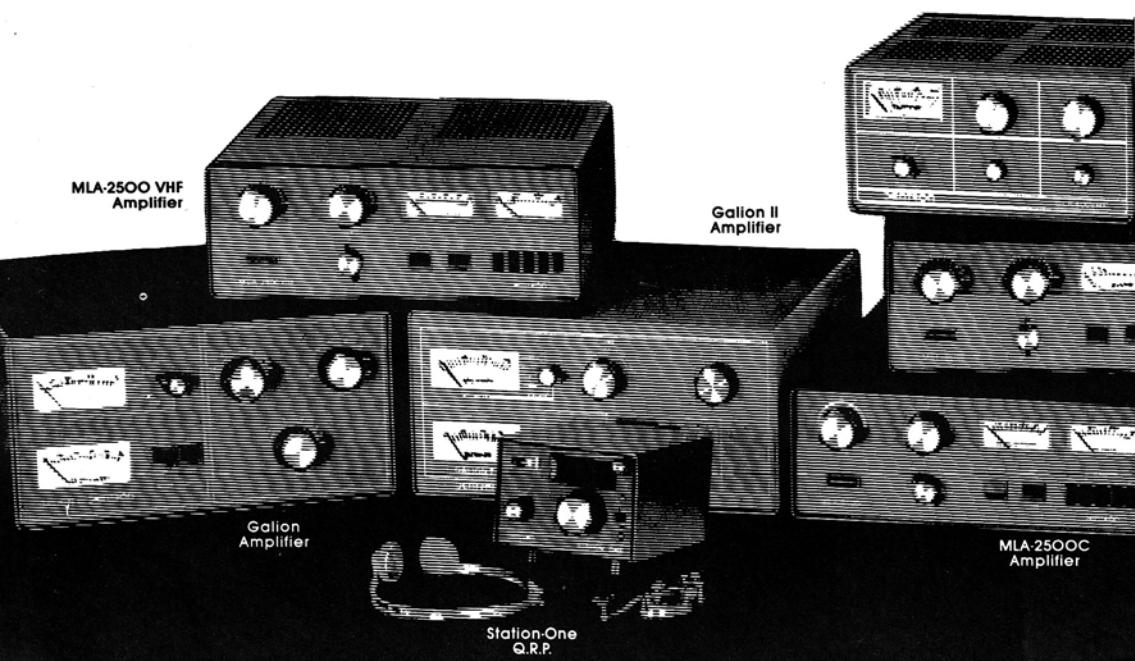
Pizza Harbor

Sprouse Reitz

**Note:** All registrants, including convention sponsors,  
are eligible for prize drawings and/or contest awards.

**Note:** Due to publication deadlines, we apologize if there  
are any prize donors not included in the above listing.

# DISCOVER VAST



## DISCOVER THE NEW DENTRON LINE OF VALUE ENGINEERED PRODUCTS

DETAILED LITERATURE AND  
SPECIFICATIONS FOR ALL  
NEW DENTRON PRODUCTS  
ARE AVAILABLE FROM  
YOUR DEALER; OR WRITE  
DIRECT TO DENTRON.

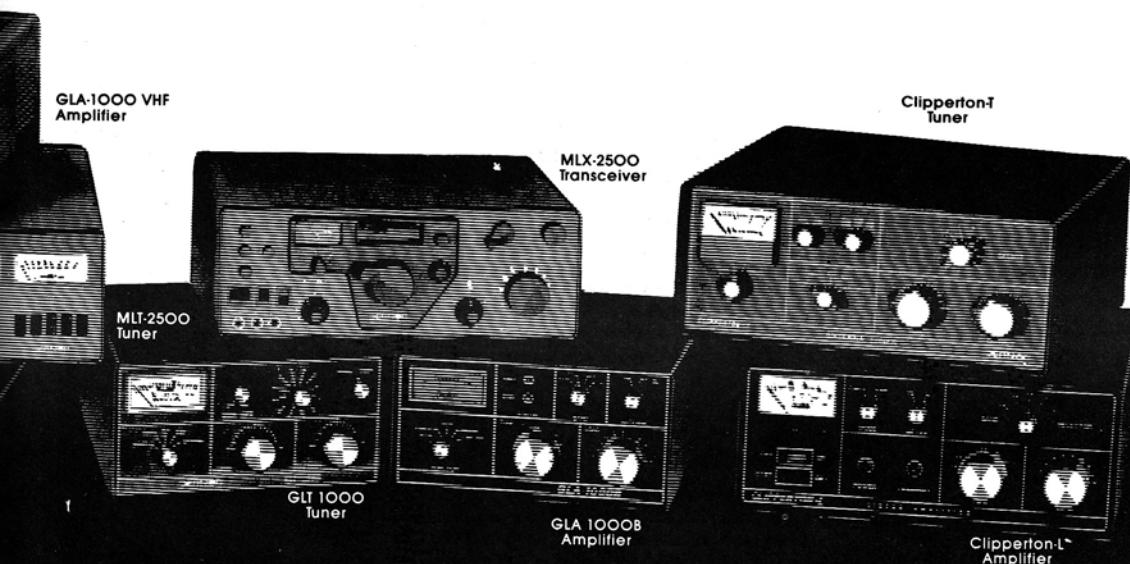
Introducing one or two new products is an achievement  
any company could be proud of.

