

PAARAgraphs



The Official Newsletter of the

Palo Alto Amateur Radio Association, Inc.

Celebrating 74 years as an *active* amateur radio club—*Since 1937*



CALENDAR

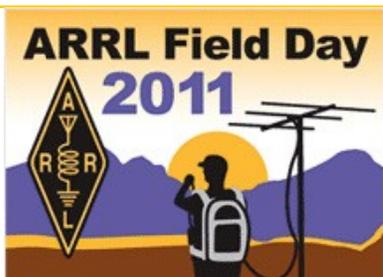
June 3, **PAARA Meeting, 7:00 p.m.**
Dean Straw, N6BV,
Pursuing and Handling QSOs
Menlo Park Rec Center
700 Alma St., Menlo Park

June 15, **Board Meeting, 7:00 p.m.**
All are welcome!
Palo Alto Red Cross
400 Mitchell Lane, Palo Alto

June 15, **DEADLINE for**
PAARAgraphs submissions.
Send items w/subject "PAARAgraphs"

Sign up Today for Field Day with the Station Captains

Phone A: Rebar, N6DB
Phone-B: Marty, W6NEV
CW-A: Kristen, K6WX
CW-B: Rick, N6DQ
VHF/UHF/Sat: Joel, KD6W
GOTA: John K6YP and Rob, KI6INR



President's Corner

June 2011

As I write this month's President's Corner, it is the day that we set aside to remember those who have fought and given their lives so that we would be free: Memorial Day. When I look around, it seems as though so many have forgotten the meaning of this day. Instead it is filled with barbecues, sales, camping, and the notion that summer is starting. That is all fine as far as it goes, however, I believe there is a deeper meaning behind this day. The history of its origin is hazy, but the meaning is clear. If you have a moment, even after the day has passed, and you have a copy of PAARAgraphs in hand, perhaps you will take a moment to reflect on the men, women, and families who have given so much for our freedom.



One of the biggest contests of the spring contest season has just passed; the CQ WPX CW contest. It is one of my favorites, but I was sadly unable to participate, having to work this weekend, and having an opportunity to spend time with my son. I'll just have to make it up by doing some DXing later in the week! Even if contesting is not your thing, it's a fun chance to build your CW and pileup skills in preparation for Field Day - coming up very soon. If you like DXing, as I do, it's also an opportunity to look for some fun-to-work DX, and you may even find a new country, if you're lucky. I've worked several new ones during such a contest. The WPX is unique in that extra points are awarded for unique callsign prefixes. That encourages DX from unique areas to get

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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: <http://amateur-radio.org/> or Al, WB6IMX@att.net

ELECTRONICS FLEA MARKET
 Sponsorship by **A.S.V.A.R.O.**
 (Association of Silicon Valley Amateur Radio Organizations)
 Second Saturday of month, March-October, 6am–2pm
 Howard M. Krawetz, N6HM 650-856-9761
 Contact: <http://www.electronicstfleamarket.com/>

PAARA Palo Alto Amateur Radio Association
 Meets 1st Friday 7:00pm each month at Menlo Park Rec. Center; Net 145.230 - PL 100Hz
 Mondays at 8:30. See our website at <http://www.paara.org/> for more information.
 Or contact: Joel Wilhite KD6W, KD6W@ARRL.NET, 650-325-8239

FARS Foothills Amateur Radio Society
 Meets 4th Friday each month at 7:30pm
 contact: <http://www.fars.k6va.org/>

NCDXC Northern California DX Club
 meets 2nd Friday 7:30pm each month,
 repeater for member info 147.360, Thursday 8:00PM
 contact: <http://ncdxc.org/> or Mike Gavin W6WZ, (650) 851 8699

QCWA chapter 11
 Northern California Quarter Century Wireless Association
 Meets third Wednesday monthly at Harry's Hofbrau in Redwood City @ 11:30 AM.
 Guests are welcome. Saturday morning net on 146.850 MHz, PL 114.8

NorCalQRP Northern California QRP Club
 meets 1st Sunday each month
 contact: <http://www.norcalqrp.org/>

