



# QRO

MONTHLY NEWSLETTER OF THE PALOS VERDES AMATEUR RADIO CLUB

OCTOBER 2020



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All **QRO** monthly issues since 2007 are on the PVARC website at: [www.k6pv.org](http://www.k6pv.org) in the "Newsletter" tab. Additional club news appears in emailed PVARC Weekly Bulletin.

PVARC online meeting via Cisco Webex

### **"Everything You Need To Know About Lithium Batteries"**

**Marcel Stieber, AI6MS**

**Thursday, October 1, 2020**

**7:15 pm: Webex meeting room opens**  
**7:30-9:00 pm: Meeting and presentation**

Use your PC, Mac, Linux, iOS, Android device in full video/audio—or audio-only by phone. The Webex meeting link will be emailed to all PVARC members.

Guests welcome...email [ai6df@arrl.net](mailto:ai6df@arrl.net) for the Webex meeting link.

We'll be using Webex video conferencing for all PVARC meetings until conditions permit safely resuming in-person events.

## PVARC's upcoming meeting topics

The PVARC's **October 1** monthly meeting via Cisco Webex features Marcel Stieber, AI6MS, in San Jose, CA presenting "Everything You Need To Know About Lithium Batteries."

In Marcel's own words, "Batteries are a necessity for almost all portable radio operations. With the advent of modern battery chemistries, the choices available to the radio amateur are plentiful. This presentation will focus on the three common battery types: Lead-Acid (SLA/AGM), Lithium (Lion/Lipo), and Lithium Iron Phosphate (LFP/LiFePO4). We'll discuss the pros and cons of each chemistry, common uses and misuses, and everyday application tips for your latest amateur radio project."

Marcel has been an amateur radio operator since 2008 while attending the California Polytechnic State University in San Luis Obispo. He was President of the Cal Poly Amateur Radio Club, W6BHZ, and is currently the Industry Advisor to that club. He graduated with a Masters Degree in Electrical Engineering, concentrating on RF and Communications, and writing his thesis on "Radio Direction Finding Network Receiver Design for Low-cost Public Service Applications." Marcel currently works as a Senior Hardware Systems Engineer at Amazon Lab126 in Sunnyvale, CA and also serves on the Cal Poly Electrical Engineering Industry Advisory Board. He is an Assistant Emergency Coordinator for the City of Cupertino, serving as the trustee and technical lead for the Cupertino ARES UHF repeater, W6TDM, and as the Project Lead for the Cupertino ARES ARKnet Project, which is building-up a high-speed wireless intranet for emergency responders in Cupertino. Marcel regularly volunteers at local repeater workdays as an RF technician and tower climber and enjoys providing communications for local bike rides and triathlons. He is an ARRL Life Member and has helped license over 1005 hams since 2009, most recently by working to develop processes and train teams using fully-remote examination methods.

The PVARC's November 5 monthly meeting via Webex double-features two 35-minute video presentations. First up, a fascinating tour of RTTY (radio teletype) that's been a staple on HF bands for decades and now even easier with built-in RTTY decoders on newer HF transceivers or free/low-cost software using computing devices. Second, we'll have an interesting ARRL video on hidden transmitter hunting. Although there's a recreational aspect to the latter a more serious benefit is having skills to locate stations causing interference (whether intentional or not.)

The PVARC's December 2020 holiday dinner has been canceled due to COVID-19 limitations as have holiday gatherings of other Los Angeles-area amateur radio clubs. We are still seeking a virtual event to spread the holiday cheer. ■

## November 2020 Palos Verdes Half Marathon canceled

The Palos Verdes Half Marathon planned for November 21 has been canceled. On September 22 the Lace-Up Half Marathon organization announced their Orange County and Riverside half marathons were also being canceled to ensure the health and safety of all runners and event staff. The PVARC's public service communication team headed by Steve Collins, KI6TEQ, for this year's PV Half Marathon was advised. Our club has provided radio communication to the PV Half Marathon and predecessor Palos Verdes Marathon for over 40 years. ■



**Above:** A 40 Amp-hour lithium iron-phosphate battery being set up under the kitchen table for 2020 home Field Day operation entirely on portable power. PHOTO: DIANA FEINBERG, AI6DF



# Amended RPV ham antenna ordinance goes to City Council for approval on October 6

By Diana Feinberg, AI6DF

The Rancho Palos Verdes Planning Commission on September 22 approved an amended non-commercial amateur radio antenna ordinance for the City Council's consideration on October 6.

