W6ARA

PAARA NEWSLETTER

VOLUME 55, NUMBER 8, August 2006

K6OTA

K6YQT

PAARAgraphs



Aug

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Celebrating 69 years as an *active* ham radio club—*Since 1937* The Palo Alto Amateur Radio Association, Inc.

CALENDAR

4 PAARA Meeting

7:00–9:30 Menlo Park Rec Center 700 Alma Street Menlo Park, CA 94025

9 **Board Meeting** 7:00pm

Red Cross Bld.,400 Mitchell Lane Palo Alto

(due to Parking Lot problems location may change, check net before Bd. meeting)

Sep	8	PAARA Meeting,	7:00pm
Sep	13	PAARA Board Meeting ,	7:00pm
Oct	6	PAARA Meeting,	7:00pm
Oct	11	PAARA Board Meeting,	7:00pm



NEXT MEETING

August 4, 2006

SPEAKER

and PROGRAM:

Power Systems for Ham Radio Operation Joel Wilhite KA7TXV

> Field Day Photo Contest Gerry Tucker N6NV

PAARA News

XYL Goes Berserk at Candy Store!!



Recently the staff and on site customers at the candy store in Sunnyvale were surprised and shocked to observe an unidentified XYL screaming, yelling and jumping around inside the store. This woman physically tore off, of the window, the sign that has been in that location for as long as most of us can remember. The sign simply stated: "Your wife called and said you could buy anything you wanted." For most active hams, that

was a really unique and friendly notice to come in, look around, and purchase something they always wanted to have.

However, it is assumed that the unidentified XYL thought that the message was involving just her and her ham husband. It is also believed that this ham purchased something that she must have not authorized, although she did not stay in the store long enough for anyone to ask questions. Fortunately, there were no injuries sustained by staff or customers, nor any damage to equipment. We must hope the same for the unknown ham radio operator.

*Terry Finn. AA6T.

MEMBERSHIP NOTICE

To develop a reliable PAARA Rooster, Data Base, PAARAgraphs mailings

ALL CHANGES OR CORRECTIONS

should only go to:

PAARA Secretary, Adrianus Schrauwen W6AJS hagenees@att.net, 650 494 6256, or at General meetings (this includes changes in Membership or Family Membership)

Food Services at Field Day 2006

Instead of rounding up potential radio operators to flip burgers or grill steaks for dinner on Saturday evening, we tried a new concept for this year's field day. A group of 17 volunteers from the First Baptist Church of Menlo Park set up a food booth and served food through-out the day on Saturday. This not only served the folks of PAARA, it also was a benefit for our troops overseas. Thanks to your generosity, all the profits, totaling \$244 were sent to the U.S.O. for troop support.

The day began with Donuts and Coffee at 8 am and progressed quickly into the lunch and dinner menu. The menu consisted of hot dogs, hamburgers, beans, chips and desserts with a variety of hot or cold beverages. The last meals were served a little after 7 pm and fresh coffee was provided for the overnight crew.

Several of the volunteers from the church toured the radio sites and enjoyed learning more about Ham Radio as well as meeting a lot of PAARA members. The two young men who manned the BBQ grill most of the day also made their first QSOs and helped us earn extra GOTA points. All-in-all it was a great success!

~Rick KG6TMD

Celebrating 69 years as an active ham radio club—Since 1937

Miscellaneous Info

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.electronicsfleamarket.com/

LIVERMORE SWAP MEET. Now in Robertson Park, Livermore, every first

Sunday of the month. 7 am to 11:30 am. Free admission for buyers. For further info, see:

www.larkswap.com or contact Ian Parker, W6TCP at swapmeet@livermoreark.org

PAARA Palo Alto Amateur Radio Association

meets 1st Friday 7:30pm each month. Net 145,230 each Monday 8:30. contact: http://PAARA.org/ or Terry Finn, AA6T, 650-366-9111

FARS Foothills Amateur Radio Society

meets 4th Friday 7:30pm each month contact: http://www.fars.k6ya.org

NCDXC Northern California DX Club

meets 2nd Friday 7:30pm each month, repeater for member info 147.360, Thur 8:00PM

contact: http://ncdxc.org/ or Mike Gavin W6WZ, (650) 851 8699

NorCalQRP Northern California QRP Club

meets 1st Sunday each month

contact: http://www.norcalqrp.org/

${\bf SPECS}$ 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 ClaraCounty 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.gsl.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

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.

