

PAARAgraphs



The Official Newsletter of the

Palo Alto Amateur Radio Association, Inc.

Celebrating 80 years as an *active* amateur radio club—Since 1937

<http://www.paara.org/>



ARRL 100 Year Celebration, in year 2014

Don Anastasia, AA6W

Don was first licensed as a novice in 1977 as WD6EPV. In 1992, Don received the call sign AA6W, as an Extra Class licensee. He earned a 2 year AA degree, in Liberal Arts from West Valley Jr. College and earned a 4 year Bachelor of Arts degree, in Social Science (History), from Santa Clara University.

Don has worked in the computer and athletic club industries. He has been a substitute school teacher and currently works part time at the Sunnyvale HRO Store.

Don's varied accomplishments in Amateur radio include amateur radio DXCC award(s) on HF, including CW DXCC and Mixed DXCC, and Satellite DXCC award no.152. He enjoys working DX and CW modes, and general rag chewing on HF. Occasionally, you can hear him on some of the local vhf/uhf repeaters, chatting with his amateur radio friends. In 2007, Don was the primary control operator for contact with the International Space Station via the Amateur Radio Onboard the International Space Station (ARISS). He and 22 students chatted with astronaut Sunita Williams while she was in orbit in the ISS. In Don's leisure time (what leisure time), he enjoy playing tennis, racquetball, and taking walks along the beach.

Upcoming Events

- Apr 7 PAARA General Meeting, 7:00 PM
- May 5 Cubberly Community Center, Room
- June 2 H-6, 400 Middlefield Rd, Palo Alto
- Apr 19 Board Meeting, 7:00 PM
- May 17 Everyone welcome!
- June 21 Location: Marty, W6NEV, QTH
- May 20 Visit the Western Railroad Museum



President's Corner

April 2017

March was a month of few sunspots so early in the cycle. It made for some rough conditions. The last PAARA meeting gave us a glimpse into the past of Amateur Radio, but it wasn't that different. I'm headed to another hamfest, and our trip to the Western Railroad Museum is not far off. And of course, there's Field Day on the horizon.



The ARRL propagation report arrives weekly, typically on Friday, to my e-mail inbox. A couple of weeks ago I was quite surprised to see the report say that the sunspot numbers for March 2 through 8, 2017 were 52, 36, 0, 11, 0, 0, and 0, with a mean of only 14.1. That seemed pretty low. Then the next week I saw the numbers for March 9 through 15, 2017 were 0, 0, 0, 0, 0,

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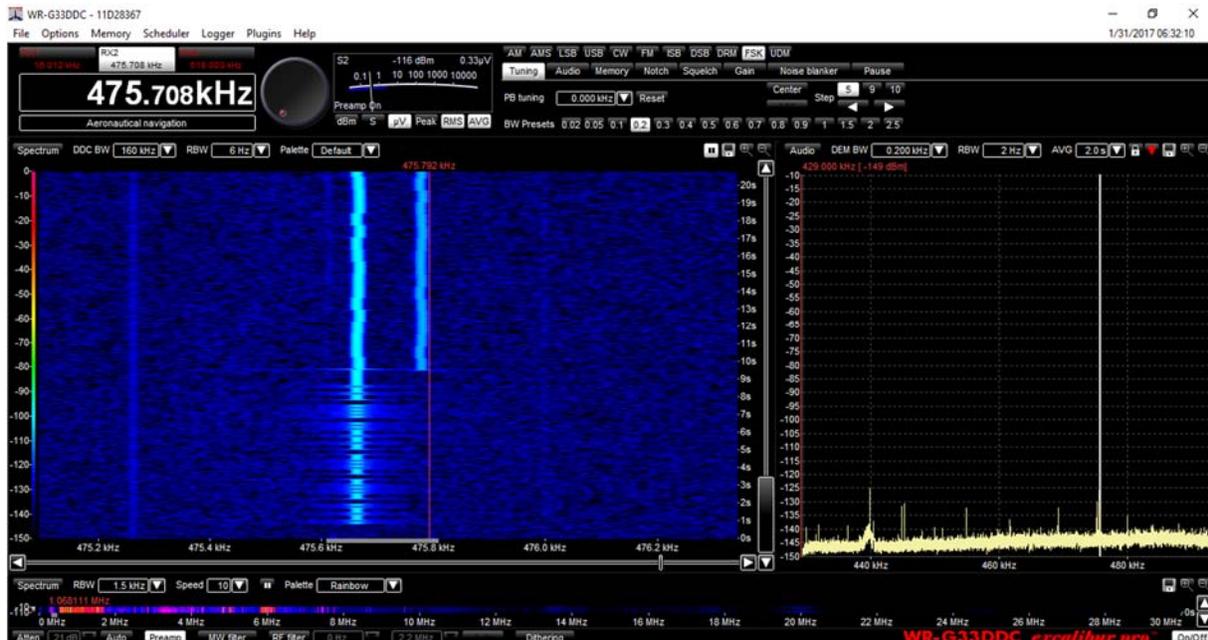
Experimenters On A New Amateur Radio Band

