

K6YQT

PAARA NEWSLETTER  
VOLUME 50 NUMBER 3 March 2001

W6OTX



# PAARAGraphs

Celebrating 64 years as an *active* ham radio club—*Since 1937*  
Newsletter for the Palo Alto Amateur Radio Association, Inc.



## CALENDAR



- Mar.....2, PAARA Meeting, 7:30  
Menlo Park Recreation Center  
700 Alma Street, Menlo Park
- Mar.....7, PAARA Board Meeting, 7:30  
Red Cross Bld., 400 Mitchell Ln., Palo Alto
- Apr.....6, PAARA Meeting, 7:30
- Apr.....11, PAARA Board Meeting, 7:30
- May.....4, PAARA Meeting, 7:30
- May.....9, PAARA Board Meeting, 7:30
- 2 m CODE PRACTICE, 2000 to 2030 PST Tues  
N6NFI 145.23 repeater  
Also try 7.100 for 24 hr code practice

## PROGRAM

March 2, 2001  
7:30 P.M.

### Speaker:

Mike Cousins  
of SRI

### "The Big Dish"

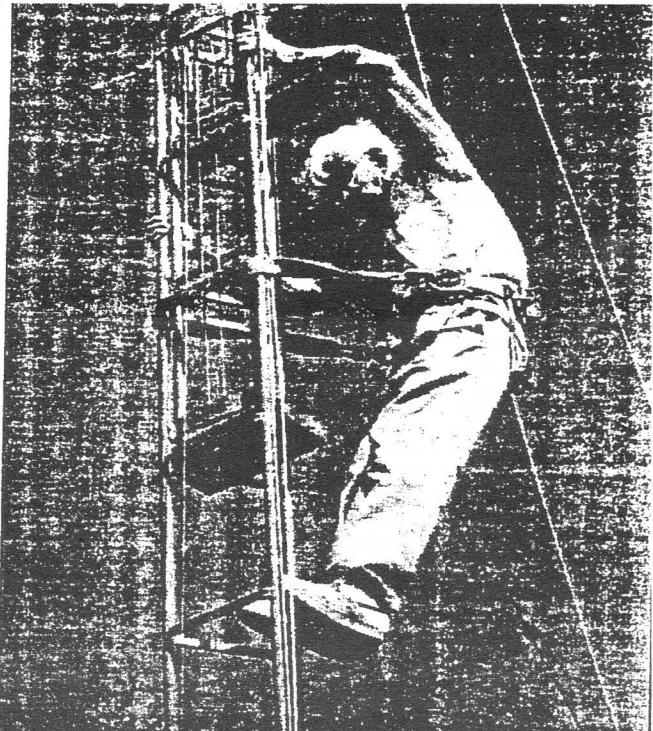


Join us for pre-meeting eyeball

at Su Hong Restaurant, 1039 El Camino Real, Menlo Park  
Food will be served at 6:00 sharp, so guests will be on time for the PAARA meeting.  
Those arriving late will be responsible for their own order and bill.

PAARA Radio NET every Monday evening at 8:30 P.M., local time—  
on the 145.230 -600 MHz repeater, PL tone off

Fred Canham K6YT  
Silent Key February 16, 2001



Fred Canham of Los Altos, a past president of the Palo Alto Amateur Radio Association, is 30 feet up in the air as he puts up a radio tower for the club's annual field day last year.

Palo Alto Weekly July 12, 1995

**Listen Here** To what? "TheDish" at Stanford ---the 150-ft parabolic reflector antenna seen on the horizon from highway 280 near Palo Alto--- will be discussed by Mike Cousins, program manager at SRI and official custodian of the massive structure. In addition to the history and achievements of the dish, Mike will detail the performance and some of the more interesting events in it's history, including operations with the Stanford OPAL satellite and the related PICO-SAT spacecraft and other antenna uses. Additional topics are present and future uses of big dish antennas along with where to get a FREE 50 foot dish antenna of your own ?

# Miscellaneous Dates

## Flea Market at Foothill (info at: <http://joslin.com/FleaMarket>)

### PAARA Palo Alto Amateur Radio Association

meets 1st Friday 7:30 each month, Net 145.230 each Monday 8:30,  
contact: Andreas Junge N6NU.....(650) 233 0843

### FARS Foothills Amateur Radio Society

meets 4th Friday 7:30 each month,  
contact: Sheldon Edelman N6RD, 650-493 7212, [n6rd@earthlink.net](mailto:n6rd@earthlink.net)

### NCDXC Northern California DX Club

meets 2nd Friday 7:30 each month, repeater for member info 147.360, Thur 8:00PM,  
contact: Bob Mamarella KB6FEC 408 729 1544.

### NorCalQRP Northern California QRP Club

meets 1st Sunday each month,  
contact: Jim Cates 3241 Eastwood Rd., Sacramento, CA 95821.

