

Season's Greetings from the Palos Verdes Amateur Radio Club



QRO

MONTHLY NEWSLETTER OF THE PALOS VERDES AMATEUR RADIO CLUB

DECEMBER 2017



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All **QRO** issues since 2007 are at: <http://n6rpv.net/pvarc/QRONewsletters.htm>

The PVARC's 2017 Holiday Dinner

Guest speaker:
Jay Jones, WB9FPM
Professor of Biology
and Biochemistry,
University of La Verne

Ports O'Call Restaurant
1200 Nagoya Way
San Pedro, CA

Thursday, December 14
Meet & Greet, 6:30 pm
Dinner, 7:00 pm
Program, ~8:15 pm

Reservations required

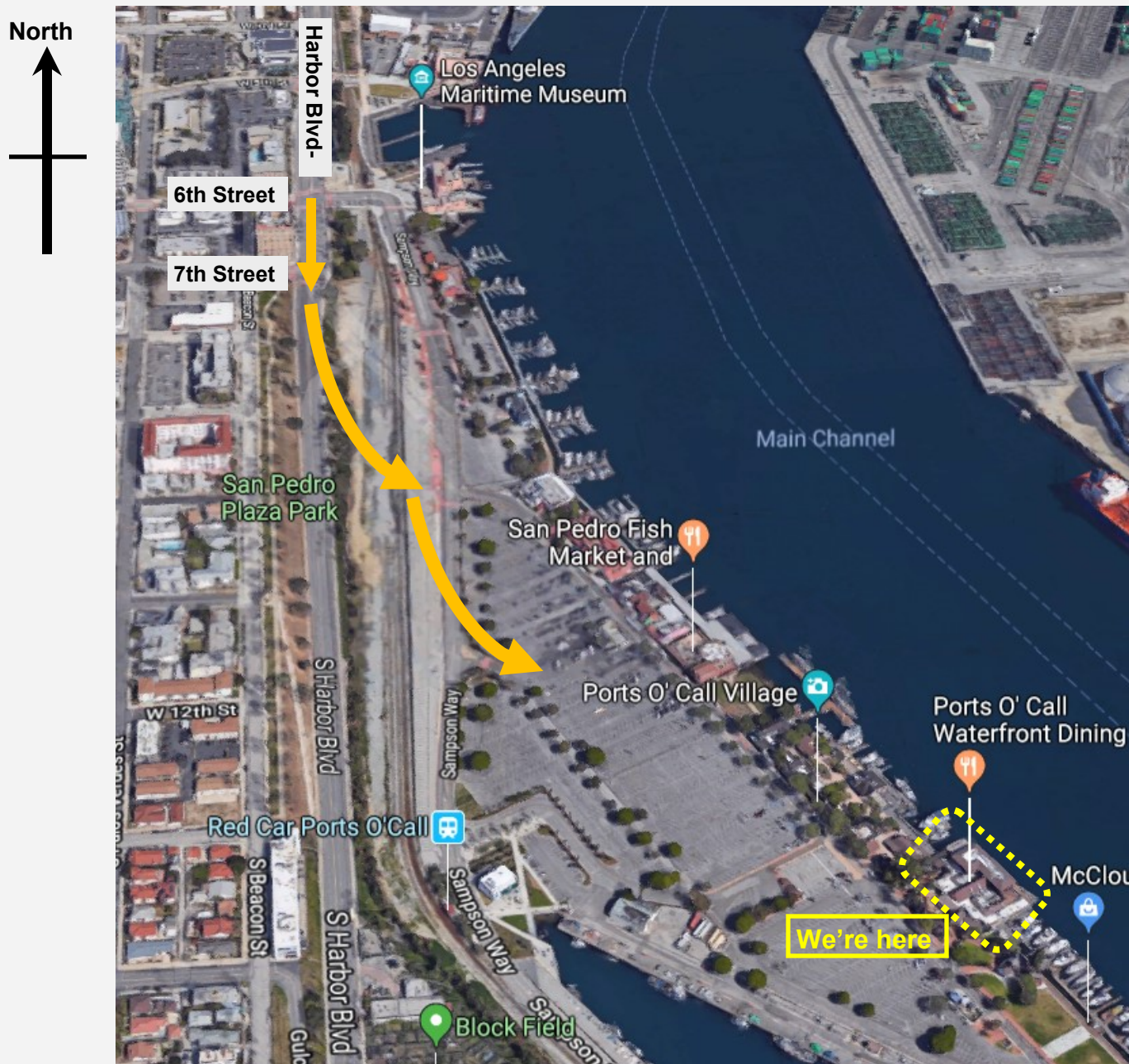
PVARC's Holiday Dinner

Our 2017 Holiday Dinner at Ports O'Call Restaurant is Dec. 14 but don't use your GPS to get there—see these illustrations

We look forward to seeing everyone at our annual Holiday Dinner at Ports O'Call Restaurant on December 14th—but do not use your GPS system for the last mile of directions!

