QRO

THE PALOS VERDES AMATEUR RADIO CLUB NEWSLETTER

APRIL 2022

Inside this month's QRO…

All **QRO** monthly issues since 2007 are on the PVARC website at www.k6pv.org under the "Newsletter" tab.

Additional club news appears in the PVARC Weekly Bulletin sent by email to members.

All About DX Engineering

Tim Duffy, K3LR

Live from Western Pennsylvania

Thursday, April 7, 2022

Meeting at Hesse Park and on Webex

7:00 pm: Hesse Park room opens

7:15 pm: Webex room opens

7:30-9:15 pm: Meeting

Guests welcome. Email ai6df@arrl.net for the Webex meeting link.

Other meetings in April:

PVARC HF Enthusiasts Group Saturday, April 9, 10:00-11:45 am at Palos Verdes Library Purcell Room

PVARC EmComm Interest Group
Saturday, April 16, 10:00-11:00 am via Webex

About upcoming PVARC monthly meetings

The PVARC's **April 7, 2022** meeting speaker is Tim Duffy, K3LR, well-known DXer/contester and Chief Executive Officer of DX Engineering coming to us live via Webex from near the Ohio/ Pennsylvania state line. DX Engineering sells a wide array of ham radio products with a focus on having superior engineering and materials.

Tim Duffy, K3LR

Photo: DX Engineering

Tim has been an active amateur radio operator since starting as WN3SZX in 1972. He has since hosted over 145 different operators from around the world at his K3LR multi-operator radio sport contest station with its 13 towers and 11 operating positions. Additionally he has been heavily involved with the Dayton Hamvention, serving as moderator of the Hamvention Antenna forum for 35 years, chairman of the Contest University for 14 years, the Dayton Contest Dinner for 28 years, and honored as Hamvention Amateur of the Year in 2015. In 2006 he was elected to the CQ Contest Hall of Fame and also serves on the ARRL Foundation's Board of Directors.

On a local level Tim has been a multi-year president of the Mercer County Amateur Radio Club (W3LIF) and active in RACES and ARES. He is a graduate of the Pennsylvania State University.

At the PVARC's **May 5, 2022** meeting ARRL Southwestern Division Director Dick Norton, N6AA, will be speaking in-person at Hesse Park and via Webex about developments at the ARRL and ham radio generally. His personal goal has been to operate from each of the 40 CQ Worldwide Zones…and he will share some of that as well. Our May 5th meeting also marks the return of refreshments at PVARC in-person meetings. ■

Dick Norton, N6AA

Update on PVARC's 2022 Field Day

The PVARC's 2022 ARRL Field Day (June 25-26) will be at Soleado Elementary School in Rancho Palos Verdes, barring unforeseen pandemic developments.

We are very appreciative that our fellow member Rocco Lardiere, N6KN, will again serve as K6PV Field Day chairperson and site leader. Rocco has been our ace CW operator at many Field Days.

We will also ensure K6PV participants observe prudent health protocols. More info to follow. ■

Continuing something new: Random accomplishments of PVARC members…in 35 words or less

Don NA6Z just completed a 22-year quest for WAS using only 20-meter SSB Special Event Stations. His final QSO: the National Quilting Day station in Colorado. He says it was an odd quest, but fun.

Jerry, KI6RRD, served as a Volunteer Examiner on March 26 at the W6TRW Swap Meet's first test session under its new VE group led by South Bay ARC. Other PVARC VE's can assist too.

Is there a random accomplishment in your ham radio future? Let us know.

Diana, AI6DF, found L.A. parking is still about finding an open spot. In Century City at the Los Angeles Marathon on March 20 someone had parked their huge motorcycle inside the ham radio operators tent.

PHOTO: DIANA FEINBERG, AI6DF

Check your license renewal date for avoiding the new $35 FCC ham license fee

The FCC's $35 amateur radio license fee takes effect on April 19, 2022. If your ham license expires between now and July 17 you should renew immediately to avoid the $35 fee.

Additionally, if your license has expired (it sometimes happens!) since April 18, 2020 you should renew it by April 18, 2022.