SPECS Southern Peninsula Emergency Communication System
 meets each Monday 8:00pm on Net 145.27, 440.80 MHz
 contact: <http://specsnet.org/> or Tom Cascone, KF6LWZ, 650-688-0441

SCARES South County Amateur Radio Emergency Service
 meets 3rd Thursday 7:30pm each month, San Carlos City Hall.
 Net is on 146.445 [PL 114.8] & 444.50 (PL-100) 7:30 Monday evenings.
 contact: President Gary D. Aden, K6GDA 650-743-1265(D), 650-595-5590 (N)
 Web: <http://k6mpn.org> E-mail: pres@k6mpn.org

SCCARA Santa Clara County Amateur Radio Association
 Operates W6UU & W6UU/R, repeater 146.985-pl
 Nets: 2m, 7:30pm Mon; 70cm, 442.425+ (pl 107.2) Thur.
 meets 2nd Mon each month @ 7:30 PM.
 contact: <http://www.qsl.net/sccara/> or Clark Murphy KE6KXO 408-262-9334
 ARRL/VEC license testing contact 408-507-4698

SVECS Silicon Valley Emergency Communications
 Operates AA6BT repeater (146.115 MHz+)
 contact: <http://www.svecs.net/> or Lou Stierer WA6QYS 408 241 7999

TEARS The Elmer Amateur Radio Society
 Dedicated to operational training, knowledge building &
 FCC exam testing. KV6R repeater under construction.
 Contact **AA6T@ARRL.NET**. Most members are Extra
 class or VE's. See QRZ dot com/kv6r for class info

WVARA West Valley Amateur Radio Association
 W6PIY six-meter repeater on 52.58MHz. Normally, six-meters is linked with 147 and 223,
 while 441 and 1286 repeaters are linked.
 VHF: 52.58 (-500) 151.4 ctcss UHF: 441.35 (+5.0 88.5) ctcss
 147.39 (+600) 151.4 ctcss 1286.20 (-12m) 100.0 ctcss
 223.96 (+1.6) 156.7 ctcss
 Meetings are 3rd Wednesday of every month.
 contact: <http://wvara.org/>, Bill Ashby N6FFC, 408-267-3118, N6FFC@Juno.com, or
 N6FFC@ARRL.NET

American Red Cross, SANTA CLARA VALLEY CHAPTER
 contact: <http://santaclaravalley.redcross.org/> or Scott Hensley KB6UOO, (408) 967 7924
fhensley@Novell.com

(please send changes to PAARAgaphs editor: KI6YTA@arrl.net)

Please welcome the following new members:

Karl Dresden KJ6GUK Redwood City
 William K. Steiner KJ6OEY San Jose

Palo Alto Amateur Radio Association, Inc.
 PO Box 911 Menlo Park, CA 94026

Officers

President Kristen McIntyre, K6WX 510-703-4942
 kristen@alum.mit.edu
 Vice President *Position Vacant*
 Secretary Rick Melrose K6RDM 408-341-9070
 k6rdm@arrl.net
 Treasurer Ron Chester, W6AZ 408-243 2221
 ron@taxhelp.com

Directors

Director ('12)..... Rob Riley, KI6INR 650 799-1607 (cell)
 ki6inr@arrl.net
 Director ('11)..... Byron Beck KG6UOB 408-369-1913
 kg6uob@arrl.net
 Director ('11)..... Marty Wayne, W6NEV 408-246-7531
 w6nev@arrl.net
 Director ('11)..... Larry Rebarchik N6DB 650-465-8210 (cell)
 n6db@arrl.net

