

K6YQT

PAARA NEWSLETTER
VOLUME 50 NUMBER 8 August 2001

W6OTX



PAARAGraphs

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



CALENDAR

August.....3, PAARA Meeting, 7:30
Menlo Park Recreation Center
700 Alma Street, Menlo Park
August.....8, PAARA Board Meeting, 7:30
Red Cross Bld., 400 Mitchell Ln., Palo Alto
September...7, PAARA Meeting, 7:30
September 12, PAARA Board Meeting, 7:30
October.....5, PAARA Meeting, 7:30
October.....10, 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

August 3, 2001
7:30 P.M.

Speaker:

Bill Rausch, AA6PA

"Personal Satellites for the Amateur"

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



ARRL Headquarters

Newington CT

Downloaded by Don Trask, KF6JMQ

Amateur Radio Spectrum

On March 1 the Amateur Radio Spectrum Protection Act of 2001 was introduced into the US House of Representatives. Rep Michael Bilirakis of Florida introduced the bill, denoted H.R.817. ARRL President Jim Haynie, W5JBP, and ARRL First Vice President Joel Harrison, W5ZN, visited the Congressman's office to thank him personally for his continuing interest in protecting amateur allocations. The House measure has been referred to the House Committee on Energy and Commerce. Sen. Michael Crapo of Idaho introduced the Senate version of the bill, denoted S.549, on March 15. Sen. Daniel Akaka of Hawaii was a cosponsor. The bill has been referred to the Senate Commerce, Science, and Transportation Committee. In introducing the Senate measure again this year, Crapo and Akaka referred to the importance of Amateur Radio in providing communication in times of disaster. S.549 is identical in its wording to H.R.817. If approved by both chambers and signed by President George W. Bush, the Spectrum Protection Act would require the FCC to provide equivalent replacement spectrum should it ever reallocate primary Amateur Radio spectrum to another service. The same requirement would apply if the FCC acted to diminish any secondary amateur allocations or

(Continued on page 68) Spectrum

Personal Satellites for the Amateur

CubeSats, 4 inch cubes packed with electronics and launched into earth orbit, are the subject of the guest speaker, **Bill Rausch, AA6PA**, at the August meeting. Bill, a key member of the design team will detail the design process and demonstrate a working CubeSat model. For those of you who don't know Bill, he started his career in electronics by making a crystal set in 1945 at age 13. He was licensed as W8GIF in Detroit when he was 18. He is a past PAARA president and an AMSAT Area Coordinator.

—Dick Kors, KM6EP

Miscellaneous Dates

Flea Market at Foothill (info:<<http://www.electronicsfleamarket.com>>)
SEE PAGE 73

- 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, 650-858 2176, 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: (408) 734 4453,
- SPECS** Southern Peninsula Emergency Communication System
meets each Monday 8:00PM on Net 145.27, 440.80 MHz, www.specsnet.org
contact: Tom Cascone, KF6LWZ, 650-688-0441 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

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) 967 7924, FSHENSLEY@NOVELL.COM
- VE Exams**, 3rd Saturday each month, 10:30AM, 145.23- PL=100Hz
Redwood City Main Library, Community Conference Room
1044 Middlefield Road, Redwood City, CA
contact: Al WB6IMX@att.net
- Swap meet**, LosPositas College, Livermore, 1st Sunday each month.
Contact: Cliff Kibbe (209) 835 6715 or Eliot Ross (925) 606 7710

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

Join us for pre-meeting eyeball

QSO August 3rd
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—




Palo Alto Amateur Radio Association, Inc.

