

# PAARAgraphs

Since 1937

Monthly Newsletter for the Palo Alto Amateur Radio Association, Inc.



## Calendar

November 3, 1995 PAARA Meeting  
Menlo Park Recreation Center  
700 Alma Street, Menlo Park 7:30-9:30 PM

Nov. 15, 1995 PAARA Board Meeting  
Red Cross Bld. 400 Mitchell Ln., Palo Alto, 7:30 P.M.

December 1, 1995 PAARA Meeting, 7:30  
December No PAARA Board Meeting  
December 6, 1995 PAARA Holiday Banquet

January 5, PAARA Meeting, 7:30  
January 17, PAARA Board Meeting

February 2, PAARA Meeting, 7:30  
February 17, PAARA Board Meeting



## Program

November 3, 1995  
Speaker: Jim Maxwell, W6CF

### "Why Morse Code?"

Jim is the Vice Director of the ARRL Pacific Division, an internationally known DXer and radio historian. (see page 6)

**IT'S  
ALL  
YOURS!**



**DX** Sunspots still show up from time to time confusing the experts. It is very difficult to predict when/if 15 or 10 will be open. Good DX is still showing up on 20 CW & Fone, but not consistently. A couple of big DX contests are coming up

during October and November. (Fone in October, CW in November). The new 610 amateur application forms are now available from the FCC by fax. See QST, October for more info. With great pleasure I read in the October QST of the talk given at the Dayton Convention by **Cliff Stoll, K7TA**. Cliff has written a new book extolling the virtues of home brew, low power, & CW. (name of book is Silicon Snake Oil). The first book I read by Cliff was "The Cuckoo's Egg". This true story is how he unearthed the hackers who were infiltrating the government files. Cliff still lives in Berkeley, and active on 40 CW with a 35 year old vacuum tube rig. DX, CW, low power, still are alive.

**Ron, W6VG**

Old time hams, those licensed before 1956, used the phonetic alphabet which began Able, Baker, Charlie, and so on. Now it is Alpha, Bravo, Charlie. Why was it changed and when.

The Army adopted a phonetic alphabet as early as 1914, but some of the words weren't suited for Spanish speaking people. The first worldwide agreement on a standard spelling alphabet was reached in 1927 at the International Telecommunications Union Radio Conference in Washington, DC

That too was a problem because some of its words weren't in everyday use. After more studies, an International Civil Aviation Organization alphabet was established in 1952. It ran into the same familiar snags. The new and current alphabet - Alpha through Zulu was adopted in 1956.

**Hal Godfrey, N6AN**

## Miscellaneous Dates

**Flea Market at Foothill** (6 AM - 2 PM)  
(no Foothill Flea Markets until March '96)

**PAARA** Palo Alto Amateur Radio Association  
meets 1st Friday 7:30 each month, Net 145.230 each Monday 8:30,  
contact Jerry Tucker WA6LNV 415-961-3266.

**EMARC** Electronics Museum Amateur Radio Club  
Meets 4th Friday 7:30 each month,  
contact Sheldon Edelman 415-858-2176.

**NCDXC** Northern California DX Club  
Meets 2nd Friday each month, repeater for member info 147.360 each  
Thursday 8:00 PM, contact John Troster W6ISQ 415-854-3939.

**NorCalQRP** Northern California QRP Club  
Meets 1st Sunday each month, contact Jim Cates 3241 Eastwood Rd.,  
Sacramento, CA 95821.

**Perham Foundation**, contact Sy Stein WA6ROM 408-734-4453

**SPECS** Southern Peninsula Emergency Communication System  
Meets each Monday 8:00PM on Net 145.27, 224.36, 440.80 Mhz+  
contact Mike Hastings KB6LCJ, 408-243-6745 or 408-249-6909.

**SCARES** South County Amateur Radio Emergency Service  
Meets 3rd Thursday 7:30 each month, San Carlos City Hall.  
Net is on 144.45 & 444.50 (PL-100) 7:30 Monday evenings.  
contact Dick Collins K6ANN 415-593-8952

**Disaster Services**, Palo Alto Chapter, American Red Cross  
Meets 3rd Wed. each month 7:30 PM, HF, packet, BBS, ATV,  
OSCAR Gateway, NASA satellite,  
contact Ruth Claypool 415-688-0423.

