



# QRO

MONTHLY NEWSLETTER OF THE PALOS VERDES AMATEUR RADIO CLUB

JUNE 2020



## Inside this month's QRO

Upcoming monthly meeting speakers .....	2
K6PV DMR net moves to new day and time.....	2
Two changes in 2020 Field Day rules will boost interest .....	3
PVARC HF Enthusiasts and EmComm Interest Groups meet online.....	3
Gadgets for hams and electronics enthusiasts: A low-cost semiconductor tester— <i>Jerry Kendrick, NG6R</i> .....	4-8
Remotely-administered ham radio license exams: An idea whose time has come?— <i>Diana Feinberg, AI6DF</i> .....	9
PVARC club news .....	10-11
PVARC June 2020 calendar of events.....	12
K1DFO's November 2020 ham license classes.....	13
PVARC membership renewal / application form.....	14

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 Webex*

**"Propagation aspects of each ham band: 160-meters through UHF"**

**Ray Day, N6HE, and Gary Lopes, WA6MEM (with credit to Bill Harper, WA6ESC)**

**Thursday, June 4, 2020**

**7:15 pm: Webex meeting room opens**

**7:30-8:30 pm: Meeting and presentation**

**Use your PC, Mac, Linux, iOS, Android device in full video—or just audio.**

We'll be using video conferencing for other PVARC meetings in coming months.

## PVARC's upcoming meeting topics (online in the near-term)

Speaking at our **June 4** monthly meeting via Webex are Ray Day, N6HE, and Gary Lopes, WA6MEM, on "Propagation aspects of each ham band: 160-meters through UHF." This presentation had its genesis in an outstanding presentation by fellow member Bill Harper, WA6ESC, at a 2008 club meeting. If you saw it then you will still find it worthwhile. If you haven't seen it you will find it very useful. This presentation explains when, where, and why each band is useful at different times.

(Webex "one-click" invitation links will be emailed to all PVARC members two days before and on the meeting day. Webex works with PC, Mac, Linux, iOS, or Android devices and installing the Webex app for your system gives best results— but you may also use your web browser. If all else fails you may dial-in audio only using your cellphone.)

The PVARC's **July 2** monthly meeting will present how our members operated from their homes on Field Day...briefly showing how they did it and the results they achieved. Many Field Day operations this year are certain to be "compromise" stations that will be interesting to observe.

In August there's usually no PVARC monthly meeting—instead we operate International Lighthouse and Lightship Weekend from Pt. Vicente Lighthouse (this year, August 21-23). As of June 1 it is uncertain whether our 2020 Lighthouse Weekend will proceed due to COVID-19 limitations. Organizers of the worldwide ILLW event have indicated this year's Lighthouse Weekend will not be canceled but all participants worldwide are to abide by health orders and conditions in their respective areas. More info to follow. ■

## PVARC DMR nets moved to Wednesday, 7:30 pm

Weekly K6PV Digital Mobile Radio (DMR) nets have moved to Wednesdays from 7:30-7:55 pm. K6PV analog FM nets continue as usual on Tuesdays during 7:30-7:55 pm. Please check in and test your DMR radios then.

The DMR net change will provide more opportunities for members to check into our weekly nets. There's no change to K6PV's DMR parameters: we're still at 447.120 MHz (RX); 442.120 MHz (TX); Color Code 1; Time Slot 2; Talkgroup 31060. ■

### Robert Rosenberg, KI6TEP (SK)

As this **QRO** issue was being finalized we were saddened to learn PVARC member Robert Rosenberg, KI6TEP, of Palos Verdes Estates became a Silent Key on May 24 at age 92 following a battle with cancer. He had been a member of our club since 2008 and the Palos Verdes Estates Neighborhood Amateur Radio Team (NART). He was also an active supporter of community organizations on the Peninsula including the Norris Theater. ■

## Just announced: Two temporary changes for 2020 Field Day...to the delight of many clubs

This year's 24-hour ARRL Field Day (June 27-28) will mostly be from home stations due to COVID-19—and now two temporary rule changes make FD 2020 more exciting for all.