Bart Lee, K6VK (CHRS*, AWA)

** Fellow of the California Historical Radio Society*

Well, it was a lively night February 4th investigating the historical and legacy medium frequency (MF) band of 630 meters! For many decades the primary marine frequency was 500 KHz at 600 meters. As the sunspots go away, maybe forever, these lower frequencies become more interesting. The new band at 630 meters, 472 KHz, attracts many experimenters. U.S. amateur radio operators do not yet have general permission to operate, although Canadians and Europeans do. Still, many U.S. experimental stations may be heard, and with a software-defined radio (SDR) they may be seen as well (I use a WinRadio G33).

630-Meter Amateur Activity



This first graphic is the SDR trace at K6VK of WH2XXP (Ward Wheaton, K7PO) from Arizona on 475.66 KHz at 0.33 microvolts. He writes:

Thanks for the report, and welcome to 630m! There are a bunch of us on, many much closer to you than I am. WH2XXP current configuration: 30m vertical with 16 sloping top loading wires, QRP Labs U3S driving a HB W1VD design class D amplifier (155W TPO) for ~39W ERP. The amp is just idling along at this power level. At "full throttle" the station is capable of ~250W ERP (my grant is for 100W ERP on 630m).

The squiggle is the WSPR beacon mode. This can be decoded with a soundcard. The tail is the station's Morse code callsign identification. Many stations simply use WSPR without further ID. The WSPR protocol is to transmit for two minutes and to stay silent for two minutes to listen.

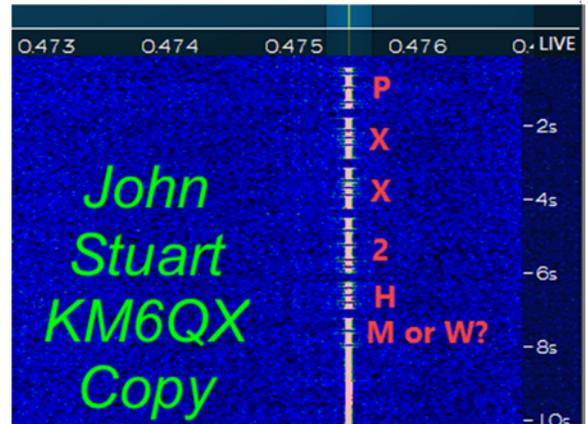
WD2SXH is the general callsign of the experimental ARRL set of many 630-meter stations around the country. They have more than 200,000 hours logged so far. The strongest signal on the band on



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February 4th came from WD2SXH/20 at Eugene Oregon on 471 KHz. This is the station of Rudy Severns, N6LF, a noted antenna expert. His signal came in at 0.75 microvolts over the noise level of 0.33 microvolts. And he has quite an antenna set up as well. See: <http://rudys.typepad.com/files/new-600-meter-station-at-wd2xsh-1.pdf>. He says: "The fundamental rule for LF-MF antennas is: as much wire as possible, as high as possible!" Although transmit antennas run to the long and large, receive antennas can be as simple as vertical wires and small loops. John Stuart, KM6QX, CHRS uses a "Pixel Loop" and a Flex-6700 SDR receiver.



