

K6YQT

PAARA NEWSLETTER
VOLUME 49 NUMBER 8 August 2000

W6OTX



PAARAGraphs

Celebrating 63 years as an *active* ham radio club—*Since 1937*
Newsletter for the Palo Alto Amateur Radio Association, Inc.



CALENDAR

- 
- Aug.....4, PAARA Meeting, 7:30,
Menlo Park Recreation Center
700 Alma Street, Menlo Park
 - Aug.....9, PAARA Board Meeting, 7:30
Red Cross Bld., 400 Mitchell Ln., Palo Alto
 - Aug....12, Foothill Flea Market, PAARA sponsored
 - Sept.....1, PAARA Meeting, 7:30
 - Sept.....6, 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 4, 2000
7:30 P.M.



Speaker:

Dean Babcock W6OEL

"Design of Collins filters"

Join us for pre-meeting eyeball

6 pm— at Su Hong Restaurant , 1039 El Camino Real, Menlo Park

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

New PAARA Member

Peter Van Scherpe KE6KQV

Upgrades:

Loren Archer KG6LRN: Extra Class
Pat Gormley WB6HZM Extra Class @ 20 wpm
Lily Ann Hillis N6PGM General Class

Moved

Tom Scherf K6JBR, Show Low, AZ
(complete address later)

Crystal Radio Links...

So you've built the Oatmeal Box Radio on this site, and you want to improve the design? Go to Owen Pool's site, **Crystal Radio Resources** for his Peanut Specials. Owen's site also has an extensive list of crystal radio links, tips on things such as bandspreading and DX, and plans for building a convertible crystal radio (you can swap in a simple "triode" detector/amplifier), an RF signal booster, and more. Owen is a Society member, and he's one of the resident experts lurking around on *Rap 'n Tap*, so be sure to give him a warm hello!

SkyWaves. This is Al Klase's site (he's a member too), and he has posted several pages of interest to the crystal radio enthusiast. You'll find "Crystal Set Design" 102, a crystal set tutorial, and some nice tips for mounting crystals to use in detectors. You'll also find photographs of some of Al's radio reproductions, some communication receivers and gear (the Russian maritime radio receiver is a must-see), and information on designing a SWL antenna distribution system for connecting multiple LF/MF/HF receivers to a single antenna.

There is a new forum on Yahoo! that is devoted to crystal radio. It's called The Crystal Set Radio Club, and it's members are true radio enthusiasts (some of them are members of the Xtal Set Society too). Check it out!

Miscellaneous Dates

Flea Market at Foothill (info at: <http://joslin.com/FleaMarket>)
August 12, PAARA

- 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
- EMARC** Electronics Museum Amateur Radio Club
meets 4th Friday 7:30 each month,
contact: Sheldon Edelman 650-858-2176, Edelman@mchochet.net
- NCDXC** Northern California DX Club
meets 2nd Friday 7:30 each month, repeater for member info 147.360, Thur 8:00PM,
contact: Bob Mammarella 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 WA6LNV 650-961-3266
- 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 spec@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, 408 249 7093, 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

Contest Calendar

~Vic Black, AB6SO~

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

- August, 2000
- 5-6 10-10 Int. Summer Contest, SSB 0001Z, Aug 5 - 2400Z, Aug 6
- 5 European HF Championship 1000Z - 2200Z, Aug 5
- 5-6 North American QSO Party, CW 1800Z, Aug 5 - 0600Z, Aug 6
- 5-6 ARRL UHF Contest 1800Z, Aug 5 - 1800Z, Aug 6
- 6 YO DX HF Contest 0000Z - 2000Z, Aug 6
- 6 QRP ARCI Summer Daze SSB Sprim 2000Z - 2400Z, Aug 6
- 12-13 WAE DX Contest, CW 0000Z, Aug 12 - 2400Z, Aug 13
- 12-13 W/VE Islands Contest 1600Z, Aug 12 - 2359Z, Aug 13
- 19, 20 SARTZ WW RTTY Contest 0000Z - 0800Z, Aug 19 &
1600Z - 2400Z, Aug 19 and 0800Z - 1600Z, Aug 20
- 19-20 SEANET WW DX Contest, SSB 0001Z, Aug 19 - 2359Z, Aug 20
- 19, 20 ARRL 10 GHz Cumulative Contest 0800 local - 2000 local, Aug 19
and 0800 local - 2000 local, Aug 20
- 19-20 Keyman's Club of Japan Contest 1200Z, Aug 19 - 1200Z, Aug 20
- 19-20 Oregon QSO Party 1400Z, Aug 19 - 0400Z, Aug 20
- 19-20 North American QSO Party, SSB 1800Z, Aug 19 - 0600Z, Aug 20
- 26-27 TOEC WW Grid Contest, CW 1200Z, Aug 26 - 1200Z, Aug 27
- 26-27 SCC RTTY Championship 1200Z, Aug 26 - 1200Z, Aug 27
- 26-27 Ohio QSO Party 1600Z, Aug 26 - 0400Z, Aug 27

Palo Alto Amateur Radio Association, Inc.

