

K6YQT

PAARA NEWSLETTER
VOLUME 49 NUMBER 10 October 2000

W6OTX



PAARAGraphs

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



CALENDAR

- Oct.....6, PAARA Meeting, 7:30
Menlo Park Recreation Center
700 Alma Street, Menlo Park
- Oct.....11, PAARA Board Meeting, 7:30
Red Cross Bld., 400 Mitchell Ln., Palo Alto
- Nov.....3, PAARA Meeting, 7:30
- Nov.....8, PAARA Board Meeting, 7:30
- Dec.....1, PAARA Meeting, 7:30
- Dec.....6, PAARA Board Meeting, 7:30
- Jan.....14, Winter Party
- 2 m CODE PRACTICE, 2000 to 2030 PST Tues
N6NFI 145.23 repeater
Also try 7.100 for 24 hr code practice



PROGRAM

October 6, 2000
7:30 P.M.

Bring your Projects or Ideas
for
“Show & Tell Night”

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



Technical Tip

ANTENNA MEASUREMENTS

de Rich W6APZ

The XYL's HT had been acting a bit erratic. After replacing the battery pack with a new one that did not solve the problem, I decided to test the rubber ducky antenna on an MFJ 259B analyzer. The Yaesu FT-11R rubber ducky antenna showed a minimum VSWR of 1.4:1 at 145.85 MHz and a 2:1 bandwidth from 143.53 - 148.59; very reasonable performance. I then tried my AEA 2 meter Hot Rod antenna fully extended. It measured a minimum VSWR of 1.1:1 at 145.73 with a 2:1 bandwidth from 143.07 - 149.07 MHz; very good performance. Then I decided to test the well-known adage: "you can even use the AEA antennas fully collapsed". In this configuration, the VSWR minimum was 1.5:1 at 126.42 MHz, with a 2:1 bandwidth of 123.19 - 129.48 MHz. The VSWR at 144 MHz was 10:1! (VSWR = ten to one) Yes, one can transmit with an AEA antenna collapsed, and yes, it may get out better than a rubber duck, but only because the duck is such a poor radiator, even if the duck is a good match. Remember: a 50 W resistor is also a good match.... but a poor radiator.

*I find that the further I go back, the better things were,
whether they happened or not.*

~Mark Twain

Join us for pre-meeting eyeball

QSO October 6th

gab & gobble

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

across from Kepler's Book Store



Miscellaneous Dates

Flea Market at Foothill (info at: http://joslin.com/FleaMarket) October 14...SCCARA (Santa Clara County Amateur Radio Association) Last for 2000	
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@richochet.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 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 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 W6PYI 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, sh@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)

October Contests 2000	
1	RSGB 21/28 MHz Contest, SSB 0700Z - 1900Z, Oct 1
7-8	VK/ZL/Oceania Contest, Phone 1000Z, Oct 7 - 1000Z, Oct 8
7	EU Autumn Sprint, SSB 1500Z - 1859Z, Oct 7
7-8	California QSO Party 1600Z, Oct 7 - 2200Z, Oct 8
7-8	Iberoamericano Contest 2000Z, Oct 7 - 2000Z, Oct 8
10	10-10 Day Sprint 0001Z - 2400Z, Oct 10
14-15	VK/ZL/Oceania Contest, CW 1000Z, Oct 14 - 1000Z, Oct 15
14-16	YLRL Anniversary Party, CW 1400Z, Oct 14 - 0200Z, Oct 16
14	EU Autumn Sprint, CW 1500Z - 1859Z, Oct 14
14,15	Penn QSO Party 1600Z, Oct 14 - 0500Z, Oct 15 and 1300Z -2200Z, Oct 15
14	FISTS Fall Sprint 1700Z - 2100Z, Oct 14
15	Asia-Pacific Sprint, CW 0000Z - 0200Z, Oct 15
15	North American Sprint, RTTY 0000Z - 0400Z, Oct 15
15	RSGB 21/28 MHz Contest, CW 0700Z - 1900Z, Oct 15
21-22	JARTS WW RTTY Contest 0000Z, Oct 21 - 2400Z, Oct 22
21-22	Rhode Island QSO Party 0000Z, Oct 21 - 2400Z, Oct 22
21-22	QRP ARCI Fall QSO Party 1200Z, Oct 21 - 2400Z, Oct 22
21-22	Worked All Germany Contest 1500Z, Oct 21 - 1500Z, Oct 22
24	6m Activity Contest 1800Z - 2200Z, Oct 24
28-29	CQ Worldwide DX Contest, SSB 0000Z, Oct 28 - 2400Z, Oct 29
28-29	10-10 Int. Fall Contest, CW 0001Z, Oct 28 - 2400Z, Oct 29
28-30	YLRL Anniversary Party, SSB 1400Z, Oct 28 - 0200Z, Oct 30

Palo Alto Amateur Radio Association, Inc.