The table at right shows the dates you can renew within the 90-day window for an active license.■

License Expires:	Renew between:
4/18/**20** to 7/3/22	4/4/22 to 4/18/22
7/4/22	4/5/22 to 4/18/22
7/5/22	4/6/22 to 4/18/22
7/6/22	4/7/22 to 4/18/22
7/7/22	4/8/22 to 4/18/22
7/8/22	4/9/22 to 4/18/22
7/9/22	4/10/22 to 4/18/22
7/10/22	4/11/22 to 4/18/22
7/11/22	4/12/22 to 4/18/22
7/12/22	4/13/22 to 4/18/22
7/13/22	4/14/22 to 4/18/22
7/14/22	4/15/22 to 4/18/22
7/15/22	4/16/22 to 4/18/22
7/16/22	4/17/22 to 4/18/22
7/17/22	4/18/22

Late news from ARRL: No fee for license upgrades

04/04/2022

The Federal Communications Commission (FCC) staff, in response to an ARRL request, has clarified that the new $35 application fee will not apply to most license modifications, including those to upgrade an amateur radio licensee's operator class and changes to club station trustees. The FCC staff explained that the new fees will apply only to applications for a new license, renewal, rule waiver, or a new vanity call sign. As previously announced, the new fees take effect on April 19, 2022.

"We are pleased that the FCC will not charge licensees the FCC application fee for license upgrade applications," said ARRL Volunteer Examiner Coordinator (VEC) Manager Maria Somma, AB1FM. "While applicants for a new license will need to pay the $35 FCC application fee, there will be no FCC charge for future upgrades and administrative updates, such as a change of mailing or email address. Most current licensees, therefore, will not be charged the new FCC application fee until they renew their license or apply for a new vanity call sign." ■

Charging/powering a laptop computer . . . off-the-grid
- Three methods

By Jerry Kendrick, NG6R

At a recent PVARC monthly EmComm Interest Group meeting, the topic came up about the best way to keep a ham-radio-essential laptop computer powered and/or charging when the electricity goes out or is not available, such as in the field during an actual emergency or drill scenario. Portable computers are increasingly considered essential equipment for emergency amateur radio support. AREDN, Winlink, Packet Radio, FLDIGI, NBEMS and other emergency-oriented digital applications/protocols all rely on a computer-to-radio interface at each end of the link even though the communication paths are generally RF.

Laptops are equipped with a built-in battery that generally lasts for several hours before needing to be recharged. Charging is normally done with a 120VAC-to-19VDC charging/powering cable similar to the one shown in Figure 1. The central device rectifies the input AC voltage and reduces the rectified DC voltage down to a filtered and regulated 19VDC using Switched-Mode Power Supply (SMPS) technology [1]. The 19VDC is supplied to the computer via a laptop-specific DC connector, as shown here.
.

Figure 1. A typical 19-volt DC battery charging/powering device and cable for a standard laptop computer
CREDIT: https://www.walmart.com/ip/Original-HP-19-5V-3-34A-65W-AC-Adapter-Laptop-Charger-Power-Cord-14-15-ENVY-14-15-17-TouchSmart-Pavilion-11-15-17-TouchSmart-Series/798714263

Although the 19VDC SMPS charging cable is ubiquitous, various laptops can have different DC connector sizes. So, it is necessary to ensure mechanical compatibility if you're matching up a particular laptop with a charging cable. Figure 2 *(next page)* illustrates the wide variety of DC connectors and the two key parameters that must be heeded for proper match: OD of the outer sleeve/shaft and either the OD of the inner pin or ID of the inner pin cavity.

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Charging/powering a laptop computer . . . off-the-grid
- Three methods

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Figure 2. Selection of various DC connectors, sufficient to accommodate a variety of laptop computer charging/powering ports. CREDIT: (left) https://www.akshatblog.com/how-to-find-compatible-laptop-power-adapter-or-charger; (right) https://www.amazon.com/Onite-5-5x2-1mm-Connectors-Notebook-Adapter/dp/B01C5F4GW0/ref-=sr_1_2?crid=2FABXZ66VNG64&keywords=dc+connector+variety&qid=1642467570&sprefix=dc+connector+variety%2Caps%2C165&sr=8-2

The obvious method for alternative battery charging would be to use the cable shown in Figure 1, but plugged into an alternate source of 120VAC when away from home or when commercial-grid AC power is not available. One such source of AC power is a gasoline-fueled AC generator, such as shown in Figure 3. This reliable AC power source is often used by amateur operators during annual Field Day exercises (and sometimes equipped with a long-duration external fuel tank).