52.58 (-500) 151.4 ctcss TIHE: 147.39 (+600) 151.4 ctcss

223.96 (+1.6) 156.7 ctcss

441.35 (+5.0 88.5) ctcss 1286.20 (-12m) 100.0 ctcss

meets 3rd Wed every month.

contact: http://wwara.org/_ Bill Ashby N6FFC, 408-267-3118, N6FFC@Juno.com, or N6FFC@ARRL.NET

DISASTER SERVICES

American Red Cross, PALO ALTO AREA CHAPTER

400 Mitchell Lane

Meets 3rd Wed. each month 7:30PM

HF, packet, BBS, ATV, OSCAR Gateway, NASA satellite

contact: http://paarc.org/ or Mac Millian 650-688-0423. MACM@paarc.org

American Red Cross, SANTA CLARA VALLEY CHAPTER

contact: http://santaclaravallev.redcross.org/ or Scott Hensley KB6UOO, (408) 967 7924

fshenslev@Novell.com

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

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PAARAgraphs E-mail address: k6uro@arrl.net Submit material for PAARAgraphs by the 15th

WORD, RTF, or ASCII JPEG or TIFF raster images Photos:

Missing PAARAgraphs, too many copies, wrong name or Call on label? Contact Database Manager:

Rick Melrose K6RDM, 408-732-2247, k6rdm@arrl.net

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

Officers

President..... Terry Finn, AA6T 650-366-9111

aa6t@arrl.net

position vacant Vice President

Secretary..... Adrianus Schrauwen, W6AJS 650-494-6256

w6ajs@arrl.net

Treasurer Ron Chester, W6AZ 408-243 2221

w6az@arrl.net

Directors Director ('07)..... Gerry Tucker, N6NV 650-326 4908

n6nv@arrl.net Director (07) Andreas Junge, N6NU 650-233-0843

n6nu@arrl.net

Director ('06)......Kristen McIntyre, K6WX k6wx@arrl.net

Director ('06)...... David Ungar, W6DH 650-255-2131

ungar@mac.com

See the calendar for Board meeting times. Visitors are welcome.

Appointed Positions

650-366 0636

ab6so@smrn.com

Database.....Rick Melrose K6RDM 408-732-2247

k6rdm@arrl.net

ChaplainRev. Rick Line, KG6TMD 650 323 8544 kg6tmd@arrl.net

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 650-595 1842

rgk4u@aol.com

Badge Coordinator......Doug Teter, KG6LWE 650-367-6200

dteter@wcwi.com

Raffle Coordinator...... Jim Rice, K6AK 650-851-2274

Ticket Master Kyle Rice, KG6MSK

Field Day Coordinator..... Gerry Tucker, N6NV

ASVARO RepRolf Klibo, N6NFI

n6nfi@arrl.net

Webmaster.....position vacant

Technical Coordinator.....Joel Wilhite. KD6W.......650-325-8239.

joel.wilhite@gmail.com

QSL Manager.....Rob Riley, KG6HVW (cell) 650 799-1607

kg6hvw@arrl.net

PAARAgraphs Staff

.. Wally Porter, K6URO 650-494 7038

k6uro@arrl.net

Photography: Dick Kors, KM6EP, Al Montoya, WB6IMX, John Larribeau, KR6MR,

Wally Porter, K6URO, Mark Cohen, K6EF

650-856-2748

650-366-9111 Advertising...... Terry Finn, AA6T aa6t@arrl.net

News.....Terry Finn, AA6T 650-366-9111 Member Profiles Terry Finn, AA6T 650-366-9111

terry@incognitoservices.com

Technical Tips Vic Black, AB6SO 650-366 0636

ab6so@smrn.com

************ LIFE MEMBERSHIP

Awarded by Action of the PAARA Board Ron Panton, W6VG July 2003 Joe Gomes, KB6HDC May 2004

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Celebrating 69 years as an active ham radio club—Since 1937

RF Connector Notes

by Jack Daane KR6CD

Here's some information I've read about RF connectors. I have no first hand knowledge about the design or the history of these connectors and I make no guarantee about the accuracy of what I've read, so feel free to be an open minded skeptic. If you have any contradictory information, please submit it in an article and get us back on course.