First, Field Day 2020 class 1-D stations (single-operator home stations using commercial mains AC power) will receive point credit from contacts with other 1-D stations. Long-standing Field Day rules promoted the use of portable power and did not allow points for contacts between 1-D stations. This year's temporary rule change allows hams without generators, solar-charged battery banks, or the like to participate more fully from their home.

Also for this year's Field Day the ARRL will calculate aggregated "club" scores—assuming club members spell their club's name correctly in the Field Day log submittal.



The PVARC encourages as many members as possible to operate Field Day from home (or mobile) this year...and send their score data using the club name "Palos Verdes Amateur Radio Club". Whether you make 10 contacts or 500+ QSO's, use commercial AC or portable power, the efforts of all PVARC members will be compiled into a club-wide grand score.

You can be a Class 1-B (fully portable station, operating "in the field"); Class 1-C (mobile); Class 1-D (home station with commercial mains AC power); or Class 1-E (home station with portable power.) 1-D and 1-E stations may use any existing or temporary antennas with the operating position located anywhere on one's property (indoors or outside).

A home 1-B station must use portable power, be outside completely separate from the house, and not use any existing antennas or permanent structures. That means operating like a true Field Day site with a tent or canopy in the yard away from any building, using portable power, flashlights/lanterns, and temporary antennas. Fellow PVARC member and Field Day Chair Rocco, N6KN, will be operating as a 1-B station using our K6PV callsign.

Complete 2020 Field Day information and rules are at: <http://www.arrl.org/field-day>. Need help understanding or preparing for Field Day? The PVARC has members who can help...and we hope to hear you on the air. ■

### **PVARC special group meetings continue: HF Enthusiasts Group on 2nd Saturdays, new EmComm Interest Group on 3rd Saturdays**

PVARC HF Enthusiasts Group meetings are currently held via Webex video conferences from 10:00 am to Noon on the 2nd Saturday of each month. The HFE Group will return to the Palos Verdes Library District's Purcell Room when in-person meetings can safely resume. All PVLVD branches remain "closed until further notice."

The PVARC's recently-started online EmComm Interest Group meets from 10:00-11:00 am on 3rd Saturdays. The EmComm Interest Group will always meet online.

Webex "one-click" invitation links will be emailed to all members during the week before each meeting. ■

# Gadgets for Electronics and Amateur Radio Hobbyists

- A Series

## Gadget #1: Semiconductor Tester

By Jerry Kendrick, NG6R

There have been many times in years past when it would have been helpful to better understand the semiconductor component under consideration at the time. If it was a diode, was it open, was it shorted, was it behaving as it should? If it looked like a transistor, was it really a transistor, was it open or shorted, was it NPN or PNP, what was its gain? And, if its nature and characteristics were completely unknown, what could be learned about it that would make it useful for potential future applications? The compact and extraordinarily easy-to-use gadget discussed in this article boasts a formidable list of analysis capabilities with cost a fraction of that expected for such a feature-packed device.

The gadget highlighted in this first-in-a-series article is the Peak Atlas model DCA55 Semiconductor Component Analyser manufactured by Peak Electronic Design Ltd located in the United Kingdom (hence the British spelling of analyser). It sells on Amazon.com for \$73 plus tax and shipping. It can be found on eBay and other websites as well, a few sites somewhat cheaper and several sites with a considerably higher price tag (as high as \$234!).



**Figure 1.** The Atlas DCA55 semiconductor component analyzer is very simple to use, having only two pushbuttons, yet is loaded with analysis capability.

Here is the long list of semiconductor components for which this device can provide analysis, including fault detection:

Diodes, diode networks, LEDs, bicolor LEDs, bipolar junction transistors (BJTs), digital transistors, enhancement mode MOSFETs, depletion mode MOSFETs, junction FETs (JFETs), thyristors (SCRs) and triacs.