### VE Exams

Ampex Cafeteria, 401 Broadway, R.C.  
3rd Saturday each month, 11 AM

**JOTA** Jamboree On The Air, World wide Amateur Radio and  
Scouting event, 3rd weekend of October (Oct. 21)

## Help! Historical Research

Where can we find the book *Keys, Keys, Keys*,  
by Dave Ingram, K4TJW? contact Steve, K6FS

## TREASURER REPORT

### Dave Bailey, WS6W

Revenues	MAY 95	JUN 95	JULY 95	AUG 95	SEPT 95	TOTAL 1995
Dues	72	18	42	18	6	690
Flea Market	100	0	129.38	0		1931.38
AMPEX Auction	0	0	0	0		0
Advertisements	0	0	650	0		
Total	172	18	821.38	18	6	3271.38
Expenditures	MAY 95	JUN 95	JULY 95	AUG 95	SEPT 95	TOTAL 1995
Stamps/Envelopes	0	64	0	0	32	128
DMV	0	0	0	0	0	43
State of CA	0	0				5
City of Menlo Park	0			150		300
Speaker's Dinner	13	0	7.03	26	12	80.03
Flea Market	0	0	0	0		1168.69
AMPEX Auction	0	0	0	0		0
Meeting Refresh				13.14	17.24	74.97
PAARAgaphs	16.99	64.63	324.53	300.24	312.27	1405.97
Picnic	0	398.15	0	0	0	
Field Day	0	416.41	416.41	0	197.17	
Misc.	19.97	0	14	24.97	81.20	225.20
Total	49.96	943.19	761.97	514.35	651.88	3430.86

Checking(July) \$ 5,197.26

Savings (July) \$ 17,417.59

### PAARAgaphs Ad Rates

PAARAgaphs accepts paid advertisements from non-members (short personal ads remain free for members in good standing).  
All ad rates listed are per issue only.

- Not for profit ads by association members for ham-related items and wants. No cost for business card size ads (additional space at \$2.50 per business card size).
- For Profit organizations and/or individuals: \$5-business card size, \$25-half page, \$50 full page or back cover

These fees may be reduced or waived in exchange for a valuable consideration that is given to the Association or its general membership. Such consideration must be in addition to any existing arrangements with the association.

The PAARAgaphs editors reserve the right to reject any ad deemed to be not in the best interest of the Association. All fees are for "scanner-ready" copy or text-only ads.

### Recommended reading (specially by DX-ers & HF-ers):

August 1995 *Discover* magazine, pp 51-61, has excellent semi-technical article on solar winds & effects on geomagnetic fields. While not directly concerning radio propagation, article suggests answers to questions about solar cycle, solar flares and impact on satellite/space communication. Great pix of auroras plus diagrams of solar/terrestrial interaction.

Steve, K6FS

ELMER



ARNS

by Rich Regent, K9GDF

# VE TESTS



Sept. 16, 1995  
 Please note: There will be **NO VE** exams given at Ampex in October due to the Pacificon Convention. Check for other exam points if interested. The Ampex exams will be starting again November 18th. On September 16 we only had 10 applicants. On hand to administer tests were: **Dan Curry WB6STW, Joe Horne KB6OWG, Gordon Girtan W6NLG, Gene Irazarry KK6LO, Ron Panton W6VG,** and

the CW man, **Bill Sooman WB6UVO**. One applicant whose sight was impaired was given the written (oral) test by **Bill Sooman**. Very quiet day. Remember, no exams at Ampex, October 21st.  
**Ron, W6VG**



