

PAARAgraphs



The Official Newsletter of the

Palo Alto Amateur Radio Association, Inc.

Celebrating 75 years as an *active* amateur radio club—*Since 1937*



IARU/ITU Functions

Rod Stafford W6ROD

Rod Stafford W6ROD is the Secretary of the IARU and will present a program on the IARU and the ITU. The International Amateur Radio Union (IARU) is an association of national amateur radio societies. The International Telecommunication Union (ITU) is a specialized United Nations agency that determines the use of the radio spectrum worldwide. The primary purpose of the IARU is to work within the framework of the ITU for the protection and acquisition of amateur radio spectrum. Rod will report on the ITU World Radio Communication Conference 2012 that was just completed in Geneva, Switzerland. He will report on the four-week long conference that established a new amateur radio band at 472-479 kHz along with other amateur radio related issues on the WRC-12 agenda.

Menlo Park City Council Chambers

March 2

President's Corner

March 2012

Greetings from the road in Yuma, Arizona. I'm visiting the Yuma Hamfest and ARRL Southwest Division Convention as I write this,



and have some exciting news to share with you as well as some impressions of my trip here. It's been a very busy month for me, but unfortunately I've had less time than I would like to get on the air.

Solar conditions have been relatively mild through most of February as we emerge from mid-winter ionization, and begin to head toward the more active period to come. We have seen mostly drooping sunspot and solar flux numbers with only sporadic flare and CME activity. We did have a few small solar radiation storms from high particle flux, but nothing that has caused dramatic effects on the HF bands. There have, however, been reports of aurora sightings as far south as Arizona. At times there have been good openings on the upper HF bands for DX, but these have been somewhat sporadic, as might be expected in the winter. As we head into the equinox, things may pick up significantly. The spring contest season could be exciting as a result.

Speaking of contests, the big opener for the season is the weekend of this Hamfest, February 17th and 18th; The ARRL International DX Contest CW. While it was tempting to play in the contest a bit, I was really here for the Hamfest (and it didn't help that I had only had 4 hours of sleep), so I stayed away from the radio and stuck to having many interesting conversations with fellow hams. I heard some CW coming from a nearby building, though, and it was calling to me. CONDX didn't sound that great from here, unfortunately. I heard a lot of 5 and 7 calls. We have the SSB version of that con-

(Continued on page 2)

(Continued from page 1)

test coming up soon, though, in the first weekend of March, and then CQWW WPX SSB at the end of March. There are many smaller contests in between, so there is no end of fun to be had.

The Yuma Hamfest has really been a blast. I was invited to speak here by Ti-Michelle Connelly, NJ6T, who used to be East Bay Section Manager, and who is an old friend. She moved to Yuma several years ago, and at the last Pacificon, asked me if I'd like to go to Yuma in February. I casually said, sure, why not! Of course, at the time, I didn't think about the details of how I might get here. I figured the details would work themselves out somehow. Ultimately I decided to drive, thinking that I hadn't done a good, long road trip in a while. As the time drew near, I became suddenly very busy at work, and then I became very sick with a bad cold about 10 days before leaving. When it rains, it pours! I was worried that I might have to cancel. Day by day I monitored my progress both with the sickness and with my work. Fortunately I both became well enough and finished the work on time (simultaneously, actually). Still, with a bit of a sinus infection, I took off at about 10AM, and drove an entire day down here, arriving at nearly midnight. After about 4 hours of sleep, I was up and about at the Yuma County Fairgrounds, giving my talk on Propagation Physics, which was seemingly well received. I spent the day schmoozing and going to other talks. In the evening, I went to the annual 'Buzzard BBQ' where they had the big raffle. It was an amazing raffle with quite a dazzling array of prizes, and I actually won the grand prize which was a K3-100. I'm still in a bit of shock. It's been quite an experience. If you want more information on the Yuma Hamfest, go to <http://yumahamfest.org>.

A few final notes before I close. Please sign up for the KPH trip before we run out of seats. They are going fast and we don't want you to miss out. The PAARA sponsored ASVARO Electronics Flea Market is coming up in April (second weekend). Your help is needed. If you can volunteer to help out, we would appreci-

ate it. Please contact me, and I'll put you to work. If you've worked the Flea Market before, I'll probably be contacting you again, so look for my usual plaintive plea in your inbox soon.

CUL ES ALL THE BEST DE K6WX

KSM/KPH Field Trip

PAARA is visiting the Marine Radio Historical Society station KPH/KSM. This coast station was one of several marine communication transmitting and receiving stations located around the globe. The field trip will include visits to both the transmitting and receiving sites. Transportation to and from the site will be by bus. As is part of the PAARA tradition, we will be well fed with hamburgers and accompaniments. Reserve your seats while there are still seats available!