PO Box 911

Menlo Park, CA 94026

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Secretary	Jay Melvin, WA6SBO.....(650) 726 4361 wa6sbo@arrl.net
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ARES Officer..... Lily Anne Hillis, N6PGM	(650) 325 5484
Club Historian ..?	
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Joel Wilhite, KA7TXV	(650) 325 8239 '01 ka7txv@qsl.net
Gerry Tucker, N6NV	(650) 326 4908 '01
Pat Gormley, KB6HZM	(650) 369 3550 '02

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

PAARAGraphs Staff

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PAARAGraphs e-mail address: k6uro@arrl.net

Submit material for PAARAGraphs by the 15th

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

Contest Calendar

~Vic Black, AB6SO~

(for rules and exchanges, see www.contesting.com)

August Contests:

- 4, 5 10-10 Int. Summer Contest, SSB 0001Z, Aug 4 - 2400Z, Aug 5
- 4 European HF Championship 1000Z - 2159Z, Aug 4
- 4,5 North American QSO Party, CW 1800Z, Aug 4 - 0600Z, Aug 5
- 4,5 ARRL UHF Contest 1800Z, Aug 4 - 1800Z, Aug 5
- 5 YO DX HF Contest 0000Z - 2000Z, Aug 5
- 5 QRP ARCI Summer Daze SSB Sprint 2000Z - 2400Z, Aug 5
- 11,12 WAE DX Contest, CW 0000Z, Aug 11 - 2359Z, Aug 12
- 11,12 Maryland-DC QSO Party 1600Z, Aug 11 - 0400Z, Aug 12 and 1600Z - 2359Z, Aug 12
- 18,19 SARTG WW RTTY Contest 0000Z - 0800Z, Aug 18 and 1600Z - 2400Z, Aug 18 and 0800Z - 1600Z, Aug 19
- 18,19 ARRL 10 GHz Cumulative Contest 0800 local - 2000 local, Aug 18 and 0800 local - 2000 local, Aug 19
- 18,19 Keyman's Club of Japan Contest 1200Z, Aug 18 - 1200Z, Aug 19
- 18,19 SEANET Contest, CW/SSB/Digital 1200Z, Aug 18 - 1200Z, Aug 19
- 18,19 North American QSO Party, SSB 1800Z, Aug 18 - 0600Z, Aug 19
- 18,19 New Jersey QSO Party 2000Z, Aug 18 - 0700Z, Aug 19 and 1300Z, Aug 19 - 0200Z, Aug 20
- 25,26 TOEC WW Grid Contest, CW 1200Z, Aug 25 - 1200Z, Aug 26
- 25,26 SCC RTTY Championship 1200Z, Aug 25 - 1159Z, Aug 26
- 25,26 Ohio QSO Party 1600Z, Aug 25 - 0400Z, Aug 26
- 25,26 Hawaii QSO Party 1600Z, Aug 25 - 2200Z, Aug 26
- 25,26 South Dakota QSO Party 1600Z, Aug 25 - 2200Z, Aug 26
- 25,26 W/VE Island Contest 1600Z, Aug 25 - 2359Z, Aug 26

PAARA PONDERINGS de VIC BLACK, AB6SO



Getting feedlines through the wall is always a problem. Dr. Megacycle, **James R.**

Duffey KK6MC/5, tells us that Tower Electronics, <<http://www.pl259.com>>, sells 6-inch long SO-239 double female barrel bulkhead connectors. Drill a hole through the wall, put the barrel through, and use a gasket under the nuts. Instant feedthrough. Prices: 2 inches long for \$3 each, 4 inches long for \$6 each and 6 inches long for \$8 each. A variation of this idea would be to use standard length double female barrel bulkhead connectors to get through the firewall in cars for mobile antenna lead installations since many modern cars don't have holes in the firewall.

Stuart Rohre K5Kvh sent along the following description of a Field Day antenna the likes of which many of us can only dream about.

"The Austin Amateur Radio Club took up the QRP Field Day challenge once again, even though it is the local general interest club. AARC operated W5KA as 3A battery this year with SSB, PSK 31, and CW stations. In addition we had QRP satellite set up, which worked 6 Qs thru the birds on 440/2m. We also had fast scan ATV, 2m and 6m simplex VHF and a couple of microwave bands, all QRP. CW and PSK stations used Yaesu FT-817s, each with an IDEZ, (Inverted Double Extended Zepp) antenna up about 30 feet on a bluff overlooking a football practice field, itself on the side of high ground in NW Austin TX.