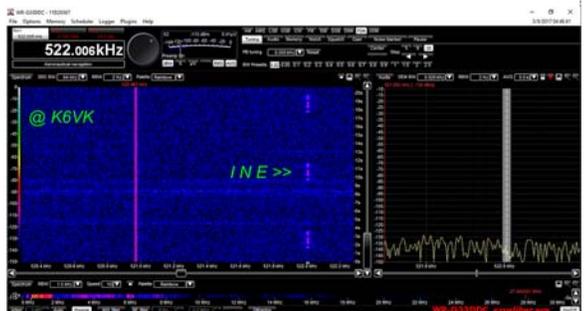
During the February tests, K6VK also copied four Canadian stations running WSPR followed by Morse code IDs:

Callsign	Reception	Location
CF7MM	2x2	British Columbia, Canada
VE7BDQ	2x2	British Columbia, Canada
CG7CNF	2x2	British Columbia, Canada
VE7SL	2x2	British Columbia, Canada

WH2XXP is running maybe 39 watts (ERP), he says, on his experimental license. The 2x2 Canadians run a lot less power. I did copy at least the callsign of each. (Although 2x2 is just about ESP level, these are repetitive beacons, after all). All in all, I could copy with some difficulty every west coast station on the band. There were several other WSPR stations I could see but without a CW ID.

LF/MF Nav Beacons as Indicators

I enjoy winter DXing of beacon (navigation) stations in the LF and MF ranges. A few nights prior in January I copied Ontario, Canada low power beacon YHD on MF on 413 KHz. The Montana low power beacons at 515 (SAK) and 521 KHz (INE) come in well every winter night. In the nearby graphic, INE's carrier is 521 KHz and the modulated (upper) sideband appears at 522 KHz. These beacon receptions bode well for MF amateur radio operation, at least in winter, because they are usually less than 50-watt stations, although the Canadians run somewhat more power.



The K6VK Receiving Station

My experience now copying stations from VLF at 11.9 KHz (Siberia) to MF at 521 KHz (Montana) is that vertical antennas, especially when paired, outperform my other antennas, including two big loops. They are less noisy by far, no 60 cycle harmonics, good sensitivity although way less than the loops. My long wire is just all noise.

Some antenna experimentation showed that the best (and quietest) signal-in as measured on the SDR came from paralleling a 43 foot vertical wire with the nearby 33 foot (+ 6' mount) Hustler 6BVT. (They are both just E-field probes at these frequencies). The "Very Kinky Loop" of old copper pipe, 8.5 square meters capture area, did well, but suffers from 60 cycle harmonics. And when it rains it

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picks up electrostatic discharge from the raindrops — who knew? It is also highly directional, which was OK for the 630-meter tests as most stations were to the North. The ground system here at K6VK features about 600 square feet of ground screen, multiple radials both elevated and ground level, and two 8' ground rods.

So, my conclusion is that for everything from ELF to MF, for receiving the best antenna is wires as high up as possible, as many as possible, paralleled, over a good ground. (“Your mileage may vary.”) What has surprised me is the relative immunity from local noise of the vertical wires at these frequencies (but not at HF). On MF, there were atmospheric “static” crashes on all antennas; I understand the frustration of the old wireless men with static!

It was helpful to turn off everything that I had plugged into the 110 volt house power, and run the SDR from one heavy duty linear power supply (and the laptop battery). I have since set up long term battery power for the SDR and laptop.