### Perham Foundation

contact: Jerry Tucker N6NV 650-961-3266

### SPECS Southern Peninsula Emergency Communication System

meets each Monday 8:00PM on Net 145.27, 440.80 MHz, [www.specsnet.org](http://www.specsnet.org)  
contact: Tom Cascone, KF6LWZ, 650-688-0441 [specs@svpal.org](mailto:specs@svpal.org)

### 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:

### SCCARA Santa Clara County Amateur Radio Association

Operates W6UU repeater 146.385+ Nets: 2m, W6UU, 7:30 Mon; 10m,  
28.385, 8:00 Thur. meets 2nd Mon each month.  
contact: Jack Ruckman AC6FU

### SVECS Silicon Valley Emergency Communications

Operates WB6ADZ repeater (146.115 MHz+)  
contact: Lou Stierer WA6QYS 408 241 7999

### WVARA West Valley Amateur Radio Association

operates W6PIY repeater 147.39+, 223.96, 441.875, 1286.2  
meets 3rd Wed every month.  
contact: Glen Lokke Jr. KE6NBO at 408 971 8626, or [glokke@pacbell.net](mailto:glokke@pacbell.net)

### Disaster Services

#### PALO ALTO CHAPTER, American Red Cross

Meets 3rd Wed. each month 7:30PM,  
HF, packet, BBS, ATV, OSCAR Gateway, NASA satellite,  
contact: Alan Ball 650-688-0423.

#### SAN JOSE CHAPTER, American Red Cross

contact: Scott Hensley KB6UOO, 408 249 7093, [fsh@richochet.net](mailto:fsh@richochet.net)

### VE Exams, 3rd Saturday each month, 11AM, 145.23- PL=100Hz

American Legion Hall, 651 El Camino Real, R.C.  
contact: Al Montoya at [WB6IMX@worldnet.att.net](mailto:WB6IMX@worldnet.att.net).

(please send changes to PAARAGraphs editor: [k6uro@arrl.net](mailto:k6uro@arrl.net))

"What is the five-letter pronounceable word used for specifying International Morse code speed in words per minute?"

{I know of three: PARIS, PRODE, and PRIDE; there might be more. It will be fun to see who comes up with what!!}

73 — Steve, K6FS

# PAARA HISTORY ! QST DE STEVE K6FS

HELP - club historian K6FS needs help locating (1) data/documents regarding founding and early days of Palo Alto Amateur Radio Association/Menlo Park CB Club; (2) names and calls of founding board; (3) names and calls of first and subsequent presidents. Thanks for any help! Mail, phone or packet via KA6JLT BBS. <VIA PACKET>

from PAARAGraphs March 1994....we still need input

## Palo Alto Amateur Radio Association, Inc.

### PO Box 911

### Menlo Park, CA 94026

President	Andreas Junge N6NU.....(650) 233 0843 <a href="mailto:n6nu@arrl.net">n6nu@arrl.net</a>
Vice President	Dick Kors, KM6EP .....(650) 965 3766 <a href="mailto:dk@okors.com">dk@okors.com</a>
Secretary	Jay Melvin, WA6SBO.....(650) 726 4361 <a href="mailto:wa6sbo@arrl.net">wa6sbo@arrl.net</a>
Treasurer	Bob Korte, KD6KYT.....(650) 595 1842 <a href="mailto:RGK4U@aol.com">RGK4U@aol.com</a>
Membership	Vic Black, AB6SO.....(650) 366 0636 <a href="mailto:vic.black@adept.com">vic.black@adept.com</a> , <a href="mailto:ab6so@smrn.com">ab6so@smrn.com</a>
W6OTX Station Trustee	Fred Canham, K6YT .....(650) 948 9238
K6YQT Station Trustee	Gerry Tucker, WA6LNV.....(650) 326 4908
Property	Gerry Tucker, N6NV .....(650) 326 4908
Badges	Don Trask, KF6JMQ.....(408) 251 6494
ARES Officer	Lily Anne Hillis, N6PGM .....(650) 325 5484
Club Historian	(see below)
Advertising	Bob Korte, KD6KYT.....(650) 595 1842
Webmaster	Andreas Junge N6NU.....(650) 233 0843 <a href="mailto:n6nu@arrl.net">n6nu@arrl.net</a>

### Board of Directors

Don Trask, KF6JMQ	(408) 251 6494 '01 <a href="mailto:trask@shell3.ba.best.com">trask@shell3.ba.best.com</a>
Joel Wilhite, KA7TXV	(650) 325 8239 '01 <a href="mailto:ka7txv@qsl.net">ka7txv@qsl.net</a>
Gerry Tucker, N6NV	(650) 326 4908 '01 <a href="mailto:Pat Gormley, KB6HZM">Pat Gormley, KB6HZM</a> (650) 369 3550 '02

(see "Calendar" for Board meeting times, visitors welcome)

### PAARAGraphs Staff

Editor	Wally Porter, K6URÖ .....(650) 494 7038 <a href="mailto:k6uro@arrl.net">k6uro@arrl.net</a>
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Columns	Vic Black, AB6SO .....(650) 366 0636 <a href="mailto:vic.black@adept.com">vic.black@adept.com</a>

### PAARAGraphs e-mail address: [k6uro@arrl.net](mailto:k6uro@arrl.net)

Submit material for PAARAGraphs by the 15th

PAARA Website <http://www.qsl.net/paara/>

2/5/2001

Andreas,

I herewith tender my resignation from the office of Historian, Palo Alto Amateur Radio Association, effective immediately. I will turn over to Wally several copies of back-issue PAARAGraphs, with some other odds and ends that have come my way over the last several years. I feel I should apologize for not having performed the duties of this office as diligently as should be, and will be glad to support any further effort to collect memorabilia of PAARA's past to the extent of my ability.