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# Gadgets for Electronics and Amateur Radio Hobbyists

## Gadget #1: Semiconductor Tester

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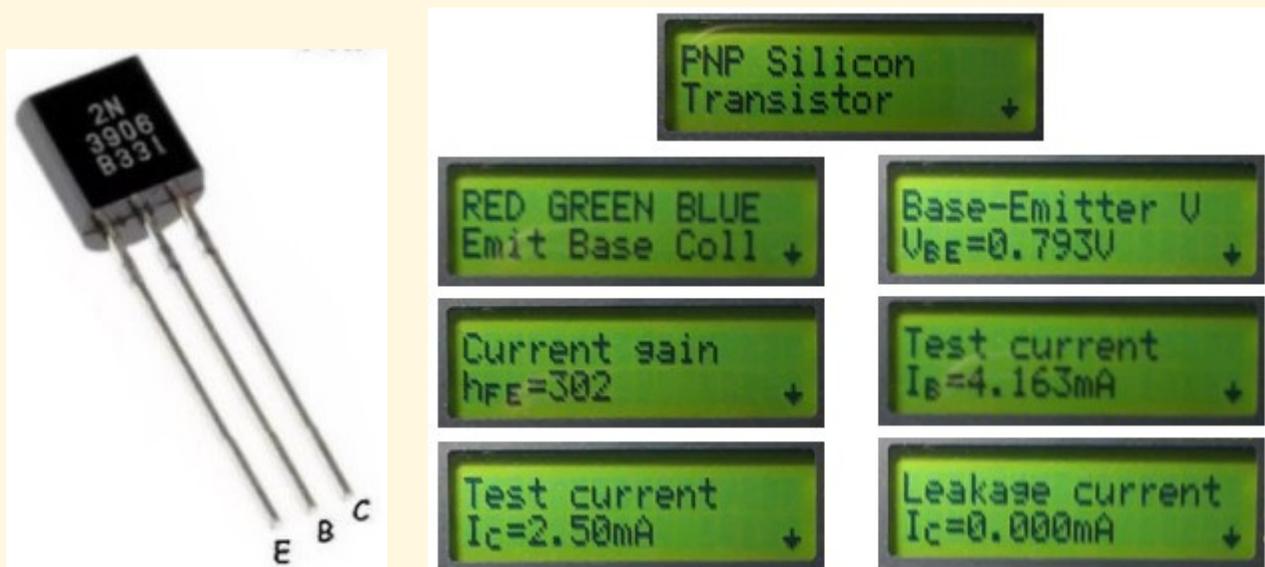
Note that all the semiconductor components listed above have either two or three leads. The DCA55 also has three leads—red, green and blue—with spring-back curved wire tips for gripping the leads of the component under test. It doesn't matter which color lead goes on which lead of the component under test; the tester will sort that out and correctly identify what's on each lead. If the component has only two leads, like a diode, any two colored leads may be used for the test.

This device is so simple to use that the well-organized and quite complete 28-page instruction manual that comes with it really isn't needed to get started. However, the manual is a good reference for explaining some of the more subtle display differences among certain MOSFETs, Darlington transistors and transistors with embedded protection diodes and resistor shunts.

Testing a component is a breeze. Let's say the component we select for analysis has three leads and perhaps looks like a transistor. Place the three color leads, in any order, on the three leads of the component and press *on-test*. After just a couple of seconds, initial analysis is complete. The first screen that comes up is the general description of the device, such as **Enhancement mode P-Ch MOSFET** or **PNP Darlington Transistor**. Additional details about the component can be found by pressing the only other button on the device, labeled *scroll-off*. Each press of the *scroll-off* button will yield additional information about the component. Finally, when there are no additional screens of information available, the display will cycle back to the first screen. Simply press and hold the *scroll-off* button for a couple of seconds to turn the device off. If you forget, it will automatically shut itself off if left unattended for about a minute.

### Examples

Let's take a look at a few examples of devices from the author's electronic component stock. The first device chosen is a common general purpose silicon PNP transistor 2N3906, which has a documented range of small-signal current gain ( $h_{FE}$ , sometimes called beta,  $\beta$ ) from 100 to 400 [1]. It is attached to the tester (from left to right) to leads red, green and blue. Here are the seven information screens that are displayed for this particular component with successive presses of the *scroll-off* button. Not unexpectedly, the DCA55 correctly analyzes the component, as shown in Figure 2.