As a test, I ran my Icom 7000 transceiver parallel to the SDR. It imposed weird spurious signals on the SDR at 630 meters. On the other hand, it seems equally sensitive and selective at 472 KHz. This test told me the Icom 7000 with the same good antenna and ground system sounded about as good as the G33 SDR. Whether that would translate into WSPR reception *and* decode I don't know. The SDR has no WSPR decode mode and I can't see any easy way to get one. That is, the G33 SDR does not have an automatic decode for WSPR as it does, for example, NAVTEX.

I don't (yet) know how to interface the SDR with the WSPR software. With the Icom 7000 and a sound card like SignaLink® it would be straightforward. So for WSPR, the Icom 7000 will work fine with an external sound card. The G33 SDR demodulates many modes, including USB and will accept user-defined modes, so perhaps there's a WSPR mode available from users.

The WinRadio G33DDC “Excalibur Pro” is a wonderful radio, and I haven't had so much radio fun since I built a regenerative three tube radio in 1957. But it is in a way its own ecosystem. Moreover the unhappy fact that I am not much of a computer guy makes for challenges. For transmitting (until some good commercial gear comes out) I'd be inclined to try military gear or even home-brew — alas, also not a skill of mine.

For hard to copy Morse CW I tried the old HAL “Telereader” but “No Joy” unless the signal was loud and clear. It did help with WD2SXH/20 and gave me a clue about “Eugene.” It does work really well with KPH / KSM on MF, but that's ground wave.

So, can K6VK (and maybe CHR's W6CF) get on the air on 630 meters? Maybe, at K6VK with both vertical antennas and a lot of inductance on the 43' wire and maybe a capacity hat on the 6BVT.

Soon, VLF For Amateur Radio?

The FCC is looking into making a VLF band available to amateurs, at 137 KHz (2200 meters). Canadians and Europeans already have these privileges. WSPR-15 is designed for that frequency. It uses a 15-minute sequence. Noise is fierce at 137 KHz. But in World War One, the U.S. Army Signal Corps operated its field radios near this frequency throughout France. The Navy long operated on long wave until (and after) World War Two.

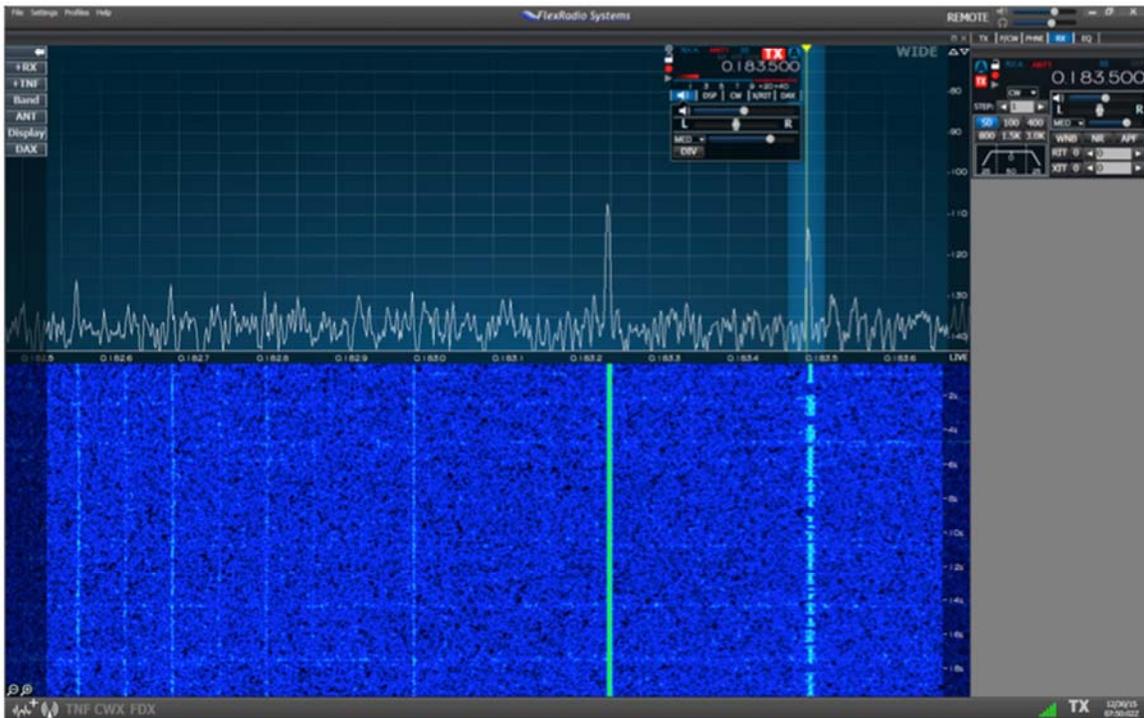
KM6QX (John Stuart), W6BM (John Staples) and K6VK of the VLF Interest Group of the California Historical Radio Society recently logged a Southern California experimental LoFer (Low Frequency) beacon at 183.5 KHz — WH2XVN run by David Curry. He operates on an experimental li-