Date: Saturday, April 28

Going: Leave 701 Laurel St, Menlo Park CA at 8:00 AM.

Return: Leave KSM/KPH site approx 3:30 PM.

Cost: \$40 per person.

Last day to get a seat will be Friday April 6th.

See or call me for tickets.

If you wish to mail me your check, my address is:

Marty Wayne
 1039 Bryant Way
 Sunnyvale CA 94087

Please include name and call for each person going on the trip.

If there are any questions, please contact me at w6nev@arrl.net or call 408-246-7531.

Marty, W6NEV

Palo Alto Amateur Radio Association, Inc.

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 ki6idm@arrr.net

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 k6rdm@arrr.net
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 Public Affairs..... Position Vacant
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Future PARRA Meeting Dates

Mar 2nd, April 6th, May 4th

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.electronicfleamarket.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@arrr.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 3rd Thursday 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, Belmont City Hall, 2nd floor, 1 Twin Pines Lane,
 Belmont. 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 223.96 (+1.6) 156.7 ctcss 1286.20 (-12m) 100.0 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://santacalaravalle.redcross.org> or Scott Hensley KB6UOC, (408) 967 7924
shensley@Novell.com

(Please send changes to [PAARAgaphs editor](#))

XOX-TRAK controller interface project

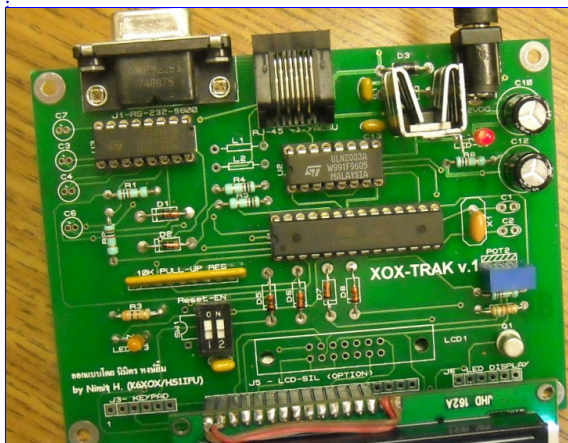
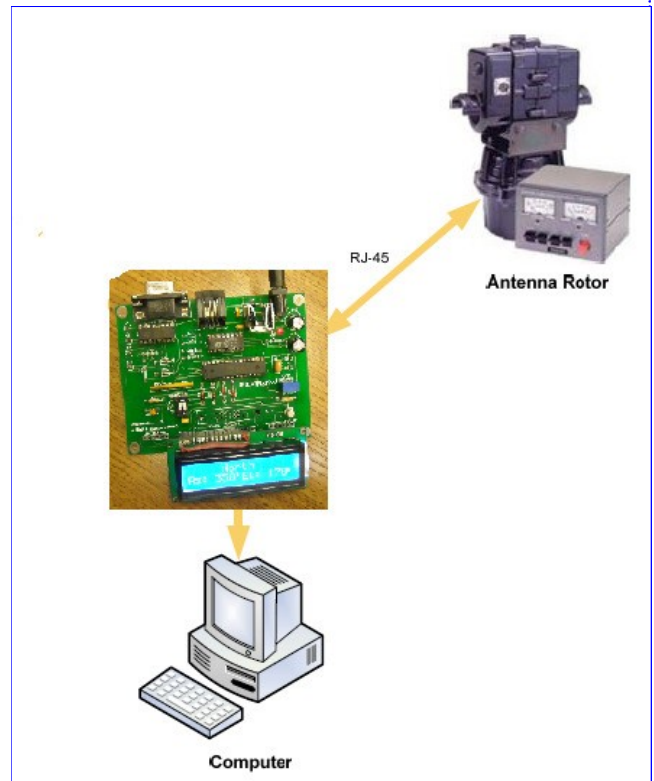
Nimit -K6XOX

Amsat Controller automated the tricky process of communicating using low earth orbiters (LEO)

INTRODUCTION

Communication using low earth orbit (LEO) satellites requires a high degree of accuracy in the ground station. The timing has to be as precise as possible, certainly to a second or so, the antennas have to be pointing at the satellite all time, and the receiver and transmitter have to be on the right frequencies. LEOs are only visible, horizon to horizon, for about ten minutes or less per pass, and data has to be exchanged for as long as possible in that period. The frequencies of both uplink and downlink vary as the satellite passes over, due to the Doppler Effect. This shift can be as much as 15Khz. Tracking parameters have to be adjusted every few seconds.