On the South end of the football field, the SSB station had its antenna: an 849 foot circumference, horizontal, square loop fashioned by **Mike Albritton, N5LUQ**, "Mr. Loop". It was made of 12 ga. copper enameled surplus wire from a 5000 foot reel. So we could photograph it, we used yellow plastic electric fence insulators at each corner, and two at the feedline corner. A military mast 20 feet high was used on the fed corner, and the others were on a coaches' stand 20 feet up on a short mast, and the final two corners on opposite side of the field, and at South end, were on existing streetlight poles near the running track tied on with nylon line 20 feet up, (which is all our ladder will reach). The rig was a Kenwood TS 120 turned down to 5 watts, run to a Dentron Super Tuner, and its balun, and then 450 ohm window line up to the fed corner of the loop.

This was the most awesome antenna we have ever run since starting with the 3 horizontal vee beams in 1996! There were many unsolicited comments of 'We can't believe you are only 5 watts. You are the strongest signal on the band', on 10, 15 and 20 meters SSB, our main efforts. Although we did only hunt and pounce, I am now sure we could have run a frequency because every station we called answered first try 99 per cent of the time. In some cases, we would hear a CQ FD, and answer him and then another station would call us on frequency! We did a couple of back-to-back contacts with quick report to each station! It was almost embarrassing, because we didn't intend to take anyone's fre-

quency!

We only operated 20 hours, as a lightning storm blew in, and we had wind that required us to manually hold the tents for an hour to prevent them from blowing away. The approaching storm was 20 miles away when we started to get static charge on the loop. We found out when trying to swap head phones and drew an arc from the rig chassis to the phone plug! Then, not realizing yet what was going on, I decided to undo the coax from the tuner and swap in a Ten Tec Scout for its better Jones filter. Wow! I grabbed the PL 259 and jumped! We got an 1/8 inch spark, as well as shocking me, and one of the Physics types said it was 5000 to 7000 volts to spark like it kept doing. The Zepps also had a charge, with 1/8 inch arcs to metal tent poles sitting vertically on the concrete pad under the tent. We started to loosen wire nuts holding the ladder line splices so we could drop the antenna ends to ground them and I got shocked again right thru the 600 volt plastic of the electrician's wire nuts! I completed the disconnect with heavy-duty linesmen's pliers with extra thick insulation.

No rigs were hurt and we completed FD with nearly 700 contacts. On SSB we did 67 ARRL sections on the loop. The only state we missed was Alaska. We got HI several times, as well as PR, and VI. SSB QRP works great with a big loop! CW and PSK 31 were also done, but it was the SSB effort that drew the most interest from visitors. 72, Stuart K5Kvh."

Some of you may wonder why anyone would go to the trouble to operate QRP. I recently worked Peru with my FT-817 running 2 Watts SSB powered by 8 AA cells. Although it was a bit of a challenge, it was definitely cheap thrills. It reminds me of the man who was driving home from work one day and stopped to watch a local Little League baseball game that was being played in a park near his home. As he sat down behind the bench on the first-baseline, he asked one of the boys what the score was. "We're behind 14 to nothing," the youngster answered with a smile. "Really? I have to say you don't look very discouraged." "Discouraged?" the boy asked with a puzzled look on his face. "Why should we be discouraged? We haven't been up to bat yet."