Appointed Positions

Membership..... Vic Black, AB6SO 650-366 0636
 ab6so@smrn.com
 Database Rick Melrose K6RDM 408-341-9070
 k6rdm@arrl.net
 Chaplain *Position Vacant*
 Public Affairs..... *Position Vacant*
 Station Trustee W6OTX, K6YQT, W6ARA Gerry Tucker, N6NV
 Station Trustee K6OTA..... Ron Chester, W6AZ
 Property Manager Gerry Tucker, N6NV
 Fund Raising Coordinator .. Bob Korte, KD6KYT 408 396 4745
 bob@rgktechsales.com
 Badge Coordinator..... Lynn Gentry, KG6JPV
 Historian Position..... *Position Vacant*
 Raffle Coordinator..... Jim Rice, K6AK 650-851-2274
 Ticket Master *Position Vacant*
 Field Day Coordinator Doug Teter, KG6LWE 650-367-6200
 ASVARO Rep Rolf Kliibo, N6NFI 650-856-2748
 n6nfi@arrl.net
 Webmaster John Miller K6MM
 webaron@gmail.com
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 kd6w@arrl.net
 QSL Manager Rob Riley, KI6INR 650 799-1607 (cell)
 ki6inr@arrl.net
 Speaker Coordinator..... *Position Vacant*

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 Ron Chester W6AZ Vic Black AB6SO
 Joel Wilhite, KD6W

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 ab6so@smrn.com
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 jdsinger@sbcglobal.net

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on the air, as they will be in demand as a unique prefix multiplier.

Speaking of Field Day, Doug, KG6LWE is pushing hard to get our antennas in top shape for our FD stations. He and the crew have had several antenna work parties now, and have fixed up our newly acquired 4 element 40m beam (I can't wait), as well as other tribanders that have been donated to the club. Those antennas, in combination with a number of Elecraft K3 radios that have been loaned my members, will give us extra punch, and hopefully serious noise immunity from adjacent station interference. That is, of course, what almost every Field Day station battles each year, and we are no exception. It will be fascinating to see how that works out this year with these contest-grade radios. I think our Field Day effort is shaping up to be another top scorer, and we'll be asking for additional help very soon. Please consider helping out.

The Maker Faire was a great success this year with the participation of many Amateur Radio groups. PAARA was well represented with our banner held high over the main hall where the Makers were housed. In particular, PAARA member Leigh, WA5ZNU, helped out with the modulation display. We demonstrated both RF and AF modulation over various modes, both digital and analog. I had many enjoyable conversations with people who were new to Amateur Radio, those who were coming back to it, and many who were already hams. Ham Radio and the Maker Faire are natural partners, given our propensity for homebrew equipment, and that was evident in how many were already licensed. I had a fun conversation with a newly licensed ham who is leading an effort at NASA Ames Research Center to launch cubesats. I was talking with him about trying to do something beyond AX.25, and perhaps trying some weak signal modes so that the data sent could be received more reliably by participating amateurs functioning as ground stations. There were many other fascinating things on display and working, including Sterling engines, wonderful robots from a high school robotics team, strange bicycles, embeddable computers, fun kits, and even an electric giraffe named Russell.

That's all the news this month. I hope you'll join us at the newly refurbished Arrillaga Recreation Center in Menlo Park for our monthly meetings. There are many exciting talks, and of course opportunities for fun fellowship with your ham buddies, left through the end of the year. I hope to see you there.

73 ES CU ON THE BANDS.

Minutes of the 18 MAY 2011 PAARA Board

The Board Meeting was held at the Palo Alto Red Cross building, commencing at 7:30 PM on the 20th of April, 2011. Attending were Kristen McIntyre K6WX (Pres), Rick Melrose K6RDM (Sec, Database), Ron Chester W6AZ (Treas), Rob Riley KI6INR (Dir), Byron Beck KG6UOB (Dir), Larry Rebarchik N6DB (Dir), Marty Wayne W6NEV (Dir), Gerry Tucker N6NV (Property Manager) and Doug Teter KG6LWE (Field Day Coordinator), Vic Black AB6SO (Membership). A quorum was present.

Secretary's Report: Rick K6RDM reports that the minutes of the 20th of April, Board meeting had been previously submitted and approved. There were four renewals and two new members at the May 1st meeting. An email reminder will be sent to non-renewals prior to creating a new Club Roster to be distributed to the current membership.

