PAARA NEWSLETTER

VOLUME 61, NUMBER 11, Nov 2011

PAARAgraphs

K6OTA | | I



The Official Newsletter of the

Palo Alto Amateur Radio Association, Inc. Celebrating 74 years as an *active* amateur radio club—Since 1937

Nov 4, 2011

W6OTX W6ARA

Tom Berson, ND2T

will talk about

TU VP8ORK UP

The 2011 MicroLite Penguins DXpedition to South Orkney Islands, Antarctica

In January 2011, thirteen hams and seven ship's crew ventured across the Drake Passage, long known to sailors as the "most dangerous water in the world," to establish VP8ORK on Signy in the South Orkney Islands. They found a fragile wilderness with difficult access, rugged natural beauty, abundant wildlife, and volatile weather. They made 64,000 QSOs.

Come see and hear a bit of VP8ORK. Learn about the triumphs, tradeoffs, and challenges of Antarctic DXpeditioning. Enjoy a vicarious radio adventure. Parse pileups without plodding through penguin poop. You will not get wet, cold, or seasick, but you may wish you had.

Tom Berson, ND2T, is a member of the VP8ORK team. His previous DXpeditions were to Scarborough Reef (BS7H) and Midway Island (K4M). Tom was first licensed in 1957. He serves as an AEC in Palo Alto. Tom is a member of the Northern California Contest Club, the Stanford Amateur Radio Club, and CWops. He especially enjoys the comradeship of multi-op contesting and the concentration demanded by high rate operating.

President's Corner

We are into the fall contest season already, and with the solar activity where it is, it should be a fun one. The California QSO Party was also a lot of fun with some good DX on the air as well as local and world wide participation. We also have the CQ World Wide DX Contest



coming up, along with many others.

At our last PAARA general meeting, nominations were opened up for the 2012 leadership team. We currently have nominees for all of the open leadership positions, but that doesn't mean that we cannot accept more nomi-You can consult the PAARAgraphs nees. masthead to see what positions there are, and look at our bylaws as published on the website to see what the procedures are for elections. Nominations will close at the end of the November meeting, and then an election will be held at our December general meeting. We hope to see you at the meeting, and look forward to your participation in PAARA as we start 2012. We have an exciting year lined up for you!

I'm pleased to relate to you that I've received many new submissions to include in PAARAgraphs over the next few months. As I always

(Continued on page 2)

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say at the meetings, it is the content we get from our members that makes PAARAgraphs the special publication that it is. Along with our multi-part article series from Hiro, AH6CY, I have a number of other submissions pending which we will include. For those who have already submitted material (and you know who you are), a very big Thank You from PAARA. For those who have not submitted an article yet, what are you waiting for? We need your submission now. Just jot down 4 sentences or more about your recent ham radio related activity, and send it to me. Then you too can be a published author. How can you turn down an offer like that?

Pacificon 2011 was a great success. Much fun was had by all who attended, I think. I was there both days, and was honored to give a talk on Saturday morning, followed by participating in the youth activities at the center of the exhibit floor. The new venue was much more spacious, and the parking situation was positively luxurious when compared to prior years. As is typical for me, I had no time at all to go to any of the other forums. There were so many interesting conversations to have, that I had no time left over. The banquet was wonderful, with Joe Taylor, K1JT, telling us about the Arecibo array, and neutron stars orbiting each other. Wow.

Our LXpedition to Trinity County for CQP was a great success this year. Once again Rick, N6DQ, did a heroic job of preparing the gear and putting up the antennas with the help of Joanna, K6YL, Rhona, K6RHO, and myself. We operated for 26 hours and made over 2300 QSOs. Having great antennas and amplifiers made all the difference. You can check out the claimed scores at www.cqp.org.

With all of the great contests coming up through November, now is a great time to get on HF and have some fun. I've had some time to DX lately, and have noticed that 10 meters is really hot. DX can be worked throughout the daylight hours, and even through sunset. I was able to work T32C and TX7M on 10m CW even as the sun was going down. It's great to have our sun so active again. I encourage you all to spin the dial and see what you can work.

I am pleased to announce that the PAARA board has approved our annual Dream to Reality Raffle. Jim, K6AK, is preparing to give away another Elecraft K3! Speaking with Eric Swartz, WA6HHQ, he said that we have given away more consecutive K3's than any other club. Clear your calendar and get ready for our December meeting. We want to see you there.