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Menlo Park, CA 94026

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Gerry Tucker, N6NV (650) 326 4908 '01 (see "Calendar" for Board meeting times, visitors welcome)

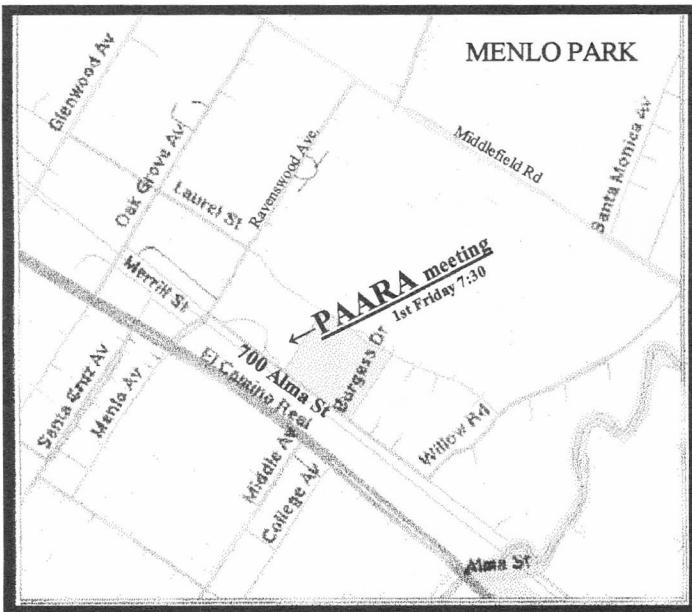
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Submit material for PAARAGraphs by the 15th

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





Beginner's Bulletin

edited by Vic Black, AB6SO

Q. I can only get on HF on weekends. It seems as if there's a contest on every time I want to "ragchew". What can I do?

A. Try 30 meters for CW or data and 17 or 12 meters for phone.

Contests are not allowed on these bands. On the other bands, most contestants congregate near the lower ends of the CW and phone band segments. Higher in the bands you'll find ragchewing and nets, even during contest weekends. Most contests are for one mode only, such as SSB or CW. You can use the alternate mode if you don't want to compete. Don't overlook contests if you like to work DX, though. Stations that may not normally work you because you're somewhat weak will be happy to get the points during a contest. Competing in a contest helps you to improve your operating skills.

Q. My first time on HF SSB I found an unused frequency and announced that I was monitoring. Nothing happened.

A. It's traditional to initiate a contact on repeaters by announcing that you're monitoring. Otherwise, on VHF simplex or HF, you initiate a contact by calling CQ.

Q. While traveling on business through the Central Valley I didn't hear anyone on the repeaters and no one called back when I said I was monitoring. Did I do something wrong?

A. Don't get discouraged. There aren't as many operators in rural areas as in urban areas. During working hours there may not be anyone listening to the local repeaters.

Q. Why do repeaters have a time out function?

A. Repeaters "time out" to avoid someone monopolizing the repeater. Also, the time out function will kick in if someone accidentally leaves a transmitter turned on. This sometimes happens when a driver sits on his microphone. A short pause will allow others to enter the conversation or ask for help in emergencies. Be thoughtful and keep transmissions short. Pause between transmissions to allow others to join in. Most repeaters send a "courtesy tone" indicating that it's your turn to talk and that the timer has been reset.

Q. I noticed that the dual-band HTs have 2 meters and 70 cm. Why can't I find more radios with 2 meters and 220 MHz?

A. 70 cm is the third harmonic of 2 meters. This makes it easy to build a dual band radio since the antennas work on odd harmonics and the transmitters and receivers can be made to work on harmonics. 220 MHz is not harmonically related to 2 meters, so a dual band radio for 2 meters and 220 MHz must contain 2 separate receivers, 2 transmitters and 2 antennas.

Q. I was told that it was important to use the same antenna polarization at each end of a 2 meters circuit. Then someone else said it doesn't matter on a 20 meters. Who's right?

A. Both. On VHF it's important to keep the same polarization since the signals are line-of sight and cross polarization can drop your signal about 20 dB or about 3 S-units. On HF the signals go into the ionosphere where they are refracted back to the receiving station. Polarization may change during the refraction so it's not critical at High Frequencies (HF).

Q. Sometimes when I'm using repeaters I can't hear the first word from the other station.

A. It takes a portion of a second for the repeater to hear you and then begin to transmit. If you talk too soon, the first word or two will be cut off. Best practice is to key up, wait a second or so and then begin to talk. This is even more important when you're using a linked repeater system such as the Condor system. When you key up on that system, 15 or 16 repeaters all come on at the same time throughout the state. This can require a couple of seconds.