Here & There

# False Alarms

by Sean Driscoll, WA2RCB

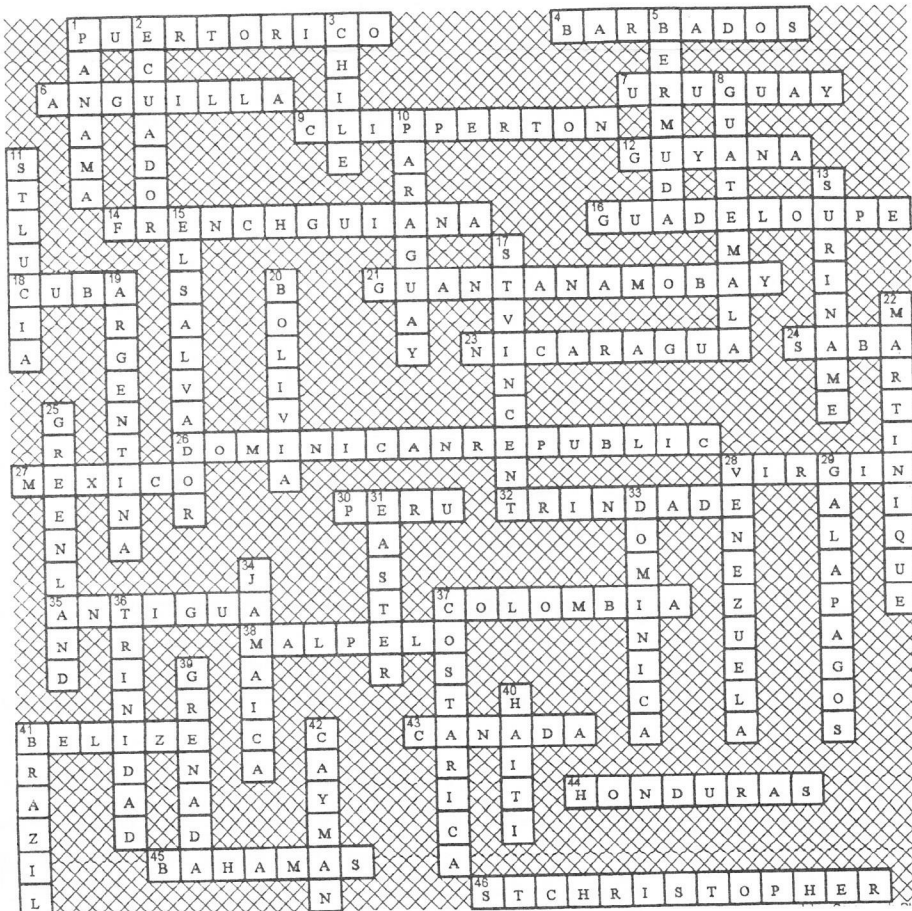
I accidentally discovered a new game you can play with your 2-meter HT or mobile radio. It seems the new made-in-China auto alarms are poorly shielded. At a flea market, when I started talking to a friend on the repeater, alarms in three parked, unoccupied cars went off. All were within 100 feet of me.

I quickly said 73 and quit transmitting, but the sirens and yelping noises continued for five more minutes. An hour later, as I was leaving—and just to make sure it was the radio—I gave the repeater a three-second 50-watt "kerchunk." Sure enough, alarms in two nearby cars went off. I smiled all the way home.

Don't you just love that cheap, foreign-made junk?

from Stanislaus ARA, "The Readout",  
 Bob Pinheiro, WA6ZLO, Editor—ARNS

## Key to last months DXCC crossword.



### Word List

- ANGUILLA
- ANTIGUA
- ARGENTINA
- BAHAMAS
- BARBADOS
- BELIZE
- BERMUDA
- BOLIVIA
- BRAZIL
- CANADA
- CAYMAN
- CHILE
- CLIPPERTON
- COLOMBIA
- COSTARICA
- CUBA
- DOMINICA
- DOMINICANREPUBLIC
- EASTER
- EQUADOR
- ELSALVADOR
- FRENCHGUIANA
- GALAPAGOS
- GREENLAND
- GRENADA
- GUADELOUPE
- GUANTANAMOBAY
- GUATEMALA
- GUYANA
- HAITI
- HONDURAS
- JAMAICA
- MALPELO
- MARTINIQUE
- MEXICO
- NICARAGUA
- PANAMA
- PARAGUAY
- PERU
- PUERTORICO
- SABA
- STCHRISTOPHER
- STLUCIA
- STVINCENT
- SURINAME
- TRINIDADE
- TRINIDAD
- URUGUAY
- VENEZUELA
- VIRGIN

## AMSAT/OSCAR

As a direct result of a tip from **Eric Rosenberg WD3Q** at the Dayton Hamvention last April, AMSAT was offered an opportunity to tell our story to a film crew from the Discovery Channel. That opportunity came to fruition this past week in conjunction with our Annual Meeting and Space Symposium in Orlando. However, what started out as a single day of filming soon turned into much, much more.

When it was finally declared "a wrap" on Wednesday afternoon after two days of shooting, the crew had exposed over four thousand feet of 16mm film during some 86 takes. The show will be called "Eyes In The Sky", and will be shown on the Discovery Channel Network as a two hour evening special on or near the 15th of March next year. Featured on-camera spokesperson were **Keith Baker KB1SF**, **Dick Jansson WD4FAB** and **Stan Wood WA4NFY**. In addition, a number of other familiar P3-D Lab faces were used in the piece.

The film crew (six of them) were real pros at their trade....they did their thing complete with audio and film camera extension booms, rolling camera tracks, tripods, and multi-color lights. Shooting was accomplished with all the "Lights-Sound-Camera-Action" lingo of a full Hollywood production, reported **Keith Baker, KB1SF** who acted as AMSAT's representative during the filming.