CU IN NOV AT PAARA ES 73 DE K6WX.

Again Ham Radio Delivers...

While working the Half Moon Bay Pumpkin Festival this Oct. 15th, I noticed my cell phone carrier dropped from full bars to "No Service." Ouch. Must have been the massive influx of folk's cell phones overwhelming the local cell towers, I figured. Thankfully, many of us in San Mateo County's Search and Rescue Team are becoming hams; consequently, I remained unaffected by the loss of carrier.

Come the end of the day, I made plans for dinner with fellow hams through the Pacifica and Charlie repeaters, without issue of course. What a relief to have our own self-reliant communication!

But wait, shouldn't my cell carrier's signal come back? As I drove East over Skyline and down into the valley, my cell phone should reach at least a half dozen cell towers. But nope, the dreaded, "No Signal" remained. "Mmm..." I thought, as I tried to imagine what problem my phone/carrier was having.

Luckily, this little ham story has a happy ending. As I got home, I found my YL had picked up two new smart phones for us and activated them in advance! A big smile from me, but what a relief — having this seamless alternative to the commercial carriers.

Jake Whiting, N6EWS

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Palo Alto Amateur Radio Association, Inc.

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-------Future PARRA Meeting Dates

Nov 4th, Dec 2nd, Jan 6th, Feb 3rd

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 AI, 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.electr

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 <u>http://www.paara.org</u> 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.k6ya.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.nord larn ora

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) E-mail: pres@k6mpn.org Web: http://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: <u>http://www.gsl.net/sccara</u> 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@/

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.
 While 44 F and 1266 repeaters are linked.

 VHF: 52.58 (-500) 151.4 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://wara.org, Bill Ashby N6FFC, 408-267-3118, N6FFC@Juno.com, or

N6FFC@ARRL.NET

American Red Cross,

Santa Clara Valley Chapter

Contact: http://santaclaraval v.redcross.org or Scott Hensley KB6UOO, (408) 967 7924 fshenslev@Novell.com

(Please send changes to PAARAgraphs editor)

RE-CREATING THE ENOLA GAY RADIO DECK Hiroki "Hiro" Kato AH6CY/ex-JA4AAO

This article first appeared in August 2011 Issue of Electric Radio

The system and radio models

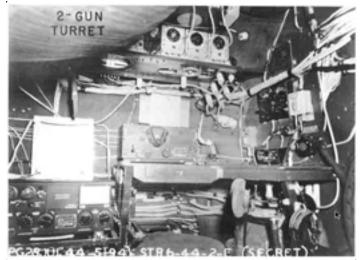


Photo 6, Standard B29 radio deck



Photo 8, My restored ART-13

Basically, the standard B29 carried two different communication sets. One is called the Liaison Set which was designed to communicate up to 2000 miles reliably between a flying bomber and its home base. The other is called the HF Command Set, which was designed for the inter-plane and plane-to-tower communication. One of the smaller receivers was used for radio range navigation. After mid-1944, B29s carried a VHF radio as part of



Part Three Next Month

Photo 7, Enola Gay radio bay; courtesy of Smithsonian



Photo 9, My restored receivers, etc.

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the Command Set, initially an SCR-522, but by spring of 1945 the AN/ARC-3 began to be installed in the Pacific Theatre. The Enola Gay carried two of them. One was installed beneath the radio operator's feet in the unused lower machine gun pod, and the other was installed beneath the bomb observer's feet in the amidships compartment. When the Enola Gay and the other "Silverplate" atomic weapon delivery aircrafts (15 in all) were specially outfitted for the mission, some extra space was required to accommodate the extra instruments directly related to monitoring the bomb itself and the HF Command Set was taken out. You can see these extra instruments (with many panel meters) directly above the ART-13 transmitter.

The Liaison Set transmitter consisted of the ART-13 AM, CW and MCW (Modulated CW) with 1000c (Hz) tone transmitter which produced 100 watts of RF output from an 813 final tube, modulated by a pair of 811s audio amp, and the BC348 receiver, covering from 2Mc to 18Mc.