Q. You wrote about the VHF Wilderness Protocol for Amateur Radio. Is there something like that for Family Radio Service (FRS) UHF radios?

A. This is an interesting question since a recent ARRL poll showed that nearly one third of US amateurs polled now own FRS transceivers. No FRS Wilderness Protocol currently exists, but REACT International has suggested that one should be established after several highly publicized rescues involving FRS radios. Two climbers were caught in a rockslide on Mount Hood, Oregon and one was seriously injured. Two brothers, ages 5 and 7, located 80 miles away heard their plea for help on FRS.

In a similar rescue, two lost hikers in Southern California tried for 40 minutes to get someone's attention using 38 different PL tones on 14 channels before an 11-year old boy heard their calls for help. REACT suggests adopting FRS channel 1 (462.5625 MHz) with the CTCSS tone disabled as a national call channel. This will probably become a de facto standard since some FRS radios have only channels 1 and 2 with no PL available. These small radios are available, on sale, for as little as \$30 per pair. Remember that no call signs are used or authorized for this service. Since this is a US only service, don't carry your FRS radio with you on your next trip to Europe, Canada or Mexico.

Q. I tried sending CQ for about a minute or two and then gave my call. No one answered me.

A. It's possible that there was very little activity at the time you called. Another possibility is that you called CQ for too long. It's best to call CQ only 2 or 3 times followed by your call 2 or 3 times. Listen, then repeat if needed. Many operators will become bored and move on if you call for too long. They already know you're calling CQ. What they want to know is your call sign. Usually a 3 x 3 call (CQ three times followed by your call three times) is about right.

Honorary Member 2000

(Speaker 9/8/00)

Chris Verbil, N5CV

1414 Marinovich Way
Los Altos, CA 94024-5736

n5cv@arrl.net



PAARA PONDERINGS

de VIC BLACK, AB6SO

This month Art Bolton NM6K celebrates his birthday. And we have good news for you, Art. The first 94 years are the hardest. Once you reach 94, everyone wants to carry your baggage and help you up the steps. If you forget your name or someone else's name or call sign, or an appointment, or your own telephone number, or promise to be in 3 places at the same time, you only have to explain that you're 94.

Being 94 is a lot better than being 60 or 70. At 70, people are angry with you for everything. At 94, you have a perfect excuse no matter what you do. If you act foolish, it's your second childhood. Being 70 is no fun at all. That's when everyone is looking for symptoms of softening of the brain. At 70 they expect you to retire and hold "organ recitals" on 75 meters complaining about your arthritis (they used to call it lumbago) and to ask everyone to stop mumbling because you can't understand them since your hearing is about 50% gone. At 94, you've earned the right to totally ignore the rest of us if you want to. Oh, yes, it's also easier to get sponsored into the Quarter Century Wireless Association when you've been an Amateur Radio operator for more than 80 years.

When you've lived 94 years, everyone seems surprised. They treat you with respect for having lived so long. Actually, they seem surprised that you can walk, talk, hear and remember better than many of them. Now that you've made it to 94 years, Art, remember it's the best time of your life. People forgive you for everything. If you ask me, life begins at 94.

PAARA member Gerry Tucker N6NV was in Colorado during an annual contest to see who can work the most mountain peaks 14,000 feet high or higher. He drove to the peak of Mount Evans at 14,000 feet looking for a "peak experience" where he made one contact using his 2-meter HT.

The San Jose Mercury Labor Day issue had a nice article with color photos of Palo Alto Troop 5 Boy Scouts' project to build an emergency communications trailer in the Los Trancos Woods Area of Portola Valley. PAARA member Ben Archer KF6YYC, who took on the project for his Eagle Scout Public Service Project, was quoted in the article. A photo showed PAARA member Ken Mallory KF6VSC working on the shelter, built into a converted, donated shipping container. Their inaugural radio transmission was made from the comm center to the Palo Alto Red Cross Center over the Labor Day holiday weekend. The center is adjacent to the Portola Valley tank and military vehicle museum, which can be converted into an emergency shelter for 300 people by driving the tanks outside. It's a good bet that this is the only Amateur Radio emergency communications center in the US with its own Scud missiles and launch vehicles. Thanks to Loren Archer KG6LRN for setting up a display at the September PAARA meeting featuring photos of the installation.

The Western States Weak Signal Society held its annual swap meet on the Saturday preceding Labor Day. PAARA members Howard Califf KE6PWH and Vic Black AB6SO made the

drive to Vacaville for the event. Some of the highlights of the flea market were meeting operators worked in previous VHF contests and checking out the antenna farm of hosts Larry W6OMF and Sue K6SUE Hogue. The antennas included five towers for HF, moon bounce and lots of VHF and UHF stacked arrays. Their corral contained 15 llamas, which added to the day's enjoyment.