Filming was done at three locations. The first had **Keith, Dick and Stan** scampering around inside Orlando's premier surplus house (Skycraft) looking for parts for the spacecraft. Then, they shot **Dick Jansson** roaming the aisles of the local K-Mart looking for P3-D "antenna" parts, complete with a "blue light special" PA announcement giving a price reduction on the "hardware" **Dick** was pulling off the shelf! Finally, they finished up the bulk of the shots at the P3-D Lab.

While they wanted it to be a "fun" piece, the overall serious theme the producers were looking for from us was that "High Tech doesn't need to be High Cost". All three of the AMSAT folks emphasized that concept...and more... in our full-face interviews. Other themes touched on included AMSAT's "KISS" approach to spacecraft design and that the paperwork needed to document the spacecraft need not weigh more than the spacecraft itself. Some time was spent discussing Amateur Radio as a whole...who hams are, and why it's important that their continued access to our frequencies be preserved. Also

discussed was the spirit of adventure and commitment that's part of the "glue" that holds AMSAT people, and hams in general together.

Of course, there's no telling how much of our effort will end up on the cutting room floor, but all in all, it was fun, and AMSAT was given a good chance to give a national audience a good pitch for the amateur space effort and Amateur Radio. **Baker** said that he thinks it will turn out to be one of (if not "the") most professionally orchestrated piece ever done about AMSAT. Apparently, we will be sharing the limelight with NASA Administrator **Dan Goldin** and Boston Red Sox pitcher **Roger Clemens**, along with a lot of other "heavies" in the space biz. Now, we'll all get to wait and see how we did, **Keith Baker** said..

ANS is indebted to **Keith Baker KB1SF** for this material.

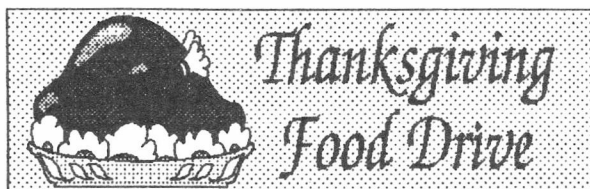
### AMSAT NEWS SERVICE BULLETIN 280.03

The AO-13 145 MHz beacon is now carrying the October 30 to January 01 transponder schedule, according to **Stacey Mills, WB4QKT** who copied it recently on CW. He can be reached at sem2r@galen.med.virginia.edu.

### UO-11 BEACON OPERATING

The UO-11 beacon is ON, according to **Jim White WD0E** who heard it recently. **Jim** can be reached at wd0e@amsat.org. The AMSAT NEWS Service (ANS) NEEDS YOUR HELP! The ANS is looking for volunteers to contribute weekly OSCAR status reports. If you have a favorite OSCAR which you work on a regular basis and would like to contribute to this weekly bulletin, please send your observations to **WD0HHU** at his CompuServe address of 70524,2272, on INTERNET at wd0hhu@amsat.org, or to his local packet BBS in the Denver, CO area, **WD0HHU @ N0QCU**. Also, if you find that the current set of orbital elements are not generating the correct AOS/LOS times at your QTH, PLEASE INCLUDE THAT INFORMATION AS WELL. The information you provide will be of value to all OSCAR enthusiasts.

thanks to **Dick Kors, KM6ED**



### Help!

**Bill Rausch, AA6P** needs help with Monday night PAARA Net. If you could take a week, month, or any combination, he would be glad to work around your schedule. A few hams shouldn't be expected to do it all. Volunteer next Monday on Net or call Bill (415)327-4662.



**Palo Alto Amateur Radio Association, Inc.**  
**PO Box 911**  
**Menlo Park, CA 94026**

President.....To Be Filled  
 VP.....To Be Filled  
 Secretary.....VicBlack, Jr., AB6SO .....(415) 366-0636  
 Treasurer.....Dave Bailey, WS6W .....(408) 730-5215  
 Program Director.....To Be Filled  
 Trustee/Property/Badges..Fred Canham, K6YT .....(415) 948-8238  
 ARES Officer.....Lily Anne Hillis, N6PGM .....(415) 325-5484  
 Club Historian.....Steve Stuntz, K6FS.....(415) 322-4952  
 Raffle Chairperson.....Sy Stein, WA6ROM. (415) 967-0362