UHF Connectors

These threads on connectors are used with a great deal of amateur radio equipment. The PL-259 is the plug and the SO-239 is the socket. They are commonly called UHF connectors, but that is a bit of a misnomer today. According to "The Doctor is IN" column in QST, July 2006, page 49, the connector was named "UHF" before the 1940s, which is when 30 MHz was considered a high frequency. They can be used through at least 144 MHz and perhaps at 440 MHz, but the N connector is a better choice above HF. I have used UHF connectors successfully on both the 2 meter and the 440 bands.

The author of this column also says the PL-259 and SO-239 connectors have a characteristic impedance of around 35 Ohms based on the diameters of the inner and outer conductors. Apparently this impedance is close enough to use with 50 Ohm coax, but it is not a perfect match.

As for personal experience, I have successfully used these connectors with 50 Ohm coax and radios since the early 1970s and attained low SWR readings in spite of any impedance mismatch.

Impedance issues aside, even after 35 years of experience with these connectors, I still find soldering a PL-259 onto coax to be a challenge to my patience.

What Does "BNC" Stand For?

There are many theories about naming the BNC connector. Amphenol is a major manufacturer of RF connectors. Here's a story from their website, http://www.amphenolrf.com/products/bnc.asp, about how the BNC connector got its name. "Developed in the late 1940's as a miniature version of the Type C connector, BNC stands for Bayonet Neill Councilman and is named after Amphenol engineer Carl Councilman. ... BNC's are ideally suited for cable termination for miniature to subminiature coaxial cable (RG-58, 59, to RG-179, RG-316, etc.)" Interesting that the Amphenol website has no explanation of the name "Neill".

Another website, http://www.accesscomms.com.au/coax.htm, adds an additional detail. "The two Amphenol engineers who invented the BNC connector were named Paul Neil and Carl Councilman. It therefore seems logical that the 'true' meaning of the 'BNC' acronym is perhaps 'Bayonet Neil-Councilman'". If Mr. Neil actually did work at Amphenol it seems strange that the author of the Amphenol website did not mention the fact.

And finally, a third website, http://ece-www.colorado.edu/~kuester/Coax/connchart.htm, reports Paul Neil worked as an RF engineer at Bell Labs and helped develop the type N 50 ohm connector in the 1940s for military systems. If BNC actually does refer to "Bayonet Neil Councilman" we are left to wonder how Mr. Neil of Bell Labs wound up collaborating with Mr. Councilman of Amphenol on the development of the BNC connector. Of course there is the obvious possibility that Bell Labs contracted with Amphenol to make what became the BNC connector and that Mr. Neil and Mr. Councilman did the work, but I have never read anything to substantiate it, so let's not add conjecture onto speculation.

BNC Connector Impedance and Dimensions

On to more practical matters about BNC connectors. "The Doctor is IN" column cited above mentions that BNC connectors are designed to match the impedance of the cable they are attached to. They are called constant impedance connectors. There is a 50 Ohm type of BNC connector and there is a 75 Ohm type of BNC connector. The

pin of a 50 Ohm connector has a slightly larger diameter than the pin of a 75 Ohm connector.

One of the factors that determine the impedance of coaxial transmission line is the relationship of the outer diameter of the inner conductor and the inner diameter of the outer conductor, so apparently making the diameter of the pin in the connector a little smaller increases the impedance from 50 Ohms to 75 Ohms. Of course, the dielectric material between the two conductors is another factor.

I looked for the size of the pins in each type of BNC connector to see just how much of a difference there is, but I didn't find the actual dimensions. That seems to be one bit of information that is still not readily available over the internet. At least, it eluded me.