The swap meet was unusual since there was a \$1 raffle for a 2-meter all-mode rig, free soft drinks and free raffle for lots of other things including a donated 6-element 2-meter beam from Mike Stahl of M2 Antennas. Odds of winning were excellent with only about 150 people in attendance. It was fun to watch Bob Olson W6BO and XYL fly in from Rocklin in their lovingly restored 1948 Bell Model 47 D helicopter. Bob described it as the Harley Davidson of helicopters with all the polished brass and big clear bubble over the semi-open cockpit. The only modern concessions were the radios and the GPS navigation aid. It brought back memories of the old TV series MASH.

PAARA member Joel Wilhite KA7TXV suggested flying a kite to support a 160-meter vertical antenna for Field Day. We finally decided to shelve the idea in order to concentrate on more productive bands during the contest. That left Dwight Graham WA6NAE, who operated for the N6WG multi station entry in the East Bay, as this year's candidate for making the most bizarre antenna. While building a 6-element 2-meter quad, it suddenly dawned on him that the structure reminded him of something out of his youth. So he covered the front two elements and the rear two elements with cloth and it looked exactly like a box kite. With the addition of some control lines and a length of lightweight skinny coax, he was ready when Field Day arrived. After the wind off SF Bay stabilized, Dwight found that the kite would fly in the ridge lift over Sunol Ridge and point out toward the Central Valley. He attached the coax to his rig and made more than 100 2-meter contacts with it.

A kite antenna sounds like fun, but keep I mind that this is a very risky business. FAA regulations (Part 105) require prior permission to fly a balloon or kite that weighs more than 5 pounds. There are FCC and FAA regulations on the height of antennas. Be very much aware of aircraft flight patterns when flying kites and tethered balloons. Several years ago, an 8-year-old girl was lifted off the ground for about 100 yards when a plane landing at Palo Alto Airport caught her kite string. The string broke just as she settled back to ground unhurt when the aircraft touched down on the runway. It might have been a much different story if the plane had been taking off rather than landing.

Even with shorter control lines, be aware that there is a substantial static electricity charge problem to contend with. The electric field between ground and the ionosphere is about one hundred volts per meter, vertically. That field is always present and can build up enough charge, if not bled off, to destroy your radio. Glen Leinweber said, "A few years ago I put up a two-meter $\frac{1}{4}$ wave antenna on top of my tower. The coax snaking through the window had no connector. When it started snowing, I noticed a snapping sound every twenty seconds or so. The end of the coax was arcing over from the charge accumulating in the coax capacitance. That cable was being charged

(Continued on page 94) PAARA Ponderings



WEB WANDERINGS

de Vic Black, AB6SO

PAARA member John Coker KF6ZEZ has posted web photos of the year 2000 launches of CanSats designed and built by student teams from Japan, Arizona and Redwood City, CA. The mini-satellites, the size and weight of soft drink cans, were launched to about 10 statute miles altitude from the Black Rock Desert, known as the flattest place on earth. John's rockets were painted in Coca-Cola colors with graphics similar to the soft drinks (except that they said Coker's Cans). PAARA members Bill Rausch AA6PA and XYL Saeko Izuta N6SXQ went along as observers. Saeko, who teaches English to children of visiting Japanese engineers, had a good time talking radio with the 2 teams of Japanese students. Go to <http://ssdl.stanford.edu/arliss/index.html> for the main web page to see what you missed by not participating.

Two DXers were murdered September 6 in Atambua, West Timor, a new DXCC entity, when a vicious mob stormed the offices of United Nations emergency relief officials who were helping refugees. Three staffers were stabbed to death, their bodies were soaked in gasoline and set afire. One was US citizen Carlos Luis Caceres KD4SYB, 33 year old son of Gregorio Caceres KA4UXJ from Jacksonville, Florida. The other two victims included 29 year old Pero Simundza 9A4SP (also 4W6SP, T98P and ZA/9A4SP). A web page has been established for all interested Amateur Radio operators to register their condolences to the family of Pero Simundza. The web site is at <http://www.qsl.net/9a4sp>.

If you send QSL cards to Russia, check out the web site of Dennis RZ1AK at <http://www.qsl.net/rz1ak/mail.html>. His one page web site is concise and to the point. He warns that postal employees often pilfer letters going into Russia. They carefully open the envelopes, remove anything valuable and then reseal them for delivery. Seal your envelopes with transparent cellophane tape to make them tamper resistant. Dennis recommends using registered mail to ensure delivery. Send IRCs for return postage rather than US dollars since the exchange rate promotes theft. Use full names of the addressees and don't use any call signs on the envelopes (including your own).