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cense under Part 5 of the FCC rules. Dave has maintained his interest since the LoFer heydays of the 1980s in Southern California.

LoFer Beacon WH2XVN



John Stuart, KM6QX, CHRS, Mt Diablo ARC;
Pixel Loop and Flex Radio, Lafayette, CA (first heard at K6VK)

Dave Curry says: “The beacon is a Part 5 license that radiates just under a Watt with about 100 Watts input to my class E transmitter working at around 95% efficiency.” And “It is heard over the western half of the country. I live in Burbank.” The beacon transmits: “WH2XVN WH2XVN WH2XVN WH2XVN davecurry@charter.net. DM04. AR_____”

A New Old Era For Amateur Radio

Amateur Radio started in what we call the VLF, LF and MF frequency ranges as early as 1903. The demands of marine safety, as of 1912, relegated the “hams” to above 1,500 KHz, *i.e.*, 200 meters and down. But now, marine radio having gone to satellites, the lower reaches of the radio frequency spectrum are again opening up to amateur operation and experimentation. Any radio that can hear under the broadcast band can receive 472 KHz transmissions. They can be decoded with a sound-card. A SDR makes it all visible as well. The new amateur radio frontier is the old frontier of wireless, the Navy and the old salts.

73 de Bart, K6VK

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0 and 0, with a mean of 0. Yikes! And then the next week, March 16 through 22, 2017 were 0, 0, 0, 0, 0, 12, and 12, with a mean of 3.4. This seemed a bit unreal. I checked some data and I couldn't find any history where there was a string of zeroes like that at this point in the solar cycle. We're still on the middle part of the downslope. This is more like what I'd expect close to the bottom of the cycle. This makes solar cycle 24 one of the weakest in modern history. While it's hard to predict what cycle 25 will be like, numbers like this are not very encouraging. As hams, though, we soldier on and move down in frequency. You may find that 20 meters will be closing early in the day with 15 meters being open only midday. This may be a good time to check out what 30 meters has to offer. That band is a hidden gem that shares characteristics of both 20 meters and 40 meters. There is often some nice nighttime propagation. Daytime has some D-layer attenuation, so it may not work all that well, but it's still worth checking. If you give 30m a try, remember the restrictions. You can only use digital modes and CW (no SSB) and the maximum power is 200W PEP. It's also important to remember that this is shared spectrum where we are secondary. This means that we must yield to any primary users of the spectrum. Remember to be courteous and listen first. Then try out this great band and see if you can work some good DX.

I have to say that I really enjoyed the video at the last PAARA meeting. While I love having live speakers, this glimpse of 1950s radio was just wonderful for me. I enjoyed seeing all of the tube gear - the kind of things we now call boat anchors. Another great thing to see was the young man who in his late teens had been able to make the first meteor scatter contact, or more accurately, used the ionized trail of a satellite for refraction. What an amazing feat of amateur science, and I mean that in both senses. I think the thing that struck me most was how little things on the air itself had changed. Calling CQ, the terminology in use, the way we communicate seemed timeless. And most importantly, the camaraderie of amateur radio operators everywhere was in evidence. One gentleman mentioned how no matter where in the world he went, if he saw an antenna on someone's QTH, he knew he could stop by

and find a friend. I think that's still quite true today. Hams are the friendliest people I've met. We all share this great hobby that is all about communicating, and that is our common bond.