Upgrades & New Members

KB6GWK, Bob Bisio (upgraded to General on 6/16)

KF6OTP, Patrick Semansky (Upgraded to Extra Class July 14, with New Call Sign AD6YO)

The following new members joined PAARA at our Field Day site:

KG6EDP, Jim Rice (Upgraded to Extra Class on July 7)

KG6DSR, Ellen Rice

KG6DHU, Tom Rice



WEB WANDERINGS

de Vic Black, AB6SO

Ten-Tec is soliciting input for the design of their new QRP all mode software defined radio at <<http://www.tentec.com/TT516.htm>>. Here's a chance to contribute to the design of a new product. It will be available about January 2002 for a target price of \$595. You will be able to upgrade the radio by downloading the ROM instruction set from the Internet. Incidentally, when Kachina announced that they would no longer make Amateur Radio gear, their head designer jumped ship and is now working for Ten-Tec. Ten-Tec is already well established and it looks as if they're positioning themselves for more cutting edge designs in the future.

The National Institute of Standards and Technology has requested that we take a few minutes to fill in a users' survey concerning the use of radio stations WWV and WWVH. Results of the polling may influence the future direction taken by NIST in maintaining the WWV services. Congress is trying to cut expenses by transferring many government functions to the Internet. Most Amateurs use the stations for frequency standards and for telling the current time and radio propagation parameters. The signals themselves also act as propagation indicators to and from Colorado and Hawaii (something that will be missed if the signals are available only on the Internet). To participate in the survey, go to <<http://timesurvey.nist.gov>>. The survey deadline is 30 September 2001.

Wayne Donnelly KB1HJ from Sutton Mills NH has a site devoted to slow scan TV (SSTV) at <<http://www.conknet.com/~kb1hj>>. There are links to download both freeware and shareware for SSTV as well as some other digital modes. Taking the initiative to download some software is the only thing keeping most people from receiving these digital modes now.

Palm OS users will want to check out <<http://209.196.6.134/>> for a mapping program. The basic Mapopolis software is free. Enhanced maps for local areas can be purchased for \$2.95 each.

GNU Radio hosts a page at <<http://www.gnu.org/software/gnuradio/gnuradio.html#intro>> where you can participate in the design of a free Linux software defined receiver.

New PAARA member **Patrick Semansky KF6OTP** recommends the web site of Mountain-Ops Communications in Hubbard, Oregon located at <<http://www.mountain-ops.com/>>. Their specialties are Amateur and Emergency Communications supplies for mountain topping and Search and Rescue operations. They sell TacPack nylon and Velcro enclosures to protect the FT-817, FT-100D, IC-706, Elecraft K2 and SG-2020 rigs. The modular enclosures provide for an add-on feature to hold the LDG Z11 auto tuners. In addition, Mountain-Ops sells 2 Ah sealed lead acid battery power supplies for use with the popular travel radios. They are distributors

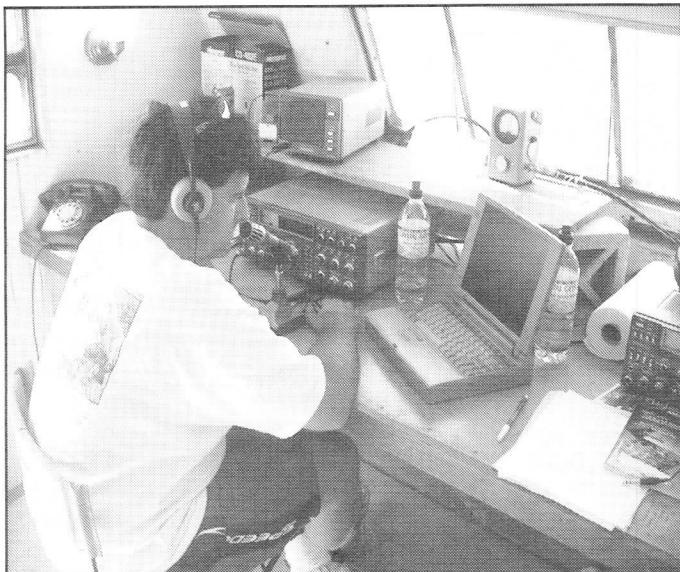
for rotatable dipole kits for use with Iron Horse or Ham Stick antennas as well as books and software.