The Harbor Blvd. re-alignment project and initial teardown of the Ports O'Call Village northern portion resulted in detours that GPS systems have not reflected. According to the restaurant GPS makers will not change their software for temporary road closures, only permanent road changes. So please see the aerial view below to approach from the north and on the next page if arriving from the south.

If coming from the north, take Harbor Blvd. southbound and go past 6th Street to 7th Street; then veer left at 7th using the marked detour. You can no longer reach the restaurant area from 6th Street. Once in the Ports O'Call Village area head south to Ports O'Call Restaurant—it is a two-story building with American flags on the roof and a fisherman statue in front. We're upstairs in the Breakwater Room, take the stairs or elevator to the right of the downstairs bar area.

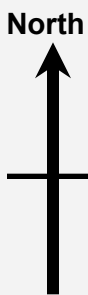


About our Holiday Dinner speaker

Jay Jones, WB9FPM, has a broad academic background, with diverse research and work experience. First licensed in 1971 and a long time holder of an advanced ticket, he received his extra class license when the 20 WPM requirement was lifted. He has served as a Senior Research Geobotanist, conducting oil and gas exploration (ARCO), a Naturalist/Interpreter (National Park Service), a Remote Sensing Consultant (NASA/Lockheed), and an Archaeobotanist (Galilee – Sephoris Acropolis Excavations). As Professor of Biology and Biochemistry, Jay has taught a broad range of courses including versions of an interdisciplinary course entitled: Toward a Sustainable Planet. Many of these courses have field components in which faculty and students see first-hand, the global impact of the human species. His current focus is on finding transdisciplinary paths toward sustainability. The value of the many dimensions of Amateur Radio has been demonstrated in each of the roles he has assumed. Current work with a makers group involves an effort to fuse the formative experiences gained in amateur radio with solving current technological problems. ■



Below: If arriving from the south, take 22nd Street eastbound to Samson Way. Turn left (northbound) on Samson to Ports O'Call area, turn right to restaurant. AERIAL VIEW: GOOGLE EARTH



PVARC's 2017 Field Day results did well in 2A class

Shortly after our November **QRO** came out the ARRL released results from its 2017 Field Day annual event held on June 24-25.

Among Class 2A operations the PVARC ranked 2nd of 10 2A stations in the Los Angeles (LAX) Section, 3rd of 28 in the ARRL Southwestern Division, and 66th of 389 nationwide in the 2A category. Among all Field Day stations nationwide regardless of class—some much bigger than our 2A K6PV station—we ranked 338th (top 11%) of 2,965 total Field Day entrants.

If you liked Field Day this year it returns on June 23-24, 2018. ■

Year	K6PV Total Points	K6PV National Rank, all station classes	K6PV SW Division Rank, All 2A stations	K6PV LAX Rank, All 2A stations
2017	4,238	338th of 2,965	3rd of 28	2nd of 10
2016	4,742	243rd of 2,696	2nd of 31	1st of 9
2015	5,780	193rd of 2,270	4th of 27	3rd of 9
2014	4,932	252nd of 2,686	4th of 32	2nd of 9
2013	4,248	331st of 2,548	5th of 26	1st of 5

The PVARC's upcoming meeting topics...

Just in time for our January 4th monthly meeting Hesse Park's construction work should be completed and again allow building access through the front door.

Our January 4th meeting has Orv Beach, W6BI, presenting "Mesh Networking"—a hot topic involving amateur radio linking of many WiFi nodes into a high-speed data, video, and voice network. In California there's an active Mesh networking project known as the Amateur Radio Emergency Data Network (AREDN) attempting to link Mesh nodes throughout Southern California with Northern California and into Nevada/Arizona. Orv has been instrumental in getting Mesh nodes operational in Ventura and northwest L.A. County, so don't miss his presentation.

In February our meeting speaker is Chris Parker, AF6PX, presenting how to identify electrical and radio interference in Los Angeles County. Chris is one of the ARRL Los Angeles Section's Technical Specialists reporting to PVARC member Gary Lopes, WA6MEM, who is also ARRL Los Angeles Section Technical Coordinator. Chris has worked closely with Southern California Edison on many electrical interference issues and gave his excellent presentation at HAMCON 2017 last September.

At our March 2018 meeting your **QRO** editor Diana, AI6DF, is speaking about all the government-affiliated disaster amateur radio groups in the South Bay and Los Angeles County. She will explain the objectives and directions for each of these radio groups and how they inter-operate. ■

PVARC Club News

PVARC roster updated on website

Our club's membership roster underwent a massive update in mid-October with the resulting list now posted on the PVARC website.

This roster update includes adding all new members to the list while for others incorporating all known changes to email addresses, phone contact numbers, or call signs. The roster is still password-protected using our club's long-standing password. Please ask any club officer if you need this password.

Hopefully we've made all needed changes but advise if your listing has incorrect information. Finally, please note the PVARC roster is only for use by club members and neither to be shared outside the PVARC nor used for any commercial, political, or other purposes. ■

No HF Enthusiasts Group meeting until January 13th

The PVARC HF Enthusiasts Group meeting became so popular it outgrew its hosts' living rooms.