PO Box 911

Menlo Park, CA 94026

President	Andreas Junge N6NU.....(650) 233 0843 n6nu@arrl.net
Vice President	Jon Zweig, AD6FX(650) 324 8751 jzweig@pacbell.net
Secretary	Jay Melvin, WA6SBO(650) 747 0639 wa6sbo@arrl.net
Treasurer	Bob Korte, KD6KYT(650) 595 1842 RGK4U@aol.com
Membership	Vic Black, AB6SO(650) 366 0636 vic.black@adept.com , ab6so@smm.com

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.....	Steve Stuntz, K6FS(650) 322 4952
Advertising.....	Bob Korte, KD6KYT(650) 595 1842
Webmaster	Andreas Junge AD6FQ(650) 233 0843 n6nu@arrl.net

Board of Directors

Charles Grandjean, WD6FAF	(408) 739 5185 '00 wd6fafwebtv.net
Doug Schliebus, K1DIT	(650) 851 0727 '00 schliebus@aol.com
Don Trask, KF6JMQ	(408) 251 6494 '01 trask@shell3.ba.best.com
Joel Wilhite, KA7TXV	(650) 325 8239 '01 ka7txv@qsl.net
Gerry Tucker, N6NV	(650) 326 4908 '01 (see "Calendar" for Board meeting times, visitors welcome)

PAARAGraphs Staff

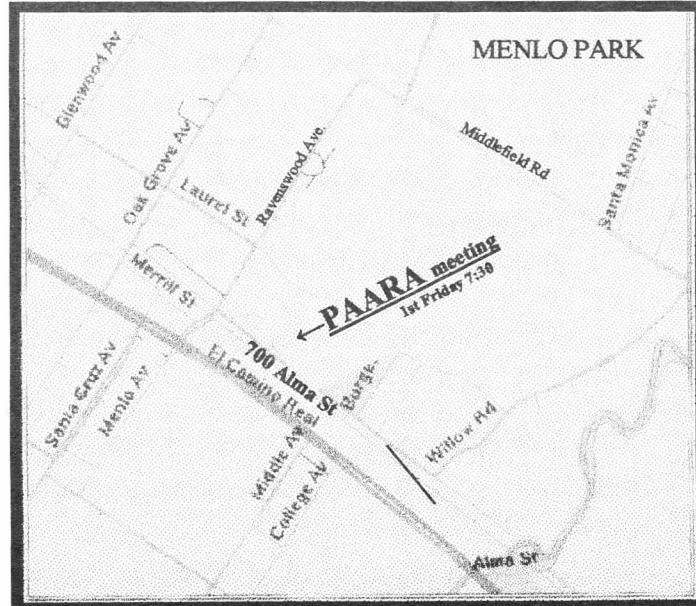
Editor.....	Wally Porter, K6URO(650) 494 7038 k6uro@arrl.net
Database.....	Don Trask, KF6JMQ(408) 251 6494 trask@shell3.ba.best.com
Columns.....	Vic Black, AB6SO(650) 366 0636 vic.black@adept.com

PAARAGraphs e-mail address: k6uro@arrl.net

Submit material for PAARAGraphs by the

15th of the month

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



Beginner's Bulletin

edited by Vic Black, AB6SO

Q. In a World War II movie, the radio operator kept saying "Roger, Wilco". What does that mean?
A. "Roger" was the phonetic equivalent for the letter R, meaning "Right", or OK, and was chosen so as not to be confused with words that sound similar to right such as might, night, sight, etc. "Wilco" is a contraction of the two words "Will Comply" (with the orders). So Roger, Wilco then meant, "I understand and will comply with the orders". The trend in Amateur Radio is to use plain English for phone and reserve abbreviations and Q codes for CW.