Six-meter fans will want to check an unusual web site hosted by **Tim Havens N1RZ** from Whitefield, NH at <<http://www.n1rz.org>>. Six-meter contacts are notoriously difficult to make since band openings are infrequent and short lived. Most operators watch packet-spotting networks, which report contacts in progress. You can analyze the information and then hope to get in on the opening if it affects your local area. Tim's web site collects the DX "spots" from the spotting networks and plots them on a world map with Great Circle bearing lines connecting the ends of the contacts. This graphical information allows you to quickly visualize the paths of contacts currently taking place around the globe. Contacts are color coded to indicate how many minutes ago the contacts took place. By watching the map periodically update, you can see where the sporadic E clouds are moving. Radiosondes located around the globe are also indicated. Click on any of them to check for propagation hints from those locations.

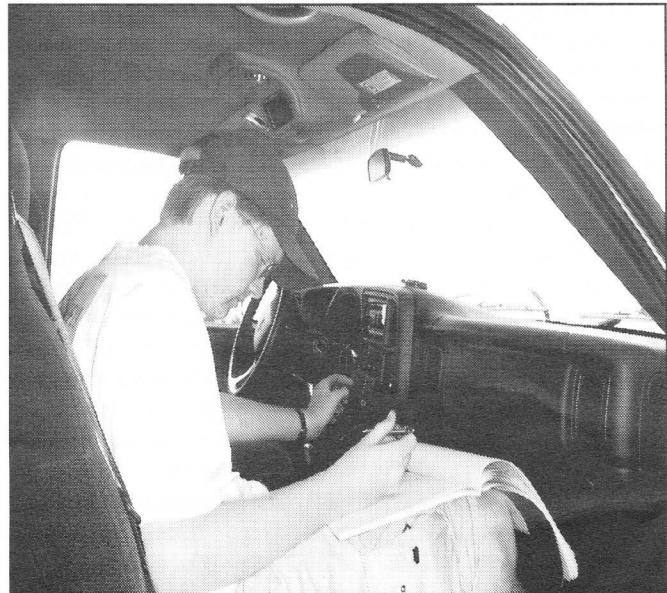
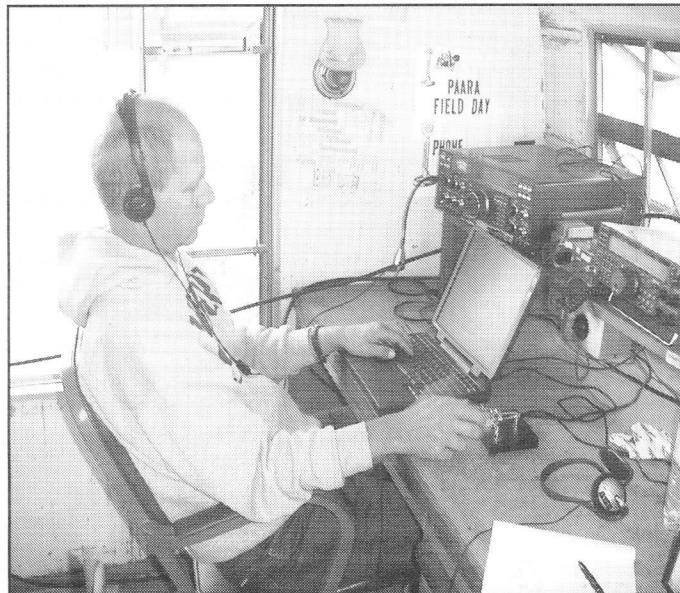
Andres Junge N6NU has discovered a new feature on the Google Search Engine. Andreas says, "Check this out. This new feature shows all Web pages that use a specific link to a site. For instance, type 'link:<http://www.qsl.net/paara>' in the edit field and it will find all pages that refer to this one."