The QST column says to avoid mixing these types of connectors. It says that inserting the larger pin of a 50 Ohm connector into the smaller socket of a 75 Ohm connector can stretch or over-expand the socket. Conversely, inserting the pin of a 75 Ohm connector into the socket of a 50 Ohm connector might not make contact.

Before I read that column I had heard casually that there are two types of BNC connectors, one for 50 Ohm coax and one for 75 Ohm coax, and that there could be mating problems, but I didn't know about the specific differences and I've never been very concerned about it. When I looked at my collection of BNC connectors and adapters I found one male connector which has a pin that appears to be smaller than the rest so perhaps it is my only 75 Ohm connector among a bunch of 50 Ohm connectors. The socket on each of my connectors seems about the same size. I have never encountered a mating problem with BNC connectors, but perhaps I have just been lucky.

The Pasternack Enterprises catalog of RF connectors and patch cords does indeed list two separate types of BNC connectors, one for 50 Ohms and one for 75 Ohms, but it does not mention any problems mating a 50 Ohm male to a 75 Ohm female or vice versa.

A question and answer section of a Kings Electronics website, http://www.kingselectronics.com/ResourceGuide/FAQs/tabid/74/

<u>Default.aspx#question08</u>, also contends that 50 Ohm BNC and 75 Ohm BNC connectors can be mixed without problems.

Apparently, sometimes mating the two types works and sometimes it doesn't. Perhaps the socket on the female BNC of each type is designed to be flexible enough to accommodate either size pin. Just a guess.

N Connector Mating Problems

The Pasternack Enterprises catalog says there are two types of N connectors, one for 50 Ohms and one for 75 Ohms. In also states emphatically that 75 Ohm N connectors "will not mate with standard 50 Ohm N connectors".

The Kings Electronics question and answer section, http://www.kingselectronics.com/ResourceGuide/FAQs/tabid/74/

<u>Default.aspx#question08</u>, states that each type of the N connector has a different diameter pin and socket. The pin and socket on the 50 Ohm connector are larger than the pin and socket on the 75 Ohm connector. It goes on to state that inserting a 50 Ohm connector pin into a 75 Ohm connector socket deflects the socket tines further than designed, typically resulting in the tines breaking off. In other words, plugging a 50 Ohm male N connector into a 75 Ohm female N connector damages the female.

So it seems that the N connector is not as forgiving as the BNC connector. I have never had the pleasure of using either a 50 Ohm or a 75 Ohm N connector, so I have nothing to add, but I have noted this mating problem in my reference file of RF connectors to remind myself not to mix them.

Conclusion:

So ends my literature review on RF connectors. If you have any additional information or references, I encourage you to write them an article and submit it to your club's newsletter so we can all learn more from one another about our hobby.

Jack Daane < jackdaane@earthlink.net>

Celebrating 69 years as an active ham radio club—Since 1937

2006 Field Day Results

The report to the ARRL of our 2006 Field Day results has been completed. We have scoured the logs for dupes, compiled the required lists of stations worked on each band and mode, and gathered the evidence needed to substantiate our bonus points. Our final results ended up very close to the estimates announced at the July PAARA meeting. Our final scoring follows.

Number of Phone QSO's	_	N	umber of CW QSO's
80 m - 119			80 m - 147
40 m - 83			40 m - 411
20 m - 528			20 m - 442
15 m - 18			15 m - 150
6 m - 41			1150
2 m - 10			×2
70 cm - 3			QSO pts 2300
SAT - 1			
GOTA - 244			
QSO pts 1047	PH QSO pts	1047	
	CW QSO pts	2300	
		3347	
Powe	er multiplier	x2	
Cla	nmed score	6694	
Bo	nus points	1950	
To	tal Score	8644	

Our records of PAARA Field Day scoring go back to 1987. In those twenty years the total score has exceeded 6,500 points only three

times. 2003 - 8,740 2006 - 8,644 2002 - 7,994

All other scores have ranged between 3,830 and 6,484. So clearly we had a standout year, in spite of our position in the solar cycle, missing our highest ever score by only 97 points.