72/73 - Steve, [k6fs@arrl.net](mailto:k6fs@arrl.net)

Steve, K6FS, has served as Club Historian since 1994. He was appointed as Historian by President Lily Anne Hillis, N6PGM, after serving many years as ARES Officer. Steve plans to remain active and will be available for support. Would you like to help organize PAARA history? We need several helpers. Contact Andreas or any Board Member

-ed.

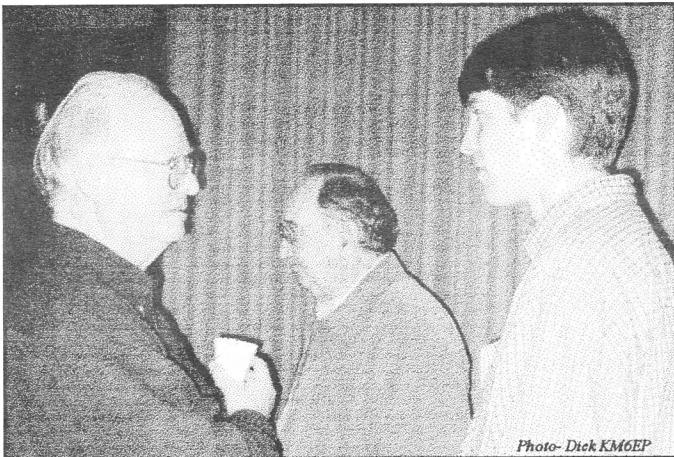


Photo-Dick KM6EP

Brad Wyatt of the ARRL and Jamie Cutler, speaker and Stanford Ph. D. candidate, discuss the implications of software defined radios while Professor Bob Twiggs of SSDL at Stanford University listens in.

\*\*\*\*\*  
**Honorary Member 2001**  
 (Speaker 2/02/2001)  
**James Cutler-KF6RFX**  
 \*\*\*\*\*



### New Members:

Ron Chester KG6ELY  
 706 Colorado Ave #A19  
 Palo Alto, CA 94303  
 ron@taxhelp.com

Wil Warren AB9U  
 29149 Rockport Way  
 Hayward, CA 94544-6417  
 wtawtaw@attglobal.net

### New Address:

Marin Amateur Radio Club  
 P.O. Box 6423  
 San Rafael, CA 94903-0423

Bob Keyes N6PBR  
 979 Rubio Way  
 Gardnerville, NV 89410

### FYI:

We now have about 110 members active for 2001.  
 About 10% live completely out of the Bay Area. We still manage to get about 50% of our members to attend club meetings on a regular basis. 2/16/01



## Contest Calendar

~Vic Black, AB6SO~

(for rules and exchanges, see [www.contesting.com](http://www.contesting.com))

### March, 2001

- 3,4 ARRL Inter. DX Contest, Phone 0000Z, Mar 3 - 2400Z, Mar 4
- 3,4 SLP Competition (SWL) 0000Z, Mar 3 - 2400Z, Mar 4
- 10,11 World Wide Locator Contest 0000Z, Mar 10 - 2400Z, Mar 11
- 10,11 Southern African HF Field Day 1000Z, Mar 10 - 1000Z, Mar 11
- 10,11 RSGB Commonwealth Contest, CW 1200Z, Mar 10 - 1200Z, Mar 11
- 10,11 QCWA QSO Party 1900Z, Mar 10 - 1900Z, Mar 11
- 11 North American Sprint, RTTY 0000Z - 0400Z, Mar 11
- 11 UBA Spring Contest, CW 0700Z - 1100Z, Mar 11
- 11,12 Wisconsin QSO Party 1800Z, Mar 11 - 0100Z, Mar 12
- 17,18 Alaska QSO Party 0000Z, Mar 17 - 2400Z, Mar 18
- 17,18 Bermuda Contest 0001Z, Mar 17 - 2400Z, Mar 18
- 17-19 BARTG WW RTTY Contest 0200Z, Mar 17 - 0200Z, Mar 19
- 17,18 Russian DX Contest 1200Z, Mar 17 - 1200Z, Mar 18
- 17-19 Virginia QSO Party 1800Z, Mar 17 - 0200Z, Mar 19
- 24,25 CQ WW WPX Contest, SSB 0000Z, Mar 24 - 2400Z, Mar 25
- 24,25 SLP Competition (SWL) 0000Z, Mar 24 - 2400Z, Mar 25

Join us for pre-meeting eyeball

## QSO March 2nd

**gab & gobble**

*Food will be served at 6:00 sharp, so guests will be on time for the PAARA meeting. Those arriving late will be responsible for their own order and bill.*

**6 pm— at Su Hong Restaurant  
 1039 El Camino Real  
 Menlo Park  
—across from Kepler's Book Store**



Photo-Dick KM6EP

Going once...Going twice.... GONE! — Gerry Tucker entertains and raises funds at PAARA's first mini-auction.

Get ready for more!



## Technical Tip

**Computer Monitor RFI** I've had many problems with noisy computer monitors. Here's a temporary solution in case you aren't aware of it.