President's Report: Kristen K6WX reported that the presentation at the May meeting by Jim Brown K9YC on the properties and utilization of ferrites was chock full of information on handling interference, expertly parsed into a constricted time slot. Check out <http://audiosystemsgroup.com/publish/htm> or write Jim at k9yc@arrl.net for additional information.

Kristen went over the speakers schedule for the year with the board. The speaker for the June meeting will be Dean Straw N6BV, again lending his expertise on pursuing and handling QSOs to help us achieve an even better score this upcoming Field Day.

With the renovations to our meeting space at the recreation center completed, we were able to hold our May meeting in that space, and a very impressive upgrade it indeed turned out to be, right down to the comfy new chairs.

The membership is reminded that this year's PAARASHOOT at the Santa Clara County Field Sports Park is set for the 31st of July and that it will be a pot-luck. Details regarding coordination on what to bring will be announced in future PAARAgaphs and at the June and July General Meetings.

Kristen reminded the board that PAARA is having a

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The “Monimatch” – A Homebrew SWR Meter

(scanned from the ARRL’s 1965 “The Radio Amateur’s Handbook”, p.354)

Andy Korsak KR6DD

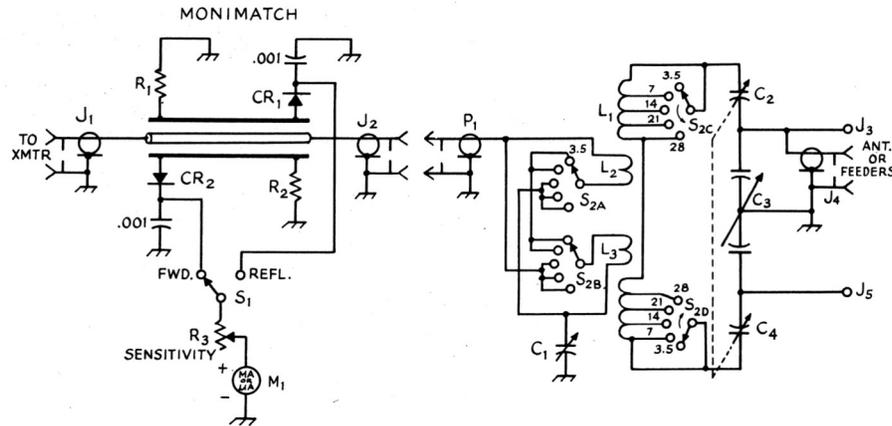


Fig. 13-17—Circuit diagram of the antenna coupler and Monimatch.

- C_1 —250- μ f. variable, 0.045-inch spacing for high power (Johnson 250E20); 0.025-inch spacing for low power (Hammarlund MC-250-M).
 C_2 , C_4 —100- μ f. variable, 0.125-inch spacing for high power (Johnson 100E45); 0.025-inch spacing for low power (Hammarlund MC-100-M).
 C_3 —100- μ f.-per-section, dual variable, 0.125-inch spacing for high power (Johnson 100ED45); 0.025-inch spacing for low power (Hammarlund MCD-100-M).
 CR_1 , CR_2 —1N34A germanium diodes.
 J_1 , J_2 , J_4 —Chassis-type coax receptacles, type SO-239.
- J_3 , J_5 —Feedthrough insulators.
 L_1 , L_2 , L_3 , L_4 —See Fig. 13-19 and text.
 M_1 —0–1 ma. or less; see text.
 P_1 —Coax plug, type PL-259.
 R_1 , R_2 —For 50-ohm bridge, 150 ohms, ½-watt composition; for 70-ohm bridge, 100-ohms, ½-watt composition.
 R_3 —20,000-ohm control, linear taper.
 S_1 —Rotary, 1 pole, 2 positions (Centralab type 1460).
 S_2 —Ceramic rotary, 4 poles, 5 positions, 1 pole per section, 4 sections (Centralab index type P-272 with type “TD” or “XD” sections).

