



• PAARA NEWSLETTER •  
VOLUME 44, NUMBER 3, MARCH, 1995

# PAARAgraphs

Since 1937

Monthly Newsletter for the Palo Alto Amateur Radio Association

## Directors Note:

I am pleased to write a few words in a reborn PAARAgraphs. Thanks to Wally Porter (K6URO), your publication will take on new life. Support Wally with your input ... send him articles, news about yourself or fellow hams, volunteer jobs you are involved in, interesting experiments you are conducting or equipment you have for sale, etc. Anything which would be of interest to other club members. Wally's address is: Wallace Porter (K6URO), 3328 Kenneth Drive, Palo Alto, CA 94303 or you can send E-mail to him at [wmpor@aol.com](mailto:wmpor@aol.com) (if you send your contributions electronically, send them in ASCII or Word for Windows).

We are making progress in establishing PAARA as a premier radio club. It is obvious from the last club meeting, as well as the Board of Directors meeting on February 15, that you all want to make PAARA a highly successful club and that you do not just want to sit at the sidelines and see how the show will unfold. Yes, we had problems in management succession of the club but the Board members have split the different tasks among themselves as an interim and pretty effective solution. Vic Black (AB6SO) will soon conduct a survey among all members to determine what you would like PAARA to stand for, what activities we should we get involved in, what kind of speakers we should attract, whether we should offer more guidance to new members. Please, respond to that survey because it is essential that we meet the needs of all our members. Your opinion counts! If we meet your needs, you are also more likely to actively participate so that running the club does not fall on the shoulders of just a few people. Vic is also doing a great job recruiting speakers. If you have any ideas on possible future speakers, you may want to give him a call at 415-366-0636

The big event, the Foothill Flea Market, is just around the corner. PAARA sponsors the March 11 flea market. Dave Bailey (WS6W) and Gerry Tucker (WA6LNV) have been busy putting a PAARA SWAT team together to make this flea market a big success. We are going to look good to the ham community at this event. If Gerry or Dave request any volunteers for the flea market at our March 3 meeting, help them out. In the meanwhile, you can reach Dave at 408-730-5215 and Gerry at 415-326-4908.

I am looking forward to seeing you all at the March 3, 1995 PAARAmeeeting.

73/Koert Koelman (KC6WCI)



## Calendar

March 4<sup>3</sup>

**PAARA Meeting**  
Menlo Park Recreation Center  
700 Alma Street  
Menlo Park 7:30-9:30 PM

April 21, 22, & 23 weekend  
**International DX Convention**

Visalia, CA contact-  
George Allan  
668 Chemetka Drive  
San Jose, 95123  
(408)225-1819

October 20, 21, & 23 weekend  
**Pacificon '95**

Concord, CA contact-  
Richard Schulze, AA6DL  
(510) 932-6125 (hotline)



## Program

March 4<sup>3</sup>, 1995

Speaker:

Glenn Cohen, KD6ITC of Scanners Unlimited  
"Recent advances in Scanner Techniques and uses  
of scanners in amateur radio."

## PAARA Members Respond to Floods

When "the storm of the decade" ripped through the S. F. peninsula on Monday, Jan. 9, several PAARA members responded with emergency communications. Rainfall was especially heavy from 4:30 to 5:30 p.m. In addition, a storm surge caused by high tide at 8:15 p.m. caused a backup in drainage to the bay.

Two types of flooding were reported. In some areas creeks overflowed and flooded homes. In other areas storm drains were overwhelmed by the high volume of water. Water pressure was high enough at times to lift one-ton manhole covers in several places causing traffic hazards.

Bill Smith, KE6CHQ, is a Disaster Services Volunteer with the American Red Cross. He established a Red Cross shelter at Pescadero High School on Monday night at 10:25. He secured the shelter at 5 p.m. two days later after working nearly continuously.

Pescadero is an unincorporated town of about 850 residents. Most are Mexican-Americans, Filipino-Americans or Japanese-Americans who work in the commercial nurseries. Many are non-English speaking. Of all San Mateo County residents, these are some of the least able to sustain the financial losses caused by the flooding. A total of 46 people from 11 families were housed at the shelter when Pescadero and Butano Creeks overflowed and flooded homes. At the height of the flooding, the town also lost one third of its retail businesses to fire.

At approximately 6:15 on Monday night the Redwood City Police Department activated its flood plan throughout the city. The Emergency Operations Coordinator (EOC), KO6GM, Jim Price set up a mobile headquarters in an Ampex parking lot at Broadway and Douglas.

Hams were assigned flood watch and traffic control duties in several low lying areas. Streets that were barricaded included: Broadway, Bay Road, Charter Street, Hoover Street, Robison Road, Dodge Drive Page Street, 2nd & 5th Avenues. Whenever

water levels rose above the sidewalks and threatened homes, radio reports were sent to the flood control district officials who manipulated valves, flood gates and pumps in Menlo Park. Because of the active management no homes were actually flooded. Without it some areas would have flooded while others would have completely drained.