Q. What's the difference between a two-band HT and a dual-band HT?

A. A two-band HT can be used on either of two different bands, such as 2 meters or 70 cm (440MHz). But it can only be used on one band at a time. With a true dual-band radio you can talk and receive on one band while simultaneously monitoring the other band. A dual-band radio is required to access a two-band satellite or operate full duplex. Full duplex is similar to a telephone since both parties can talk and hear each other at the same time. One party would talk on 2 meters, for instance, and listen on 70 cm. The other operator would talk on 70 cm and listen on 2 meters. This heats up the radios and discharges batteries pretty fast, though.

Q. My new HF rig can listen to either Upper Side Band or Lower Side Band. It seems to change automatically when I change bands. Is there some kind of standard, or does it matter? A. Since the 30 meter band is CW and data only it makes a good dividing line. Frequencies under 10 MHz use lower side band (LSB) and frequencies higher than 10 MHz use upper side band (USB). Tip: With CW you can listen to either side band. If there's a lot of interference (QRM) on one side, you can switch to the other side on some receivers for listening and maybe cut some of the interference.

Q. I just upgraded to General Class and I want to get on 10 meters SSB cheap. Can I modify an old CB radio to do that?

A. Yes, but it may not be the best way to go. Most of the CB rigs are AM only. If you buy a SSB CB rig, you'll pay as much as you would for an Amateur Radio rig and then you'll still need to modify it. The CB rigs are channelized and crystal controlled so when you convert them to 10 meters you will only be able to access 40 spaced out channels in the amateur frequencies. With an amateur band radio, you can continuously tune across the band.

Join us for pre-meeting eyeball QSO
August 4th
gab & gobble
6 pm—at Su Hong Restaurant
1039 El Camino Real, Menlo Park
across from Kepler's Book Store



Technical Tip

-Vic Black AB6SO

Connectors

You can never have enough connector adapters, but sometimes you just don't have the right combination. Fortunately, you can sometimes get away without an adapter. Type N Male fits BNC Female directly as a push in. There is no twist lock or screw down strain relief, but it makes a perfect fit, otherwise. This works fine for a temporary connection. Strain relief can be accomplished with tape or a piece of safety wire to hold the two connectors together.

PAARA E-MAIL LIST

(REFLECTOR) MECHANICS:

PAARA maintains two e-mail lists. To subscribe, send an e-mail message as follows (leave SUBJECT blank. If your mail program won't allow this, type in Hi):

TO: majordomo@qth.net

SUBJECT:

BODY: subscribe paara

For PAARA's Satellite Launch Project list, send an e-mail message as follows:

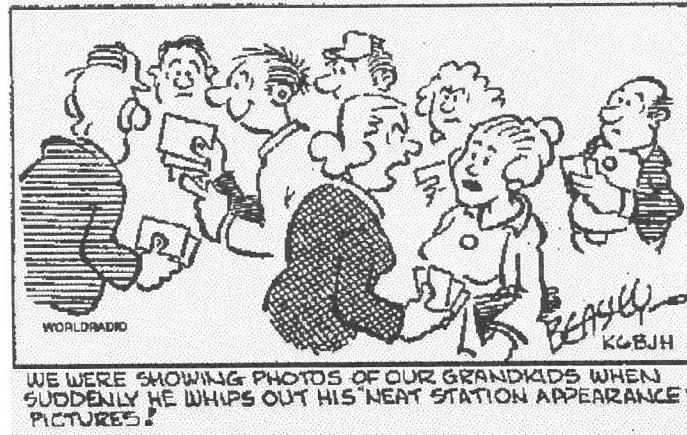
TO: majordomo@qth.net

SUBJECT:

BODY: subscribe paaracube

You will receive a message confirming your subscriptions along with list mechanics (i.e. how to post messages to the list, how to unsubscribe, etc.).

You may subscribe to both reflectors with one message, but be sure to put the commands subscribe paara and subscribe paaracube on separate lines in the body of the message. You may also go to <http://www.qth.net>. Scroll down the menu until you come to Clubs. Both of PAARA's e-mail reflectors are listed (PAARA for general club announcements and PAARACube for our satellite activities). Select one. Fill in your e-mail address then click on "subscribe" or "unsubscribe". Click "submit request" and the transaction will take place.