Nowadays with low cost electronic equipment production hams rarely build their own test gear. When I first became a ham as VE3DVN in 1954 in Toronto, Canada, I had no test equipment other than a multi-meter I built from scratch. In the early 60’s when I got on the air again as VE3FZK during graduate mathematics studies in Berkeley I built a practically zero cost SWR measuring gadget consisting of two wires a few inches long threaded under the outer shield of a piece of coax. Each of the wires had a diode and bypass capacitor at one end and a resistor going to the shield at the other end. I think I got the idea out of a still earlier ARRL Handbook I had, which I later gave away to a book donation for a third world country, so I cannot find a reference to the threaded wire trick, but the above Monimatch device above appears to use the same basic idea for the SWR measuring section of the circuit.

In my version of the SWR measuring device the two resistors were chosen after some experimenting to produce a near zero reflected power reading. If you find the Monimatch in some older ARRL Handbook you will find detailed discussion of resistor value selection. One could build just the SWR measuring part in a small box with female coax connectors. I did not use a dedicated current meter – I was just probing at the two diodes. I may have had a small potentiometer taped onto

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PAARA “The Friendliest Club Around”

Raffle Prizes

FIRST PRIZE: “New” YAESU FT-1900R
2m / 55W / Mobile

SECOND PRIZE: GRUNDIG TRAVELER II
DIGITAL G8
AM/FM/LW/Shortwave Radio with
World Time & ATS (Auto Tuning
Storage)

THIRD PRIZE: West Mountain COMspkr

FOURTH PRIZE: Battery Tender Junior /
12V / 0.75A 4-Step
Charging / Auto-Float

FIFTH PRIZE: Two Midland FRS/GMRS Radios with Batteries

SIXTH PRIZE: Power Pole Connectors / 30A / 10 Pack

SEVENTH PRIZE: NARCC Northern CA Repeater Directory



Since (Feb. 2003) 211 Radios, including FOUR Elecraft K3’s, a Yaesu FT-847, an Icom 706 MK IIG, a Yaesu FT-897D, and TWO Elecraft KX1’s have gone to Fellow Hams.

Special Thanks to Bob, Howard, Jon, Mark, and everyone at HRO for their continued SUPPORT!

K6AK Jim

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booth again this year at the Maker Faire coming up on May 22nd & 23rd at the San Mateo County Event Center. Their website <http://makerfaire.com/bayarea/2011/attend/> gives details on logistics, content, etc. – and stay tuned for a special message on this subject in a future PAARAgaphs. BTW, it seems help is always needed on planning, logistics and coordination on events like this where the club is participating. It usually falls on the shoulders of the willing and contributive few, but we would like to ask the members who are interested in such projects to realize we really do need your help, and to give some thought to actually pitching in (and it’s fun – nudge, nudge). Again – if any other of our members might like to be involved in any projects mentioned in PAARAgaphs, please let us know.

For example, this year’s Field Day is now a mere month away, and looming large – not long at all, and planning and preparation are moving apace. We have had several antenna renovation parties at Doug’s shop (great burgers!) and more coming up as we get our huge 4 element, 40-meter KLM-40M.4 ready to operate. It’s work but we have a lot of fun with it. As mentioned above, there are still opportunities for membership participation in Field Day operations. We still have a primary need to fill the post of Food Coordinator. It actually doesn’t involve much more than sorting out cold cuts and condiments so people can assemble their sandwiches. Think you could handle it? Sure you could! Doug can be reached at 650-367-6200, or

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the coax chunk for peaking the forward power reading and I was just moving my homebrew multi-meter probe from one diode to the other for forward vs reverse meter readings. BTW, Ron KG6RLG – I know what you're going to think, but that was before the invention of Duct Tape (or at least before I discovered it), so I probably used electrical tape!