As it turns out I'm leaving tomorrow as I write this to head to LA and then to NVCON in Las Vegas to give a talk. This is my second trip there at the kind invitation of the organizers. Check it out at nvcon.org, and I hope you can join me next year. Speaking of events, don't forget our trip to the Western Railroad Museum on 5/20. Register and pay on the PAARAsite at paara.org, or see Marty, W6NEV, at the next meeting. It'll be a great trip. CU AT PAARA FOR APRIL FUN DE K6WX

March 2017 Board Meeting Minutes

The meeting was held at the home of Marty Wayne, W6NEV, commencing at 7:31 PM on March 15, 2017. In attendance were Kristen McIntyre, K6WX (Pres), Marty Wayne, W6NEV (VP), Jim Thielemann, K6SV (Secretary/Membership), Ron Chester, W6AZ (Treasurer), via video-conference, Larry Rebarchik, N6DB (Dir), Darryl Presley, K16LDM (Dir), Doug Teter, KG6LWE (Field Day Coordinator), and Joel Wilhite, KD6W (Dir and Technical Coordinator). A quorum was present.

Kristen, (K6WX), commented on how everyone's ears perked up at the last PAARA meeting when the topic of Field Day came up. She reminded everyone that it's time to start planning for this year's event and time to start talking to friends and fellow ham's about coming out to enjoy, participate or learn about Ham radio.

Kristen mentioned her reserve of stories is a bit better than last month. However, she still needs stories for 2017. Please, if you've committed to a story but not submitted it (there are several people out there fitting this category) put pen to paper or fingers on the keyboard and let your creative juices flow! Do you have any projects, Field Day experiences, technical articles, hints n kinks, DX contacts, or experiences setting up your station or antenna, on the air experiences that might be of interest? If you have not previously drafted that story or have a new story, now is the time to get a byline of your own in PAARAGraphs and get that story submitted to Kristen for publication. "Remember it is 'home grown' stories that make PAARAGraphs great", she said.

Vice President's Report: Marty, W6NEV, commented on how interesting the ARRL movie was last month. Many members commented on the information presented in the informative DVD. He also reported that April's speaker will be Don Anastasia, AA6W who will talk about the "ARRL

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100th convention in Newington". He also mentioned having speakers for a couple of other months but is still needing more to fill out the year. Let Marty know if you know of someone who would be of interest to the club.

Marty commented that there haven't been many people sign up for the next PAARA field trip yet, thus there's still lots of room. We'll be heading to the Western Railroad Museum in Rio Vista Junction via bus on May 20, 2017. Tickets are \$50/person which includes the bus trip both ways, admission, rides on whatever is operating that day and lunch. Information on the trip is on our web site along with a link to purchase tickets. Information about the Museum can be found at: <http://www.wrm.org/>.

Secretary's report: Jim, K6SV, reported that we have 209 members. Currently there are 43 members who haven't renewed for 2017. Deleting the non-renewed members leaves 166 members for 2017 which is an increase of 21 members from March last year. If you are one of the non-renewed members, you can renew via PayPal at: <http://www.paara.org/pages/members-current.html>. Remember the dues are now \$25/year. The family member rate remains unchanged at \$6/year. If you see "LAST ISSUE" on your PAARAgaphs mailing label you need to renew or you'll not receive PAARAgaphs any longer. You'll always be welcome to attend meetings and participate in general activities but will not receive any of the Member benefits.

Treasurer's Report: Ron, W6AZ, advised the board that the proceeds from the last month were on par for this time of year though the renewals were down some due to the number of members who renewed in December ahead of the dues increase.

Under Old Business,

Walt, K6WGY, though not able to attend, reported he made a little progress with PAARAgaphs advertising. He was able to make contact with our largest advertiser and confirm their desire to continue advertising in PAARAgaphs.