A major change at the Planning Commission's September 22 meeting was restoring city Director of Community Development approval for antenna heights between 16' to 41' with Planning Commission approval only for antennas exceeding 41'. Two earlier ordinance drafts proposed increasing Planning Commission approval to antennas 28' and above—which entails much higher costs to many applicants seeking emergency communication antennas. Permits requiring Director approval entail about \$330 in fees while permits requiring Planning Commission approval have fees over \$1,300.

Another change added that codified a recent practice is the non-transferability of permits for new amateur radio antennas. Hams with new antenna permits would need to remove their antenna structures before transferring property ownership.

Changes made in the previous ordinance draft are retained in the proposed code amendment sent to the City Council:

- ◆ Lattice antenna towers (most of today's amateur radio towers) would be allowed, after having been banned in the initial proposed amended code.
- ◆ Antenna guy wires (also banned initially) would be permitted if they help reduce visual impacts of an antenna structure, i.e., a more slender tower.
- ◆ The maximum height for a "by-right" no-permit antenna was restored to the current 16' above ground from a proposed reduction to 12'. A "by-right" roof-mounted antenna may extend up to 12' above a home's roof.
- ◆ Instead of requiring a costly exact mock-up of the antenna structure certified for safety by a licensed structural engineer for neighborhood review as stated in the original code amendments the revised draft would allow antenna applicants to submit photo simulations of the antenna structure and antenna as they would appear on the property.



Many RPV neighborhoods (such as the 30400 block of Via Rivera, shown above) have slopes blocking signal paths or two-story homes with roof heights of 24'-26'. The initial amended ham radio antenna ordinance proposed in July 2020 was suited more for neighborhoods on flat land where single-floor heights did not exceed 16'. PHOTO: DIANA FEINBERG, AI6DF

Some major issues still in the ordinance for City Council approval are requirements to have towers at minimum height when not used (it's not practical for lift cables frequently retracting and extending)—and to notify all property owners within a 500' radius for any antenna over 16'. The PVARC Board of Directors maintained RPV's existing ham antenna ordinance developed in 1999 served well in balancing the needs of amateur radio operators, nearby residents, and the city. It resulted from a collaborative effort of several knowledgeable PVARC members in Rancho Palos Verdes, the City's Director of Community Development, and resident input.

The latest draft of the proposed antenna ordinance for Council approval is not on the City's website yet but will be available before the October 6 City Council meeting. ■