We made our most ever number of CW QSO's.	2006 - 1,150
Of course it must be noted that we had an extra	2003 - 1,053
CW station this year, as compared to 2002-3.	2002 - 1,042
On 80m CW we showed a large percentage gain.	2006 - 147
Our 20 year average is a mere 28 Q's on 80 CW,	1995 - 110
as many years have had none.	2004 - 88
On 40m CW we smashed the previous high. Our 20 year average is 142 Q's on 40 CW.	2006 - 411 1997 - 340 2003 - 298

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2006 - 442 1996 - 414
2006 - 266 1995 - 257 2004 - 216

Speculation about national standings

Now we must wait to find out how we fared in comparison to other clubs in our Category 3A. It is interesting to see how our score of 8,644 would have looked in the previous five Field Days. Such a score would have yielded the following national rankings.

2005 - 10th 2004 - 8th 2003 - 11th 2002 - 16th 2001 - 11th

So it seems pozzible that we could end up in the top ten for 2006, and the top fifteen or better looks pretty likely. For the five years shown, there was a total of only 51 scores that exceeded our 8,644 score from this year. That is from a total of 1,480 scores reported, an average of 296 clubs in Category 3A each year. So even a 15th ranking could put us in the top 5% of scores in a very large group.

Our results are likely to be an even bigger standout when compared to other clubs in the west, as a very large percentage of those 51 higher scores came from clubs east of the Mississippi, 36 of the 51 scores, to be exact. Of the 15 that came from west of the Mississippi, nine came from Texas, three from Colorado, and three from California. No other western state was represented in this elite group. And what were the California clubs?

> Santa Barbara ARC – 6th in 2003 (SB) Santa Barbara ARC – 7th in 2002 (SB) Redwood Empire DX Assn – 4th in 2001 (SF)

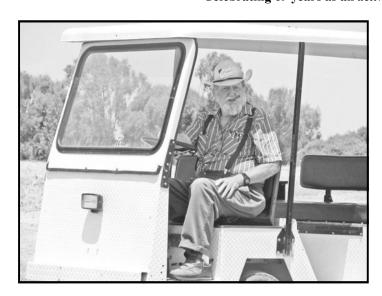
That's right, only 3 scores out of 1.480 (0.2%) came from California and exceeded 8,644 points. Only 15 of 1,480 (1.0%) came from west of the Mississippi and exceeded 8,644.

And what was our national ranking during recent years? 2005 - 15th 2004 - 56th 2003 - 11th 2002 - 22th

There you have it. All 95 people who participated this year in PAARA Field Day are to be congratulated and thanked for their outstanding efforts! We look forward to another successful Field Day in June 2006 from our new location on Signal Ridge.

Ron Chester, W6AZ Rules Chief

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ELECTRIC SHUTTLE CART USED AT FIELD DAY.

PAARA member Lamont Shadowens, K6CZ, known by most of his friends as Shad, contacted the PAARA President and offered to arrange for an electric vehicle, much like a golf cart, to be used at Field Day. Apparently, Shad knew a lady in Palo Alto who was in the electric vehicle business many years ago and actually had a serviceable unit that she would allow PAARA to use for this annual exercise. What an incredible offer that was at such an appropriate time because it helped PAARA solve the problem of transporting hams or guests who had problems walking or getting around at the Field Day site. Thank you, Shad.

And of course we then contacted the PAARA "go to guy", as he can handle just about anything that is asked of him. I am talking of Doug Teter, KG6LWE who worked with Shad and was able to pick up, transport to the site and get the vehicle going at the site. Thanks Doug, you do good work.

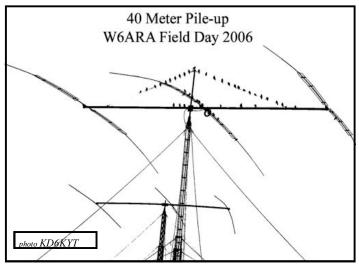
As a side note, this vehicle sustained some operational damage that we shall refer to as "an event" while it was used at the Field Day site. Apparently, due to the high electrical load drawn from the batteries for the trip up the hill from the command post and food service area, plus a possible lose wire and battery post connection, there was a massive melt down of two batteries. Doug discovered this problem on Sunday and was able to make some minor repairs to get the vehicle back onto his transport trailer. The major concern was how much it would cost PAARA for two new six volt, deep cycle, batteries.