As you recall, on February 6th, the PAARA board sent a letter to the ASVARO board requesting they call a general meeting of all participating clubs within the 30 to 90-day window required by the ASVARO by-laws. ASVARO acknowledged receipt of the letter and indicated that it's a good idea to hold such a meeting. The purpose of the meeting is to discuss all aspects of Flea Market, the declining attendance and explore ways to change the situation. As of the board meeting, nothing further has been heard.

Marty reported there hasn't been much progress on the PAARA banquet and a theme. As this is the 80th year of PAARA, Marty suggested the anniversary of the club as the theme. Kristen again challenged the board to come up with some event(s) that recognized the clubs 80th anniversary. If you have any ideas on what you'd like to do to recognize the club's anniversary, let a board member know.

Darryl, KI6LDM, updated the board on his data mining for Bay Area hams who have either renewed or received their 1st licenses. There were 45 new hams last month living in the area of interest. A new member "landing" page will likely be active by the time you read this. Several sample cards have been reviewed by the board. The board agreed to continue the data mining to learn how many new hams get a ticket every month. The board is looking for a champion for this effort that can take Darryl's information and get the cards mailed. Please contact a board member if you're interested.

Joel, KD6W, again discussed the virtues of having a retired news van for club use as a mobile "ambassador" for the club as well as an operating station. After some more discussion, the board still doesn't have a firm picture on the possible costs vs benefit of ownership. The benefits are understood but the costs still need to be better understood. Between Joel and other board members, anticipated cost information will be gathered for the next board meeting.

There are several other items on the agenda that haven't been worked on very much or could wait until the next meeting, thus at this point there is no new news on them.

Doug, KG6LWE reported on the status of Field Day preparations. The 1st planning meeting was held the week before the board meeting. There were a couple of items that came up during the planning meeting that the board needed to consider spending money on. One was extension cords which Marty graciously donated. The other were feed lines. The board discussed feedlines but determined that more information was needed on how long they needed to be. Doug and Jim, K6SV agreed to take a field trip to the site and take some measurements. There is still plenty of time to volunteer for the many aspects of the event. Please reach out to any member of the board, Marty, W6NEV or Doug Teter, KG6LWE, if you have the desire to participate in this year's event.

Under New Business:

Marty, W6NEV, went to the 1st MDARC Pacificon planning meeting. Once again PAARA will host the special event station. Unlike last year, he wants to have 4 working HF stations and a VHF station in operation for 24 hours. He also is looking for someone interested in assisting him with running the event. Please contact Marty if you can assist in planning and during the event.

Breaking news, you can now order your PAARA Field Day participation shirt through our web site <http://www.paara.org/> You can't miss the link on the front page. Shirts are \$25 each and available only through Friday May 19th. After the 19th, shirts will no longer be available.

The Board meeting was adjourned at 9:29 PM.

Jim Thielemann
Secretary/membership
K6SV

March Raffle Prize Winners

Front to back, left to right

- 4th Rob Fenn / KC6TYD / Diamond Antenna
- 6th Rob Fenn / KC6TYD / Organizer
- 3rd Matt Vadercook / KK6HWP / Coax Switch
- 1st Marty Wayne / W6NEV / Tytera MD-380 / DMR Digital Portable HT
- 7th Cliff Lloyd / KN6DH / Two PL259 Connectors
- 5th Fred Cirera / W6BSD / Lido HT Cup Holder
- 2nd Joe Castellano / W6SNV / 2 Com Speakers



April Raffle Prizes

- 1st Arrow 146/437-10BP Split Boom Yagi
- 2nd Dual Band High Power/ 5dBd Gain Magnet Antenna
- 3rd MFJ Headset Microphone
- 4th 30 Amp Red/Black Anderson Powerpole Sets
- 5th Repeater Map Book & Directory
- 6th ARRL Hints and Kinks 17th Edition
- 7th Flat Grounding Braid 1/2" 10ga 53 Amps
- 8th Coax Seal



HRO Sunnyvale Closing Notice



Browsers looking for that last bargain



Dave sitting with the last radio among the empty shelves

Palo Alto Amateur Radio Association, Inc.