Figure 3. A portable gasoline-fueled AC generator equipped with external fuel tank for extra run time. CREDIT: https://www.pinterest.com/pin/478718635364691644/

Another means of generating 120VAC as input to this supplied computer charging/powering cable is with a smaller and much more portable and accessible 12VDC-to-120VAC inverter device, such as the one shown in Figure 4. Note that this particular unit, which costs less than $40 from Amazon.com, is capable of power output up to 300W, considerably more than required by a typical laptop computer doing routine operations. ► *Continued on next page…*

Charging/powering a laptop computer . . . off-the-grid
- Three methods

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Figure 4. A 300W 12VDC-to-120VAC power inverter from Amazon.com, provisioned with both automobile auxiliary power plug and battery clips for versatility in connecting to a spare automotive battery or the electrical system of most automobiles. CREDIT: https://www.amazon.com/Inverter-Converter-Cigarette-Lighter-Charger/dp/B08R5DWSFS/ref=asc_df_B08R5DWSFS/?tag=hyprod-20&linkCode=df0&hvadid=533235061664&hvpos=&hvnetw=g&hvrand=7929006595718729755&hvpone=&hvptwo=&hvqmt=&hvdev=c&hvdvcmdl=&hvlocint=&hvlocphy=9031024&hvtargid=pla-1411340053104&psc=1

As a point of interest, an examination of output voltage, current and power values from four laptop charging/powering cables owned by the author revealed the following information::

Computer maker	Rated output voltage (V)	Rated output maximum current (A)	Calculated output power (Watts = VxA)
Dell	19.5	2.31	45
Dell	19.0	3.16	60
Dell	19.5	3.34	65
Gateway	19.0	3.42	65

Both of the foregoing methods (AC generator and DC-to-AC inverter) use the supplied laptop charging/powering cable. This third method for charging the laptop battery does not use the provided cable but instead supplies the required 19VDC directly to the laptop connector by using a DC voltage boost converter module, similar to the one shown in Figure 5 *(next page).* ► *Continued on next page... .*