There wasn't an HF Enthusiasts meeting on December 9 due to various holiday activities and the need to find another meeting location. The Group leaders have tentatively decided to now meet on the 2nd Saturday each month for breakfast in the private room of Hof's Hut, a modestly-priced restaurant in South Torrance. Further information to be announced, but there will be ample room to accommodate everyone at meetings starting in January 2018. ■

10 new hams earn licenses at PVARC VE session last month

Following the PVARC's ham license classes taught by Walt Ordway, K1DFO, in early November ten new hams earned their licenses at our November 18th Volunteer Examiner test session.

Seven Technician and three General licenses were earned on Nov. 18 with every test-taker passing. Serving as the Volunteer Examiners were: Jerry Shaw, KI6RRD (VE Liaison); Matt Cruse, N6MDC; Dan Colburn, W6DC; Curtis Jones, AE6CJ; Jerry Kendrick, NG6R; and Jeff Wolf, K6JW. Dave Scholler, KG6BPH, handled arrangements. ■

Palos Verdes Amateur Radio Club

An American Radio Relay League Affiliated-Club

Board of Directors:

President	Diana Feinberg, AI6DF
Vice President	Ray Day, N6HE
Treasurer	Peter Landon, KE6JPM
Secretary	Ron Wagner, AC6RW
Directors	Clay Davis, AB9A, Gary Lopes, WA6MEM

Appointed Offices:

QRO Editor	Diana Feinberg, AI6DF
Webmaster	Kel Vanderlip, W6KCV
Club Librarian	Bryant Winchell, W2RGG
K6PV QSL Manager	Jeff Wolf, K6JW
K6PV Repeater Trustee	Mel Hughes, K6SY
LAACARC Delegate	Jeff Wolf, K6JW
VE Coordinator	Dave Scholler, KG6BPH
VE ARRL Liaison	Jerry Shaw, KI6RRD
Net Control Operators	Malin Dollinger, KO6MD, Dale Hanks, N6NNW, Bob Sylvest, AB6SY, Ron Wagner, AC6RW, Dan Yang, K6DPY

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Mailing Address:

Palos Verdes Amateur Radio Club
PO Box 2316
Palos Verdes Peninsula, CA 90274-8316

Monthly Meetings:

1st Thursday (except August and December) at 7:30 pm at Fred Hesse Park, 29301 Hawthorne Blvd., Rancho Palos Verdes, CA. Visitors always welcome.

Repeaters (Open, though often listed as "Closed"):

Club: K6PV, 447.120 MHz (-), PL 100.0, CTCSS
"PV-West": K6IUM, 449.980 MHz (-), PL 173.8, CTCSS

To order a Club badge:

Gary Lopes, WA6MEM, gary@wa6mem.com

To order a Club jacket or patch:

Dave Scholler, KG6BPH, 310-373-8166

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Front page photo —*Pt. Vicente Lighthouse is photographed at dusk on a very warm Thanksgiving Eve, November 22, 2017.*
PHOTO: DIANA FEINBERG, AI6DF

PVARC Club News

Something new...

“What’s Next?”– no-stress, no-pressure help for our newer hams

Did you recently obtain your amateur radio license and wonder what to do next? Or you’ve had your license for several years and want to know more about avenues in amateur radio? Come to the PVARC’s “What’s Next?” gatherings at Hesse Park anytime from 6:30-7:20 pm just prior to our regular monthly meetings and ask for help with any question. We’re here to assist in a no-stress manner—and no ham radio-related question is considered “dumb” to ask.

Led by our Vice President Ray Day, N6HE, we can help hams better understand how to operate their radios (and/or help purchase the best one for their budget.) We can also provide help on other ham radio subjects, whether for VHF/UHF bands or HF bands; public service or DXing/contesting, or ???

Among the most frequently asked questions by new hams are “Which radio to buy?” and “How do I program my radio?” If you have others we’re glad to help with those too. Look for Ray Day and Ron Wagner, AC6RW, off to one side of our room at Hesse Park while setup is underway for the main meeting. ■

Helpful guidelines when submitting QRO articles

Our **QRO** newsletter welcomes articles about technical subjects and PVARC member activities.

To facilitate layout and editing please send your article as two separate files: 1) all the text as a straight Microsoft Word file and 2) any photos, illustrations, or diagrams in a second file or as separate JPEG files. If possible please keep the text portion to not exceed 800 words. ■

QRO’s Dept. of Errors and Omissions

We strive for 100% accuracy in each issue but if you notice any errors or omissions in **QRO** please advise your **QRO** Editor, Diana AI6DF, at: ai6df@arrl.net. ■

WELCOME NEW MEMBERS OF THE PALOS VERDES AMATEUR RADIO CLUB IN 2016-2017

Jared Bockoff, KM6DQV

Steve Wray, KM6DQW

Theodore Ley, KM6DRC

Joe Barger, N6KK

Denise Ann Hughes-Murphy, K6DAH

Stefan Ferrier, KM6GXW

Cindy Snyder, KM6GYG

Michael Lynch, KM6GYA

Stuart Mastroianna, WX6ST

Thomas Essenpreis, KB9ENS

Mark Greenberg, KM6GYC

Lori Tanimura, KM6GXY

Cheri Tanimura, K6CTT

Heidi Stromburg, KG0GGY

Mike Semos, N6DBS (returning member)