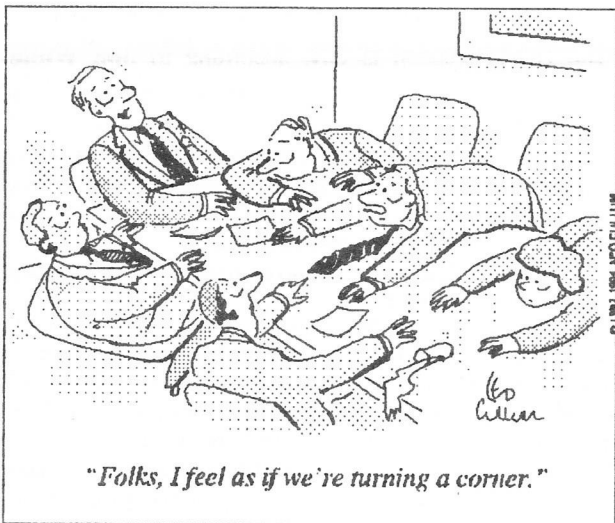
**Board of Directors**

Lily Anne Hillis, N6PGM (415) 325 5484  
 Koert Koelman, KC6WCI (415) 593 5613  
 Kit Kohlmoos, W6ISO (415) 366 7813  
 Dave Meacham, W6EMD (415) 369 2633  
 Chris Rempel, N6VZD (415) 375 1958  
 Bill Smith, KE6CHQ (415) 366 9173  
 Sy Stein, WA6ROM (415) 967 0362  
 Rich Stiebel, W6APZ (415) 494 0128  
 Bill Zaner, WB6IYS (415) 856 2089

**PAARAgaphs Staff**

Editor.....Wally Porter, K6URO.....(415) 494-7038  
 Database.....Bill McElhinney, KA6LZI..... (415) 325-9808  
 e-mail Address: wmpor@aol.com

**Submit material for PAARAgaphs by the 15th**



"Folks, I feel as if we're turning a corner."

**Missouri mule**

A mule has 2 legs B hind,  
 and 2 he has B4;  
 U stand B hind B4 U find  
 what the 2 B hind B4.

ARNS/"PHD News", KAOKSI & WOOC ed.

## A Dixer's Lament

by Mark Nelson, AA6DX

Tuning down from 150  
 on both receivers,  
 DXing the sunrise on twenty meters,  
 there's no time for CQs;  
 it's somewhat like fishing.  
 Getting on Honor Roll  
 takes more than wishing.  
 Transmitter loaded, linear online,  
 in reward for my patience,  
 I hear zone 39!  
 But the hours creep by;  
 his signal's too weak.  
 Then at last, the 5X5 speaks.  
 The pileup grows;  
 some 4's get through.  
 I hope he'll work split,  
 but simplex will do.  
 I mind my timing  
 and zero worked stations.  
 Aha! -just four hours  
 to work that rare nation.  
 Then he's gone, the band has faded.  
 And on two meters, a net op's elated.  
 His words strike my ears;  
 it feels like a splat:  
 "Worked the 5 X-ray,  
 now where in Hell's that?"  
 By use of a net-  
 with no beam and no amp-  
 that guy'll get his card  
 for a Yankee green stamp.  
 I'm glad he got, but it's surely a shame,  
 that his card and mine  
 will look just the same!

from ARNS/Oh-Ky-In-ARS, edited by AF6S

### Dallas

#### Solar Power & More

Independant Power Source for Photovoltaics  
 Rechargeable Batteries Power Inverters  
 Educational Products

**ALONZO DALLAS**

PO Box 611927, San Jose, CA 95151-1927  
 (408)441-0343

**<sup>1</sup>PAARA-Palo Alto Amateur Radio Association-P.O. Box 911, Menlo Park, California 94026-0911**

Club meetings are on the first Friday of each month, 7:30pm at the Menlo Park Recreation Center, 700 Alma Street, Menlo Park, CA.  
 Radio NET every Monday evening, at 8:30pm, on the 145.230-600 repeater Mhz, PL tone off. Membership in PAARA is \$6.00 per calendar year  
 which includes a subscription to PAARAgaphs. Make payment to the Palo Alto Amateur Radio Association.

Permission is hereby granted to reprint from this publication with appropriate source credit.



Here & There

## Kids say thanks for demo

[Several PAARA members have expressed concern for the shortage of new hams. The following are notes from sixth-grade kids after an in-school demonstration by members of the Gwinnet ARS, Liiburn, Georgia, (last names omitted).]