Redwood City Police Sgt. Don Shurtleff praised the efforts of the trained hams who aided his department. PAARA members who responded were Andy Korsak, VE3FZK and Vic Black, AB6SO. The flood watch was terminated shortly after midnight as the floods receded from the last affected areas.

**de Vic Black, AB6SO**

### 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.

1. 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).

2. For Profit organizations and/or individuals:
  - \$5 for business card size
  - \$25 for half page
  - \$50 for full page

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.

### PAARA \*Palo Alto Amateur Radio Association, P.O. Box 911, Menlo Park, California 94026

Club meetings are held on the first Friday of each month at the Menlo Park Recreation Center, 700 Alma Street, Menlo Park, CA

The club holds a Radio NET every Monday evening on 147.45 Mhz at 8:30 PM. Membership in PARRA is \$6.00 per calendar year which includes a subscription to PAARAgaphs. Make payment to the Palo Alto Amateur Radio Association, PO Box 911, Menlo Park, CA 94026

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## 523 Repeater Update

In response to many questions about the problems with the 145.230 repeater, here is what happened. The first symptom was sporadic scratchiness on everyone's signals. Due to the rain storms and high winds at that time, we first suspected the antenna system, but repeated tests showed the antenna and coax line to be operating normally. At one point we even used a different antenna and coaxial line to try to prove it was the antenna or feed line, but the scratching persisted.

The second symptom was a repeater receiver sensitivity problem, euphemistically referred to as an "ear infection" plus reduced signal strength, which we called "laryngitis". On a subsequent trip to the repeater we found the power output had dropped about 10 dB. After troubleshooting, we decided to pull the transmitter amplifier and use the oscillator to drive a KLM 2/25 watt amplifier which had been working fine until put into service at the repeater. It suddenly decided it would give full power output only at the high end of two- meters, but almost no power out on the repeater frequency. That amplifier was pulled and a VoCom 2C-100 watt amplifier was used in its place. Since the oscillator drive is many dB below 2 watts, the amplifier put out only about 50 watts. That was not a bad signal as an interim solution while the main unit was being worked on. This amplifier was set up with air blowing over it to keep it cool. That seemed to restore most of the repeater function for a short time, until suddenly the repeater power dropped precipitously in the middle of a QSO.

Another trip up the hill revealed that this third amplifier had developed an intermittent. Sometimes the output would be 50 watts, sometimes 10 watts, sometimes less than one watt! While the probability that three amplifiers which had previously been operating well would all fail within a short period of time is very low, that is exactly what happened! Not having a fourth amplifier, we were forced to live with the intermittent operation of the third substitute amplifier.

The "autopsy" on the repeater's amplifier revealed that one of the two driver transistors had burned out and two of the four final transistors were non-functional. In addition, several other miscellaneous parts had seen excessive heat. All semiconductors in the amplifier and the overheated (spelled "charcoal-colored") parts were replaced, to the

tune of \$250. Using professional test equipment, the amplifier was checked for power output and spurious signals. The amplifier also met all original Motorola specifications. After passing with flying colors, it was reinstalled into the repeater.

After reinstallation, the repeater seemed to be operating normally. How could a defective amplifier cause an "ear infection"? The answer lies in the broadband noise put out by every amplifier. In normal amateur radio operation, if an amplifier puts out noise that is greater than 60 dB below the carrier, that is considered good amateur practice. Noise at 70 to 80 dB below the carrier approaches professional specifications. This is more than adequate when a ham station's receiver is OFF when transmitting. In a repeater, however, the repeater receiver is ON when the repeater transmits, and repeater receivers are very sensitive. This sensitivity requires transmitter broadband noise to be at least 100 dB or more below the carrier. When the repeater amplifier malfunctioned, it also began to put out more noise that fell within the receiver's passband. Since FM receivers operate on the capture effect, (i.e., the strongest signal into the receiver is the only signal heard by the receiver - until the two signals approach equal strength at the receiver), the effective receiver sensitivity was reduced by the transmitter noise (which the receiver thought was a valid signal) until the incoming signal became higher in amplitude and could then capture the repeater receiver.

Mystery solved! All finished? Well, not quite. We had been running the repeater controller using version 2 software. We recently purchased upgrades to bring the controller up to version 5.0. Once the amplifier was proven to work well in the repeater, we then installed version 5 firmware and software. We also obtained a computer program to enable us to upload repeater configuration via modem. We are currently in the process of poring through the documentation to bring the repeater back to its prior capabilities. We then will be slowly adding the newer functions of the upgraded software.

Till we work all the bugs out of the operators and the software, there may be times when some repeater functions will not perform as expected. We hope the inconvenience will be minimal.

de Rich, W6APZ

## PAARA Questionnaire

In order to better serve the needs of PAARA members, your officers need feedback on what you expect from the club. Please take a few minutes to fill out this questionnaire to help us meet your expectations.