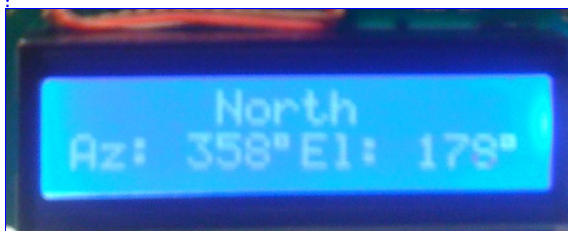
To try and manually control all these variables, for six orbits per day, is virtually impossible, especially if your station is part of the international Sat gate network. Thankfully, these tasks can be automated using tools as the XOX-TRAK controller, making life much easier.



Setting up a satellite station is not that easy or not that hard for the new comer. It is not plug_and_play, and there is a lot of work to be done on the ground station itself, especially with regard to the antenna system. Do not think therefore that just because you have two band radio and a co-linear that this will be for you.

GENERAL DECRPTION.

The heart of the controller is the ATMEGA328P with popular Arduino boot loader receive GS-232 format via RS-232 or virtual USB-COM cable, I did not design to have FTDI chip fr the USB because my first thought that want to build something that cheap and low cost enough as price range \$40 to \$50 so the virtual USB-COM cable cost around \$5-\$10 that have many of them on EBAY.



Several Tracking Software that in many website such as SatPC, NOVA, ORBITRON, HAM Radio deluxe or WXtrack and WISP32. I am similar to use with WISP DDE whatever program you decide on, these will take care in setting it up correctly, Time spent doing this will pay dividends.

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The Front panel of the controller has a LCD 2x16 for the standard revision that will display coordinate for AZ –EL. I has the improvement version that use 4x20 will included the Sat name and also Downlink Frequencies also have the option LED that display active signal to control Rotor up/down/ CCW/CW and also 4 positions manual switch that can be control rotor manually.



The rear apron has a DB-9 serial to connect controller to computer and RJ-45 connector for the rotator. Obviously, rotators for a satellite ground station have to rotate in elevation and Azimuth. XOX-TRAK used the RJ-45 which you can find anywhere from the LAN cable and on the other end will have 8 pin Din type connector already made up compatible with Yaesu Model G5400,G5500 and G5600.

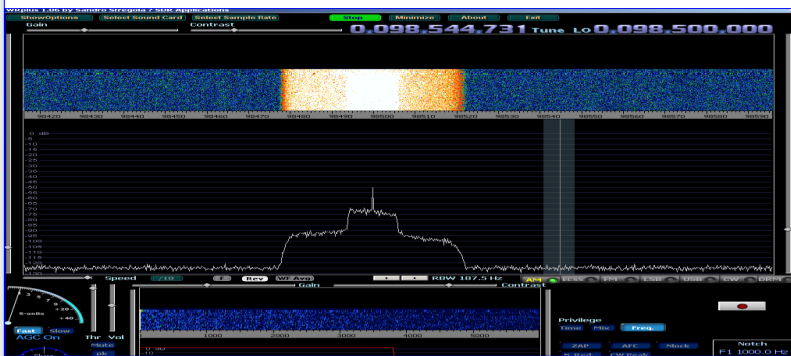
INSTALLATION AND OPERATION

Just follow the instruction in the manual and installation should be quite straightforward. However, you must have the rotator plugged in for the unit to be powered up, as it gets 12V from the rotator in order to work. It is also good idea to be running Windows XP (sorry for MAC) I wrote the WISPDDE in MS visual basic. Once the virtual Com port has been setup the control software (I like Orbitron simple and easy also free)

Operation should be fine but will depend heavily on your own personal satellite installation, and you will need to align the True north which is not the magnetic north (North star) which in BAYAREA will 14-15 degree to the east but do not worry about that when your system already up and running you can select the Software to point to SUN or MOON for calibration and it worked very easy for the

new comer like me and also a good GAS-FET pre-amp is also necessary on most systems.

I used the SDR radio (FUNCUDE Dongle) to be the receiver and I have edit the WispdDE to be able to control SDR radio and work



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with WRplus software then the Doppler effect will already taking care by Orbitron via WISPDEE to FUNCUBE. Please email me I will send you the copy of this software without charge.

The main reason to build this kit just for the HAM radio hobby and it is not the commercial purpose.