PAARA FIELD DAY 2000





PAARA PONDERINGS

de VIC BLACK, AB6SO

Franciscan Priest Maximilian Kolbe was born Raymond Kolbe in Zdunska-Wola, Poland in 1894. As a youngster he was interested in mathematics and science, especially astronomy and space flight. He even applied for patents on rocket engines. Later he answered the call of priesthood. Upon his return to Poland from a missionary assignment where he established a religious publishing house in Nagasaki, Japan in the early 1930's, he became an Amateur Radio operator and was issued call sign SP3RN.

During the German invasion of Poland, the friars' community was dispersed. It later reformed as a Polish Christian and Jewish refugee center. In May 1941, Kolbe, then 47 years old, was arrested for publishing "unapproved literature" and as a "journalist, publisher and intellectual" partly because of his innovative use of movies and radio broadcasting in his work. He was sent to the Auschwitz death camp where he discreetly continued his ministry while engaged in hard labor. Whenever a prisoner escaped from the camp, the guards selected 10 men at random to starve to death as punishment and as a warning to the rest of the prisoners.

Following an escape in June 1941, Sergeant Franciszek Gajowniczek, a Jewish farmer with a wife and children, was one of the men chosen to die. Kolbe volunteered to die in his place. Four of the ten men were still alive after fourteen days in the starvation bunker. Only one was fully conscious, Fr Kolbe himself. Since Kolbe wasn't dying very fast, he was finally executed by a lethal injection of carbolic acid on August 14.

Because of his unselfish sacrifice, Fr Kolbe SP3RN was beatified by Pope Paul VI on October 10, 1971 and canonized a Roman Catholic saint by Pope John Paul II on October 10, 1982. The process was expedited so that Gajowniczek, who survived the war and died March 13, 1995 at his home near Warsaw, could be present. Krzysztof "Kitt" Maciejkiewicz SP2JKC said, "Many thanks for your nice e-mails. Yes, it is really true with SP3RN Maksymilian Kolbe story. In Poland, he is called Maks". Argentine Radio Amateurs consider St. Max the patron saint of Amateur Radio. Because of his execution by injection, he has also been adopted patron saint of drug addicts. St. Max Feast Day is celebrated August 14.

According to the latest shipping manifest, Shuttle Mission STS-106 is scheduled to deliver Amateur Radio equipment to the International Space Station in August. The first hams to live aboard will be Astronaut Bill Shepard KD5GSL and Cosmonaut Sergei Krikalev USMIR, both of whom will fly up in October. The International Amateur Radio Union is coordinating efforts to request a specific ISS call sign block from the ITU in order to recognize the international cooperative nature of the International Space Station. In the meantime, Russian station license and call sign RZ3DZR has been granted for the ISS ham station. German call sign DL0ISS has also been issued and a US call sign has been applied for. Tourists are now scheduled to take flights to MIR. If the ITU authorizes an entirely new call sign prefix, will Shepard and Krikalev offer to

rent their vacation cabin with a panoramic view for DXpeditions?

Phase 3D amateur satellite is waiting at the European Spaceport in Kourou, French Guyana for the start of its launch campaign. Reportedly, the satellite could launch as early as mid September or as late as October (although no year was given!).

We're beginning to see a worldwide crisis in electronic components availability and procurement. Some Amateur Radio kit manufacturers have suspended operations until they can locate new sources for parts. Many through hole parts are not being made anymore, except for niche markets. So many cellular and PCS telephones are being made that the parts manufacturers can't keep up with demand for even common surface mount capacitors and resistors. Many component manufacturers are now quoting several YEARS lead-time for common parts. Uncommon parts are not being made at all since it requires as much infrastructure to build them as to make the more profitable components, which are in greater demand. By the end of the year, cellular telephones are expected to be the most manufactured products in history.

The Wireless Institute of Australia QNEWS reports that there were nearly three million amateurs in the world in 1999. The IARU web site indicates that the number of licensees is still growing. There were 500 thousand in 1969, one million by 1980 and two million by 1995. The bad news is that many of the new amateurs are not joining the national amateur organizations. Of those who do join, though, 90 percent are licensed compared to only 50 percent in 1960. About one half of the world's amateurs live in Japan and one quarter in the US.

Field Day 2000, Washington, DC, Area

This marks my second Field Day since moving to the Washington Area. This year I joined the Vienna Wireless Society (of Vienna, VA) at Burke Lake Park. We operated 2A (one CW station and one phone station) with a Novice station. I operated both stations Saturday evening, June 24. Unfortunately, I did not contact W6OTX during my shift, but I did contact the first radio club I belonged to in the early 1980's, W8ZX.