I've found that most computers will allow you to adjust the vertical scan rate and this will move the HF frequency at which the emission occurs. Therefore, you may be able to go into your "display properties" and change the vertical scan rate and put the RFI on some unused frequency. If the video adapter is rather old you may not have too many (if any) v-frequency options, but it's worth looking into. Of course, as far as the computer user is concerned, the higher the vertical frequency the better (less flicker) as long as you don't exceed the monitor manufacturer's specifications or run into strange video effects. The system (Windows 9x, at least) will usually allow you to easily go back to the old setting if things don't work quite right.

73 de *Steve Yates AA5TB*,

Fort Worth, TX

aa5tb@arrl.net <http://www.geocities.com/aa5tb>

Used by permission from Steve Yates.

### Bleeding Off Antenna Static Charge Buildup

Even light rain can cause static to accumulate on your antennas. This will result in static "crashes" or popping sounds in your receiver. High voltages can accumulate this way and destroy sensitive receiver front end components if there is no internal protection built into the radio. Larry East W1HUE reminds us, "Make sure that there is a DC path from the antenna to ground, either in the form of a balun transformer, RF choke or a resistor. A 10K 1/2 W carbon or metal film resistor from the 'hot' lead of the antenna (center lead of coax, etc.) to ground will bleed-off charge build-up nicely and not effect the antenna feed impedance. However, a resistor to ground certainly will not give any protection from direct lightning strikes, so you should still ground your antenna when there is any chance for thunder-boomers." Kevin Muenzler WB5RUE adds that since the bleed resistor value is inconsequential, it can serve double duty by discharging static and identifying the antenna the coax is connected to. Use a 10K resistor for a 10 meter antenna lead, 15K for your 15 meter antenna, etc. —*Vic Black AB6SO*

### Soldering Surface Mount Parts

If you've been reluctant to try building with surface mount parts, you may want to reconsider. Through hole parts are becoming more difficult to find all the time. The most intimidating parts are the tiny integrated circuits. At first glance it looks as if you can't solder the small packages without special automated equipment or tediously soldering each little pin. Several Amateurs have discovered the quickest and easiest way to solder them is to put a big glob of solder on the sides of the IC, shorting all the pins together. After the part is soldered in place, apply some heat to the solder. Then just as the solder starts to flow, use solder wick to pick up the extra solder. What you're left with is a perfectly mounted part without solder bridges or shorts. —*Vic Black AB6SO*



## ARRL Headquarters

Newington CT September 1, 2000

### ARRL OFFERS

#### NEW FIVE-YEAR MEMBERSHIP PLAN

With a membership dues increase going into effect July 1, 2001, the ARRL is offering a special five-year membership plan until then, so members can lock in at the current, lower dues rates. Effective immediately, current or prospective ARRL members in the US and US possessions can obtain a five-year renewal or membership for \$146 (\$122 for those 65 or older)--a saving of \$24 (\$18 for those 65 or older) from the cost of year-to-year renewal at current rates!

Due to postal considerations, this offer cannot be extended to those living in other countries. The special five-year membership offer expires June 30, 2001, the last day the present dues schedule is in effect. After that, annual dues will increase to \$39 for individuals (\$34 for those 65 and older).

Another option is to apply for an ARRL Life Membership for \$850. Special discounts apply to senior and visually impaired applicants. A complete rate schedule and application form is available on ARRLWeb, <http://www.arrl.org/join.html>.

The ARRL Outgoing QSL Service has announced a new and simplified rate structure, effective March 1, 2001. The new basic rate will be \$4 per one-half pound (8 ounces, or approximately 75 cards) or any portion of a half-pound, a change from the current rate of \$6 per pound or any portion. DXers still may ship 10 cards for \$1, but the 20 and 30-card rates are being discontinued. The new rate structure will help to cover basic handling costs for smaller packages while actually offering a price break to moderate-volume users submitting up to one-half pound of cards. Under the current rate schedule, a half-pound of cards would cost \$6, but it will be \$4 under the new schedule. The new rates are in response to the recent postal rate increase and price restructuring. The Outgoing QSL Service is available to ARRL members. The last rate increase was in January 1999. For information on using the ARRL Outgoing QSL Service, visit ARRL Web, <http://www.arrl.org/qsl/qslout.html>.

**W1-QSL Bureau changes address:** Effective immediately the address of the ARRL W1 Incoming QSL Bureau has changed. The new address is: W1 Incoming QSL Bureau, YCCC, PO Box 7388, Milford, MA 01757-7388. Mail sent to the Springfield address will be forwarded for up to one year.

(Continued on page 25) ARRL

<b>PAARA Radio NET</b> <b>every Monday evening</b> <b>8:30 P.M., local time</b> <b>on the 145.230 -600 MHz repeater, PL tone off</b>
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## PAARA

### POUNDERINGS

de VIC BLACK, AB6SO



PAARA member Bob Johnson

**KF6KVG** already has established several distance records for Amateur Radio contacts at microwave frequencies. Now comes word that he and his partner **Wil Jensby W0EOM** established still another record on February 1, 2001. This one's on 76 GHz. Bob was located south west of San Jose on Mount Loma Prieta using a 12-inch dish antenna driven with 1 milliwatt and Wil was located near Vacaville on Mount Vaca using 5 milliwatts to an 18 inch dish. The total distance covered was 145 kilometers. Signal strength varied from S1 to S2 with fading. Water vapor absorbs signals at higher frequencies so the trick is to transmit on cold, clear days at high elevation. Simply creating a signal is technically challenging as you go up in frequency. Doing it on an Amateur Radio budget is even more impressive. Bob and Wil established a North American record for 24 GHz from Canada College to Los Altos Hills, but that was easily broken last September by **Gary Lauterbach AD6FP** from Los Altos and **Ron Smith K6GZA** from Moss Beach. That 375 km contact took place between 3350 foot Mt Oso near Modesto, (CM97hm), and Southern California's 8000 foot Mt Frazier in northern Los Angeles County, (DM04ms).