Rick Heaston, KM6GXZ

Larry Fadden, KK6TXN

Steve Sheridan, KM6IQO

Pamela Gaume, KM6MMJ

Vincent Reher, KM6LGT

Bernadette Sabath, KM6SAB

Zvika Golan, KJ6LHL

Fred Cook, KE6AZB

Jeff Wolfe, KM6GYB

George Nestojko, WA6YBR

Irene Turner, KM6LGU

Dave Turner, KM6LGX

VHF/UHF Antenna Repair Techniques

By Jerry Kendrick, NG6R

Some commercially available VHF and UHF antennas we use in ham radio are designated as “NOT FIELD ADJUSTABLE.” That means that the manufacturer intended that the antenna would not need to be user-serviced, shortened, lengthened or otherwise altered, and still be fully usable by the purchaser for the life of the antenna. For these type antennas, the manufacturer generally makes them awkward or even difficult to service if they fail or aren’t performing as they were designed to perform. However, with time and exposure to coastal salt air, corrosion and rapid deterioration are more the norm than not. So, repair is sometimes needed during the desired service life of the antenna.

This article shows the approach we took to repair one such antenna, an older Diamond X2200A dual-band 2m/1.25cm high-gain antenna, operated at a school in the Palos Verdes Unified School District. [Emergency ham radio antennas at all public (and some private) schools on the PV Peninsula are tested annually by the local Sheriff’s Department’s Disaster Communication Service amateur radio team.] The troubleshooting and repair techniques discussed here are applicable to all but the most permanently sealed and impenetrable antennas.

The initial test of this antenna with an antenna analyzer (RigExpert AA-600) showed an unacceptably high SWR over the entire 220 MHz ham band, as shown in Figure 1. So, clearly, the antenna needed to be opened and troubleshooting accomplished to find the source of the problem.

This antenna is 10.5 feet long and there is a threaded joint about halfway along the antenna, as illustrated in Figure 2. Removal of the upper fiberglass sheath section exposed the top half of the metallic antenna radiator inside, but nothing appeared abnormal. The lower fiberglass section is one integral piece so that it cannot be separated from the ground plane radial hub and SO-239 connector section to expose the metallic radiator. A careful saw cut a couple of inches above the bottom of the lower section revealed the existence of a long inductor coil as an integral part of the lower radiating antenna section. But, like the upper radiating section, nothing appeared broken or out of the ordinary.

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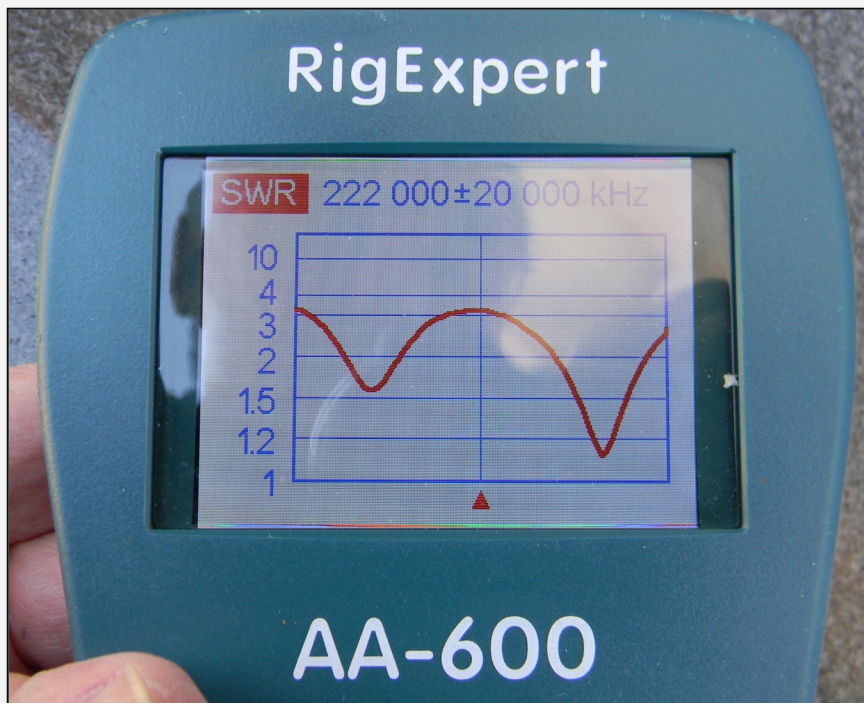


Figure 1. Standing Wave Ratio (SWR) of antenna measured unacceptably high over entire ham band (222 – 225MHz). A measurement of less than 2:1 is considered essential and less than 1.5:1 is desirable. PHOTO: JERRY KENDRICK, NG6R