Once again, Shad came through for PAARA by arranging with the vehicle owner to have the new batteries provided by the owner and installed by Doug of PAARA. What a deal. Especially for PAARA. Kudos' go out to Shad and Doug for all of their extra effort with this electric shuttle vehicle.

We certainly can not forget about the shuttle driver, our very own PAARA member Ed Gentry, KG6KKP, provided those services all day Saturday, in the heat. Thank you Ed, for your safe driving practices and service to PAARA.

~Terry Finn. AA6T.

FIELD DAY 2006







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Celebrating 69 years as an active ham radio club—Since 1937

BOARD OF DIRECTORS MEETING. July 12, 2006

In attendance were the following PAARA members. President **Terry Finn**, **AA6T**; Secretary **Adrianus**

Schrauwen, W6AJS; Treasurer Ron Chester, W6AH; Directors Gerry Tucker, N6NV; Andreas Junge, N6NU and David Ungar, W6DH. (Kristen McIntyre K6WX was excused for family reasons)

Visiting the Board meeting were: Membership coordinator Vic Black, AB6SO; Database Manager Rick Melrose, K6RDM; Badge Coordinator Doug Teter, KG6LWE; QSL Manager Rob Riley KG6HVW.

President Terry Finn started general discussions at 19:20 hrs.

There was a Quorum after Ron Chester arrived around 19:45 hrs; however, no Board actions were taken during this B o D meeting. The Secretary reported on complaints and changes from the members, de information will

be forwarded to the database manager. Incoming dues were handed to the treasurer. The treasurer's report was tabled to next BoD meeting because of the field day activities.

<u>The PAARA Database</u> was discussed. Rick Melrose, back from a lengthy absence will be working on the database, he will coordinate with Mark Cohen, K6EF who has been covering for Rick Melrose. Adrianus requested again to get access to the database. This apparently could not be done as yet, since the database is still under construction and is being scrutinized for errors and omissions. <u>Flea Market</u>, Proceeds from the July 8, 2006 flea market were reported by Gerry Tucker and Doug Teter.

<u>Field day:</u> Doug Teter reported on the shuttle problem and repair there off during the field day. Ron Chester reported on the results of the successful field day sessions. Result will be printed in this or a forthcoming PAARAgraphs issue.

Other business: The merits of the newly shaped website was discussed, Al Montoya WB6IMX, is reworking the website and needs input from the membership. Various club meeting items were suggested such as Show and Tell, member equipment auction, choice of speakers, more activity for special interest groups.

Also the members should be informed of the state of the PAARA with a presentation of the facts as they stand. Cost of PAARA-graphs printing and distribution, possibly can be reduced by having members accept distribution by e-mail.

The meeting adjourned at 21:50 hours. Respectfully submitted by Adrianus Schrauwen, W6AJS, PAARA Secretary



Celebrating 69 years as an active ham radio club—Since 1937

PAARA August 4th Meeting



PAARA "The Friendliest Club Around"

Palo Alto Amateur Radio Association, Inc. www.paara.org
Date and Time: Friday, August 4th at 7 p.m.
Menlo Park Rec. Center, 700 Alma St., Menlo Park, CA.
Welcome Members and Visitors / Raffle Prizes:

FIRST PRIZE: Icom IC-V8 Sport HT

- Full sized and easy to use
- 5.5 watts max. output
- 100 Alphanumeric Channels
- Rugged MIL grade construction
- CTCSS/DTCS encode/decode with tone scan
- Reversible Up/Down and Rotary Selector



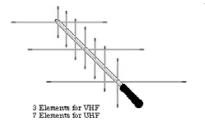
SECOND PRIZE:

Work a Satellite with an HT

Arrow VHF &UHF Yagi

Portable Satellite Operation

Maximum Gain and Efficiency



Separate BNC Connectors
Strong and Lightweight

AO27 Up-link 145.850 Down-link 436.800 UO14 Up-link 145.975 Down-link 435.070

THIRD PRIZE: Weller 40 Watt Solder Station / Adjustable 5-40 Watts

FOURTH PRIZE: Kill A Watt / AC Electricity Usage Monitor

FIFTH PRIZE: Power Panel 4/4 Port DC Distribution Panel / 25 Amp Rating

SIXTH PRIZE: ARRL Desktop Repeater Directory SEVENTH PRIZE: NARCC Repeater Directory

Since February 2003, 87 Radios, including 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, Rick, Mark, and everyone at HRO for their continued SUPPORT!