Just when it looked as if everyone was abandoning the RTTY ship for PSK-31, Makato "Mako" Mori JE3HHT introduced his excellent, freeware MMTTY. Bill Jones KD7S from Sanger, CA recommends the web site http://www.geocities.com/mmtty_rttv for free downloads and information. There's an excellent full color screen shot showing how the software works on Windows 95/98 with your computer's Sound Blaster compatible sound card. There's a 486 version available, too. Interfacing your radio and computer is exactly the same as with PSK-31 (no TNC required) so you now have the capability to use either RTTY or PSK-31 for contests, DXpeditions and other uses you come across on the bands. A users' group was founded on August 13, 2000 and allows you to interact with other users. About 10 messages per day come through on the

users' group, which is accessible at <http://www.egroups.com/group/MMTTY>. This is still another sign of the trend by Amateur Radio operators toward easy-to-use software controlled radios.

Jim Hale KJ5TF from Kingston, Arkansas tried the new MMTTY software. Jim is the Milliwattting Editor of ARCI QRP Quarterly. Here's what he said after his first use while running 700 milliwatts: "Started off Saturday with GW4, PI4, S57, S51, HA9, S50, S57, SP4, RN3, K6, DL5, K1, S57, VA3, SP9, UP5, EX2, & JA2 on 15M. On 20M, XE1, 8P9, & S53M." Jim is off the power grid so everything at his house is solar powered.

Six meters propagation tends to peak around the time of the equinoxes. For a good indication of DX openings and a Maximum Usable Frequency (MUF) approaching 6 meters, try listening with your FM scanner for the Chilean Music Frequencies. The ones most often heard in California are: 47.730, 47.820, 47.920, 47.945, 47.970, 48.095, 48.098, 48.166, 48.200, 48.230, 48.240, 49.270 and 49.297 MHz. The most consistently received frequency may be 47.900 since there are several transmitters on that frequency. For a chart with other frequencies to monitor, go to http://www.wsrss.org/50/CE_musicfreq.html. A different chart showing Frequency, Call Sign, Power, Maidenhead Grid and City is located at <http://www.qsl.net/ce3sad/6m.html>. The liaison frequency for real time six-meter worldwide information is 28.885 MHz.

Several VHF and UHF nets operate each week using weak signal modes (SSB and CW). Try 144.250 MHz on Sunday at 8 p.m. local time. Net control is W6OMF from Vacaville CM98ak. At 9 p.m. local time the net shifts to 432.100 MHz. On Thursday try 144.250 USB with KA6CHJ net control from Vacaville CM98. An easier one for many of us is on Tuesday at 8 p.m. on 144.250 MHz USB with net control KF6BXH from San Leandro.

The ARRL reminds us that as of September 1, all US Amateur Radio stations must be compliant with the FCC mandated RF Safety Requirements. Go to <http://www.arrl.org/news/rfsafety> for more information. You can confirm the safety of your station using several different methods. I like the interactive University of Texas web site <http://n5xu.ae.utexas.edu/rfsafety> maintained by Ken Harker WM5R. Just type in your power level, antenna type, distance to people and the mode. The web site will then tell you if you are compliant and, if not, how much distance you need to have between your antenna and people. The U Tex web site is hyper linked and available from the ARRL site.

Bob Locher W9KNI wrote the how-to book "The Complete DX'er." Bob said, "I just nailed YS1RR for country #225 with the Elecraft K-2. I'm shooting for 240 countries by November 5th, when the little box will be a year old." Not a bad score for a homebrew QRP rig. Bob, who lives in Geyserville, appears frequently on the Mount Hamilton W6RLW linked repeater at 1285 MHz by way of Mount St. Helena. His book is available locally at HRO. Check out the K2 and its new 2-band little brother, the K1, at <http://elecraft.com>.

Derek Gilbert G0NFA reminds us to check his web site "Europe on 144MHz Home Page" located at <http://members.aol.com/g0nfa/144news.html>. It's obvious that there's a lot of

(Continued on page 94) Web Wanderings



Technical Tip

Shedding the Light on Darksuckers And Why Your Power Company Doesn't Want You to Know About Them

By Stu Greene <wa2moe@doitnow.com>

For years the electrical utility companies have led the public to believe they were in business to supply electricity to the consumer, a service for which they charge a substantial rate. The recent accidental acquisition of secret records from a well known power company has led to a massive research campaign which positively explodes several myths and exposes the massive hoax which has been perpetrated upon the public by the power companies.

The most common hoax promoted the false concept that light bulbs emitted light; in actuality, these 'light' bulbs actually absorb DARK which is then transported back to the power generation stations via wire networks. A more descriptive name has now been coined; the new scientific name for the device is DARKSUCKER.