The Vienna Wireless Society seems like a good group of people. They meet the second and fourth Fridays of the month in Vienna, VA, which is just west of the Beltway. Their meeting format is similar to PAARA's – they have a business meeting first, a break with refreshments, and then a speaker. The last meeting (June 23) was Show and Tell Night.

73, Dave Bailey (WS6W)

FREE Eyeball QSO Cards

Thanks to PAARA member Jeff Wheldon KF6PDF for the following link to Free Eyeball QSO (ham) business cards. If you want 250 free business cards with your call on them, visit <http://www.staplespromo.easiest.com/order/index.cfm> For instance, try layout #3 and enter

Company: Your call;

Slogan: Your name;

Slogan 2: A title like Radio Amateur, EYEBALL QSO, etc.;

Name: Your, telephone number. The remaining fields are entered as they describe. Address and e-mail.® Vic, AB6SO



WEB WANDERINGS

de Vic Black, AB6SO

I've discussed the Earth's magnetosphere a lot in the past (or is that mag-'neato'-sphere?). Whenever the Sun ejects particles toward the Earth, they can slam into the magnetic field surrounding the Earth causing the field to quiver.

This in turn creates an electrical field, which results in noise, known as a geomagnetic storm, on our radio bands. Now we can actually "see" images of the magnetosphere. Go to http://space-science.com/headlines/y2000/ast05jun_1m.htm?list for a sample image. Satellite radar echoes in the 3 kHz to 3 MHz range detect plasma (hot, ionized, or electrically charged, gases) within the magnetosphere, which extends 12,500 miles into space. The satellite is unique in that it uses the largest antennas ever deployed in space. There are three dipoles at right angles to each other (X, Y and Z axes). Each is 500 meters long, or about 1,647 feet. This is 182 feet longer than the height of the Empire State Building. The new imaging satellite will allow viewing aurora and space weather images similar to the Earth images we now see on the TV weather news.

Dave Drake N3LSB from Taneytown, Maryland directs us to <http://image.gsfc.nasa.gov/poetry/workbook/page9.html> for instructions on how to build a magnetometer using a small flashlight, mirror, bar magnet, string, soda straw, and an index card. This would make an excellent science fair project. There are also instructions for a more sophisticated magnetometer using a laser pointer. The magnetometer can be used to monitor the progress of a geomagnetic storm as the Earth's magnetosphere is agitated by solar particles. The use of a mirror and light beam for amplifying angular movement is common for seismographs. In this case, a light beam is made to swing back and forth in a dark room and leave a trace on a piece of photographic film. The film is developed to provide a permanent record of the seismic motion.

There's an excellent tutorial on the solar cycle located at <http://www.hao.ucar.edu/public/slides/slides.html>. You'll find 20 slides with photos of the solar disk and an explanation for each slide. The tutorial discusses solar winds, prominences, corona, filaments, flares and sunspots, including the history of solar cycles. In many ways the art of predicting space weather is easier to understand than terrestrial weather. What happens on the Sun can have a direct impact on radio propagation.

Last month we discussed the Hourly Area Prediction propagation charts web site recommended by Les Zwiebel WB6ORZ. Kevin Muenzler WB5RUE recommends the perfect complement to that site this month. Go to http://www.sel.noaa.gov/rt_plots/dregion.html where you'll find the D-Region Absorption Prediction from NOAA's Space Environment Center. This site features a world map with color coded areas representing the regions where the ionosphere's D-layer is currently absorbing radio signals. The chart automatically updates at one minute intervals. That's about as real time as you could hope for. There's also a tabular presentation available. When I

checked 40 degrees N by 120 degrees W to check on Northern California, it showed the highest affected frequency at that time as 6.4 MHz, and changing by the minute, as the sun came up. For effective communications, you'd want to use a frequency higher than 6.4 MHz at that time of day.

The solar cycle is at or near its maximum. This is a good time to get some QSL cards printed to send to your DX contacts. Rick Evans KG4FER recommends <http://www.eham.com/reviews/products/23> for reviews of QSL printers. He also recommends <http://www.octavia.com> for beautiful, but inexpensive, cards printed in Russia. Allow up to 4 weeks for registered mail delivery. I found the cards from <http://www.qsl-shop.com>, located in Berlin, to be exceptional. There are over 3000 full color stock designs to choose from. You can also design your own using your own digital or film photos.