**Figure 2.** The 2N3906 is properly characterized as a PNP silicon transistor, including the left-to-right lead identification of Emitter-Base-Collector, and with an  $h_{FE}$  or current gain in the acceptable range [1]. The high  $h_{FE}$ , normal-looking base-emitter voltage of 0.793V, and very low leakage current all suggest that this is a good transistor (as it should be since it is relatively new stock). By the way, the two test current conditions shown ( $I_C=2.50\text{mA}$  and  $I_B=4.163\text{mA}$ ) are from different tests and don't occur at the same time, i.e., 2.5mA on the collector does not result from 4.163mA into the base. RIGHT PHOTOS: JERRY KENDRICK, NG6R

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# Gadgets for Electronics and Amateur Radio Hobbyists

## Gadget #1: Semiconductor Tester

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Example #2 is a Motorola MTH40N06 in a TO-218 package. An Internet search on the designator MTH40N06 revealed that this is an N-channel MOSFET of the enhancement mode type [2]. The “8733” designation likely represents the build date code, i.e., manufactured the 33<sup>rd</sup> week of 1987 [3]. Here are the four DCA55 displays for this component.



**Figure 3.** The Motorola MTH40N06 component was properly characterized as an enhancement mode N-channel MOSFET and its gate, drain and source terminals were correctly identified. Its gate threshold voltage value of 3.3V at a drain current of 2.5mA is in the range of acceptable voltage values (2.0V – 4.5V) shown in Reference [2]. PHOTOS: JERRY KENDRICK, NG6R

Both of the examples above tested as good semiconductor components. How well does the DCA55 perform in rooting out bad or suspect parts? Example #3 is from a transceiver repair project reported in last month’s QRO [4]. The component is known to be a failed Mitsubishi 2SC1972 power transistor, replaced in the previous project by an equivalent ASI 2SC3133. The single display for this component is shown in Figure 4. In this instance, there isn’t any further detail available from the DCA55 on the nature of the fault, only that the component is not working properly. Contrast that result with Example #4 discussed next.



**Figure 4.** This Mitsubishi power transistor is known to have failed and was replaced. The failure mode was such that no additional information about the specific failure details can be discerned by the DCA55 tester. PHOTOS: JERRY KENDRICK, NG6R

Example #4 is another component also known to have failed. A second 2SC1972 NPN silicon power transistor developed a short between the collector and emitter, as illustrated in Figure 5 of Reference [4]. Will the DCA55 confirm this known fault? It does indeed confirm the fault, as illustrated in Figure 5 below. Note that the green lead is attached to the collector and blue is attached to the emitter, confirming the C-E short circuit.



**Figure 5.** This second Mitsubishi power transistor, which failed and was replaced at the same time as example #3 above, indicates that a short exists between the collector (green) and emitter (blue). PHOTOS: JERRY KENDRICK, NG6R

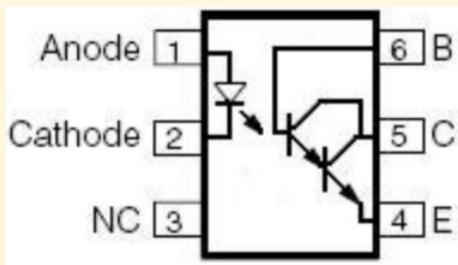
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# Gadgets for Electronics and Amateur Radio Hobbyists