The ART-13 has one unique feature that I have never seen in any other radios of the era: a presettable automatic tuning system that included VFO, buffer, and final amplifier tuning, all accomplished with ingenious mechanical combinations of capacitors and coils. You can operate on any selected frequency between 2Mc and 18Mc. It is as though you have 11 separate VFOs, 10 pretuneable channels and one manual channel. Unlike other transmitters of the era, crystals were not used to generate transmitting frequency (except for calibration purposes), but frequency stability is excellent.

There are a number of different models of the BC348 receiver, made by several manufacturers; the one carried on the Enola Gay was a BC-348-M.

The HF Command Set is now commonly referred to as the ARC-5 radios by hams but there are three different radio sets subsumed under this designation (Navy ARA/ATA, SCR-274N, and AN/ARC-5) and only the SCR-274N sets were on board B29s. The transmitters used a pair of 1625 tubes and produced about 20 watts RF output. The ARC-5 radios were abundantly and cheaply available as surplus gear in the 1950's and 60s, and many post-WWII hams used them as their first gear. You still see them quite often on eBay and others, though many of them have been modified by hams previously. I remember seeing them even in Japan in the 1950's along with Hallicrafters, Collins and National radios, though they were too expensive for me, a high school student, to buy. My first transmitter was a home-brew 5 watter, mostly with used US military surplus tubes which were inexpensively available from the US Marine Corps base in Iwakuni, not very far from Hiroshima. Its final tube was a 6V6 which was sufficient to reach from Hokkaido to Kyushu on the 40 meter band on most days. An older ham friend of mine built a 6 meter AM rig with a single 807 tube (again with a US military surplus variety) and he was able to have QSOs with VKs and NZs. Unbeknownst to me then, it was in the middle of THE best sunspot cycle in our life time (the peak of that cycle was 1958) when I first got my ticket. I was very lucky and I didn't know it.

An Extra ART-13 on the Enola Gay

The Enola Gay actually carried one extra ART-13 transmitter unlike other B29s. You see it in the photo directly under the radioman's desk on which the BC-348-M sits. Though it could be used for either liaison or command work, its primary purpose was to transmit a 1000 cycle tone for 15 seconds prior to the release of the bomb to indicate to the bases on Tinian, Iwojima and Saipan that the Enola Gay was on the final bomb run. When the tone stopped everyone at the bases knew the bomb started falling. The Enola Gay was flying slightly above 30,000 feet and the bomb exploded

(Continued from page 5)

43 seconds after the release at 1900 feet, as the plane flew away at its full speed after making a 155 degrees turn (optimum angle, devised by Captain Tibbets) and was eleven and half miles away at the time of the explosion. It was 8:15 am,

Japan Time (9:15 at Tinian) and then it circled over the area a few times before heading back to Tinian.

Accessories

The accessories, to me, are as interesting as the radios proper. I have already mentioned goggles and an antenna switch. They issued the goggles to all the crew members, 12 in all, on the Enola Gay and they were supposed to put it on a few seconds before the bomb was released to prevent damage to their eyes. As it turned out, this was too dark for the pilot to see the instruments and controls, so Paul Tibbets, the captain, removed them immediately and ended up seeing the flash of the bomb with his naked eyes¹⁰.

A headphone was used with the BC-348M and for monitoring the ART-13's tone and audio but there was no speaker on board; the inside of the aircraft was too noisy to hear via a speaker. Every crew member also had headphones that were linked into the interphone system. The double leather strapped headset had 2000 ohms impedance and quite sensitive. Many hams who modified the receivers of that era added an additional audio amp stage to drive an external speaker, although if you use a speaker with a 2000 ohm to 8 ohm transformer inserted, it is useable without an additional amp. Many WWII and Korean War era military speakers, e.g., the LS-3 and LS-5, came equipped with such a transformer built in the enclosure, but of course these were never used in aircraft.



Photo 10, my radio deck without radios

The standard microphone used in the B-29s, the T-44 (later replaced by the ANB-M-C1), is a carbon oxygen mask microphone, though the ART-13 does have a provision for a dynamic mic. The carbon microphone is electrically efficient but acoustically a poor one. Of course, high fidelity sound was no concern and was actually a hindrance in a noisy bomber, and the microphones of the era limited their response to a narrow band to improve intelligibility. Some modern-day hams who have restored the ART-13 and use it as their regular AM gear claim that they can produce better sound than many broadcast stations if one uses a better microphone and pre-amp.