These are exciting times for advancing technology. One of the biggest successes has been the use of inexpensive PIC chips to do central data processing for Amateur Radio. Expect to hear more about them this year as PAARA looks at several PIC related projects. Besides being easy to program and re-use, they exhibit the capability of going into a "sleep" mode when not actively being used. During their sleep time they consume only about 1 microamp of current. This means that many circuits using them don't even need on-off switches. When they are called upon to work, they turn on and still consume very low current. Batteries can power PIC chips for nearly as long as normal battery shelf life.

New advanced design primary (non-rechargeable) alkaline batteries suitable for use with PIC chips are being tested and will begin to appear in consumer products in four to six months. Reminiscent of the batteries used in Polaroid film packs for several years, the new batteries are made of 5 ultra-thin layers of zinc and manganese dioxide. They are only about half a millimeter thick (.020 inch), or about the thickness of 4 pages of PAARAGraphs. They are thin and flexible enough to go through an ordinary printing press. Because of this, the new printable batteries will begin to show up as an integral part of consumer products packaging.

Don't be surprised if products begin to light up when you pick them up or talk to you as you walk by in stores ("Buy me, now!"). The batteries may be printed directly on the product packaging or they may look somewhat like the anti-theft labels used now by some retailers. Those devices have passive RF circuits with printed circuit UHF antennas and lumped constant

resonant circuits laminated inside. If those labels are not deactivated at the point of sale, they set off alarms when carried near antennas mounted at retail store exits.

Manufacturing plants are gearing up to print "Power Paper" batteries in large quantities in Hong Kong. Some facts about the batteries: they are open, caseless cells, producing 1.5 V per cell. Shelf life is about 2 and a half years. Multiple cells, to produce higher voltages, can be manufactured by stacking or printing side by side in any size or shape. They produce about 3 milliAmps per square centimeter and can be printed, pasted or laminated onto paper, plastic or other substrates. They are safe, non-toxic and environmentally friendly.

International Paper will probably be the first company to use the new batteries for product packaging. They currently have 27% of the US packaging market and use such gimmicks as holograms, advanced embossing techniques and fancy shapes for product cartons. Early uses for the batteries will be to power sensors used to record temperatures that sensitive products have been exposed to during shipping and handling. Other early high tech uses may be in Smartcards and radio based tagging transponder systems. Ultimately, they will probably appear in toys, greeting cards and other mundane consumer products.

When nickel metal hydride batteries first appeared a few years ago, we were told that they would be made available only as complete battery packs integrated into consumer products such as video recorders. They were not intended to be sold in the familiar rechargeable AAA, AA, C and D cell sizes. Now they are easily available in all common sizes. It's possible that "Power Paper" batteries will also be made available sometime in the future in standardized, flexible, flat packages that can be stuck onto products or packaging.

I was part of a "brain storming" session when Hewlett Packard began making LEDs. They were a solution looking for a problem. We knew we could make them, but there was no market for them at the time. Our session produced a long list of potential uses for the little lights. Many uses seemed out of reach at the time because of the cost of low volume manufacturing. Now all of those uses are being realized along with many others. One of the first uses was in the display for the HP-65 scientific calculator, which led to Hewlett Packard becoming a computer company. These new flexible batteries will probably see the same kind of growth as they become more and more common. Enterprising Amateur Radio operators should be able to imagine ways to reuse the disposable batteries in conjunction with PIC chips for dedicated radio related chores. If they are configured as disposable battery packs, they may be used to power disposable radios in the future.

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**DO YOU SUPPORT  
ARRL**



## WEB WANDERINGS

de Vic Black, AB6SO

Stan Schretter **W4MQ** of Reston, VA has been an active Radio Amateur for over 40 years. He frequently operates PSK31 on 20 meters, CW on 80, 40 and 30 meters as well as AM on 40 and 75 meters. On Fridays, Stan is a volunteer operator at NN3SI, the Smithsonian Institution Ham station located in the Information Age exhibit of the National Museum of American History in Washington, DC. Because the distance from the display to the antenna was so long and antenna lead losses were high, especially for UHF, Stan decided to set up a Local Area Network (LAN) and remote control the rig from the display area. That scheme worked so well that now when he operates at home on weekends, he "remotes" from his downstairs sunroom using a laptop connected to the upstairs shack via an Ethernet LAN. Besides a Kenwood TS450S, his home station includes a Kachina 505DSP. You can give Stan's Kachina a test drive by going to his web page at <http://www.qsl.net/w4mq>. This is one more example of remote controlling an HF rig via telephone or Internet lines. Stan's page also has valuable links to General Ham Radio Sites, Operating Digital Modes and Morse code, Antennas, Tracking and Operating Hamsats and HF Propagation.