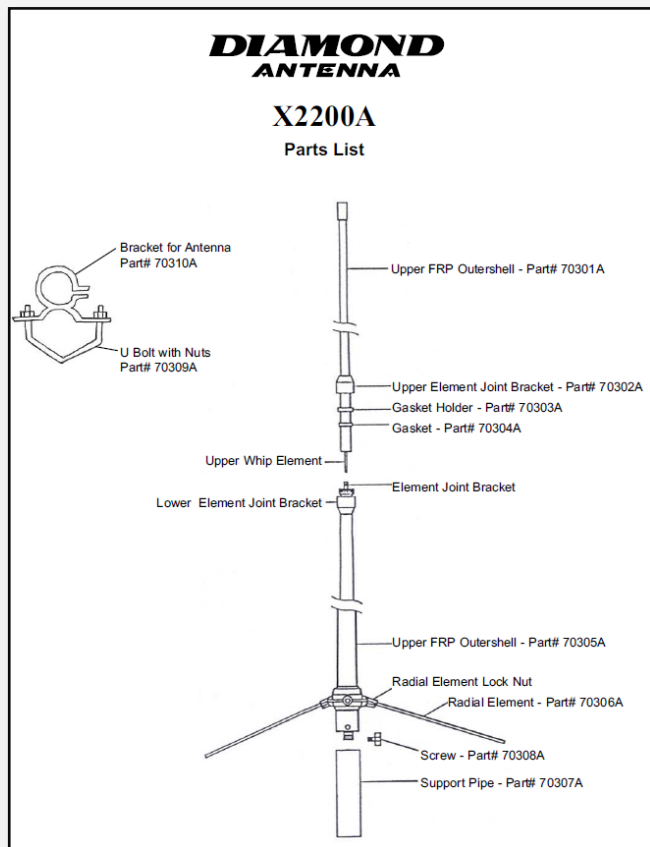


Figure 2 . Stock Internet diagram from Diamond Antenna showing the general construction of this dual-band antenna.

VHF/UHF Antenna Repair Techniques

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So, a second careful saw cut was made right where the lower fiberglass section is permanently mated with the ground plane radial housing, as can be seen in Figure 3.

A careful examination of the exposed shaft, as seen in Figure 4 and visible only after making the second saw cut, shows what appears to be a wire that has become detached from the shaft.

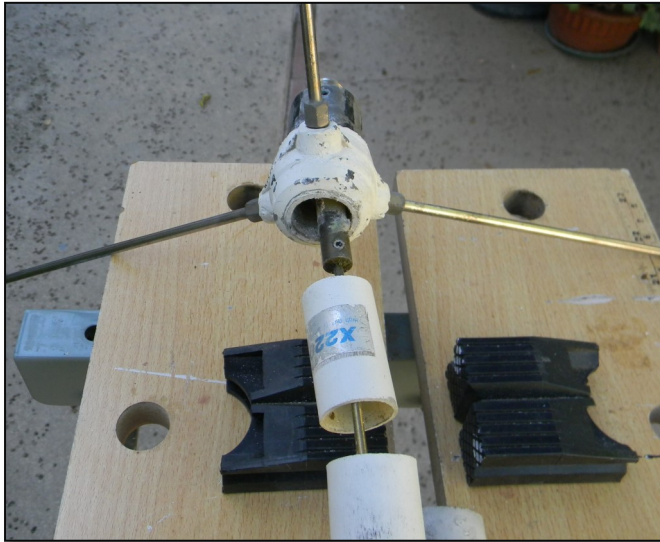


Figure 3. Both saw cuts exposing where the radiating antenna brass rod is attached to the SO-239 antenna connector extension inside the ground plane radial hub.

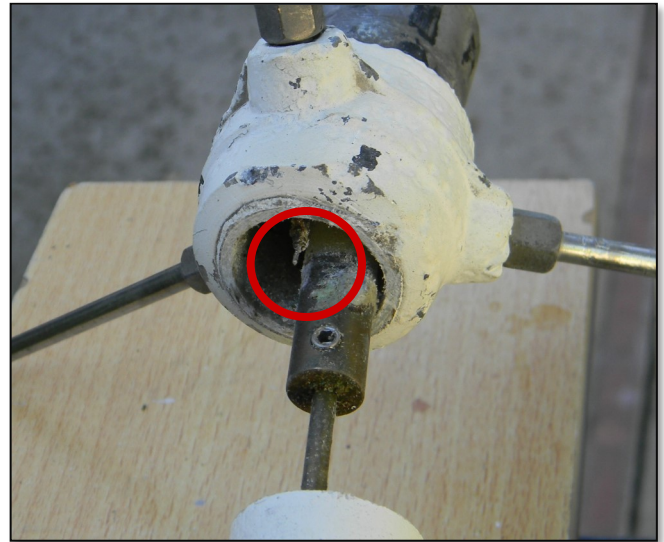


Figure 4. After cutting away the fiberglass sheath and gaining visual access to the interior of the ground plane radial hub, a wire appears to be detached and/or broken, as shown in the red circle.