## Gadget #1: Semiconductor Tester

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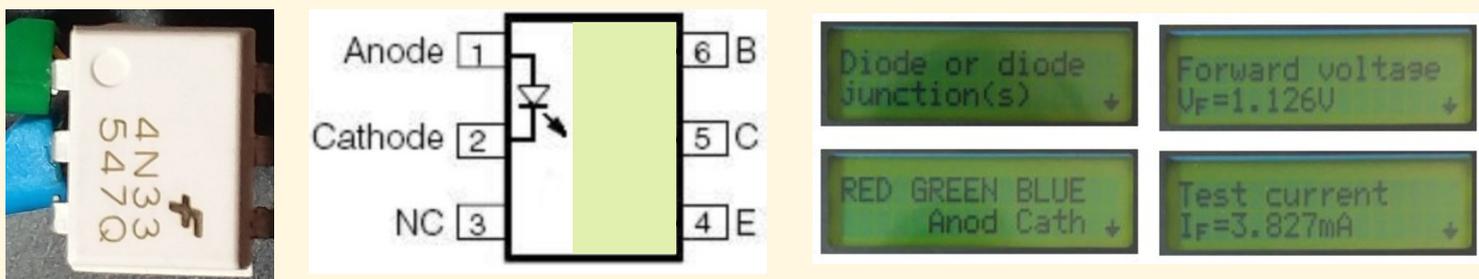
The final example illustrates the versatility of this analyzer. If one happens to know something about the internal configuration of a more complex component, like an integrated circuit (IC), i.e., a component having more than just three leads, then the DCA55 might be able to help analyze whether the component is working properly. Example #5 is a 4N33 optocoupler with the internal configuration illustrated in Figure 6.



**Figure 6.** Internal configuration of the 4N33 optocoupler, showing the LED as the input element and the tandem pair of transistors as the output element.

An optocoupler is effectively a solid state relay or switch that electrically isolates the input drive signal from the output response by using light instead of electron flow. When the light-emitting diode (LED) (pins 1 and 2) is driven into conduction, light energy, internal to the component, turns on the transistor portion of the device and causes the path from the emitter (pin 4) to the collector (pin 5) to become very low impedance, effectively “throwing the switch.”

Two separate tests were conducted on this component using the DCA55. First, the input diode was characterized by attaching two colored leads to pins 1 and 2. As can be seen in Figure 7, the diode is detected and properly characterized with green on anode and blue on cathode. At a forward current of 3.827mA, it showed a forward voltage of 1.126V, which falls near the documented “typical” value of 1.2V [5].



**Figure 7.** The DCA55 analyzer is used to test the light-emitting diode internal to a 4N33 optocoupler. It correctly identifies the anode and cathode; it also correctly characterizes the voltage across the LED at a current of ~3.8mA. PHOTOS: JERRY KENDRICK, NG6R

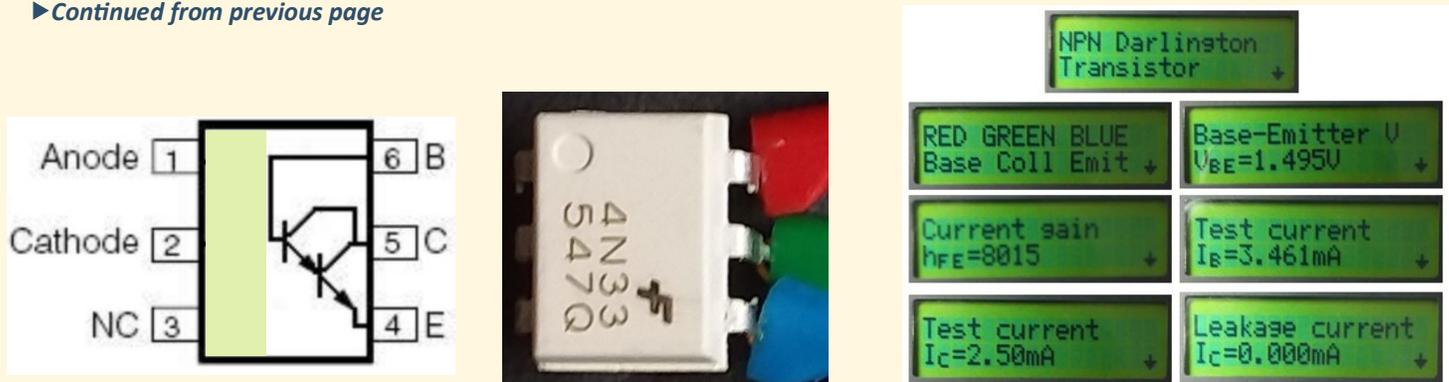
Next, the output or transistor portion of the optocoupler is tested with the configuration and results shown in Figure 8. The transistor portion is actually two transistors in tandem, a configuration known as a Darlington pair. Note that although pin 6, the base of the first transistor of the Darlington pair, can be accessed externally for the purpose of testing and alternate activation of the output “switch,” it generally isn’t employed. Instead, operation as a relay generally uses only pins 1, 2, 4 and 5. Basically, when the diode is not conducting, pins 4 and 5 are open (high impedance); when the diode is conducting, pins 4 and 5 are closed (low impedance); the base, pin 6, is not needed for this “relay” function.