Full installation and manual online at <http://www.dgg2000.com/ftp/DOC/XOX-Manual.pdf> and also schematic at http://www.dgg2000.com/ftp/DOC/XOX-Trak_v_1.pdf

Email me if you have any question:- k6xox@arrl.net



Congratulations: February 2012 PAARA Raffle Prize Winners

- 1st Prize: Peter Chow / AF6DS / RIGrunner 4008 40Amp Power Panel / 8 Fused Outlets / Volt Monitor / Audio Alert
 2nd Prize: Kristen McIntyre / K6WX / MFJ 25 Amp Switching Power Supply / 2.8 lbs. / 5-way Binding Posts
 3rd Prize: Jim Thieleman / KI6KVV / Atomic Wall Clock Wireless Weather Station / Large Display
 4th Prize: Tad Morgan / W7TAD / Battery Tender Junior Charger / 12V / 0.75A / Auto Float
 5th Prize: Rob Krensky / KI6GCL / Two Uniden FRS / GMRS / Radios
 6th Prize: Lee Morgan / AG6GH / NARCC Repeater Directory
 7th Prize: Joel Wilhite / KD6W / Coax Seal Black Weatherproof Tape

PAARA Members and Visitors: THANK YOU FOR YOUR SUPPORT of the exciting monthly raffles! Since (Feb. 2003), 232 Radios, including Five 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 2011! If you aren't a member, please join PAARA now, and experience fun 2012 events with the "friendliest club around."

K6AK Jim

Minutes of the 15 February 2012 PAARA Board Meeting

The Board Meeting was held at the Palo Alto Red Cross building, commencing at 7:30 PM on the 15th of February, 2012. Attending were Kristen McIntyre K6WX (Pres), Marty Wayne W6NEV (Vice Pres), Rick Melrose K6RDM (Sec, Database), Ron Chester W6AZ (Treas), Rob Riley KI6INR (Dir), Darryl Presley KI6LDM (Dir), Byron Beck KG6UOB (Dir), Vic Black AB6SO (Membership), Joel Wilhite KD6W (Technical Coordinator) and Doug Teter KG6LWE (Field Day Coordinator). A quorum was present.

President's Report: Kristen K6WX reported that the talk given by Jim Peterson K6EI on 160 Meter operation, antennas and propagation created a lot of interest and made this challenging and sometimes mysterious band seem much more attainable for many. Apparently the feeling was mutual as Jim enjoyed our PAARA audience as well and has offered to speak again on some other selections from his repertoire of topics. Kristen talked a bit about home grown content coming from the membership for inclusion in future issues of PAARAgaphs which is sure to be of considerable interest and wishes to encourage others to contribute even very brief content that may be interesting or useful to our community (as few as 4 sentences could render you a published author!).

Secretary's Report: Rick K6RDM reports that the minutes of the 18th of January Board meeting had been previously submitted and approved. There were 5 new members at the February 3rd General Meeting, and 6 renewals with 1 rejoining. Members are again reminded that it is time to renew for 2012. Your mailing label will show the year of current membership as recorded in our database. The last issue to be distributed to members who have not yet renewed will be this March issue.

Treasurer's Report: Ron W6AZ reported that the Winter Banquet did better than even with a small profit. He will be getting with John Miller K6MM, our Webmaster, to set up PayPal for on-line membership renewal at our website, <http://www.paara.org> – a convenience members have been recommending.

Vice President's Report: Marty W6NEV told the board that we have speakers booked for our general meetings through June and that plans for our PAARAtrip to KPH, the restored ex-RCA coast station at the Point Reyes National Seashore, are progressing well. People are showing a lot of interest but do need to get signed up as seating is limited. More information about KPH is available at the web-

site of the Maritime Radio Historical Society (MRHS), <http://www.radiomarine.org/>. Once again, members are reminded that club membership is not required for participation and that the date is set for April 28th, and the price will be \$40 per attendee, which will include transportation and lunch at the site. We'll be departing the Menlo Park Recreation Center at 8 AM and returning at about 6 PM. Any questions can be directed to Marty via email at <W6NEV@arrl.net>. Payments may be mailed to Marty at the address on our PAARA.org website, or handed to Marty at a club meeting.

Marty and Doug Teter KG6LWE are going to be scheduling a coordination meeting for this year's Field Day to work out plans to get the antenna trailer sand blasted, painted and some other upgrades. There are numerous other projects to get started on and volunteers, who would like to work on these projects should contact Marty via email or Doug at <dteter@wcwi.com>.