Introducing 12 new products is an astonishing feat.

But that's exactly what Dentron is doing.

Presenting 12 new units. Not from the drawing board. From  
the production line. Each designed, tested, and built to pro-  
vide high quality, high value for the amateur operator.

# NEW HORIZONS



Every new Dentron unit is the result of an intensive engineering effort focused on your specific needs. To provide you with the equipment you want. With the features you want. The performance you want.

It's a unique approach. We call it value engineering. Because it means you don't have to pay for more than you want. Or settle for less than you need.

Value engineering even includes a dramatic new graphics treatment. So dials are easier to read and set. The cabinets attractive and completely compatible with the primary equipment offered by other manufacturers.

Take a look at the new Dentron equipment. And the new Dentron. We think you'll like what you see. And hear. And what vast new horizons you'll discover with Dentron at your station.



**DENTRON**  
DISCOVERING VAST NEW HORIZONS

1605 COMMERCE DRIVE  
STOW, OHIO 44224  
(216) 688-4973 TELEX: 241-633

## **CONTRIBUTORS**

American Radio Relay League  
NASA                   Richard Underwood, Banquet Speaker  
Rick Palm K1CE       Editor, Washington Mailbox QST  
Mary Lewis W7QPG     Northwest Division Director, ARRL  
Mel Ellis K7AOZ       Northwest Division Vice-Director, Banquet MC  
Bill Shrader W7QMU    Oregon State SCM, ARRL  
Baker Typesetting  
Heathkit, Vancouver, USA  
Ham Radio, Skip Tenney  
World Radio Magazine  
Northwest Bookbinding  
Jim Munson, FCC Testing  
Seaside Chamber of Commerce  
Seaside School District  
Ron Magnus WA7GFE Paper  
Ron Mayer K7BT Printing  
Warren Winner W7JDT Printing  
Wes Hayward W7ZOI Seminar  
Neil Robin WA7NBF Seminar  
Dave Barnard W7LSV Seminar  
Mark Nelson AA6DX Seminar  
Roy Lewallen W7EL Seminar  
John Beaston N6TY Seminar  
Tom Hill WA3RMX Seminar  
Leonard Palmer N7AQA Seminar  
Greg Milnes W7AGQ Seminar  
Henry Oman K7HO Seminar

*A very special thanks to the following food companies.*

Crescent Foods, Seattle, Wash.

Mr. Larry Burns

Bar-S Meats, Portland, Ore.

Mr. Paul Sloan

Darigold Foods, Portland, Ore.

Mr. Duane Ireland

Steinfeld Products Co., Portland, Ore.

Mr. Ray Steinfeld Jr.

**Note:** Due to publication deadlines, we apologize if there are any contributors not included in the above listing.

# **CONVENTION COMMITTEES**

## *Co-Chairmen:*

Doc McLendon W7GWC North Coast Repeater Association  
Al Berg WB7SIC Oregon Tualatin Valley ARC

## **North Coast Repeater Association Committee**

*Registrations, Convention Station, Exhibit Signs,  
Banquet, No-Host Bar, Registration Desk,  
Ladies' Treasure Hunt, Chamber of Commerce*

Al Dawson W7YLV	Jan Marion
Henry Goetze W7CXK	Maye McLendon
Dan Hair K7IJG	Chuck Sturdevent N7CIL
John LaPay N7ALM	Nancy Sturdevent
Katy LaPay	Elmer Templeton KA7BOO
Nolan Marion WB7TWM	Tom Wagner W7KLA