I liked it when I got to try Morse code, and someone decoded what I said.—*Katie*

I liked when we got to communicate with the actual exhibits. My favorite was the one where you spell out the beeps in the letters with black and white buttons.—*Ashley*

I learned a lot from your demonstrations. I'm going to start studying for the exam, so I can get a license.—*Catherine*

I want to thank you for coming here and showing how radio waves work. It is neat how messages can go from person to person through the air.—*Jennifer*

I thought it was interesting how you could talk all over the world with the Morse code. I especially liked how you could listen in on conversations.—*Kirk*

It was cool to see all that equipment. My favorites were the computer and the phone. Me and my mom are studying for our licenses. I am thinking of getting the computer one. It was awesome when you got in touch with the guy in the airplane.—*Drew*

I loved your radios so much, I got my license manual that same day. I'm going to take the no-code test. Maybe later I will get the codes!—*Amy*

I like the idea of talking to someone on a computer, walkie-talkie, radio, or with Morse code for fun. Talking to a guy in an airplane hundreds of miles away in Nebraska and thousands of feet in the air was intriguing. Ham radio must be fun. One day it might take over (from) the telephone, except for business.—*Kay*

I thought the demonstration was interesting, especially when we got to talk to the man in Florida. I always thought Amateur Radio was fun. I just didn't know anyone who could tell me about it, and show me how it works. I learned a lot about call signs, Morse code, and that computers (one of my favorite hobbies) are involved.

I never knew that Morse code was universal. I had

always thought you had to know another language.—*Richard*

I enjoyed your ham radio presentation. In fact, I was so thrilled to see all the equipment, that when I got home the first thing I did was to tell my mom and dad what I did. They were amazed. Then when my sister, Celan, came downstairs, I told her about ham radio. She told me she couldn't wait until she was in sixth grade, so she would be able to work with you to contact other hams.—*Selina from ARNS/"Garsett"-Dean Matthews, ADAOD, Editor*

## Speaker for November Jim Maxwell, W6CF:

—"Why Morse Code?"

Licensed in 1948, Extra Class, Life Member. Served on two ARRL advisory committees: contest (chair) and DX (corresponding secretary). Active at Pacific Division Staff meetings for over 20 years. Served as Section Manager, Santa Clara Valley section.

Special interests: operating, emergency, communications, and radio history. Active from 80 meters through 70 cm on phone, CW, FM, and packet. Have been active on the satellites, and served on the board of directors, Project Oscar. Emergency Coordinator for Loma Prieta ARES, and American Red Cross volunteer in Disaster Services. Member of several local radio clubs and ARES groups in Santa Cruz and Santa Clara counties. Member NCDXC, NCCC, QCWA, AWA, RCA, RSGB.

Occupation: Took early retirement in 1992 after 33 years as an aerospace engineer, now employed part-time in the same field. Also worked as a shipboard "sparks," as an army radio operator, and in electronics manufacturing.

Education: BS(physics), MS(mathematics), PhD(aeronautical engineering/biomechanics).

I am an active ham, familiar with most conditions, trends, and problems on the HF, VHF and UHF bands. Today is the most exciting period in the history of amateur radio, as a result of recent explosive growth in numbers and as a result of opportunities presented by new and emerging technologies. With these opportunities come challenges-restrictive antenna ordinances, RFI, Challenges to our frequencies by commercial interests, and jammers, to name only a few. My experience, which includes ARRL activities at the local, section, division, and national levels, as well as non-ARRL activities, uniquely qualifies me to represent you in these challenging times. I will be an active vice director, visible at meetings and events throughout the division, available to listen to you, to provide help when needed, and to represent your interests to the division director and to the League.

*from Statements of Candidates, Pacific Division 1993 election*

## Technical perfection

They haven't invented the perfect office computer yet, one that understands its environment. When it makes a mistake, it will blame another computer. *from ARNS/"QCWA Newsletter", Paul Lentz, K8PL ed.*

# DX PACKET SPOTTING NETWORK

## Northern California and Nevada

The DXPSN is a cluster of nodes tied together by a backbone and used primarily for the dissemination of DX information both on a real time basis and in storage. This network has no connection with full service BBS' or their distributing networks. Users of this network generally are the dyed-in-the-wool, HF CW, SSB, and RTTY DXers. The network uses PacketCluster and Cluster Companion software by Pavillion Software.

Currently, there are 12 major nodes, and 12 net linking digipeaters. This provides coverage the breadth of Northern California, and as far north as the Redding area, and to Palmdale in the south. The network nodes and digis are as follows:

Location	Node	Digi	Freq	Area covered
Reno	KI3V	PCDX	146.58	Reno, Virginia City. NV
Rio Linda	W6GO	DXC,DX3	144.95	Sacramento, Redding, Chico
Santa Rosa	WB2CHO		144.95	Santa Rosa, North Bay
Pittsburg	AH0U		146.58	Walnut Creek, Pittsburg
	AH0U	DX4	146.58	Sugarloaf Mt - Napa
San Francisco	W60TC		145.67	S.F., East Bay, North
Redwood City	W60AT	DX5	145.77	Peninsula, Mt. Diablo
Mnt. View	K6LLK		145.95	So.Bay, NetWk node & Hub
Oakdale	K6AYA		146.58	Modesto area
Los Gatos	N6ST	DXF	146.595	Santa Cruz, Monterey
Hanford	K6OZL	DX6,	144.95	Hanford, Bear Mt.
	K6OZL	DX7	145.77	Adelaide Mt. Bakersfield
Palmdale	K6GXO		145.67	Antelope Valley area
Milpitas	KJ6NN	DXFMT	1299.90	San Jose & Fremont area

Those who can not directly connect to a node, may try connecting through the linking digipeater.