This newsletter introduces a brief synopsis of the darksucker theory, which proves the existence of dark and establishes the fact that dark has great mass, and further, that dark particle (the anti-photon) is the fastest known particle in the universe. Apparently, even the celebrated Dr. Albert Einstein did not suspect the truth.. that just as COLD is the absence of HEAT, LIGHT is actually the ABSENCE of DARK... scientists have now proven that light does not really exist!

The basis of the darksucker theory is that electric light bulbs suck dark. Take for example, the darksuckers in the room where you are right now. There is much less dark right next to the darksuckers than there is elsewhere, demonstrating their limited range. The larger the darksucker, the greater its capacity to suck dark. Darksuckers in a parking lot or on a football field have a much greater capacity than the ones in used in the home, for example.

It may come as a surprise to learn that darksuckers also operate on a celestial scale; witness the Sun. Our Sun makes use of dense dark, sucking it in from all the planets and intervening dark space. Naturally, the Sun is better able to suck dark from the planets which are situated closer to it, thus explaining why those planets appear brighter than do those which are far distant from the Sun.

Occasionally, the Sun actually oversucks; under those conditions, dark spots appear on the surface of the Sun. Scientists have long studied these 'sunspots' and are only recently beginning to realize that the dark spots represent leaks of high pressure dark because the Sun has oversucked dark to such an extent that some dark actually leaks back into space. This leakage of high pressure dark frequently causes problems with radio communications here on Earth due to collisions between the dark particles as they stream out into space at high velocity via the black 'holes' in the surface of the Sun.

As with all manmade devices, darksuckers have a finite lifetime caused by the fact that they are not 100% efficient at transmitting collected dark back to the power company via the

wires from your home, causing dark to build up slowly within the device. Once they are full of accumulated dark, they can no longer suck. This condition can be observed by looking for the black spot on a full darksucker when it has reached maximum capacity of untransmitted dark... you have surely noticed that dark completely surrounds a full darksucker because it no longer has the capacity to suck any dark at all.

A candle is a primitive darksucker. A new candle has a white wick. You will notice that after the first use the wick turns black, representing all the dark which has been sucked into it. If you hold a pencil next to the wick of an operating candle, the tip will turn black because it got in the way of the dark flowing into the candle. It is of no use to plug a candle into an electrical outlet; it can only collect dark.. it has no transmission capabilities. Unfortunately, these primitive darksuckers have a very limited range and are hazardous to operate because of the intense heat produced.

There are also portable darksuckers called flashlights. The bulbs in these devices collect dark which is passed to a dark storage unit called a battery. When the dark storage unit is full, it must be either emptied (a process called 'recharging') or replaced before the portable darksucker can continue to operate. If you break open a battery, you will find dense black dark inside, evidence that it is actually a compact dark storage unit.

The darksuckers on your automobile are high capacity units with great range, thus they require much larger dark storage units mounted under the hood of the vehicle. Since there is far more dark available in the winter season, automobile dark storage units reach capacity more frequently than they do in the summer, requiring 'recharging', or in severe cases, total replacement.

Dark has great mass. When dark is drawn into a darksucker, friction caused by the speed and mass of the dark particles (called anti-photons) actually generates substantial heat, thus it is unwise to touch an operating reach a depth of approximately fifty feet, you are in total darkness. This is because the heavier dark sinks to the bottom of the lake, making it appear 'lighter' near the surface.

The power companies have learned to use the dark which has settled to the bottom of lakes and rivers by pushing it through turbines, which generates the electricity used to pump the dark toward the ocean where it may be safely stored for their devitous purposes.

Prior to the development of turbines, it was much more difficult to get the dark from the rivers and lakes to the ocean. The Indians recognized this problem, and developed means to assist the flow of dark on its long journey to the ocean. When on a river in a canoe traveling in the same direction as the flow of dark, they paddled slowly, so as not to impede the flow of dark; but when they traveled against the flow of dark, they paddled vigorously to help propel the dark along its way.

Scientists are working feverishly to develop exotic new instrumentation with which to measure the actual speed and energy level of dark. While such instrumentation is beyond the capabilities of the average layman, you can actually perform a test to demonstrate the unbelievable speed of dark, right in your own home.

All that is required for the simple test is a closed desk drawer
(Continued on page 95) Technical Tip



Thoughts on Working DX

by James R. Duffey KK6MC/5

Here are some tips that I find useful. They may or may not apply to your situation, but I think somebody may find them useful:

1. If you don't already have it, get a copy of Bob Locher's book on DXing.

(The Complete DX'er by **Bob Locher, W9KNI**, IDIOM PRESS, Box 583, Deerfield, IL 60015 Copyright 1983). It's chock full of tips that will help you work DX. (The book is available locally at HRO).