Thanks to PAARA member Joel Wilhite KA7TXV for pointing us to the web site <http://www.heavens-above.com>. This is a good place to find satellite schedules. The usual way is to locate and download Keplerian elements then run them through a software program to generate a schedule. With the heavens above site, you merely pick your location from over two million locations world wide and the web site then displays the schedule for all amateur satellite passes expected during the next 24 hours.

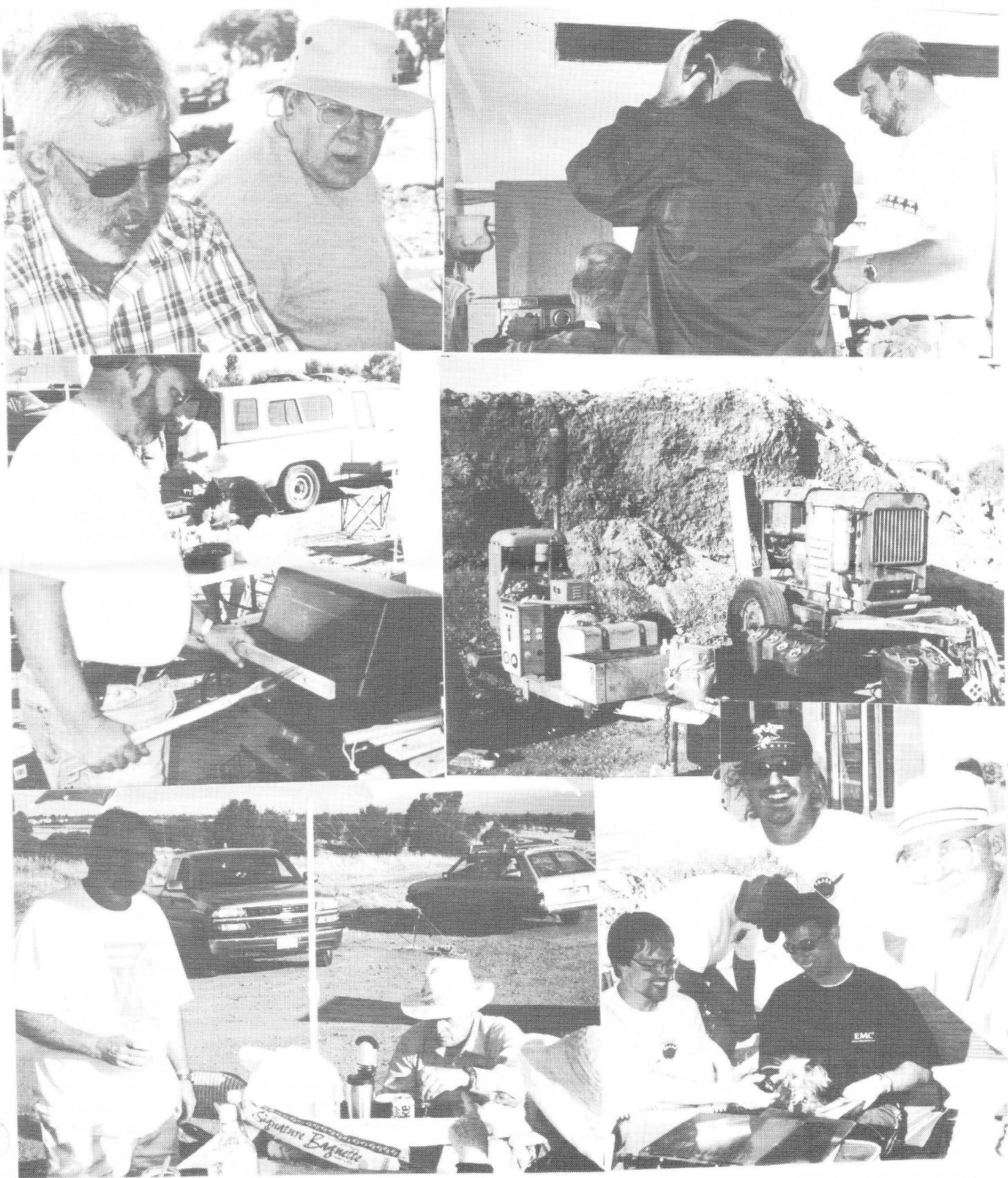
PAARA was accused of "stealing government property" after our Field Day truck was seen carrying green antenna towers to our field day site. A very slow chase by security guards ended when police visited our site and discovered that we were legitimate. For an interesting tale of similar activities, visit the site at <http://www.chem.hawaii.edu/uham/index.html>.