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# Gadgets for Electronics and Amateur Radio Hobbyists

## Gadget #1: Semiconductor Tester

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**Figure 8.** The DCA55 analyzer is then used to test the Darlington pair of transistors. It correctly identifies the base, collector and emitter of the transistor pair. The extraordinarily high current gain ( $h_{FE}$ ) of over 8000 is due to two relatively high gain transistors in series, effectively like have two transistors in tandem each with a gain of 90. The  $V_{BE}$  measured here of 1.495V, instead of the customary  $\sim 0.7V$ , is because this represents the additive B-E forward voltage drop across two transistors, not just one.  
PHOTOS: JERRY KENDRICK, NG6R

### Summary and conclusions

This first-in-a-series article on gadgets for hobbyists and experimenters focuses on a semiconductor tester designed to analyze discrete, unconnected, unpowered semiconductor components. It features a long list of components for which it can render analysis. Its probes can be attached in any order and yet it can identify the internal component element connected to each probe. Unattended automatic shutdown and a low battery indicator are convenient features on this relatively inexpensive tester. The examples demonstrated in this article only scratch the surface of the capability of this analyzer. It is definitely a recommended addition for any ham or electronics experimenter needing to gain more insight into semiconductor components being considered for projects. Also, its fault detection and identification capability can be a significant time-saver when troubleshooting electronic modules and when unsure of the proper operation and quality of some particular semiconductor component. ■

### References

1. Page 2, <https://www.onsemi.cn/PowerSolutions/document/2N3906-D.PDF>
2. Page 2, <https://www.digchip.com/datasheets/parts/datasheet/456/MTH40N06-pdf.php>
3. Observation by Gary Lopes, WA6MEM, based on extensive career experience working with similar devices
4. Page 4, [http://www.n6rpv.net/n6rpvpage/pvarc/2020QRO/QRO\\_May\\_2020.pdf](http://www.n6rpv.net/n6rpvpage/pvarc/2020QRO/QRO_May_2020.pdf)
5. Page 3, <https://www.mouser.com/datasheet/2/308/Fairchild-4n29-33-1191850.pdf>

# Remotely-administered ham radio license exams—an idea whose time has come?

By Diana Feinberg, AI6DF  
QRO Editor

Amateur radio license testing recently became the latest information process upended by internet technologies.

But unlike many other information and purchasing processes that migrated online since the late 1990's for efficiencies and cost reductions a pandemic was the catalyst for expanding online ham tests.

Remotely-administered ham license exams had been used for over five years in Alaska (with a trusted-person "proctor" alongside the test-taker) due to travel difficulties from the state's geographic expanse. But for the rest of us online ham tests without a proctor just went mainstream for those with the technology.

In late 2019—before COVID-19 arrived—the [www.hamstudy.org](http://www.hamstudy.org) and [www.examtools.org](http://www.examtools.org) websites were developed to facilitate pairing VE's with test-takers to administer license tests locally such as when a public room couldn't be rented. But it isn't for everyone: all VE's and test-takers need decent internet service and the necessary computer video/audio resources to make it work.

Then in March 2020 Volunteer Examiner test sessions throughout the U.S. were canceled into June due to COVID-19 stay-at-home orders. With social distancing and other COVID-19 precautions continuing many in-person VE test sessions were unlikely to resume until later in 2020. Meanwhile pent-up demand grew for ham license tests.