A "key site" for this month is the web page of **Mike Truax KB9OCE** from Portage, IN. Go to <http://hometown.aol.com/kb9oce/index.html> to see his patented "Novel-Keys", which are fully functional, easy to use, miniature paddles and straight keys hand built into digital wristwatch cases for about \$25 each. There's no problem with them jumping around on the operating desk during use since you wear them on your wrist just like a wristwatch and use your other hand to operate them. Very clever.

Try <http://www.qsl.net/k4msw> for a list of about 125 interesting links. On the home page you'll find a schematic. Use your mouse cursor to throw the switch marked "Links" to go to the listing, which includes Kits, Supplies, Clubs and Morse.

Check the nifty US map of recent lightning strikes at [http://lightningstorm.com/lightningstorm/gpg/lex1/mapdisplay\\_free.jsp](http://lightningstorm.com/lightningstorm/gpg/lex1/mapdisplay_free.jsp). Whenever storms approach, you may want to refer to this map to see if any strikes are in your area and if so, disconnect antennas and ground them until the storm passes. In the SF Bay Area we're fortunate to have one of the lowest rates of lightning in the US. This is probably because of our Mediterranean climate, which produces orographic rainfall during the winter. That is, water-laden clouds are drawn from the ocean by columns of warm air rising on the west side of the Sierra Nevada. As the clouds climb the mountain, they dump their cold water content. Lightning is most apt to occur when rapidly rising columns of heated air causes cumulous clouds to form over warm spots in flat areas, such as the American Mid West. That usually happens in the summer. We seldom have summer rain in the SF Bay Area.

Have you seen the TV Program called Junkyard Wars? Rick

Weber **W9QZ** wrote, "I set up my own personal challenge to build a QRP CW transmitter for 80 meters that used only ONE commercial electronic component, a vacuum tube, and only NON-electronic junk commonly found around the house. I started with a Hartley oscillator design in mind using one very old 27 tetrode vacuum tube made in the late 1920's. No commercial resistors, capacitors, chokes, or variable tuners were used. Capacitors were made from Diet Coke cans and clear packing tape; two .002 mF and one 250 pF. I made the 500 pF variable condenser from one Diet Coke can telescoping over another one with packing tape insulation. RF choke is 160 turns of wire on a ballpoint pen body. The 10k ohm grid resistor was made using the old science fair trick of a soft graphite pencil rubbed on cardboard. Two paper clips provided the resistor leads. Twelve turns of wire on a plastic pill bottle made the tank coil. I swing link loosely coupled to the tank coil via an LDG QRP tuner/4:1 balun to a center-fed Zepp antenna. The crazy thing worked! I had a QSO with Bob Howard K0RDF about 350 miles away. My RST was 239. The best I could tell, this thing was putting a little over a Watt to the antenna. No noticeable drift, but, it tuned way too fast and chirped. Although I didn't check the signal with a spectrum analyzer, I couldn't hear any harmonics or spurious stuff when tuning the receiver around the band." A drawing from the original photo is Brian Short's web site at <http://home.earthlink.net/~k7on/junkyd.htm>.

The parts list for the transmitter included (1) 27 tetrode vacuum tube, (5) Diet Coke cans (capacitors), (1) plastic pill bottle (tank coil form), (2) ballpoint pens (one for RF choke and one for tank coil form support), (1) roll of packing tape (insulation for caps and general), (1) roll of double sided tape (insulation for caps), (2) paper clips (resistor leads), (1) HB pencil lead (resistor), wire, epoxy, nails, cardboard, wood, and solder.

Rick wasn't content with that design so he redesigned the rig and came up with a much more elegant radio. He said, "New, improved version 2 of my Junkyard Wars xmtr was just completed and put on the air. Works nicely (for a Hartley). Here's a picture. <http://www.vintagehamradio.com/junkbox-xmtr2>. Yes, the standoffs are two mini gin bottles! Great fun and a real challenge. I'd like to see others try something like this. Any takers? How about a solid state transmitter made with a single FET and all the other components made of stuff other than commercial electronic parts?"

Thanks to **Don Trask KF6JMQ** for the link to the International Space Station. Go to <http://spaceflight.nasa.gov/reldata/tracking/> to see a world map with the trajectory of the ISS in real time. If it's dark overhead at the time the space station is there, you should be able to see it. We interrupted our last PAARA board meeting long enough to watch the space station make a low level pass behind Stanford Shopping Center.

**Steve Yates AA5TB** has a nice collection of unusual sounds recorded from the air. Go to <http://www.geocities.com/aa5tb> to listen to them. Maybe you'll hear something you couldn't identify before. Next time you run across it on the air you'll now know what it is.

Go to <http://www.angelfire.com/md/k3ky> where **David Sinclair K3KY** of Derwood, MD maintains a collection of valuable "DX tools".

## Frequencies to Avoid

India is now reporting that as many as 50,000 people may have perished in the recent major earthquake. Authorities there are asking that hams worldwide avoid certain 20 and 40 meter frequencies that are being used for emergency traffic within the Indian subcontinent.