Click on UH Club Members "Assault" Trees; Meet Campus Security. As Mike Burger AH7R says, "About 60 feet of wire were hauled up on an insulator to the top of a palm tree and from there sloped down to the fire hydrant and the tuner. At 40 meters about 65 feet of wire is a half wave, and thus a high impedance voltage fed antenna at that frequency. Such a setup requires a very good ground to keep RF off the equipment. But this setup passed the 'hand on the tuner' test easily, indicating no RF on the gear. Much attention was attracted by this weird activity and the Campus Security Office received no less than 18 frantic calls reporting weirdos, anarchists, deviates all trying to blow up fire hydrants and pull down palm trees. It was interesting to note that the various humanities and other soft science types around could only imagine the worst of terrorist activities when viewing a Hurricane Preparedness Drill. Campus Cops arrived soon after. By that time we were on the air (running 3 watts) with the Hawaii Afternoon SSB Net. I think it is a humanities/soft science mindset when presented with obvious high tech hardware in an outdoor setting. Maybe they were frightened by Mr. Wizard when they were children or some other psycho/science trauma."

Sometimes there is confusion over HF band plans. Not all countries use the same allocations as the US. For band plans in the three IARU regions, go to <http://www.iaru-r2.org/p11e.htm>. Some of the "interference" you hear may actually be a chance to work rare cross-mode DX.

A newly discovered physical phenomenon is discussed at
(Continued on page 74) Web Wanderings

PAARA FIELD DAY 2000





Understanding 10 Meter Sporadic-E

by James R. Duffey KK6MC/5

In the late spring and early summer 10 meters comes alive with signals, some strong, some weak, most within 1400 miles; a few from farther out. Signals can come and go quickly or stay in all day. Signals can be very strong or extremely weak. The signals can all be from the same geographical location, or they can be spread out all over the country.

This happens even if the solar flux is low. What is this propagation phenomenon? It is sporadic-E skip, sometimes called E skip, and sometimes just short skip. Sporadic-E skip is caused by large patches of ionization in the E-layer of the ionosphere. The exact cause of these patches is not well known, but they are associated with wind shear and some think they are connected with high towering thunderstorms. These patches of ionization are not caused by solar activity, as is the ionization in the F layer that we are more familiar with.

Since the E-layer is about 70 miles high, single skip is limited to about 1400 miles (this can be easily proved and is left as an exercise to the reader). Double skip is possible, but because of the patchy nature of the ionization, double skip requires two patches at the right distance apart, which are not always readily available.

E-layer skip occurs most often from 0900 to 1100 and 1900 and 2300 local time (not UTC!), although it can occur at any time of the day. It is most common between mid-May and mid-July, with a secondary season between mid-December and January. So look for it on mornings and evenings during Christmas break.

The best way to find an opening is to monitor 10 meters. There are a number of beacons scattered around the country between 28.2 and 28.3 MHz. Often these beacons can be heard weakly when the band is otherwise closed. When the band is open at all there is almost always someone on 28.4 MHz SSB, so that is a good frequency to check first. No, I don't know why most hams prefer round numbers. The Ten-Ten crowd hangs out around 28.345 so that is also a good place to check. Those paper chasers are always alert to a band opening and call CQ with the slightest encouragement. [Note: another major 10 meter SSB frequency is 28.495 MHz.]

For some reason there is little CW activity during Sporadic-E 10 meter openings, but Novices, not knowing this, call anyway. My experience is that I am more likely to find a CW contact on the 10 Meter Novice band than in the General portion of the band during a sporadic-E 10 meter opening.

There are a number of 10 meter repeaters every 20 KHz above 28.6, and as these are always on they can also be a good indicator of whether or not the band is open. Many have antennas that are quite high so they are often heard when nothing else on the band is heard.

The CB channels immediately below the 10 meter band [the old 11 meter ham band] are usually very busy during sporadic-E. If you listen closely you can even hear some interesting "explanations" for the phenomena. Call CQ if you don't hear any activity.

The ionization patch, once generated, will drift to the northeast at a speed of 180 mph. The ionization patch is what reflects your signal and is at the midpath of your contact. You can use this to predict whom you will work next. Often an ionization generating spot will generate several patches, so you will notice cycles. From my New Mexico location a Sporadic-E session might start with New Orleans coming in loud, then Arkansas, St. Louis, and if the cloud lasts a long time, Omaha and Sioux Falls. Often I can hear several of these locations simultaneously, indicating that several ionized patches are present.