# Where the Los Angeles-area hilltop VHF/UHF amateur repeaters are...or aren't (Part 1)

By Diana Feinberg, AI6DF  
 QRO Editor

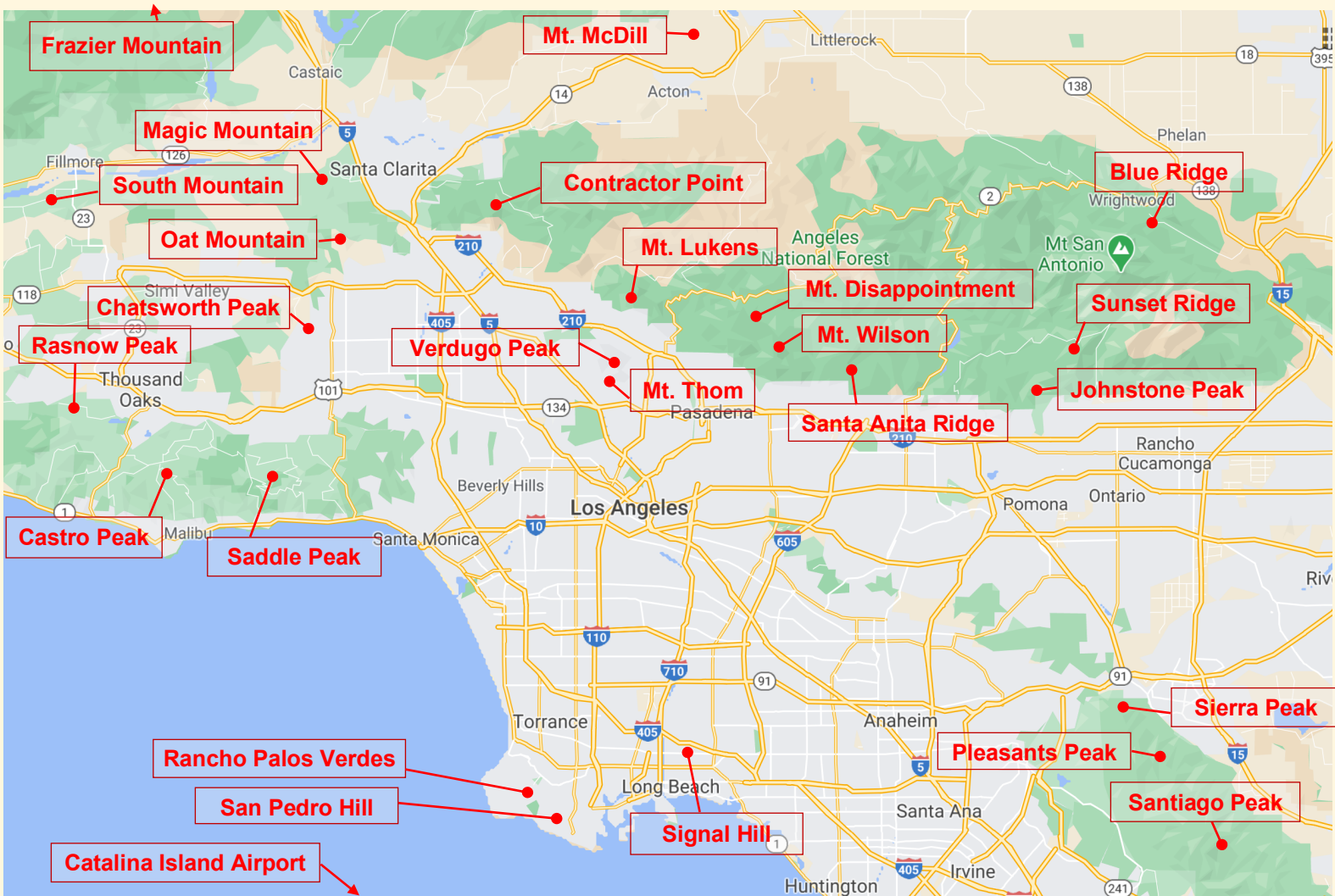
Here's a two-sided question: Where are all the Los Angeles greater-area VHF/UHF amateur radio repeaters?

On one side, many are missing in action. These are coordinated repeaters infrequently on the air except perhaps for a weekly net and occasional chat. On the other side, if not more importantly: many L.A.-area hams do not understand exactly where principal hilltop repeater sites are within the 10.2-million population L.A. County, adjacent counties, and the mountainous/hilly terrain they all have. The chances for reaching any repeater depend on understanding its location relative to yours as well as terrain in the path, your antenna, and transmit power.

It's impossible to visualize key Los Angeles-area repeater locations by looking at TASMA (2-meter), 220 SMA, or SCRRBA (70-cm) coordinated repeater lists—or the ARRL Repeater Guide. Credit for better understanding repeater site locations goes to the Pasadena Radio Club's Bruce Nolte, N1BN, who about 15 years ago created a widely-reprinted illustration of L.A.-area open repeaters (see: [https://w6ka.net/util/do\\_libraryfile.php?f=19](https://w6ka.net/util/do_libraryfile.php?f=19) for his latest version). To expand on Bruce's illustration I recently created a different view, shown below, that maps more-precisely the principal hilltop amateur repeater sites in Los Angeles and nearby counties with freeways, highways, and various cities in proper positions.

*Continued on next page ►*

**Below:** Locations of principal hilltop communication sites in Los Angeles and adjacent counties with two or more amateur radio repeaters (at least one of which is an Open repeater.)  
 MAP IMAGE: GOOGLE MAPS; REPEATER SITE DATA: DIANA FEINBERG, AI6DF