Figure 5. Loosening both the antenna rod attachment hex screw and the larger external hex screw holding the SO-239 connector in place reveals a loading coil section; a ceramic disc capacitor has broken away from the antenna rod solder attachment point, as shown in the red circle. Although not very discernable in the photo, the white plastic inductor center rod was broken (at red arrow) and had to be glued back together. That rod breakage and resulting flexing of the inductor wire turns/capacitor leads, was probably why the capacitor broke loose from its solder connection.

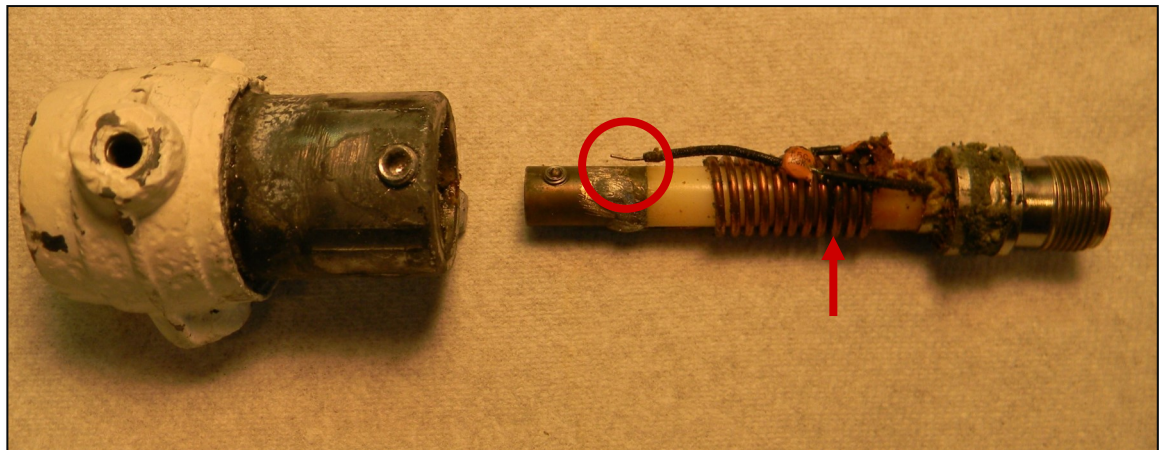
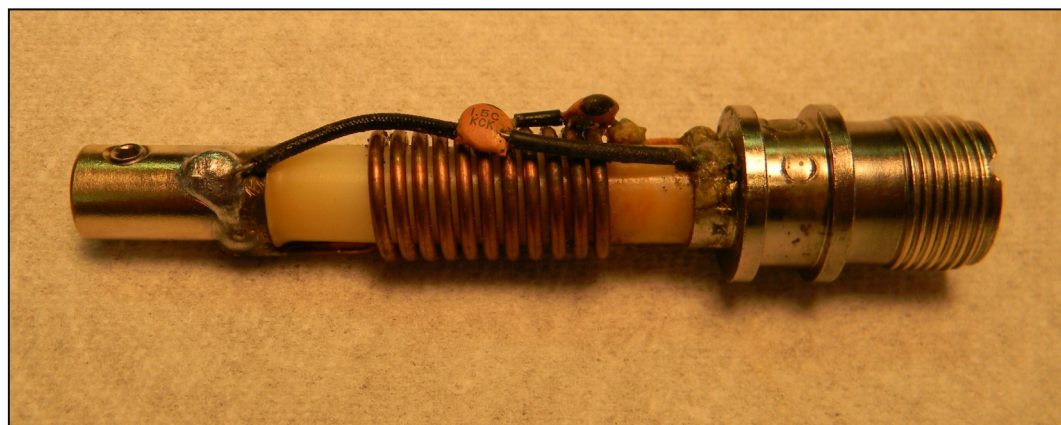


Figure 6. Loading coil section is cleaned and repaired: white plastic rod has been glued and capacitor re-soldered.



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ALL PHOTOS:
JERRY KENDRICK, NG6R

VHF/UHF Antenna Repair Techniques

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Figure 7. Antenna bottom section after reattaching/reinserting internal antenna components; and, applying medium texture fiberglass cloth, two-part epoxy and white spray paint (after strategic placement of masking tape) to reconstruct the antenna at the two saw cuts and complete the repair.



Figure 8. A final check of SWR shows a successful repair and excellent performance across the entire 1.25cm ham band.

ALL PHOTOS:
JERRY KENDRICK, NG6R

Conclusions and lessons learned.

Repair of an antenna that is “not field adjustable” according to the manufacturer is sometimes necessary. This labeling by the manufacturer should not be a deterrent to injecting renewed life into an otherwise unusable antenna.

Repair might encompass electrical testing such as measuring SWR (which, depending on frequency band, might require access to a somewhat expensive antenna analyzer) and capacitance measurements when ceramic disk capacitors are used as part of spectrum shaping within the antenna; electrical repair operations such as soldering; and, mechanical operations (such as sawing through fiberglass sheaths, gluing fiberglass, application of repair materials like fiberglass cloth and two-part epoxy, and masking and spray painting to weatherize antenna exterior).