So what's involved with remote ham exams vs. in-person testing? The diagrams at right summarize most of the processes (some details not shown).

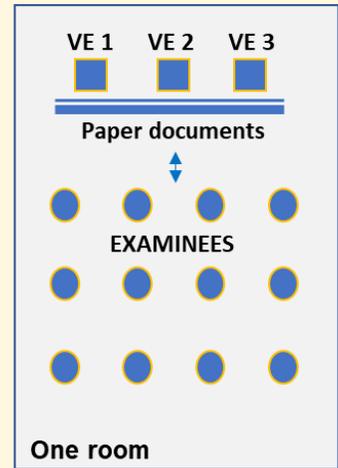
Preventing cheating has been key to the integrity of volunteer examining. For remote testing the examinee must rotate their computer camera to show the VE's that all room surfaces (desktop, walls, ceiling, floor) have no cheat sheets, devices, or other forms of assistance. Several VE's have told me they closely watch online test-takers' eye movements — any glancing away from the computer screen during the test questions might cause canceling the exam.

The [examtools.org](http://examtools.org) site handles all paperwork electronically, generates test questions (nearly 1 million possible combinations for the Tech pool), and grades tests within several seconds after completion. The VE's only need to be accredited by the same VEC organization (such as ARRL VEC, W5YI VEC, GLAARC VEC, etc.)

Perhaps there's a remote exam in your future. ■

## IN-PERSON HAM LICENSE EXAMS

Volunteer Examiners and test-takers physically in one place, forms paper-based.



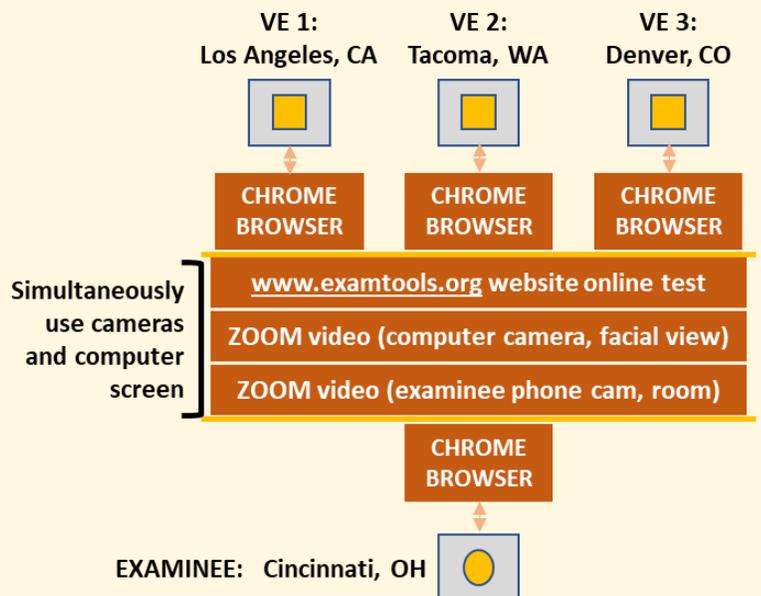
Prior to test date each Examinee needs to:

- Obtain FCC FRN number.

DIAGRAMS: DIANA FEINBERG, AI6DF

## REMOTELY-ADMINISTERED HAM LICENSE EXAMS

(Example) Volunteer Examiners and test-takers can be at home in separate cities, test session and forms all electronically-based.



Prior to test date each Examinee needs to:

- Obtain FCC FRN number
- Register online for a test date/time slot
- Pay test fee (PayPal, ApplePay, other)
- Submit electronically-filled & signed 605 form
- Provide copy of photo ID (matched at start of test).

## PVARC Club News

### Consider being an ARRL member

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." ■

### PVARC badges await pickup at another time

Gary Lopes, WA6MEM, has the following PVARC badges ready for distribution at our next Hesse Park meeting (which might not be until July) or by other arrangement.