The Northern California-Nevada Packet-Cluster is also linked to a similar PacketCluster in Southern California, and on occasion, links with other PacketClusters (15 in number) throughout the United States and Canada.

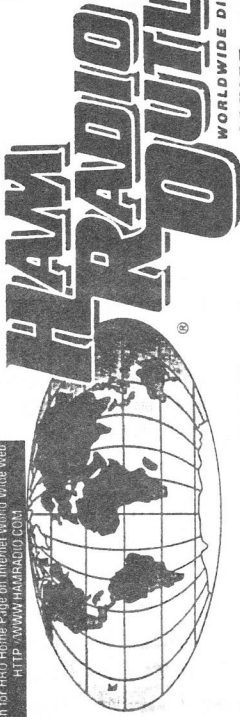
The network has most of the features of full service BBS'. Automatic forwarding of personal and bulletin type mail plus DX announcements, WWV reports, QSL information, and a host of other information of particular interest to DXers. The network can accommodate a total of 1000 users at any one time. Users can use the talk command to communicate between each other or a conference hookup can be made if several users are involved.

**Hal Godfrey, N6AN**

> 12 STORE BUYING POWER! <

Watch for HRO Home Page on Internet World Wide Web  
 HTTP://WWW.HAMRADIO.COM

On-Line Ordering  
 On Internet



**SUNNYVALE, CA 94086**  
 510 Lawrence Expwy. #102  
 (408) 736-9496  
 (800) 854-6046

**OAKLAND, CA 94606**  
 2210 Livingston St.  
 (510) 534-5757  
 (800) 854-6046

Phone Hours:  
 9:30 AM to 5:30 PM  
 Store Walk-In Hours:  
 10:00 AM - 5:30 PM • Closed Sundays