# Where the Los Angeles-area hilltop VHF/UHF amateur repeaters are...or aren't (Part 1)

► *Continued from previous page*

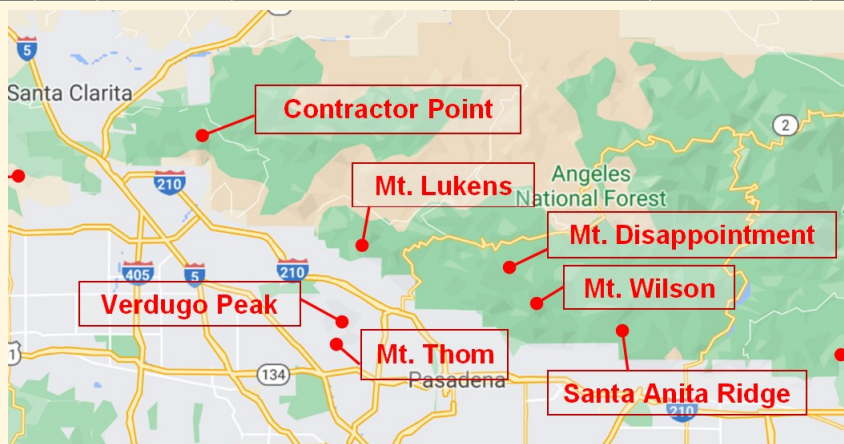
This article and two more for subsequent QRO issues will attempt more-precisely defining locations of hilltop repeaters. I eliminated any hilltop sites without an Open amateur repeater but added Private and Closed repeaters to those with Open repeater listings. Many prime high-level repeater sites also have extensive commercial, government, and microwave communication—i.e., lots of RF there requires better ham equipment engineering.

What triggered these articles were emails I received from a new ham earlier this year. He asked me to compile all the important area-wide repeater frequencies, repeater shifts, PLs, and related info for use in CHIRP programming software with his new HT radio. Unfortunately this request would have required gathering a lot of information when I had limited internet connectivity during the first few months of COVID-19 sheltering-in-place with an elderly parent.

But it created two broader questions: 1) What is the value of having all these repeater frequencies and associated settings if you don't understand a repeater's location relative to your current location?; and 2) If you can reach a hilltop site due to your proximity and equipment then what additional repeaters might be available there?

No repeater directory or website compilation is 100% perfect. Some show repeaters not coordinated by the respective Coordination Boards and some compilations do not reflect recent changes. But as one example of what we hope to do, shown below after compiling across multiple sources are all known amateur radio repeaters at Contractor's Point near Sylmar (in addition to commercial transmitters there.) We'll have more compilations like this in the next QRO...so stay tuned for learning where the L.A.-area hilltop amateur repeaters are. ■

Contractor Point			34.341958, -118.406428		3,524 ft. above sea level					
Frequency	Shift	Callsign	Location	O=Open P=Private C=Closed	PL or DCS	Other information				
145.34	-	KC6JAR	Contractor's Point	O	131.8					
147.45	*	W6NUT	Contractor's Point	O	110.9	* input 146.415 MHz, Mighty Wonderful Rptr. Assn.				
147.56	*	WA6IRC	Contractor's Point	O		* D-Star, input 145.005 MHz, Independent Radio Club				
224.48	-	K6VE	Contractor's Point	O	110.9	Independent Radio Club				
224.52	-	KC6PXL	Contractor's Point	O	103.5					
445.16	-	W6CTR	Contractor's Point	O	100.0, 151.4	SCIRA				
445.34	-	KC6JAR	Contractor's Point	O	71.9	Independent Radio Club				
447.34	-	W6FRT	Contractor's Point	O	162.2	Old Foothill Amateur Radio Transmitting Society				
145.12	-	KC6PXL	Contractor's Point	P						





## Ham operators prepare for radio drills and interop testing during 2020 California ShakeOut

Dozens of Los Angeles County amateur radio operators including those in South Bay cities will be participating in the 2020 Great California ShakeOut on Thursday, October 15. This annual earthquake readiness exercise starts at 10:15 am with a "Drop, Cover, Hold" and then hams will take to the airwaves.



This year interoperability between radio groups is being tested at multiple levels despite operating from home stations due to COVID-19 limitations at served agency sites. Many net control points expect to send digital messages using NBEMS/FLDIGI or Winlink besides voice traffic.