There is an accessory I use which was not on board the Enola Gay or on any B-29. It is a dummy load to test the ART-13's RF output. It is simply a 200 watts incandescent bulb. It works well when a

(Continued from page 6)

transmitter is designed to feed into a low impedance wire antenna. The bulb glows brightly when the output LC or Pi network is tuned. The ART-13 was designed to feed into a 15 to 60 feet long wire antenna and the whole aircraft body worked as the counterpoise.

I built a mock-up radio deck with ambience of a fuselage, using plywood and aluminium panel. One of the design goals was to build the deck as light as possible but sturdy enough to hold more than 300 lbs of radios and accessories. I ended up with a 6 feet tall, 4 feet wide, 2 and 1/2 feet deep deck held together with 11 four feet long, 1/4 inch bolts. It weighs about 40 lbs without anything on it, much lighter than my office desk. With one



Photo 11, radio deck, under construction

side resting temporarily on a hand truck I can push it around by myself. Most house doors can let a 2 and ½ feet wide object through if you take off the hinges.

^{10.} I remember reading in one of the books by Richard Feynman, the Nobel laureate physicist, who was at the Alamogordo atomic bomb testing ground to observe the first nuclear explosion also took off his goggles, because, in his case, he wanted to see and feel everything, much in line with his curious character. Tibbets and Feynman were lucky, though, because many people in Hiroshima did become blind that August day.



October 2011 PAARA Raffle Prize Winners

Left to Right

- 4th Prize: Don Rodoni / KE6CFX / Two FRS Radios
- 3rd Prize: Mike Gavin / W6WZ / Two West Mountain COM Speakers
- 2nd Prize: James Grizzard / KC4YPD / Alpha Delta 4-Position Coax Switch
- 6th Prize: Ilse Beck / KI6IBM / NARCC Repeater Directory

Not shown:

- 1st Prize: Merrit Yee / KG6TNO / LDG Z-100 Plus Antenna Tuner
- 5th Prize: Doyle Kisler / KG6YUN / LF-01 Blinking Lite Flare
- 7th Prize: Merrit Yee / KG6TNO / Bongo Ties

October 19, 2011 Board Meeting

The Board Meeting was held at the Palo Alto Red Cross building, commencing at 7:20 PM on the 19th of October, 2011. Attending were Kristen McIntyre K6WX (Pres), Rick Melrose K6RDM (Sec, Database), Rob Riley K16INR (Dir), Byron Beck KG6UOB (Dir), Marty Wayne W6NEV (Dir), Larry Rebarchik N6DB (Dir), and Jim Thielemann K16KVW (Election Committee Chairman). A quorum was present.

Secretary's Report: Rick K6RDM reports that the minutes of the 21st of September Board meeting had been previously submitted and approved. There were five new members, seven renewals and one rejoin at the October 10th General Meeting.

President's Report: Kristen K6WX reported that Rick Ferranti W6NIR's presentation on the subject of radio communications in the Forest Service at the October 7th meeting of considerable interest as was the line-up of historical rigs on display. Kristen told us the November meeting will feature the VP8ORK DXpedition to Orkney Island with Tom Berson ND2T, and the closing of nominations for the new officers election at the December meeting.

As our October meeting was in the room in the Rec Center, we can expect our November meeting will be as well, though it doesn't look like the acoustic repair has been completed. Kristen will check with Menlo Park Recreation Center management and ask them to notify us if the work is in progress or the room isn't ready in which case we would again meet in the City Council Chambers. The board welcomed our Election Committee Chairman, Jim Thieleman KI6KVW. Marty Wayne W6NEV Is also on the committee and there may be a need for some additional volunteers to help with administration. Members are reminded that per the bylaws, voting eligibility requires that membership is current with this year, 2011.

For our December 2nd general meeting Dream-to-Reality program, we will again have an Elecraft K3 as top prize (our 4th!) as well as one of the founders of the company to do a presentation. The membership is encouraged to book it on your calendars and talk it up among your ham friends (they don't have to be club members to participate in the raffle). Arrangements are also in process for the Winter Banquet on January 20th at Michael's on Shoreline in cooperation with the Foothills (FARS) ham club.