2. You have to be on the bands to work DX, so get on as much as you can, even when the bands are rotten. If you have trouble getting on, encourage yourself by putting a piggy bank on your operating desk and dropping a dollar bill in it every time you start an operating session. You can pay for a new rig in a little over a year and a half of daily operating this way.

3. Get on the bands at unusual times. Go to bed an hour earlier and get up an hour earlier to operate around sunrise. The bands are different then and you will have entirely different DX to chase. Also you can take advantage of greylime propagation. Instead of going to bed on Friday or Saturday night after returning from a night out, brew a pot of coffee, get on the air, and operate in the wee hours.

4. Nearly every DXer will tell you that listening is the key to DXing. I agree, but you need to get on to listen so I emphasize getting on first. You need to listen with a purpose. Develop a listening plan. I start on the highest band open, since absorption will be lowest and you will have the best chances for getting a contact. I start at the low end of the band and go up. Listen to every station on the band. Determine where the station is and who the station is talking to. Finding a domestic station working DX is almost as good as finding a DX station. Listen for keys to DX; weak signals, fluttery signals, signals with a poor note and domestic stations with excitement in the fist from working a new one. After you have gone from one end of the band to the other, reverse directions and listen again. If I have not uncovered unworked DX after a few trips up and down the band, I go to another band. Not every DX station has a pileup, so I think that this way of listening is more effective than merely looking for a pileup.

5. It helps to keep a list of those stations you have worked and those you have QSLs from as you listen on the band. You can do this on paper, or some computer programs will track this information. If you hear a station you need and can't work him right away it helps to put him in a memory, or note what frequency he is on, so you can work him later.

6. DXers, like you and I, are creatures of habit. If he was on a certain band at a certain time one day, the chances are good he will be on at roughly the same time, and band, on another day.

7. Knowing when to listen is helpful. If you don't have or use a propagation program I suggest getting one and using it. It will tell you statistically when the band is open to where. It doesn't

do much good to look for DX on a band that doesn't support DX. Also, monitoring the NCDXF beacons helps to tell you if the band is open and to where the band is open.

8. If there is a DX packet cluster in your area, monitor it for DX alerts.

This information is also available on the Net, but is less localized, so you need to wade through a lot more posts to find something useful. Before the DX Clusters were around, many stations announced DX on the local repeater or gave a friend a phone call when a new one came up. You might get some of the more avid DXers in your area to help you out this way. (Locally, listen to the Northern California DX Club repeater on 147.360 for DX Alerts).

9. Now would be a good time to upgrade if you don't have an Extra Class license, as there is lots of DX in that lowest 25 kHz. With high CW speed no longer a requirement for the Extra, those DX rich portions of the band should be within everyone's reach.

10. Contests are a good source of DX. There are several fall DX contests, which should have good conditions. If you are looking for countries, do not expect to operate the contest as you normally would. Search and pounce, and only work those new ones you don't have QSLs from. In the early stages of the contest the pileups will be horrendous, but you may have some luck working them, particularly on the higher bands. At the end of the contest the big contest stations, even the rare ones, will be begging for contacts and there will be relatively little competition for their affections.

11. Some contests are better than others for new ones. The ARRL DX contest is good, as it is the World working the US. The CQ DX contests are good as they take place over holiday weekends so you can plan your sleep around the contest. When 10 M is open, the ARRL 10 M contest is very productive for new ones.

12. Many of the big gun contestants set up a few days prior to the contest, and they can often be worked then. This is particularly true for those big gun East Coast DXers who go down to the Caribbean and operate from exotic islands with special stations before and during contests.

13. Some big contest stations don't QSL contest QSOs as they work so many stations in a contest, so work those countries you don't have QSL cards from as often as you can (different stations/bands, of course) in hopes that at least one will QSL.

14. Many contestants run multi-multi stations, which means that they have a station going on each band around the clock, whether the band is wide open or not. You may be able to take advantage of this by working long path during a time when the band is not normally open and there is not much activity. It is surprising where 10M can be open to at 0300 (local) in the morning when somebody is on there.

15. Being a contrarian also helps a bit in contesting. A big contest takes a lot of the competition off the streets. Working DX on the WARC bands (30M, 17M and 12M) during Sweepstakes is a good strategy, as most avid contestants are also DXers, and the competition is gone, but the DX is still there as they can't work Sweepstakes! This also works to some extent during regular contests; those DX stations who are not contestants are

(Continued on page 94) Thoughts

PAARAGraphs October 2000

Celebrating 63 years as an active ham radio club—Since 1937

94

(Continued from page 90) PAARA Ponderings

five or ten kilovolts in only twenty seconds!"

Pacificon, sponsored by the Mt. Diablo Amateur Radio Club, will be held on October 20, 21 and 22, 2000 at the Sheraton Concord (Airport) Hotel in Concord. For information, schedules, maps and registration go to <http://www.pacificon.org>. There's still time to get a reduced cost ticket over the Internet or at the Foothill and Livermore swap meets.