Charging/powering a laptop computer . . . off-the-grid
- Three methods

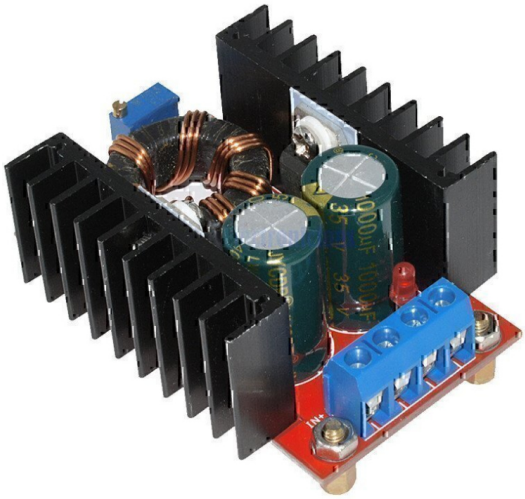

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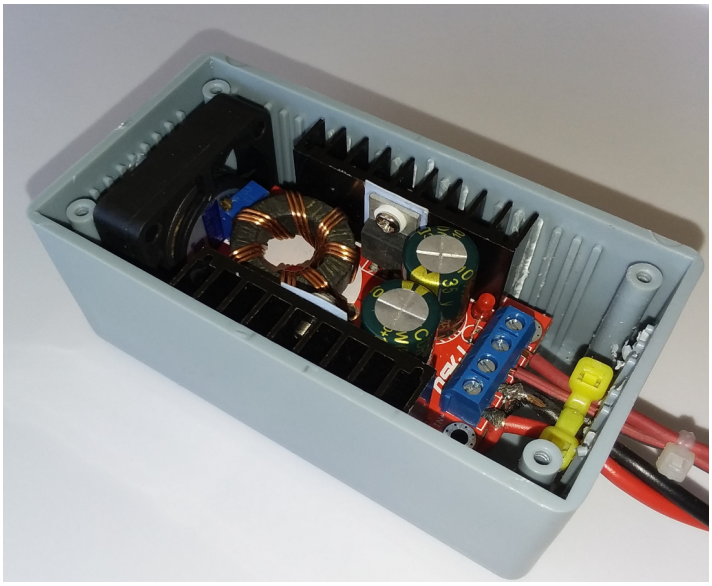
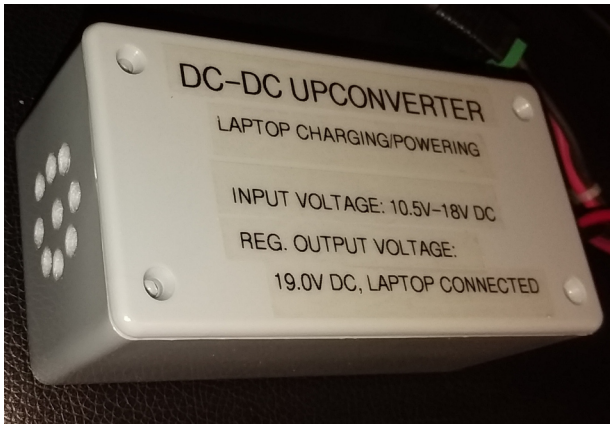
Figure 5. An inexpensive DC-DC voltage-step-up converter module for boosting DC voltages from the input range of 10-32V to the output range of 12-35V; capable of delivering 150W output power. Regulated output voltage is adjusted using the small variable screw control atop the blue rectangular component at the far left. CREDIT: https://www.ebay.com/itm/193193726326?chn=ps&_trkparms=ispr%3D1&amdata=enc%3A1awDbKZ0IRymnm5y8Dlzs9g33&norover=1&mkevt=1&mkrid=711-117182-37290-0&mkcid=2&itemid=193193726326&targetid=1262376588856&device=c&mktype=&googleloc=9031024&poi=&campaignid=15275224983&mkgroupid=131097072938&rlsatarget=pla-1262376588856&abcId=9300697&merchantid=101737445&gclid=CjwKCAiAxJSPBhAoEiwAeO_fP08LpVtB5wzXOPB0LVfcxNbt5yLXdBpC1bMDofNoaVByIJs4Z_LcOxoCTJAQAvD_BwE

Step-up of DC voltage 12V to regulated 19V is viable through the use of SMPS technology, just as with the laptop-supplied charging cable in the earlier methods. However, this method avoids the need to ever generate 120VAC. An ordinary automotive battery or similar 12V storage cell can be used as the power source for this DC voltage upconverter.

As these devices are so inexpensive (less than $4 each), several were purchased to configure them as 12→19V voltage boost converters and assess their viability as laptop charging/powering devices using a 12V automotive battery. Figure 6 below shows the device housed in a compact plastic enclosure. It is provisioned with a small 12VDC brushless fan (because of being enclosed, although it might not be essential since the board seems to run cool during charging operations); with both an automobile auxiliary power plug and battery clips for versatility in connecting to a 12V battery; and with a "universal" DC output connector adapter that can accommodate any standard laptop that one would plan to use. Close-ups of the input and output connectors as well as the internal brushless fan are illustrated in Figure 7 *(next page)*. ► *Continued on next page...*

Figure 6. Inexpensive DC-DC step-up boost converter module housed with small 12VDC brushless fan and I/O connectors; holes drilled at each end enable air flow from internal fan.
PHOTOS: JERRY KENDRICK, NG6R.