A careful examination should be made of all possible ways to breach the inside of the exterior fiberglass sheath. An even more careful examination in this particular example would have revealed the external hex screw (that was covered over and initially hidden by a hard black putty material) that secured the SO-239 connector in place. Loosening of that hex screw to remove the loading coil section sooner would have totally eliminated the need to saw cut the fiberglass sheath. (!) Manufacturers don’t make it inviting to work on these semi-sealed antennas. But, persistence will generally triumph.

I’m hopeful that these troubleshooting and repair techniques—and lessons learned—will facilitate your efforts when you tackle your next antenna repair project. ■

Ham operators were at Palos Verdes Half Marathon on Nov. 18

By Mike Semos, N6DBS

It was a nice cool morning to start the 2017 PV Half Marathon. Thanks to Herb Stark K06RC for organizing the event for our group. Nicely prepared documents were emailed out in advance to all participants.

This year communications was performed on 2 meters simplex with the Net Control located at the RPV ECC high above the race course.

For most operators including the rover, the communications between net control was solid. The turnaround point requires a little bit more RF power than an HT.

Dale Hanks and Bob Closson operated net control and really did a great job since some of us could not hear the other stations on simplex (we don't have a repeater that covers the full course available). The event went well with very limited Marathon issues to report. All operators contributed to a smooth operation.

A couple of tired runners were taken back to the Start Finish by either LASD or our Rover since

there was no Sag Wagon provided. This year's event actually worked out well with no significant issues to report!

Thanks to all the following operators for a job well done:

- | | |
|-------------------|--------|
| Dale Hanks | N6NNW |
| Bob Closson | W6HIP |
| Patrick Hutchings | W6PBH |
| Ralph Yoon | AI6GP |
| Herb Stark | K06RC |
| Marty Dodell | KF6VSY |
| Walter Ordway | K1DFO |
| Jared Bockoff | KM6DQV |
| Bob Sylvest | AB6SY |
| David Holcomb | K9DBA |
| Steven Collins | KI6TEQ |
| David Held | WA6PHS |
| Robert Millard | KE6JI |
| Mike Semos | N6DBS |
| Ray Day | N6HE |



Scenes from Palos Verdes Half Marathon, November 18, 2017.

PHOTO LEFT: RAY DAY, N6HE; PHOTO ABOVE: MIKE SEMOS, N6DBS

It's been a busy year! Our 2018 calendar is coming in the next QRO.

Palos Verdes Amateur Radio Club Calendar 2017

JANUARY							FEBRUARY							MARCH							APRIL						
S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S
1	2	3	4	5	6	7	29	30	31	1	2	3	4	26	27	28	1	2	3	4	26	27	28	29	30	31	1
8	9	10	11	12	13	14	5	6	7	8	9	10	11	5	6	7	8	9	10	11	2	3	4	5	6	7	8
15	16	17	18	19	20	21	12	13	14	15	16	17	18	12	13	14	15	16	17	18	9	10	11	12	13	14	15
22	23	24	25	26	27	28	19	20	21	22	23	24	25	19	20	21	22	23	24	25	16	17	18	19	20	21	22
29	30	31	1	2	3	4	26	27	28	1	2	3	4	26	27	28	29	30	31	1	23	24	25	26	27	28	29
5	6	7	8	9	10	11	5	6	7	8	9	10	11	2	3	4	5	6	7	8	30	1	2	3	4	5	6

MAY							JUNE							JULY							AUGUST						
S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S
30	1	2	3	4	5	6	28	29	30	31	1	2	3	25	26	27	28	29	30	1	30	31	1	2	3	4	5
7	8	9	10	11	12	13	4	5	6	7	8	9	10	2	3	4	5	6	7	8	6	7	8	9	10	11	12
14	15	16	17	18	19	20	11	12	13	14	15	16	17	9	10	11	12	13	14	15	13	14	15	16	17	18	19
21	22	23	24	25	26	27	18	19	20	21	22	23	24	16	17	18	19	20	21	22	20	21	22	23	24	25	26
28	29	30	31	1	2	3	25	26	27	28	29	30	1	23	24	25	26	27	28	29	27	28	29	30	31	1	2
4	5	6	7	8	9	10	2	3	4	5	6	7	8	30	31	1	2	3	4	5	3	4	5	6	7	8	9

SEPTEMBER							OCTOBER							NOVEMBER							DECEMBER						
S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S
27	28	29	30	31	1	2	1	2	3	4	5	6	7	29	30	31	1	2	3	4	26	27	28	29	30	1	2
3	4	5	6	7	8	9	8	9	10	11	12	13	14	5	6	7	8	9	10	11	3	4	5	6	7	8	9
10	11	12	13	14	15	16	15	16	17	18	19	20	21	12	13	14	15	16	17	18	10	11	12	13	14	15	16
17	18	19	20	21	22	23	22	23	24	25	26	27	28	19	20	21	22	23	24	25	17	18	19	20	21	22	23
24	25	26	27	28	29	30	29	30	31	1	2	3	4	26	27	28	29	30	1	2	24	25	26	27	28	29	30
1	2	3	4	5	6	7	5	6	7	8	9	10	11	3	4	5	6	7	8	9	31	1	2	3	4	5	6