Be prepared for major PSK31 announcements at Pacificon. One will be a club 80-meter PSK31 transceiver kit for about \$30. The other will be an inexpensive 2-band dedicated PSK31 portable radio kit that DOESN'T REQUIRE A COMPUTER. The whole thing will fit into a 4"x4"x5" enclosure. Input will be by CW and a telegraph key in place of a keyboard. Output will be CW. There will be an optional 2-line LCD display with Morse-ASCII conversion. An internal DSP unit and modem will convert the CW. Other options will include RS-232 and mini-keyboard inputs.

(Continued from page 91) Web Wanderings

2-meter weak signal work going on in Europe. The list of current DXpeditions on 2 meters is quite long and reminiscent of HF web sites in the US. The site is available in English, French, German, Spanish, Portuguese and Italian. You can download free screen savers showing space shots and VHF Amateur Radio antennas.

The 10th Annual Amateur Radio Direction Finding (ARDF) World Championships are being promoted by the China Radio Sports Association (CRSA) on behalf of the International Amateur Radio Union (IARU).

The event is scheduled for Oct 13-18 in Nanjing, Jiangsu Province, two hours by train from Shanghai. Each IARU society may enter three competitors in each category. Information is available at <http://www.crsa.org.cn>.



(Continued from page 93) Thoughts

still on, usually on the WARC bands, and the competition for these stations is reduced as most of the potential competition is off working the contest.

16. DXpeditions can be useful, but I would concentrate trying to work them during the latter parts of the DXpedition, as the big guns are usually out in force during the first stages.

17. In a contest or DXpedition, I would advise against telling the DX you are working that you are QRP, if that's the case. That's extraneous information to him. He is trying to put as many stations in the log as possible as quickly as possible, and the QRP information slows him down.

18. The WARC bands are good hunting grounds as they seem less populated with DX chasers than the normal bands, but there seems to be as much DX on these bands. Ten MHz, or 30M, is a particularly good band for QRP DXing. The power limit, 200W, and the fact that most stations have modest antennas, means that the spread between the loudest stations on the band and the weakest is not that great.

19. There is often DX available on the SSB portion of the band when none is heard on CW, so if all you want is new countries I would also operate SSB in addition to CW. I know this may be heresy to many, but it is true. If you want DXCC, mixed mode is as good as CW only.

20. I would take a look at your antenna patterns with a program like EZNEC to see if you have any nulls in your antenna patterns. You can't work DX if you can't put a signal in the DX station's direction. Depending on what antenna you are using, you may have a peak toward a particular direction on one band, and a null in another one. You may wish to erect another antenna to fill in any nulls. Good luck in your chase. Having a goal is important in DXing too. Let us know how it all turns out. We are cheering for you.

Dr. Megacycle, James R. Duffey KK6MC/5,

30 Casa Loma Road, Cedar Crest, NM 87008



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 92) *Technical Tip*

situated in a bright room. You know from past experience that the tightly shut drawer is FULL of dark. Now, place your hand firmly on the drawer's handle. Quickly yank the drawer open.. the dark immediately disappears, demonstrating the blinding speed with which the dark travels to the nearest darksucker!

The secrets of dark are at present known only to the power companies. Dark must be very valuable, since they go to such lengths to collect it in vast quantities. By some well hidden method, more modern power 'generation' facilities have devised methods to hide their collection of dark. The older facilities, however, usually have gargantuan piles of solidified dark in huge fenced in areas. Visitors to these facilities are told that the huge black piles of material are supplies of coal, but such is not the case.

The power companies have long used secret acronyms to disguise their activities; 'D.C.' stands for 'Dark Conspiracy', while 'A.C.' is suspected to represent the 'Alternate Conspiracy' which will most likely be used exclusively once the secrets of D.C. are totally understood. D.C. is rapidly yielding its secrets to the probing eyes and instruments of honest scientists around the world. The U.S. Attorney General is considering action to be taken against the power companies for the theft and stockpiling of dark from 'consumers'. New developments are being announced every day and we promise to keep the public informed of these announcements as they occur via this newsletter.

(The preceding article express an opinion of the author. PAARA or PAARAGraphs disclaims any agreement, disagreement or responsibility.-ed.)

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- Radio NET every Monday evening, at 8:30pm, on the 145.230-600 MHz repeater, PL tone off.

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Inside

Calendar & Program	87
Antenna Measurements	87
Contests	88
Miscellaneous Dates	88
Beginner's Bulletin	89
PAARA Ponderings	90
Web Wanderings	91
Technical Tip	92
Working DX	93
Members	94

Map to General Meetings
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