K6AK Jim

Congratulations: July 7th PAARA Raffle Prize Winners

1st Prize: Paul Jemelian KG6JLE / LDG Z-100 Antenna Tuner

2nd Prize: Gary Aden K6GDA / Heil "The Traveler" Headset with Boom Mic

3rd Prize: Tamra Johnson KG6VYA / Eton FR-250 AM/FM/SW Radio

4th Prize: Bob Shelton K6TGR / Samlex Regulated DC Power Source 13.1V / 5.5 Amps

5th Prize: Bob Hinden KI6ASK / Practical Wire Antennas Book / RSGB

6th Prize: Avery Wright KD4GBA / Northern California Repeater Directory / NARCC

7th Prize: David Ungar W6DH / Electric Radio Book / Celebrating a Bygone Era

PAARA Members and Visitors: THANK YOU FOR YOUR SUPPORT of the exciting monthly raffles! Since Feb. 03, 87 Radios, including 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 is having a remarkable year in 2006! If you aren't a member, please join PAARA now, and experience fun 2006 events with the "friendliest club around." K6AK Jim

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FOR SALE

ICOM IC-W32A 5 Watt, Two Meter/440 MHz HT Weather & Aircraft receive. Can plug directly into 12 Volts. With manual and charger.

BP-173X 1.2 Amp-Hr. Metal Hydride battery (Normal battey is 650 MA-Hr) \$20

BP-170 AA alkaline battery case

\$10

2 Meter 25 Watt KLM Power Amplifier 2-25 Two Watts + in gives 25 Watts out!

\$45

Kenwood TH-31AT 220 MHz 5 Watt HT with extra Heavy Duty PB-21 500 MA-Hr Battery. Built in PL Board set for 88.5 Hz. (A DIP switch could be added to select any PL.) With charger, users manual & Service Manual.

\$95

Yaesu FT-411 2 Meter, 5 Watt HT. Built in PL. With users manual, charger, and HT cover.

Also receives Weather stations.

Contact:

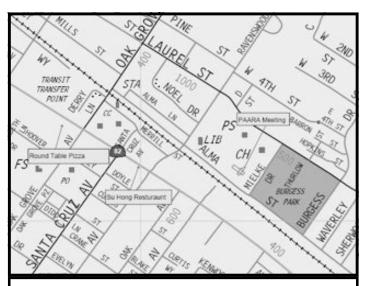
Rich Stiebel <w6apz@sbcglobal.net

HAM FEST

ANGELINO'S RESTAURANT

3132 Williams Road, at Winchester Blvd. 2:00 PM

Second Sunday each month www.Angelinosrest.com



Directions to PAARA meeting:

http://paara.org/meetings/

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 tone off.

> Membership in PAARA is \$18.00 per calendar year, which includes one subscription to PAARAgraphs \$6 for each additional family member (no newsletter). Make payment to the Palo Alto Amateur Radio Association, P.O. Box 911, Menlo Park, CA 94026-0911

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PAARA Radio NET

and Swap Session every Monday evening 8:30pm local time on the

145.230 -600 MHz repeater

PL tone off

control operators:

Week Operator

1st Mon. Pink Foster, KG6ILA 2nd Mon. Peter Sheerin, K6WEB 3rd Mon. Peter Sheerin, K6WEB 4th Mon. Bill Rausch, AA6PA

5th Mon. Volunteer! Join us for pre-meeting eyeball

QSO August 4th 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!

Celebrating 69 years as an active ham radio club—Since 1937

PAARA BADGES

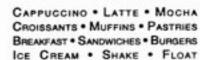


To order one. contact our Badge Coordinator:

Doug Teter, KG6LWE dteter@wcwi.com



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