Spring seems to be all but upon us and we have a whole new season of ASVARO Electronics Flea Markets to look forward to at the De Anza College parking lot. We have word that the parking fee has been raised to \$3 and that we will be in Parking Lot A as in previous years. The first Flea Market will be on March 10th and our PAARA Sponsorship will be on the second Flea Market on April 14th. For more information, see <<http://www.asvaro.org/>>.

The meeting was adjourned at 8:45 PM.

New members to be welcomed from the February meeting:

Shekar Tipnis	KG6UEF	Fremont
Xiande Cao	KJ4SGT	Campbell
Wilko Wilkening	AG6DK	Mountain View
Andrew Kirk	WB6CLS	Los Altos Hills
Dave Flack	W6DLF	Sunnyvale

Available Badges

K6FTF	Mark	San Jose
KJ6GBE	Sreendish	Redwood City
KG6GYG	Art	San Jose
N6JCY	Joani	San Jose
N6MLK	Matt	Cupertino
KG6QKN	Francis	Palo Alto
KG6QKO	Kali	Palo Alto
KF6SRD	Chuck	Palo Alto
K6TSR	George	Portola Valley
K6VVK	Vincent	Palo Alto
K6WV	Jon	Cupertino



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 pickup.*

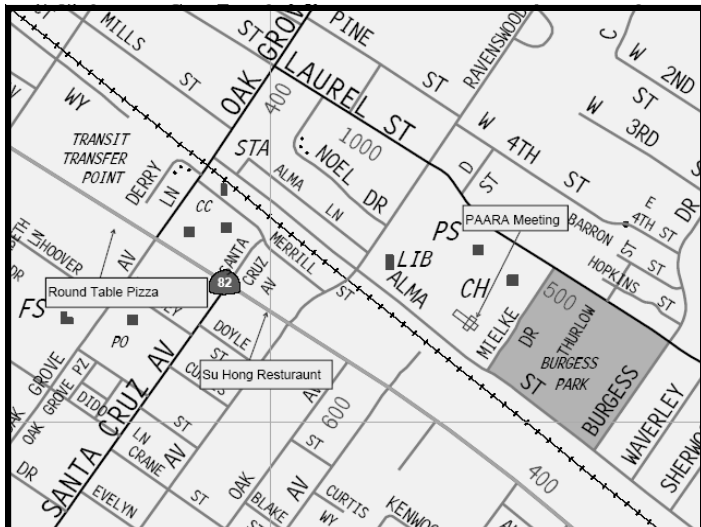
If you would like to
 order a badge, see
Lynn Gentry, KG6JPV.

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	Michael - N6MEB
2 nd	Doug - KG6LWE
3 rd	Jack - N1VSL
4 th	Marty - W6NEV
5 th	Up for Grabs!

If you're interested in trying out at Net Control,
 Contact Doug, KG6LWE. It's good practice,
 and lots o' fun! Give it a try.



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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 WHEN A NEW
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8AM TO 6PM



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 Photos: jpg, png or tiff

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 Manager: Rick Melrose K6RDM,
 888 725-1895, k6rdm@arrl.net

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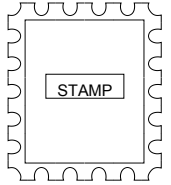
PAARAgaphs accepts paid advertisements from non-members. (short personal ads remain free for members in good standing). All ad rates listed are per issue.

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

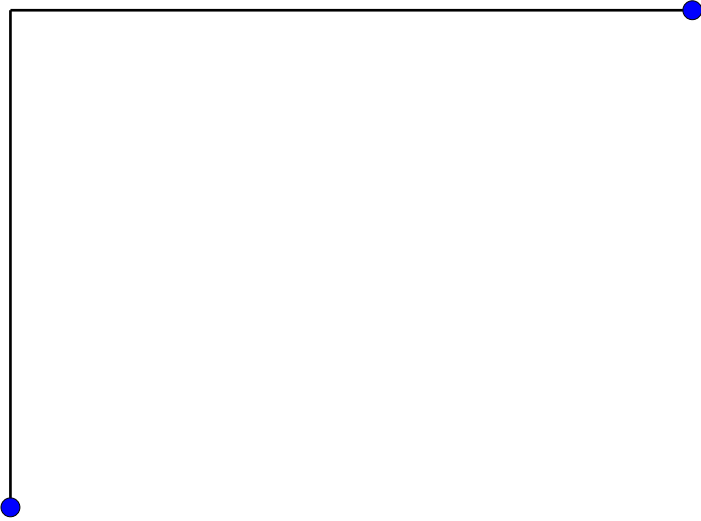
PAARAgaphs — March 2012

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Palo Alto Amateur Radio Association, Inc.
PAARAgaphs Newsletter
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