2017 Major Contest Dates

- Jan. 21: North American SSB QSO Party
- Jan. 27-29: CQ Worldwide 160-Meter (CW)
- Feb. 10-12: CQ Worldwide RTTY WPX
- Feb. 17-19: ARRL DX (CW)
- Feb. 25: North American RTTY QSO Party
- Feb. 24-26: CQ Worldwide 160-Meter (SSB)
- Mar. 3-5: ARRL DX (SSB)
- Mar. 24-26: CQ Worldwide SSB WPX
- May 26-28: CQ Worldwide CW WPX
- Jun. 10-11: ARRL June VHF Contest
- Jun. 24-25: ARRL Field Day

- July 8-9: IARU World Championships
- July 15-16: CQ Worldwide VHF
- July 15: North American RTTY QSO Party
- Aug. 19: North American SSB QSO Party
- Sept. 9-10: ARRL September VHF Contest
- Sept. 22-24: CQ Worldwide RTTY DX
- Oct. 7-8: California QSO Party
- Oct. 27-29: CQ Worldwide SSB DX
- Nov. 4-5: ARRL Sweepstakes (CW)
- Nov. 18-19: ARRL Sweepstakes (SSB)
- Nov. 24-26: CQ Worldwide CW DX
- Dec. 8-10: ARRL 10-Meter Contest

PVARC Nets

Tuesdays at 7:30 pm on K6PV, 447.120 MHz (-), PL 100.0, and 144.910 MHz, Tone Squelch, PL 156.7

PVARC Meetings & Meals

Meetings 7:30 pm 1st Thursdays (eff. 6/1) except August and December at Fred Hesse Park, 29301 Hawthorne Blvd., Rancho Palos Verdes. Guests welcome.

No-host dinner at 5:30 pm before club meetings at Red Onion Restaurant, 736 Silver Spur Road, Rolling Hills Estates.

2nd Saturday each month: PVARC "HF Enthusiasts Group", 10:00 am

3rd Sunday in August: Annual family picnic at Pt. Vicente Lighthouse.

December 14: Holiday Dinner, Ports O'Call Restaurant, San Pedro.

PVARC Public Service Events

- Apr. 23: Ridgecrest Int. School 5K
- Aug. 12: Rolling Hills Estates "Hills Are Alive" 5K/10K
- Sept. 4: "Conquer the Bridge" Race
- Oct. 14: RAT Beach Bike Tour (cancelled)

Major Ham Radio Conventions

- Feb. 4: Palm Springs Hamfest
- Feb. 17-18: Yuma Hamfest, Yuma, AZ
- Apr. 21-23: International DX Convention, Visalia, CA
- May 19-21: HamVention, Xenia OH
- Sep. 15-17: HAMCON 2017, Torrance
- Oct. 20-22: Pacificon, Santa Clara, CA

PVARC HF Operating Events

- Feb. 22-26: Islands On The Air DXpedition, Catalina Island;
- June 24-25: ARRL Field Day;
- Aug. 18-20: Intl. Lighthouse Weekend, Pt. Vicente Lighthouse

PVARC Ham License Classes

Fred Hesse Park (Fireside Room), 29301 Hawthorne Blvd., Rancho P.V.

Feb. 4 & 11; May 27 & June 3; August 5 & 19; Nov. 4 & 11.

Tell your friends and family about our upcoming ham license classes at Hesse Park

Two Free Amateur Radio Courses

FCC "Technician" course (entry level)

FCC "General" course (2nd level)

Each course is 2 sessions

The sessions will be on 3 and 10 February 2018

Technician 9:30 AM to 1:30 PM both Saturdays (bring your lunch)

General 1:30 PM to 5:00 PM both Saturdays

The FCC tests will be 10:00 AM to noon on 17 February 2018

At the start of the 3 February Technician course, the Palos Verdes Amateur Radio Club will give a 30 minute presentation on how to get further involved with amateur radio.

The class location is at Fred Hesse Community Park,
29301 Hawthorne Blvd., Rancho Palos Verdes.

Confirm your attendance to Walt, K1DFO at waltordway@juno.com

There is no fee for either course.

Taking the FCC test is \$15.

Optional Material (sold at cost)

Gordon West books with all the FCC test questions,

\$22 for the Technician and \$26 for the General

Paper copy of Walt's Power Point charts,

\$22 for the Technician and \$22 for the General -

For courses sponsored by the Palos Verdes Amateur Radio Club, students thru grade 12 who pass their examination at a PVARC VE test session will, upon application to the Club, be eligible for reimbursement up to a maximum of \$50 to cover the cost of materials and the examination fee.

Everyone who obtains their first ham radio license through a PVARC VE test session, regardless of age, will receive a free membership in the Palos Verdes Amateur Radio Club for the remainder of the current calendar year.