Charging/powering a laptop computer . . . off-the-grid
- Three methods

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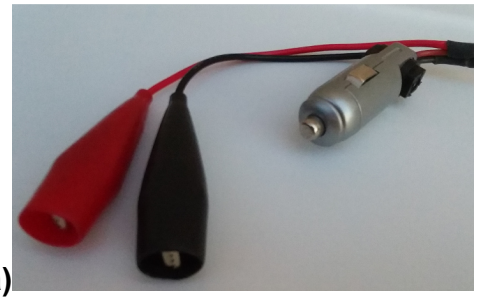
(a)  (b)  (c) 

Figure 7. (a) Input DC voltage options for either automobile auxiliary power jack or battery-direct connections; (b) Universal output voltage adapter to accommodate a variety of laptop DC connector plug-ins; (c) Small and inexpensive 12VDC brushless fan to remove excess heat from enclosure. PHOTOS: JERRY KENDRICK, NG6R

Discussion at the EmComm Interest Group meeting focused on needing to assure adequate power and sufficient purity of the 19VDC line that powers the laptop, charges its battery, or does both at the same time. It would certainly need to be pure enough not to damage the computer in any way. Commercial-grid 120VAC line voltage is nearly sinusoidal in waveform. For all general-purpose commercially-available AC generators, as well as DC-AC inverters, however, the output waveform is not perfectly sinusoidal. So, we would need to understand if the modified square-wave or similar output voltage waveform from these devices would have an unacceptably negative impact on the DC voltage that is ultimately provided to the laptop. Since all three of the alternative methods presented above (AC generator, DC-AC inverter, DC-DC boost upconverter) have the potential for increasing the amount of AC superimposed on the DC that is ultimately supplied to the laptop for charging/powering, testing of these methods is important. Test results are summarized below.

Concern about the existence of some amount of AC superimposed on the 19VDC voltage supplied to the computer should not cloud our judgment *a priori* about the efficacy of any of these methods. Remember that the internal laptop battery acts almost like a capacitor, storing charge for use by the computer as a load. The battery is very forgiving of some amount of AC on the DC supplied for charging. (Remember that most “wall wart” battery chargers do not have voltage regulators at all and thus have a significant amount of AC ripple riding atop their DC battery-charging voltage, especially under load, as was examined thoroughly in a previous **QRO** article [2].) Also it is unknown exactly how much power line filtering is already built into the laptop itself, if any.

To allay concerns about the potential for damage to the computer, we’ve measured the critical parameters associated with the three alternative methods discussed above. They are compared with key parameters using 120VAC commercial-grid power and the supplied charging/powering cable as a baseline. All measured data are collected with the charger attached to the powered-on “test laptop” in order to provide a realistic load and to account for any smoothing or filtering circuitry provided within the laptop itself. A state-of-charge (SOC) condition for the laptop battery of 70% was selected (where the battery is still functioning well but needs charging), so as to provide measurement consistency across the baseline and the three alternative charging/powering methods discussed earlier.

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Charging/powering a laptop computer . . . off-the-grid
- Three methods

► *Continued…*

Commercial-Grid AC test results (baseline)
Voltage from workbench electrical AC outlet: **118.1VAC rms**
DC output voltage from supplied charging cable, no load: **19.3VDC**
DC output voltage from supplied charging cable connected to laptop, under 70% SOC conditions: **19.0VDC**
AC ripple voltage on output using bench-quality DVM [3], while connected with laptop charging/powering: **59mV rms**

AC generator test results (alternative method 1)
Voltage from generator AC outlet: **127.3VAC rms**
DC output voltage from supplied charging cable, no load: **19.3VDC**
DC output voltage from supplied charging cable connected to laptop, under 70% SOC conditions: **19.0VDC**
AC ripple voltage on output, while connected with laptop charging: **59mV rms**

DC-AC inverter test results (alternative method 2)
Automotive battery voltage applied at input: **12.3VDC**
Voltage from inverter AC outlet: **114.6VAC rms**
DC output voltage from supplied charging cable, no load: **19.4VDC**
DC output voltage from supplied charging cable connected to laptop, under 70% SOC conditions: **19.0VDC**
AC ripple voltage on output, while connected with laptop charging: **53mV rms**

DC-DC upconverter test results (alternative method 3)
Experimentally-determined variation in input DC voltage to maintain regulated 19VDC output voltage: **10.5VDC-18VDC**
Automotive battery voltage then applied at input: **12.3VDC**
DC output voltage from upconverter, as adjusted by internal control, no load: **19.3VDC**
DC output voltage from upconverter connected to laptop, under 70% SOC conditions: **19.1VDC**
AC ripple voltage on output, while connected with laptop charging/powering: **93mV rms**