The location of the generating source moves east at about 12.5 degrees per day, so if you had short E skip in the morning you may have long E-Skip in the evening, and if you had short E-skip in the evening you may have long skip in the morning. If you worked to the west yesterday, you may work to east today or tomorrow. So, if I hear New Orleans today, I may hear Alabama from the same patch tomorrow. If I work California, I know that there are probably several more days of E-skip to come, and I will plan my future activities accordingly.

When the skip becomes very short, the ionization is very dense and propagation at the next higher band is possible. So if I hear Dallas working San Antonio on 10 M, I know I have a good shot of working somewhere in Dixie on Six. Also, if 10 meter is open on Sporadic-E the 12 and 15 meter bands are also open, and maybe 17 meters and 20 meters as well, but with shorter skip. If you need those close in states for WAS this is a good time to try for them.

If you want more information on Sporadic-E, look at the ARRL publication "Beyond Line of Sight". Also, the VHF column in QST often has hints on working Sporadic-E on 6 meters, which apply to 10 meters as well. These are usually in the May and June issues. When it comes to Sporadic-E, 10 meters is a VHF band, not an HF one.

James R. Duffey KK6MC/5; Grid DM65
30 Casa Loma Road
Cedar Crest NM 87008
jamesd1@flash.net

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

(Continued from page 72) Web Wandering

<http://www.min.net/~thom/qrp/darktheory.html>. The author asserts that electric lights (dark suckers) don't actually emit light, but rather absorb darkness. This is really good reading, although its (entertainment) value is enhanced if you read it on April 1.

Check out the latest version of QSLMGR.EXE with 54,78 QSL routes by Paul Delmelle ON6DP at <http://www.qsl.net/on6dp>.

PAARA Board of Directors

Newsletter Notes for July 12, 2000.
Red Cross Building, Palo Alto, California

The meeting was called to order at 7:40 pm by Andreas Junge, president. Attendance was taken.

1. **Financial Report:** Reviewed current status of the Association's funds, which are in good order.
2. **Secretary's Report:** The Charles Schwab account is now open and accessible. The password for internet access will be given to Bob.
3. **Old Business:** Considerations for next year's Field Day need to begin now. Actions underway are:

- Securing a site.
- Approved: \$100. gift of two trees to Field Day site park (great for dipoles).
- Approved: tee shirts to be sold at \$15.00 each.
- Andreas reported that the club earned all bonus points except for satellite contacts. Points will be calculated on 2100 contacts.
- Logo has been accepted for the new tee shirts used at Field Day.
- New badges are required. Badge design will be modified with a LIGHTENING BOLT and ARRL logo. A prototype will be developed showing a red call sign and black club name. The badge project is being run by Don Trask.

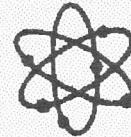
5. New Business :

- Keys to the Red Cross Building were received by Andreas and Jon, with a third key ordered for Jay.
- Meet and practice with Red Cross to sharpen our disaster response skills.
- Flea Market on 12 August. Volunteers will be recruited by Andreas at next meeting. Insurance for the event will be acquired from the Perham Foundation at the cost of \$1000. There will be one aisle dedicated to radios, especially QRP. A meeting will be held to prepare. Enforcement of vehicle admission will be required.
- Replacement Trailer and Tower (with trailer) need to be acquired. It was noted that both Gerry and Paul might have them for sale.
- The creation of a Technical Committee was proposed to deal with the towers, antennas and equipment purchase budget. Andreas volunteered to lead this committee, which would meet monthly. Motion passed.
- The Board considered a proposal that the club create and distribute an RF Radiation Evaluation Kit for club members to assist in complying with FCC radiation regulations. It was agreed, and the Kit will be created by the Technical Committee.
- It was agreed that an updated Club Roster be distributed at the next meeting.
- A web site review was proposed.

The meeting was adjourned at 9:20 pm.

Respectfully submitted by:
Jay Melvin, WA6SBO, Secretary

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- 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.●

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PAARAGraphs August 2000



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PAARAGraphs Newsletter
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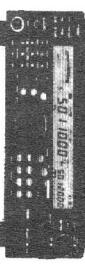
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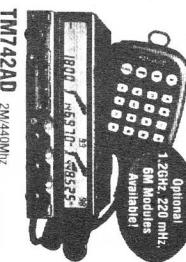
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