How does it work? It has to do with oscillating electromagnetic fields, traveling along inside the coax between the outer and inner conductors, inducing currents in a sampling wire. In the forward power measuring direction with the segment of wire properly terminated at the end toward the load, the diode at the signal source end will sense a current flowing but not in the reverse wire direction. The basic principle is called "directional coupler", e.g. http://www.home.agilent.com/upload/cmc_upload/All/Direct_CouplerOverview.pdf?&cc=US&lc=eng

I think it has to do with induced currents in the sampling wire as a result of currents flowing on the inside surface of the outer shield vs on the surface of the center conductor and how they add or cancel at the sampling wire. The cancellation in the reflected power measurement is best when the terminating resistor is just right for the conditions, i.e. relative spacing of the wire, the characteristic impedance of the coax matching the terminating load, etc. Some microwave guru probably knows a formula, but if you build one of these gadgets just play around with choosing resistors between around 30 to 200 ohms till it works right with a 50 ohm dummy load.



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<dteter@wcwi.com>.

Speaking of volunteers, the board is giving a hearty commendation to Bob Van Tuyt K6RWY for pitching in on publishing PAARAgaphs. The May issue was delayed (you noticed!) when our editor, Robin KI6YTA (who is also highly commended for the fine job she's done) got swamped by final exams and Bob took up the slack. He will continue help with doing the honors while Robin catches up, and into the future.

Kristen reported that apparently the NARCC board rescinded its plan to reduce the number of simplex frequencies from 26 to 13 to use the spectrum of those released 13 simplex frequencies for digital repeaters. However, problems persist and there are new developments taking shape, which the board is taking under advisement and will relay information to the membership as things evolve.

Considerable discussion then ensued regarding the whole range of preparations for next month's Field

Day, June 25 – 26. Particular attention was given to equipment lists for each station, antennas and operating schedules. There are still some hats to be worn regarding, for example, Educational Activities Coordinator, Public Information Table staffing, especially the post of Property Manager. Marty W6NEV has stepped up to the plate to take on Field Trip Coordinator. If you'd like to know what's involved in any of these, give Doug a call.

Treasurer's Report: As Ron W6AZ reported on proceeds from the raffle, membership renewals, badges and the flea market. All in all, the club is doing well and has the wherewithal to support our projects and plans. In essence, we're in the black. Ron also mentioned that videos of our KPH Field Trip can be found on You Tube (what's on You Tube regarding our hobby might make a fine article for PAARAgaphs – submissions from members are always welcome)!

The meeting was adjourned at 8:45 PM.

Picture on Facing Page

Congratulations: May 6th 2011 PAARA Raffle Prize Winners

- 1st Prize: Rebar / N6DB / LDG Z-100 Plus Antenna Tuner
- 2nd Prize: Vic Black/ AB6SO / Arrow VHF/UHF Yagi Backpack Antenna
- 3rd Prize: Joanna Dilley / K6YL / Battery Tender Junior 12V Charger
- 4th Prize: Joanna Dilley / K6YL / Lido LM-801 Radio Cup Holder HT Mount
- 5th Prize: Kristen McIntyre / K6WX / Kill-A-Watt / AC Electricity Usage Monitor
- 6th Prize: Mike Gavin / W6WZ / Two Uniden FRS / GMRS Radios
- 7th Prize: Kevin Weiler / K6XXX / Two Maker Faire Weekend Tickets
"Thanks to NE6RD Mike"
- 8th Prize: Mike Pechner / NE6RD / Coax Wrap
- 9th Prize: Doyle Kisler / KG6YUN / Bongo Ties

PAARA Members and Visitors: THANK YOU FOR YOUR SUPPORT of the exciting monthly raffles! Since (Feb. 2003), 211 Radios, including Four Elecraft K3's, a Yaesu FT-847, an Icom 706 MK IIG,

a Yaesu FT-897D, and TWO Elecraft KX1's have gone to Fellow Hams, THANKS TO YOU!

PAARA had a remarkable year in 2010! If you aren't a member, please join PAARA now, and experience fun 2011 events with the "friendliest club around."