**Meetings:** Do the monthly meetings meet your needs?

**Speakers:** What topics would you like the club speakers to cover?

**Newsletter:** What would you like to see published in the newsletter?

**Activities:** What activities would you like the club to sponsor?

**Interests:** What are your main interests in ham radio?

**Learning:** Is there anything new about ham radio you would like to learn about?

**Miscellaneous comments:**

Amateur radio's charter is to promote international goodwill, to provide for public service communications and to encourage experimentation. However, on a personal basis we think of ham radio as a lot of fun. Your club is providing the opportunity for you to become involved with club activities in order to share the fun with as many people as possible.

Without making a major commitment, would you be interested in any of the following on an occasional basis?

- |   |                         |
|---|-------------------------|
| 1. Write articles or a column for the newsletter? | 5. Help train new hams? |
| 2. Work on club sponsored activities?             | 6. Be a club officer?   |
| 3. Be a guest speaker?                            | 7. Other?               |
| 4. Help recruit speakers?                         |                         |

**Optional:**

Name \_\_\_\_\_ Call sign \_\_\_\_\_

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Packet/Internet Address, if any: \_\_\_\_\_

**Send to: PAARA, P.O. Box 911, Menlo Park, CA 94025 or give to an officer at a club meeting**

## Boy Scouts Need Radio Help

Radio still fascinates the boys. Troop 5 in Palo Alto uses Amateur Radio to communicate between cars and home base when on trips as well as for fun around town. During one camping trip one of the scouts made a contact with Australia on 10 Meters. On another occasion we used one of the 2M repeaters to relay some emergency traffic when one of the Scouts was hurt. Then each year in October we participate in the BSA sponsored Jamboree On The Air and communicate with Scouts all over the world.

Currently, Troop 5 has a radio class working on passing the Technician No-Code license and Radio Merit Badge. In January, two of the 6 scouts in the class obtained their Technician calls; the other four are busy at work preparing to take the FCC exam in late February. Amateur Radio is not new to Troop 5 since several Scouts and adults have amateur licenses. Last year, for his Eagle project, one of our Troop 5 Scouts, Steve Wharton, installed a 440 repeater for emergency use.

At the February PAARA meeting someone asked what the club could do for service. Certainly, involving young men in the world of Amateur Radio is a worthy cause. I would like to propose a couple of things that would be a help to Troop 5 and the community.

The immediate issue is to try to obtain less expensive 2M rigs for the scouts who have their license so they can get on the air. If there are any of you with a spare 2M rig that you would like to sell, we would be very interested. Of course we do not intend to stop there. Within the next few months we hope to get each of the scouts to pass the Novice Code and get them on the air in the lower bands. This is where any older HF rigs would be useful, especially the now retired 10M monobanders such as the Uniden HR2600 or the similar Radio Shack model. Certainly, HF CW rigs would be useful too as we get the boys more into code. Maybe this summer we can inspire them to take the General exam. Perhaps some of you could accompany a couple of Scouts to a radio flea-market in search of a rig to buy.

We are now working on the next phase of our radio program to complete the Radio Merit Badge. In this effort the Scouts need to build a radio as a required project. We are tentatively

planning to build the Ramsy 40M receiver on Saturday afternoon, the 9th of April. Perhaps a couple of you with technical talent could give us a hand. The biggest help would be assisting the Scouts to learn how to solder and put the right parts in the board in the right way. Then when the receiver does not work we would appreciate your help in troubleshooting to get the receiver into operation. The other part of the merit badge where we could use some help is for an experienced Amateur to show the Scouts how to tune a receiver across the bands and log stations heard. A couple of hours with a couple of Scouts would get them going. Actually, the merit badge requirement is to accumulate 4 hours in the morning plus 4 hours in the evening listening across the bands and logging stations' call sign and QTH.

Our Troop 5 Radio Team would be glad to make a presentation at a PAARA meeting about the BSA Radio Merit Badge and Amateur Radio in Scouting. I am sure we could also lend a hand during field day; maybe we could set up and operate a station.

If you would like to participate with Boy Scout Troop 5 please give me a call. Thank you.

Doug Mecham, KC6UKJ

Troop 5 Adult Advisor

phone: 415-856-4039 email: dmecham@ix.netcom.com

### **Palo Alto Amateur Radio Association, Inc.**

**PO Box 911**

**Menlo Park, CA 94026**

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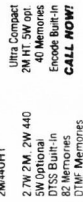


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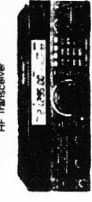
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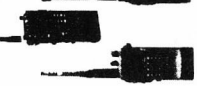


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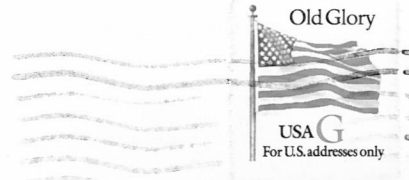
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