Ray Marion KA7MGC

## **Combined Club Committees:**

### *Advertising & Mailing:*

Warren Winner W7JDT (OTVARC)

### *Audio Visual:*

Mark Walker W7CLU (OTVARC)

Chuck Samuels K7NWM (OTVARC)

Dale Justice K7WWR (OTVARC)

### *Banquet Arrangements:*

Doc McLendon W7GWC (NCRA)

### *Banquet Speakers:*

Ron Magnus WA7GFE (OTVARC)

### *Bunny Hunt:*

Roger Steyaert K7RXV (OTVARC)

Cary Haag KA7KDB (OTVARC)

Chuck Sturdevent N7CIL (NCRA)

### *Convention Brochure:*

Warren Winner W7JDT (OTVARC)

Ron Mayer K7BT (OTVARC)

Carl Henniger KA7GHR (OTVARC)

John Koenig N7CRP (OTVARC)

### *Club Contacts:*

Al Berg WB7SIC (OTVARC)

Bill Tatro KA7FQX (OTVARC)

### *Commercial Exhibits:*

Dick Powers WB7ADM (OTVARC)

Dave Parker W7LJN (OTVARC)

### *Convention Station:*

Doc McLendon W7GWC (NCRA)

### *Finance:*

Warren Knight N7BIJ (OTVARC)

Doc McLendon W7GWC (NCRA)

### *Non-Commercial Exhibits:*

Larry Ogburn KC7QV (OTVARC)

### *Pre-Registration:*

Doc McLendon W7GWC (NCRA)

### *Printing:*

Ron Mayer K7BT (OTVARC)

Warren Winner W7JDT (OTVARC)

### *Prizes:*

Dick Powers WB7ADM (OTVARC)

Dave Parker W7LJN (OTVARC)

### *Registration:*

Doc McLendon W7GWC (NCRA)

### *Security:*

Chuck Chartrey KA7DEW (OTVARC)

Chuck Sturdevent N7CIL (NCRA)

Doc Miller KA7BSD (OTVARC)

### *Seminars:*

Mark Walker W7CLU (OTVARC)

### *Hospitality:*

Mona Whiting WD6AYC (OTVARC)

Linda Cereghino N7CZY (OTVARC)

Karen Hough N7CZB (OTVARC)

Joanne Powers WB7QFL (OTVARC)

Janet Dunshee WB7FJC (OTVARC)

**The North Coast Repeater  
Association  
and the  
Oregon Tualatin Valley  
Amateur Radio Club**

would like to take this opportunity to thank the many hard working individuals who have made the convention a success.

A special thanks to all of the clubs in the Pacific Northwest that were of such great help in advertising the convention.

We are deeply grateful to our many exhibitors for showing us their products. Without them, this would not have been a successful convention.

*Until next year...*

**73 & 88's**

Doc McLendon      W7GWC  
Al Berg            WB7SIC

***Have a Safe Trip Home***

## **THINGS TO SEE & DO**

**Astor Column.** Astoria.

**Columbia Lightship.** Moored at the Coast Guard Pier at the foot of 16th, Astoria.

**Maritime Museum.** 17th and Marine Drive, Astoria.

**Fort Astoria.** 15th & Exchange, Astoria.

**Flavel House.** Clatsop County Historical Society, 8th & Exchange, Astoria.

**Astoria Bridge.** A part of U.S. Highway 101, joins Washington and Oregon.

**Battery Russell.** Fort Stevens State Park.

**Peter Iredale.** Fort Stevens State Park.

**Fort Clatsop.** Museum, movie, tour replica of the fort, canoe landing and ranger demonstration.

**Salt Cairn.** Lewis and Clark Way, Seaside.

**Seaside Aquarium.** 2nd Ave. & Prom, Seaside.

**Turnaround.** End of the Lewis & Clark Trail. End of Broadway, Seaside.

**Tillamook Rock Lighthouse.** Island off Tillamook Head, best viewed from the point at Ecola State Park, Cannon Beach.

**Haystack Rock.** Third largest monolith, located in Cannon Beach.

**Ecola State Park.** Beautiful view of Haystack Rock and Tillamook Rock Lighthouse.

**Oswald West State Park & Short Sand Beach.** Highway 101 South.

**Nehalem Winery.** Highway 101 South.

**Tillamook Cheese Factory.** Tillamook.

**Tillamook Museum.** Tillamook.