K6AK Jim



James Farrey
 Sales Manager

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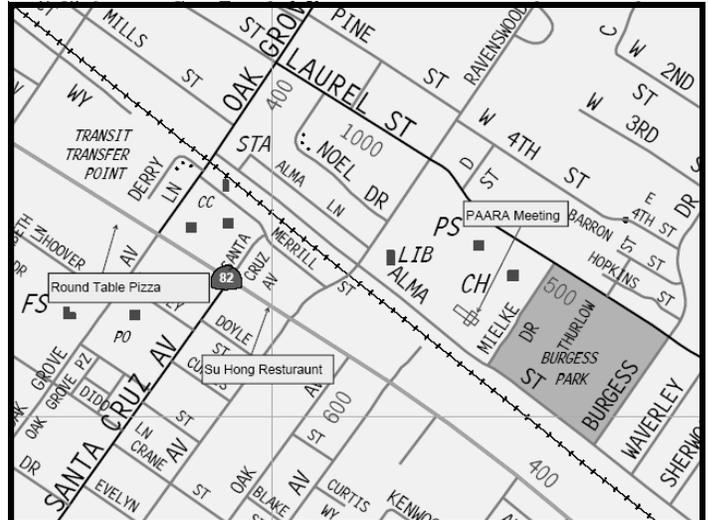
*Badges are ready for
 pickup.*

If you would like to
 order a badge, see
Lynn Gentry, KG6JPV.

PAARA Weekly Radio Net

Info and Swap Session every Monday evening
 at 8:30pm on the N6NFI 145.230 MHz
 repeater.

<u>Week</u>	<u>Control Operator</u>
1 st	Doug Teter - KG6LWE
2 nd	Robin Yee—KI6YTA
3 rd	Jack Pines - W1VSL
4 th	Marty Wayne - W6NEV
5 th	Mike Bray - N6MEB



Directions to PAARA meeting:
<http://paara.org/meetings/>

Join us for pre-meeting eyeball
**Eye Ball QSO
 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
 food order.

5:30 pm—at Su Hong Restaurant
1039 El Camino Real
Menlo Park

*across from Kepler's Book Store
 on El Camino Real
 Walking distance from Caltrain!*

Palo Alto Amateur Radio Association
P.O. Box 911, Menlo Park, California 94026-0911

Club meetings are on the first Friday of each month, 7:00pm at
 the Menlo Park Rec Center, 700 Alma Street, Menlo Park, CA.

Radio NET & Swap Session every Monday evening, at 8:30pm,
 on the 145.230 -600 MHz repeater, PL 100Hz.

Membership in PAARA is \$20.00 per calendar year,
 which includes one subscription to PAARAgaphs
 \$6 for each additional family member (no newsletter).
 Make payment to the Palo Alto Amateur Radio Association,
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DON'T FORGET!

Amateur Radio Technology Day

2011 DATES

- 14 JUNE
- 11 JULY
- 16 AUGUST
- 27 SEPT.
- 17 OCTOBER
- 20 NOV.
- 5 DECEMBER

8AM TO 6PM

Ilse Beck, E. A. , KI6IBM

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Vladimir Vladimirovich

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3rd Wed to: rrvt@swde.com
Text: .doc, .rtf, or .txt
Photos: jpg, png or tiff

Subscription Problems? Contact Database
Manager: Rick Melrose K6RDM,
888 725-1895, k6rdm@arrl.net

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PAARAgaphs accepts paid advertisements from non-members. (short personal ads remain free for members in good standing). All ad rates listed are per issue.

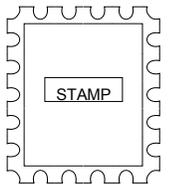
1. Not-for-profit ads by association members for ham-related items and wants. No cost for business card-size ads (additional space at \$2.50 per business card size per issue).
2. For Profit organizations and/or individuals: \$5-business card size, \$25-half page, \$50 full page or back cover per issue.

These fees may be reduced or waived in exchange for a valuable consideration that is given to the Association or its general membership. Such consideration must be in addition to any existing arrangements with the association. The PAARAgaphs editors reserve the right to reject any ad deemed to be not in the best interest of the Association.

All fees payable in advance by the year with "scanner-ready" copy or text-only ads. Give payment and copy to Ron Chester, W6AZ

PAARAgaphs — June 2011

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 PAARAgaphs Newsletter
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 Menlo Park, California 94026

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