Summary/Conclusions

All three of the alternative methods examined for charging/powering a laptop computer—when commercial-grid AC power is not available—were shown to be effective, reliable and safe. The following table summarizes the two key parameters, viz., DC voltage applied to the laptop computer under load and AC ripple superimposed on the DC voltage:

Charging/powering source	VDC	AC ripple (mV rms)
Baseline, commercial-grid AC	19.0	59
Alternative Method 1: Gasoline-fueled AC generator	19.0	59
Alternative Method 2: DC-AC inverter	19.0	53
Alternative Method 3: DC-DC boost upconverter	19.1	93

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Charging/powering a laptop computer . . . off-the-grid
- Three methods

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All alternative methods provide very steady and regulated DC voltage to the battery charging input port under load conditions. Although the AC ripple for alternative method 3 is slightly higher than either the baseline or the two other alternatives, it is still quite acceptable and safe—less than one-tenth of a volt rms.

Relative to cost, the least expensive method is the DC-DC boost upconverter, at less than $10 for all parts and materials. However, it does require some experience with DIY electronics assembly. Method 2 is next, with cost for an adequately powered device, available from multiple sources, of less than $40. The AC generator is the most expensive of the methods, but it might already be in place at the deployment site at which laptop charging/powering is required.

Field deployment of amateur radio operators in actual emergencies or drills necessitates provision of adequate power sources for radios and ancillary electronic equipment. Usually, power sources for deployments include rechargeable 12-volt batteries, especially when AC generators are not available, or as backup. Digital communication modes are increasingly relied upon for information transfer during these operations, making portable computers virtually essential in field deployments that use digital modes. This project demonstrated that three different methods for charging/powering portable laptop computers can be relied upon when commercial-grid AC power is not an option.

References

1. https://en.wikipedia.org/wiki/Switched-mode_power_supply
2. Page 4, http://www.n6rpv.net/n6rpvpage/pvarc/2019QRO/QRO_Jun_2019.pdf
3. Rigol **DM3058E** Benchtop Digital Multimeter ■

PVARC upcoming events in 2022

- **PVARC hybrid monthly meetings online via Webex and at Hesse Park**

  1st Thursday each month, 7:30-9:15 pm, except in December

- **PVARC HF Enthusiasts Group meetings online via Webex or in-person**

  2nd Saturday each month, 10:00 am-Noon (in-person meetings at Palos Verdes Library main branch's Purcell Room when permitted)

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

  3rd Saturday each month, 10:00-11:00 am or 11:00-Noon (time depends on other radio events that day)

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

  May 7 and 14, 2022; VE Test, May 21. Other dates to be announced.

- **ARRL Field Day,** June 25-26, Soleado Elementary School, Rancho Palos Verdes

- **Public Service Events:**

  - **Ridgecrest Intermediate School 5K** in Peninsula's commercial district, April 24, 8 am.

  - Other events TBA.

- **PVARC 2022 Holiday Dinner**, Dec. 8, Los Verdes Golf Course

Non-PVARC Events of Note:

- **W6TRW Swap Meet,** last Saturday each month. 7:00-11:30 am. Northrop Grumman parking lots, Aviation Blvd./Marine Ave., North Redondo Beach

- **Claremont Amateur Radio Society Swap Meet,** 3rd Saturday each month (except Dec.) 6:00-11:00 am, Granite Creek Community Church, 1580 N. Claremont Blvd., Claremont

- **Dayton Hamvention**, May 20-22, 2022. https://hamvention.org/ ■

Become an ARRL member: support amateur radio while increasing your learning

Consider joining the American Radio Relay League (ARRL) if not already 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, which requires at least 51% of club members 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 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/. ■

Need a PVARC badge?

If you wish to order a new or replacement engraved PVARC badge please contact Gary Lopes at wa6mem@cox.net and he will make arrangements for your payment and sending your new badge. Badges cost $13. ■

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.