- KN6FYW
- NA6Q

To make special arrangements with Gary (or to order a badge) contact him at: [wa6mem@cox.net](mailto:wa6mem@cox.net). ■

### Embroidered PVARC patches available at monthly meetings

PVARC club patches are available at our monthly meetings or special arrangement for \$4 each. They may be sewn on 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.) ■

## 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

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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 In-Person Meetings:

1<sup>st</sup> Thursday (except August and December in 2020) 7:30 pm 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 before sunset on June 27, 2018. No current photos available due to COVID-19 situation.  
PHOTO: DIANA FEINBERG, AI6DF

## PVARC Club News

### PVARC upcoming dates in 2020

- ◆ **PVARC monthly meeting at Hesse Park, McTaggart Hall (or online if park closed)**  
1st Thursday each month, 7:30-9:30 pm, except in August and December. 6:30-7:25 pm, "What's Next?" group for newer hams and "DMR Basics".
- ◆ **PVARC HF Enthusiasts Group meetings at Palos Verdes Library main branch (or online if library is closed)**  
2nd Saturday each month, 10:00 am to Noon, in Purcell Room (corner behind Reference Desk.)
- ◆ **PVARC EmComm Interest Group meetings**  
3rd Saturday every month, 10:00-11:00 am, via Webex.
- ◆ **Walt Ordway, K1DFO, Technician and General amateur radio license classes at Hesse Park**  
Saturdays, Nov. 7 and 14, 2020; exams, Nov. 21.
- ◆ **Field Operating Events:**  
**ARRL Field Day**, June 27-28, at member homes.  
**International Lighthouse & Lightship Weekend**, August 22-23.
- ◆ **Public service events in 2020 (tentative):**  
**RHE Hills Are Alive 10K/5K run/walk**, Aug. 10.  
**Conquer the Bridge race**, Labor Day, Sept. 7.  
**Palos Verdes Half Marathon-10K-5K**, Nov. 21.
- ◆ **PVARC 2020 Holiday Dinner:** Dec. 3, Los Verdes Golf Course.

#### Non-PVARC Events of Note:

- ◆ **W6TRW Swap Meet:** last Saturday each month, Northrop Grumman Space Park, North Redondo Beach, 7:00-11:30 am. (Uncertain in June 2020)
- ◆ **PACIFICON & ARRL Pacific Division Convention**, San Ramon, CA: Oct. 16-18. ■

*All events above are subject to modification or cancellation as public health conditions warrant.*

### 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

June 2020

Sun	Mon	Tue	Wed	Thu	Fri	Sat
	1	2 PVARC analog FM weekly net on K6PV repeater & 2m cross-band 7:30-7:55 pm	3 PVARC digital DMR weekly net on K6PV repeater 7:30-7:55 pm	4 PVARC Monthly Meeting 7:30-8:30 pm via Webex video conference	5	6
7	8	9 PVARC analog FM weekly net on K6PV repeater & 2m cross-band 7:30-7:55 pm	10 PVARC digital DMR weekly net on K6PV repeater 7:30-7:55 pm	11	12	13 PVARC HF Enthusiasts Group, 10 am to Noon via Webex video conference
14	15	16 PVARC analog FM weekly net on K6PV repeater & 2m cross-band 7:30-7:55 pm	17 PVARC digital DMR weekly net on K6PV repeater 7:30-7:55 pm	18	19	20 PVARC EmComm Interest Group, 10:00-11:00 am via Webex video conference
21	22	23 PVARC analog FM weekly net on K6PV repeater & 2m cross-band 7:30-7:55 pm	24 PVARC digital DMR weekly net on K6PV repeater 7:30-7:55 pm	25	26	27 ARRL Field Day from homes or mobile Starts 11:00 am
28 ARRL Field Day from homes or mobile Ends 11:00 am	29	30 PVARC analog FM weekly net on K6PV repeater & 2m cross-band 7:30-7:55 pm				

Our June 2020 ham license classes have been canceled...please tell your friends and family about our November 2020 classes scheduled at Hesse Park.

## 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 1:45 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: \_\_\_\_\_