The United States does not have a third party agreement with India so we can't be of any help at this time. Even if we did have a treaty with India, there is no guarantee of delivery of messages in India as basic services such as electricity and telephones are totally disrupted at this time.

Frequencies that are being heavily used for emergency SSB nets include, but are not limited to: 7.023, 7.035, 7.050, 14.135, 14.155, 14.160 MHz, and several frequencies between 14.250 and 14.270 MHz. If you hear VU SSB activity on these or other frequencies monitor, but don't call hoping to work a new "rare" one since these operators are currently very, very busy with serious emergency communications.

—Vic, AB6SO

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## DO YOU SUPPORT PAARA ACTIVITIES

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## Board of Directors Meeting

2001Feb7 Red Cross Bldg, Palo Alto

The International Space Station passed overhead at 7:40 P.M. PDT so we stepped outside to see it move from the NW to E w/ a full moon in the East. No quorum was obtained which means discussion only; no policy making.

The PAARAGraphs' listing of the Directors was corrected so the March issue should be exact.

The secretary's last minutes were accepted as published. The meeting room facilities' rent for 2001 at Menlo Park Civic Center was noted as having been paid and the State of California Form 199, CA Exempt Organization Annual Information Return was passed on to me (WA6SBO) to process. Also, I'll be verifying the ARRL filings of our club call signs, W6OTX & K6YQT.

Brain storming on projects to raise funds for PAARA continued from last month. Our mission statement was articulated by Andreas, N6NU, as tapping the club member's talent to serve the extant members, and to increase membership.

Treasurer Bob, KD6KYT, was commissioned to purchase a Public Address system to improve the listening quality at the meeting hall. The BoD had already authorized the purchase. The Treasurer's report included the assertion that that we loose money yearly. The club's vehicle, a trailer, is properly registered and an expense report was entered into the record.

We spend some time discussing the need to expedite our pre-meeting dinner and starting our monthly meetings on time so we might sustain the very successful cadence of the last meeting where we crammed an auction into the already full schedule.

73, - Jay, WA6SBO@ARRL.net

## Warning Labels

*Actual warning message found on products...*

*On a blanket from Taiwan:*

not to be used as protection from a tornado.

*On a helmet mounted mirror used by US cy-clists:*

remember, objects in the mirror are ac-tually behind you.

*On the bottle-top of a (UK) flavoured milkdrink:*

after opening, keep upright.

*On a New Zealand insect spray:*

this product not tested on animals.

*In a US guide to setting up a new computer:*

to avoid condensation forming, allow the boxes to warm up to room temperature before opening.  
(sensible, but the instruction was inside the box.)

*On a packet of Sunmaid raisins:*

why not try tossing over your favourite breakfast cereal?

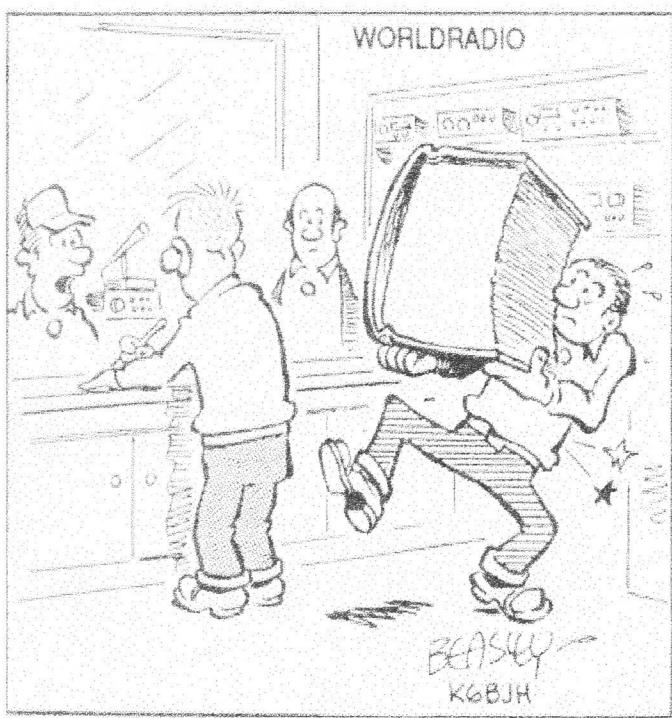
*On Marks & Spencer Bread Pudding:*

product will be hot after heating.

*On a Japanese food processor:*

not to be used for the other use.

ARNS



NO, NO, I WANT THE UNABRIDGED EDITION  
OF "COMPLETELY UNDERSTANDING ANTENNAS  
AND FEED LINES!"



# GOOD OLD STUFF

## How I Became One

By Bryan Smith, KB3FGL

I remember I found an old analog multi-band short-wave receiver in the basement of my grandmother's house.

That was 1984 and I was in the seventh grade. I brought it up and plugged it in. It didn't have a back on it, nor did it have any antennae to speak of. I started listening and playing with the buttons that night. I heard police calls on the VHF band. I then turned the knob to SW -1 and heard stations from all over the world and didn't believe what I was hearing. I told my parents that I was listening to Russia and the BBC in London and they didn't believe me. They dismissed it as a childhood 'fib'. But I knew better. Slowly I began to tune around on that radio all night long. I discovered just by listening that the stations seemed to come in better at night. One night my father came up and heard the stations from all over the world coming in through the radio. He began to believe in me, and more so in the radio. The magical grip of radio slowly took hold of me and would never let go. I can still remember the sound of the radio and the more popular broadcasters out there. There still was no antenna.