During our period of virtual meetings if you would like a patch contact Diana, AI6DF, ai6df@arrl.net and we'll find a way to get your patch to you. ■

About Us…

Welcome to the Palos Verdes Amateur Radio Club, K6PV.

Founded in 1975, today our 150+ members hail from every city in Los Angeles County's South Bay region…and beyond.

Our club fosters diverse ham radio interests including public service, DXing, contesting, digital modes, and electronic experimentation.

We also teach license classes several times annually and gladly assist newer hams in understanding amateur radio technology or procedures.

Many PVARC members serve in the government-affiliated disaster amateur radio groups for the South Bay's cities and Los Angeles County. We also provide public service communication at no charge to sponsors of community and running events.

No matter where you are along your ham radio journey you are welcome as a PVARC member. ■

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	Georgiann Keller, KM6YGM
Secretary	Ron Wagner, AC6RW
Directors	Clay Davis, AB9A
	Gary Lopes, WA6MEM
Past Vice President	Bob Sylvest, AB6SY

Appointed Offices:

QRO Editor	Diana Feinberg, AI6DF
K6PV QSL Manager	Jeff Wolf, K6JW
K6PV Trustee	Mel Hughes, K6SY
LAACARC Delegate	Jeff Wolf, K6JW
VE Coordinator	Dave Scholler, KG6BPH
VE ARRL Liaison	Jerry Shaw, KI6RRD
Net Control Operators:	Ron Wagner, AC6RW; Dale Hanks, N6NNW; Bob Sylvest, AB6SY; Malin Dollinger, KO6MD; Dave Turner, KM6LGX; Jerry Shaw, KI6RRD; Gary Lopes, WA6MEM; Clay Davis, AB9A; Rick Heaston, KG6RH; Jeff Remington, KA6JMR; Laura Remington, KA6LMR; Marlee Remington, KA6MJR; Derek Okada, K6DMO

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Website: www.k6pv.org
Postal Address:
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PO Box 2316
Palos Verdes Peninsula, CA 90274-8316

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

Club badges: Gary Lopes, WA6MEM, wa6mem@cox.net
Club jackets or patches: Dave Scholler, KG6BPH, 310-373-8166

Front page photo — Pt. Vicente Lighthouse after breakfast on October 28, 2017. PHOTO: DIANA FEINBERG, AI6DF

–PVARC Calendar of Events April 2022–

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
					1	2
3	4	5 K6PV analog net, 7:30 pm	6 K6PV DMR net, 7:30 pm	7 PVARC hybrid Monthly Meeting, at Hesse Park and via Webex 7:30 pm	8	9 PVARC HF Enthusiasts Group meets,10:00 am at Palos Verdes Library Purcell Room
10	11	12 K6PV analog net, 7:30 pm	13 K6PV DMR net, 7:30 pm	14	15	16 PVARC EmComm Interest Group meeting, 10:00 am via Webex
17	18	19 K6PV analog net, 7:30 pm	20 K6PV DMR net, 7:30 pm	21	22	23
24	25	26 K6PV analog net, 7:30 pm	27 K6PV DMR net, 7:30 pm	28	29	30 W6TRW Swap Meet at Northrop Grumman, North Redondo Beach

Postal mail form below; email version: http://www.n6rpv.net/n6rpvpage/pvarc/membership_form.pdf

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

NEW MEMBER & 2022 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

or Household / Family membership: $25.00

(Optional) 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 as: 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.n6rpv.net/n6rpvpage/pvarc/constitution.pdf or upon request.)

Signature:_____ Date: _____

Family Member Signature: _____ Date: _____

Family Member Signature: _____ Date: _____

Two Free Amateur Radio Courses

(NOTE: IF REQUIRED BY COUNTY PUBLIC HEALTH ORDER OR THE CITY OF RANCHO PALOS VERDES ALL ATTENDEES MUST WEAR A MASK)

FCC "Technician" course (entry level)
FCC "General" course (2nd level)
Each course is 2 sessions
The sessions will be on 7 and 14 May 2022
Technician 9:30 AM to 1:15 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 21 May 2022

At the start of the 7 May Technician course, a member of the Palos Verdes Amateur Radio Club will give a 30-minute presentation on how to get further involved in 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 wfordway@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.