The meeting was adjourned at 8:45 PM.

The new members to be welcomed this month are:

Charles Nile	KG6HJH	Atherton
Nikolai Colton	KJ6RHT	San Jose
Jay Grizzard	KC4YPD	San Jose
German Alvarez	KI6YRD	San Jose
John Hall	K2YY	Moorestown NJ

Badges Available:

Art, KI6GYY	Mark, K6TFT
Chuck, KF6SRD	Sreenidish, KG6GBE
Francis, KG6QKN	Vincent, K6VVK
George, K6TSR	Buzz, KG6HD
Joani,N6JCY	Karl, KJ6GUK
Cali, KG6QKO	

2011 Field Day

It's Official. The 2011 Field Day results are up on the ARRL website:

http://www.arrl.org/results-database

Here's a short synopsis of how we did. With a score of 14,066 points (up by 496 points from last year) and 4,356 QSO's (up by 242 Q's from last year), PAARA placed First in our class (4A) in the Pacific Division (unchanged from last year). We were second overall in our division (up from 3rd last year).

We slipped one position, from 4th to 3rd, in the national standings for our class (4A), and lost 4 positions (down to 20th from 16th) in overall national standing. Still, that's 20th overall in the nation! Out of 2,632 logs submitted. Something we can all be proud of.

Even though we did better than last year, 19 of our competitors did even better. We're already talking about how to improve things for next year. Suggestions are welcome.

Thanks to all who participated this year, especially the Station Captains, antenna prep and setup/teardown teams for all their hard work. If you weren't there, you missed a really fun weekend.

See you all for the next one.

73 de KG6LWE





4th Kill-A-Watt / AC Electricity **Usage Monitor**

PAARA November 4, 2011 Raffle

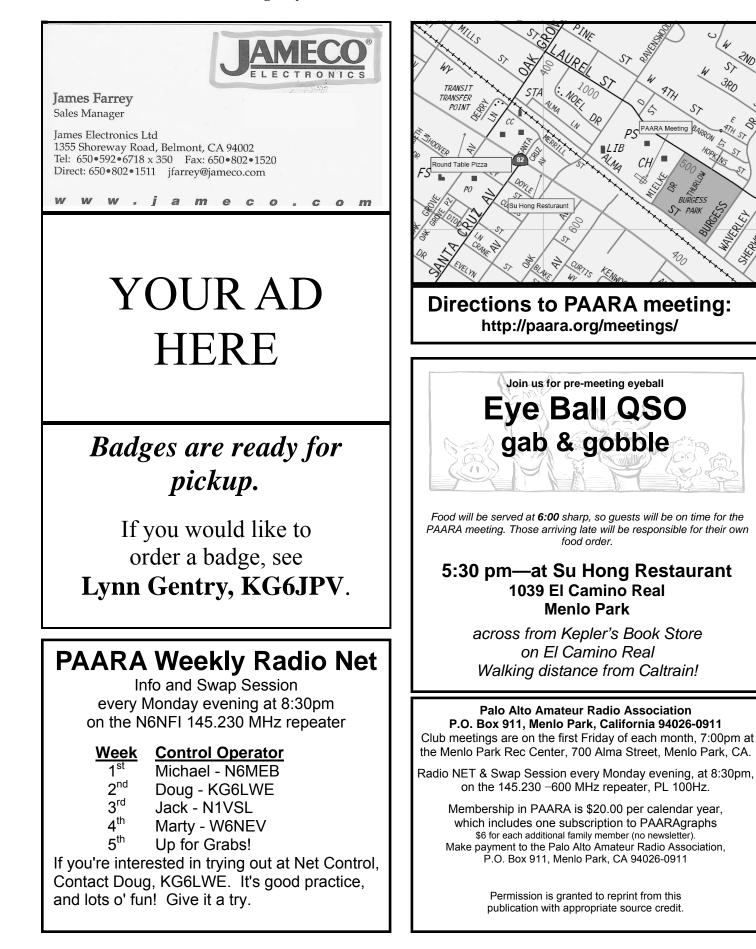
Prizes

5th NARCC Repeater Directory

6th Bongo Ties



7th Yaesu World Prefix Map





PAARAgraphs 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 PAARAgraphs 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

PAARAgraphs — November 2011

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