The ARRL's Amateur Radio Emergency Service (ARES) will have its four Los Angeles Section districts exchanging non-medical traffic with radio groups at city and county levels. ARES' primary disaster communication role is providing back-up communication at the 73 hospitals with Emergency Rooms in L.A. County. Many city radio groups and the Los Angeles County Disaster Communication Service overseen by the Sheriff's Department are also planning complete exercises. Lastly, the County radio groups in Southern California plan digital and voice message handling between the counties. ■

### For sale by PVARC member

#### **Bencher BY-2 Chrome base iambic CW paddle and LogiKey Super CMOS Super Keyer III**

The paddle and keyer belonged to my cousin, Gene Hoenig, N3HG (SK). The paddle has been refurbished by me and is in excellent condition. The electronic keyer is in mint condition. The manual for the keyer is available online (URL available from me) or directly from me by e-mail.

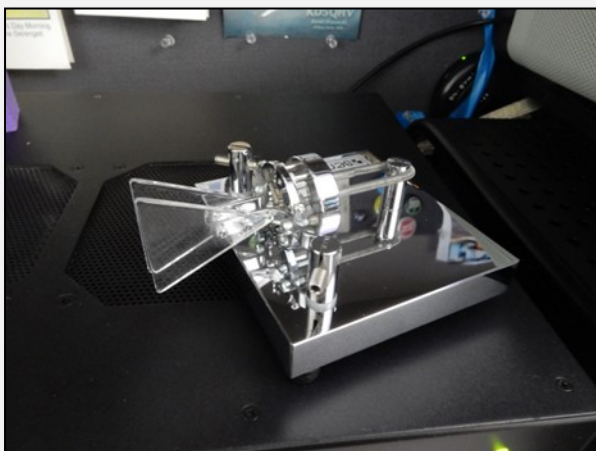
Asking \$125 for the Bencher BY-2 (photo, bottom left). New, this paddle currently sells for \$212.

Asking \$50 for the keyer (photo, bottom right). The manual is available online from HamSupply.com or by e-mail from me. New, this keyer sold for \$120 but it is now out of production.

If the two are purchased together, the price is \$150.

Contact: Jeff, K6JW

E-mail to: [k6jw@scdxc.org](mailto:k6jw@scdxc.org) ■



**Left:** Bencher BY-2 iambic key for sale by K6JW.

**Right:** LogiKey Super CMOS Super Keyer III for sale.



PHOTOS;  
JEFF WOLF, K6JW

## PVARC Club News

### Become an ARRL member: Support amateur radio while increasing your learning

Please consider joining the American Radio Relay League (ARRL) if not a member. The ARRL is the only national organization representing amateur radio and has another significance for the PVARC: We receive benefits from being an ARRL-affiliated club. But an ARRL-affiliated club requires at least 51% of club members also be ARRL members.

Annual ARRL membership costs \$49 and includes your choice of the printed monthly **QST** magazine or the ARRL's new **On The Air** magazine for newer hams. Both are available electronically to all ARRL members plus a new member benefit: free online access to ARRL's two other publications, **QEX** and **National Contest Journal**. Additionally all ARRL members can access numerous web-based materials, ARRL staff, and assistance with ham radio issues. Visit: [www.arrl.org/](http://www.arrl.org/) then click "Join/Renew." ■

### Need a PVARC badge?

Gary Lopes, WA6MEM, has distributed all PVARC badges that were ordered before our transition to virtual meetings in April. If you wish to order a new or replacement badge please contact him at [wa6mem@cox.net](mailto:wa6mem@cox.net) and he will make arrangements for your payment and sending your new badge. ■

### Embroidered PVARC patches still available

PVARC club patches are still available by special arrangement for \$4 each. They may be sewn onto any cap, jacket, shirt, or bag.

The four illustrations in the patch center are emblems of the Palos Verdes Peninsula's four cities (clockwise from top left:

Palos Verdes Estates, Rolling Hills Estates, Rancho Palos Verdes and Rolling Hills.)

During our COVID-19 period of virtual meetings if you would like a patch please contact Diana, AI6DF, at [ai6df@arrl.net](mailto:ai6df@arrl.net) and we'll find a way to get your patch to you. ■



## 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 Bob Sylvest, AB6SY
Past Vice President	

### Appointed Offices:

<b>QRO</b> Editor	Diana Feinberg, AI6DF
Webmaster	Kel Vanderlip, W6KCV
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

### Contacts:

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Webmaster: 310-742-6123, [kelvin@vanderlip.org](mailto:kelvin@vanderlip.org)

**Email us:** [k6pv@arrl.net](mailto:k6pv@arrl.net)

**Website:** [www.k6pv.org](http://www.k6pv.org)

### Mailing Address:

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

### Monthly Meetings:

1<sup>st</sup> Thursday (except December in 2020) 7:30 pm via Webex at Fred Hesse Park, 29301 Hawthorne Blvd., Rancho Palos Verdes, CA. Visitors always welcome.