(Continued from page 65) Spectrum

to make additional allocations in ham bands that diminish their utility. More information on the Spectrum Protection Act, including the full text of the bills, is available on the ARRL Web site, <<http://www.arrl.org/govrelations/arspa.html>>. In order to have a chance of passage, your Representatives and Senators must know that you support the bill. Please write! Following is a sample letter, written by Brad, K6WR, that you may find useful as a guideline. When writing, be sure you make the appropriate changes to the bill's number and sponsors, as shown below! To: (your Representative's/Senator's name and address) Dear (Representative/Senator) (Name) As one of the nation's more than 650,000 licensed Amateur Radio operators, I urge you to sign on as a cosponsor to ("HR 817" if writing to your Representative, "S.549" if writing to your Senator), the Amateur Radio Spectrum Protection Act of 2001. This bill, introduced by ("Representative Bilirakis of Florida on March 1, 2001" if writing to your Representative, "Senators Crapo and Akaka" if writing to your Senator), is a non-partisan, non-controversial measure designed to afford a measure of protection to Amateur Radio frequencies used by radio amateurs in California and elsewhere to provide emergency communication, technical experimentation and recreation. The bill would require the Federal Communications Commission to provide "equivalent replacement spectrum" in the event it becomes necessary to reallocate radio frequencies currently allocated to the Amateur Service. This is a matter of fairness, and is in the national interest. The bill would help ensure Amateur Radio's continued public service role to the people of the State of California. Sincerely, (Your name and address, including email address)



Field Day 2001





Technical Tip

Amateur Radio Software For Palm Computers

— by Vic Black AB6SO

Many operators use computers for QSO logging, looking up exotic callsign prefixes to determine the country of origin, checking beacon schedules and other chores around the radio shack. With the advent of Palm computers, you can now do many of those same activities while you're away from your main station computer. The only problem until now was finding enough software to satisfy your needs. Peter Hodgson has collected most of the Palm programs for Amateur Radio together on one web site to make it easier to download them. Go to <<http://www.qsl.net/va3pkh/palm-ham.html>>. This site, maintained by **Peter Hodgson VA3PKH**, lists nearly 70 Palm Operating System programs that are of interest to Amateur Radio operators.

Many of the programs are freeware and a few are shareware. In general, shareware programs can be tried for free and, after payment of a small registration fee, will be updated regularly as updates become available. Amateur Radio software categories and number of programs available from the site include: DXing (10), Logging (5), Homebrew & Building (4), Information (17), Morse Code (7), Packet (5), VHF/UHF/Weak Signal (6), satellites (4), Scanning/Repeaters (10). Not all programs will be useful to everyone since some are region dependent, such as local repeater listings, or they are specific to a particular radio model, such as Yaesu VX-1. There's a short description of each program and the program names are hyper linked. If you click on a name, it will initiate the download. Some typical programs from the site are FRS Frequency List (free), AmRLog (\$9.95) and APRS/Find (free).

Scan Guide by James Hannibal isn't listed on the VA3PKH page. It lists thousands of scanner frequencies in 24 categories and many sub categories. There are links here to Smaller.com and Handango.com where you can download the program shareware. There is a 30-day use limit for the shareware then you can register your copy for \$15 if you like it. The Scan Guide home page is at <<http://homepage.mac.com/scanguide>>.

If you've searched for Palm OS software before, you're probably familiar with palmgear.com. Most of the programs are not radio related, but some are. Go to <<http://www.palmgear.com>> and use the search path: Software, Misc/fun, Hobbies. For search, enter "radio". Examples are Pocket Beacon freeware to track NCDXF/IARU beacons and Ham Pilot logging software. In general, these programs are available on the VA3PKH page, but you may find a better description here along with general interest titles.

HF Radio Logger logging software is available free from the VA3PKH page, but the home page <<http://hfradio.org>> may provide more information about this program.



ARRL Headquarters

Newington CT
 Effective July 1, 2001

Amateur Morse Testing Changes

From ARRL Headquarters

New Morse code exam standards go into effect July 1 for all Volunteer Examiner Coordinators. The new standards call for Farnsworth character speed in the 13-to-15 WPM range and the end of multiple-choice questions for routine Morse code exams.