My father intimated to me that an antenna strung out the window sometimes improves reception. Sure enough there was an "ext. ant. jack' on the side, so in goes a piece of wire; the other end being flung out the window. Voila more stations, but more interference (QRM, today). Maybe only 2 db gain in reality but for my ears at least a 100 db gain!!! I was hooked.

In those days my good ole' dad was working for an electronics outlet store and for Easter he brought me home a better multi-band receiver.

This one had a back and antennae to boot. Ripped open on the floor was the box and the radio was on desk and operating at full power (hi hi). I knew by now where to tune in even though the dial was still vague, labeled with numbers 1- 12. Back then I remember that analog receivers were still quite common. I didn't know that there were digital ones yet.

As I tuned around that old radio ( I still have it here in the shack -it smiles at me as I smile right back) I came across these guys talking a lot about the weather. They used all kinds of terms and abbreviations to rival only the military jargon uttered by my grandfather. Once again my father suggested to me that I read up on the subject.



There ought to be magazines devoted to the radio art. There was! I found this one called 73 and then Popular Communications and Monitoring Times. I had to go the big mall in the next city over the hill to find these mags, and only then there was never more than two on the shelf. Even today, when I go back home, they are still anchored right there next to the "men's" magazines' -never could figure that one out. QST came much later after I met a couple of hams.

I found out that what I was hearing was Amateur Radio - ham radio. I told my mom that I wanted to be a ham, and she said, "you are a ham, with the way you danced at your aunt's wedding!" Well, anyway, almost 16 years later she sees in my shack what kind of ham I was speaking of.

She did though introduce me to a neighbor down the street who was a real-life ham! His name was Ike Reed -K3ALR (SK). Mr. Reed gave me books on ham radio to read and told me I would have to know Morse Code just to get a Novice ticket.

I looked through the catalogs to show my parents how much money would need to be spent to satisfy my educational needs -hi hi. (I was a junior political spin meister) He showed me his 'rigs' in his house. He turned them on and let me listen. Ike couldn't transmit those big boys on account of his having a pace maker. But he did let me take a whack at his mobile transceiver! Wow, you can put one of these bad boys in your car? Like a cop? I think back to that radio and compare that to what we put in our cars

now. Sure enough I was talking to some guy up the line on a repeater owned by a club that I am now proudly a member of. I was talking to a man named John Smith -K3SLJ. He invited me to his shack as well. I don't think my father realized what he was in for. John's hobby occupied an entire room! I still have his QSL card with his shack's photo on it. I looked at my dad and told him I wanted a room like this. Sure! Well, today both of their QSL's hang with pride in a frame right above my operating position.

I hold my Icom 746 on the same pedestal as that radio my father bought me years back. I am going to give him a copy of this letter to show him how much I appreciated what he did for me. I still talk to John Smith on the repeater and hope to get up to see him for the holidays. I love this hobby. I hope I can pass it along to my kids. I have one on the way and I am tapping out morse code on my wife's belly. If it works perhaps my babies first words will be dit-dah.

The W3OK Corral, ARNS

(Continued from page 20) ARRL

**Bill Orr, W6SAI, family posts letter of thanks:**

The family of the late Bill Orr, W6SAI, has expressed its appreciation to those in the amateur community who wrote following Orr's death on January 24. "The entire Orr family wishes to express our deep gratitude for all of your kind condolences upon the death of our father William I. Orr, W6SAI. We have received e-mails from all over the world, and are proud that our father's legacy will live on through people like you, his treasured Amateur Radio family," the letter said in part. "It is of great comfort to us to know that you will miss him too. He was our hero and will be forever missed." The Orr family invited donations to The ARRL Foundation in his memory.

--thanks to Bill Fizette, W2DGB

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**Friday 7:45 PAARA Meeting**

all old goodies & some new  
 for information check net or CONTACT:  
 Andreas N6NU, (650) 233 0843



**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 MHz repeater, PL tone off. •

Membership in PAARA is \$12.00 per calendar year which includes a subscription to PAARAGraphs, \$6 for additional family members (no newsletter).

Make payment to the Palo Alto Amateur Radio Association.

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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-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 PAARAGraphs editors reserve the right to reject any ad deemed to be not in the best interest of the Association. All fees payable in advance by the year with "scanner-ready" copy or text-only ads. Give payment and copy to Bob Korte

**PAAR***Paragraphs* March 2001

**Palo Alto Amateur Radio Association, Inc.  
PAARAGraphs Newsletter  
P.O. Box 911  
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**FIRST CLASS MAIL**

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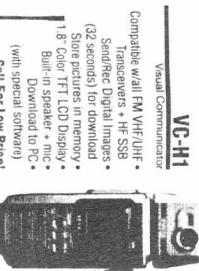
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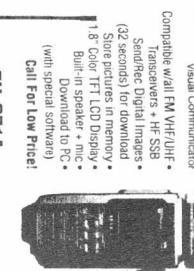
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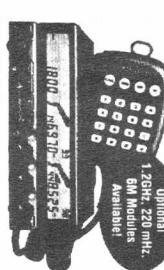
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