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

**PVARC:** K6PV, 447.120 MHz

- **Analog FM:** (-), PL 100.0, CTCSS
- **Digital DMR:** 447.120 MHz (RX); 442.120 MHz (TX)  
Talkgroup 31060, Color Code 1, Time Slot 2

"**PV-West**": W6MTA, 449.980 MHz (-), PL 173.8, CTCSS

### To order a Club badge:

Gary Lopes, WA6MEM, [wa6mem@cox.net](mailto:wa6mem@cox.net)

### To order a Club jacket or patch:

Dave Scholler, KG6BPH, 310-373-8166

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Front page photo — Pt. Vicente Lighthouse at dusk on a smoky September 10, 2020, during a large wildfire in north L.A. County.  
PHOTO: DIANA FEINBERG, AI6DF

## PVARC Club News

### PVARC upcoming dates in 2020

◆ **PVARC monthly meetings online via Webex**

1st Thursday each month, 7:30-9:00 pm, except in December.

*(in-person meetings at Hesse Park's McTaggart Hall will resume when permitted)*

◆ **PVARC HF Enthusiasts Group meetings online via Webex**

2nd Saturday each month, 10:00 am to Noon

*(in-person meetings at Palos Verdes Library main branch's Purcell Room will resume when permitted)*

◆ **PVARC EmComm Interest Group online meetings via Webex**

3rd Saturday every month, 10:00-11:00 am

◆ **Walt Ordway, K1DFO, Technician and General amateur radio license classes at Hesse Park**

Saturdays, Nov. 7 and 14, 2020; exams, Nov. 21.

◆ **Public service events:**

Canceled: Palos Verdes Half Marathon-10K-5K, Nov. 21.

◆ **PVARC 2020 Holiday Dinner:** Dec. 3 TBA

**Non-PVARC Events of Note:**

◆ **W6TRW Swap Meet is canceled until January 2021**, Northrop Grumman Space Park, North Redondo Beach. ■

**Upcoming amateur radio contests of note:**

- ◆ Oceana DX Contest phone: 0600Z Oct. 3 through 0600Z Oct. 4
- ◆ Russian Worldwide Digital Contest: 0300Z Oct. 3 through 1159Z Oct. 4
- ◆ California QSO Party: 1600Z Oct. 3 through 2200Z Oct. 4
- ◆ Makrothen RTTY Contest: 0000-0800Z and 1600-2400Z Oct. 10; 0800-1600Z Oct. 11
- ◆ Oceana DX Contest CW: 0600Z Oct. 10 through 0600Z Oct. 11
- ◆ CQ World-Wide DX Contest, SSB: 0000Z Oct. 24 through 2359Z Oct. 25