Call Write for your HRO Catalog

**MAKERS CA 90801**  
 933 N. East St.  
 (714) 533-7323  
 (800) 854-6046

**BURBANK CA 91506**  
 2700 W. Valley Blvd.  
 (818) 843-1766  
 (800) 854-6046

**NEW LOCATION**  
 1000 W. Valley Blvd.  
 (818) 843-1766  
 (800) 854-6046

**OAKLAND CA 94606**  
 2210 Livingston St.  
 (510) 534-5757  
 (800) 854-6046

**SAN DIEGO CA 92123**  
 5750 La Jolla Village Rd.  
 (619) 546-5600  
 (800) 854-6046

**WOODBRIDGE VA 22191**  
 14000 Woodbridge Pl.  
 (703) 643-1063  
 (800) 444-4789

**SUNNYVALE CA 94086**  
 510 Lawrence Expwy #102  
 (408) 736-9496  
 (800) 854-6046

**SALEM NH 03079**  
 Boston MA area  
 224 N. Broadway  
 So. from Hwy 101  
 (603) 882-8800

**NEW CASTLE DE 19720**  
 1596 N. Dupont Hwy  
 (302) 372-7992  
 (800) 644-4478

**ATLANTA GA 30340**  
 5071 Buford Highway  
 (404) 444-7927

**PORTLAND OR 97223**  
 11795 SW Pacific Hwy  
 (503) 598-0555  
 (800) 854-6046

**DENVER CO 80231**  
 1700 W. Colorado St.  
 (303) 745-7233  
 (800) 444-9476

**PHOENIX AZ 85015**  
 1700 W. Camelback Rd.  
 (602) 242-3515  
 (800) 444-9476

**ATLANTA GA 30340**  
 5071 Buford Highway  
 (404) 444-7927

**WOODBRIDGE VA 22191**  
 14000 Woodbridge Pl.  
 (703) 643-1063  
 (800) 444-4789

**SUNNYVALE CA 94086**  
 510 Lawrence Expwy #102  
 (408) 736-9496  
 (800) 854-6046

**SALEM NH 03079**  
 Boston MA area  
 224 N. Broadway  
 So. from Hwy 101  
 (603) 882-8800

**NEW CASTLE DE 19720**  
 1596 N. Dupont Hwy  
 (302) 372-7992  
 (800) 644-4478

**ATLANTA GA 30340**  
 5071 Buford Highway  
 (404) 444-7927

**PORTLAND OR 97223**  
 11795 SW Pacific Hwy  
 (503) 598-0555  
 (800) 854-6046

**DENVER CO 80231**  
 1700 W. Colorado St.  
 (303) 745-7233  
 (800) 444-9476

**PHOENIX AZ 85015**  
 1700 W. Camelback Rd.  
 (602) 242-3515  
 (800) 444-9476

**ATLANTA GA 30340**  
 5071 Buford Highway  
 (404) 444-7927

**WOODBRIDGE VA 22191**  
 14000 Woodbridge Pl.  
 (703) 643-1063  
 (800) 444-4789

**SUNNYVALE CA 94086**  
 510 Lawrence Expwy #102  
 (408) 736-9496  
 (800) 854-6046

**SALEM NH 03079**  
 Boston MA area  
 224 N. Broadway  
 So. from Hwy 101  
 (603) 882-8800

**NEW CASTLE DE 19720**  
 1596 N. Dupont Hwy  
 (302) 372-7992  
 (800) 644-4478

**ATLANTA GA 30340**  
 5071 Buford Highway  
 (404) 444-7927

**PORTLAND OR 97223**  
 11795 SW Pacific Hwy  
 (503) 598-0555  
 (800) 854-6046

**DENVER CO 80231**  
 1700 W. Colorado St.  
 (303) 745-7233  
 (800) 444-9476

**PHOENIX AZ 85015**  
 1700 W. Camelback Rd.  
 (602) 242-3515  
 (800) 444-9476

**ATLANTA GA 30340**  
 5071 Buford Highway  
 (404) 444-7927

ATLANTA GA VA residents add sales tax  
 Please specify quantities, descriptions, subject  
 to change without notice

**ALINCO DX-70T**  
 HF Transceiver  
  
 100W 160-10 Mics • 10W 6M Genconv Rx  
 Full DSK 100 Mems • Compact Removable  
 Dual VFO 12VDC • 6.2 lbs.

**FT-990**  
  
 100W HF Gen. Conv. Transceiver  
 DDS DSK • 500Hz CW Filter Included  
**CALL FOR OUR LOW PRICE!**

**IC-775/DSB**  
 HF Transceiver  
  
 200W HF Transceiver • 101 memories  
 DSP built-in • Digital noise reduction  
 Digital automatic notch • Digital LPF and HPF  
 DSK Digital CW filter • Built-in AC supply  
 Twin PBT • Dual watch  
**Call Now For The Ultimate Radio!**

**ALINCO DJ-G5T**  
 2M/440  
 Dual Band  
 200 Mems. Cloneable  
 Dual Rx. (V or U/D)  
 Built-in CTCSS  
 Auto Dealer memories  
 Auto Scan Scope  
 External Speaker  
 External Battery  
**CALL NOW FOR LOW INTRO PRICE!**

**DUAL BAND HANDHELDS**  
**FT-530**  
 2M/440mhz r/t  
 200 Mems. 2M 440  
 82 Mems  
 Dual in band Rx  
 Dual in band Tx  
 DTMF Paging  
 Auto Scan Scope  
 External Speaker  
 External Battery  
 External DSK & CTCSS  
 Auto tone search  
 Built in clock  
 Built-in keypad  
**Call For Intro Pricing!**

**TS-60S/TS-60S**  
 HF Transceiver  
  
 15-50S - World's smallest HF Transceiver  
 100W out. 15-50S (500mhz only)  
 12V Gen. Conv. RX 6.4 DBS 7.16 x 2.4 x 9.32"  
 100dB dynamic range. 100 Mems  
 Opt. ext. ant. tuners available (15-50S only)  
**CALL NOW FOR OUR LOW PRICING!**

**IC-706\***  
 HF/VHF Transceiver  
  
 100W HF  
 100W 6 Meters  
 10W 2 Meters  
**Call For Introductory Pricing!**  
This device has not been approved by the Federal Communications Commission  
 This device is not intended for use in mobile or fixed stations and the  
 approval of Part 22.525 has been obtained

# NOVEMBER

Palo Alto Amateur Radio Association, Inc.  
 PAARAgaphs Newsletter  
 P.O. Box 911  
 Menlo Park, California 94026

FIRST CLASS MAIL



Andy Korsak VE3FZK  
 504 Lakemead Way  
 Redwood City CA 94062-3919