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	K6RDM@yahoo.com	
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Station Trustee K6OTA...	Ron Chester, W6AZ	
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Badge Coordinator	Doug Teter, KG6LWE	650-367-6200
	dteter@wvci.com	
Historian Position	<i>Position Vacant</i>	
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Field Day Coordinator ...	Doug Teter, KG6LWE	650-367-6200
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	ab6so@smrn.com	
Photographer.....	<i>Position Vacant</i>	

VE Exams

Redwood City Main Library, Community Conference Room, 4th Saturday 10:30 am each month and De Anza Park, Sunnyvale, 2nd Saturday 10:30 am each month except November and December. See website for details and exceptions: <http://amateur-radio.org> or Contact 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 Room H-6, Cubberley Community 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 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

50 MHz & Up Group

Meets 1st Thursday each month at 7pm in the Texas Instruments Building E conference room in Santa Clara.
 Contact: <http://50MhzandUp.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 EOC, Belmont City Hall, One Twin Pines Lane, Belmont CA 94002. 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

SCCARRA

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/sccarra> 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:
 147.39 (+600) 151.4 ctcss 441.35 (+5.0) 88.5 ctcss
 223.96 (+1.6) 156.7 ctcss 1286.20 (-12m) 100.0 ctcss
 Meetings are 2nd Wednesday of every month except July, August and December.
 Contact: <http://wvara.org>, Bill Ashby N6FFC, 408-267-3118, president@wvara.org

American Red Cross, Santa Clara Valley Chapter

Contact: <http://santaclaravalley.redcross.org> or Scott Hensley KB6UOO, (408) 967 7924
shensley@Novell.com

(Please send changes to PAARAgaphs editor)



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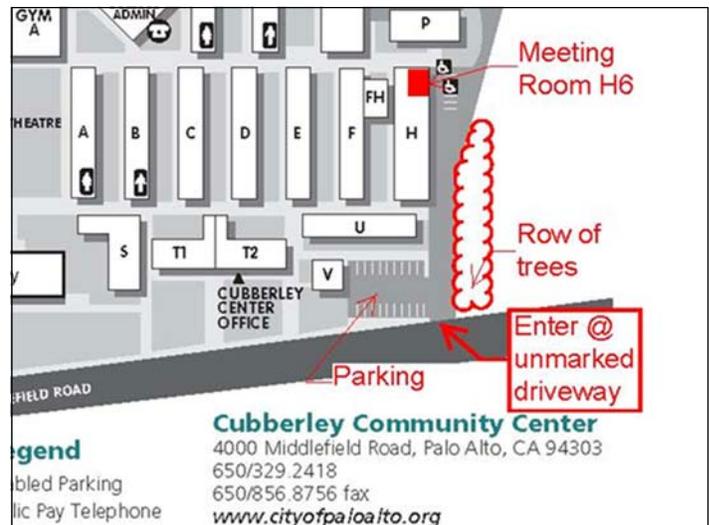
If you would like to
 order a badge, see
Doug Teter, KG6LWE.

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	Joel KD6W
2 nd	Doug - KG6LWE
3 rd	Jack - W1VSL
4 th	Rob - KC6TYD
5 th	Rob - KC6TYD

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.



**Meeting Location — Middlefield Road
 between San Antonio and Charleston in Palo
 Alto. 4000 Middlefield Road**

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Vladimir Vladimirovich

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**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 Room H-6, Cubberley Community Center.

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

Membership in PAARA is \$25.00 per calendar year,
 which includes one subscription to PAARAgaphs
 \$6 for each additional family member (no newsletter).

Make payment to the
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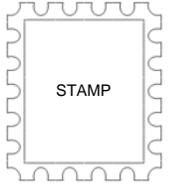
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