### WELCOME NEW MEMBERS OF THE PALOS VERDES AMATEUR RADIO CLUB IN 2019-2020

Georgiann Keller, KM6YGM

Annalise Little, KM6YGS

Tim Couture, KM6QWA

Frank Brown, KM6YGQ

Charlie Hansen, AJ6HZ

Diana DiDomenico, KM6IQN

William McClure, W7QLI

Rick Shigio, K6RTS

David Calloway, K6DKC

Jon Kuroyama, K6LDQ

Ray Grace, WA6OWM

Robert Keller, K9BGC

Alex Marko, KD6LPA

Erin Okada, KN6FYV

Derek Okada, K6DMO

Xing Yang, KN6FYX

Stephen Anderson, KN6FZA

Charles Tang, KN6FYY

Ikue Duncan, KN6FYW

Judy Frankel, KN6FYU

Robert Sawyer, KG6SFQ

Heidi Gransar, KN6HVG

Bruce Ward, KN6HVI

David Salazar, KE6GFR

Ed Jenkins, K6EXY

David Hostetler, W6OQ

Robert Rodriguez, KN6FQL



## PVARC Calendar

October 2020

Sun	Mon	Tue	Wed	Thu	Fri	Sat
				1 PVARC Monthly Meeting 7:30-9:00 pm via Webex	2	3
4	5	6 PVARC analog weekly net on K6PV repeater 7:30-7:55 pm	7 PVARC digital DMR weekly net on K6PV repeater 7:30-7:55 pm	8	9	10 PVARC HF Enthusiasts Group, 10 am to Noon via Webex
11	12	13 PVARC analog weekly net on K6PV repeater 7:30-7:55 pm	14 PVARC digital DMR weekly net on K6PV repeater 7:30-7:55 pm	15	16	17 PVARC EmComm Interest Group, 10:00-11:00 am via Webex
18	19	20 PVARC analog weekly net on K6PV repeater 7:30-7:55 pm	21 PVARC digital DMR weekly net on K6PV repeater 7:30-7:55 pm	22	23	24
25	26	27 PVARC analog weekly net on K6PV repeater 7:30-7:55 pm	28 PVARC digital DMR weekly net on K6PV repeater 7:30-7:55 pm	29	30	31

Hesse Park's building will be closed at least through October 2020. Our scheduled November ham license classes at Hesse Park are subject to change...contact Walt, K1DFO, at [waltordway@juno.com](mailto:waltordway@juno.com) for a possible alternate location or date.

## Two Free Amateur Radio Courses

FCC "**Technician**" course (entry level)

FCC "**General**" course (2<sup>nd</sup> level)

Each course is 2 sessions

The sessions will be on 7 and 14 November 2020

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

**General** 2:00 PM to 5:00 PM both Saturdays

The FCC tests will be 10:00 AM to noon on 21 November 2020

At the start of the 7 November Technician course, a member of 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, CA 90275

**Confirm your attendance to Walt, K1DFO at [waltordway@juno.com](mailto: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,

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

Paper copy of Walt's Power Point charts,

\$22 for the Technician and \$20 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.



Palos Verdes Amateur Radio Club
P.O. Box 2316
Palos Verdes Peninsula, CA 90274
www.k6pv.org

NEW MEMBER & 2020 MEMBERSHIP RENEWAL FORM

NEW: \_\_\_\_\_ or RENEWAL: \_\_\_\_\_ MEMBERSHIP DATE: \_\_\_\_\_

Last Name: \_\_\_\_\_ First Name: \_\_\_\_\_ Spouse: \_\_\_\_\_

Street Address: \_\_\_\_\_

City: \_\_\_\_\_ Zip: \_\_\_\_\_

Phone: Home \_\_\_\_\_ Work \_\_\_\_\_ Cell \_\_\_\_\_

Email address: \_\_\_\_\_

(Unless otherwise noted emails will be sent to the applying member only)

License Call: \_\_\_\_\_ License Class: \_\_\_\_\_ ARRL Member? \_\_\_\_\_ Birth Mo./Day: \_\_\_\_\_

Other amateur radio groups you belong to: \_\_\_\_\_

Additional Household and/or Family Members (if Applicable):

Name \_\_\_\_\_ Call \_\_\_\_\_ Class \_\_\_\_\_ ARRL \_\_\_\_\_ Birth Mo./Day: \_\_\_\_\_

Name \_\_\_\_\_ Call \_\_\_\_\_ Class \_\_\_\_\_ ARRL \_\_\_\_\_ Birth Mo./Day: \_\_\_\_\_

Name \_\_\_\_\_ Call \_\_\_\_\_ Class \_\_\_\_\_ ARRL \_\_\_\_\_ Birth Mo./Day: \_\_\_\_\_

Individual membership (\$20.00) \$ \_\_\_\_\_

Household and/or Family membership (\$25.00) \$ \_\_\_\_\_

Additional donation to support PVARC activities \$ \_\_\_\_\_

PayPal: \_\_\_\_\_ Cash: \_\_\_\_\_ or Check #: \_\_\_\_\_ Date \_\_\_\_\_ TOTAL \$ \_\_\_\_\_

Please make checks payable to: Palos Verdes Amateur Radio Club; Dues based on January 1st to December 31st year.

PayPal payment: Go to www.paypal.com, enter recipient name: PVARC90274@gmail.com

All New and Renewal Member applications must be signed below.

I am applying for a new or renewal membership in the Palos Verdes Amateur Radio Club and understand that by accepting membership I agree to abide by the Club's constitution and by-laws (available on-line at: http://www.k6pv.org or upon request.)

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

Family Member Signature: \_\_\_\_\_ Date: \_\_\_\_\_

Family Member Signature: \_\_\_\_\_ Date: \_\_\_\_\_