In the wake of restructuring and the establishment of 5 WPM as the sole amateur Morse requirement, the National Conference of Volunteer Examiner Coordinators voted last July to set up the revised standards for the administration of Morse code examinations in the US.

ARRL VEC Manager **Bart Jahnke, W9JJ**, points out the required change to the Farnsworth protocol replaces the 18-WPM character speed ARRL VEC has used since 1989. "Standard 5 WPM messages with 5 WPM characters are available as an accommodation," he said. "Standard (non-Farnsworth) speed messages are available upon special request from the ARRL VEC for ARRL VE teams."

In addition, the Morse exam audio frequency range should be between 700 and 1000 Hz for routine exams. Consistent with the revised standards, Jahnke said, ARRL VEC has set 15-WPM characters as its Farnsworth setting and 750 Hz as its audio-frequency standard.

Code practice transmissions from Maxim Memorial Station W1AW will reflect the new Farnsworth standard. W1AW Station Manager **Joe Garcia, NJ1Q**, says transmissions using the new protocol will begin Monday, July 2. Code transmissions at speeds below 18 WPM will drop from 18 WPM to 15 WPM character speed. W1AW Web code practice files, at <<http://www.arrl.org/w1aw/morse.html>>, will mirror the new standards too.

The new Morse examination standards also affect test administration. After July 1, Morse examinees will have to supply fill-in-the-blank answers for the 10-question Element 1 quiz. Multiple-choice type examinations no longer will be acceptable. Under the new testing regime, Morse code examinees must either correctly answer seven of the ten fill-in-the-blanks questions or correctly copy 25 consecutive characters.

Changes are on the horizon for the written examinations as well. Revised Amateur Extra question pool will go into effect July 1, 2002. Reworked Technician and General question pools will become effective on July 1 2003 and 2004 respectively. NNNN /EX

PAARA Flea Market Date
September 8

From paara@qth.net 7/24/01

Internet Linked Repeater Project Experiment:

If you are located in the San Francisco Bay Area, talk to hams in Moscow, Russia with your 2-meter transceiver!

Between July 26 and August 7 the Marin Amateur Radio Club will be conducting an experiment using Internet Linked Repeaters located in Marin and Moscow Russia.

You are invited to participate. The Marin Internet Repeater will be transmit and receive via the 146.700 MHz repeater located on Mt. Tamalpais. This repeater has a PL of 179.9 Hz.

The link will be active during morning hours between 6 AM and 10 AM local time and then again in the evening between 6 PM and 10 PM local time.

Your transmissions will be heard by hams in Moscow, and you will hear their transmissions. Keep in mind that most of the Russian hams will be fluent in, but limited to, "radio English." Also, Moscow is 11 hours ahead of us, so that morning and evenings are swapped (example, 8AM local time is 7PM Russian time).

Email questions and comments to: kf6vsg@arrl.net. For more information, see web site <<http://www.ssiserver.com/iradio>>.

CHANGE IN VE TESTING

VEs will still be testing for all classes of exams on the third Saturday of the month.

The site has been changed to:

Redwood City Main Library
Community Conference Room

The time has been changed to 10:30AM

Address: 1044 Middlefield Road, Redwood City, CA

more info contact: Al, WB6IMX@att.net

Flea Market Dates

August 11	PA RED CROSS
September 8	PAARA
October 13	SJ RED CROSS

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

WØQK

ELECTRONIC COMPONENT SUPPLY
 TEST EQUIPMENT • COMPUTERS



Alltronics

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 FAX 408-943-9776



MICHAEL J. ALLISON
 Principal Software Engineer

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 (650) 969-1448
 FAX: (408) 732-6428

PAARAGraphs Ad Rates

PAARAGraphs 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-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

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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PAAR *Graphs* August 2001



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P.O. Box 911
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FIRST CLASS MAIL

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Webb site for propagation information:
www.arrl.org/w1aw/prop/

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