

Is 3-D Printing in your future? Learn about it at our Sept. 7 meeting

3-D printing (also known as "additive manufacturing") is one of the most exciting manufacturing technologies in the past 10 years. You can learn much about it from fellow PVARC member Alan LaFever, AK6G, at the PVARC's Sept. 7 meeting.

Making parts for amateur radio is just a subset of 3-D printing's capabilities. Prices have dropped and quality improved for hobbyist 3-D printers of all sizes that precisely craft three-dimensional objects using layers of melted plastic filament.

With Computer Aided Design (CAD) software one can easily export three-dimensional designs to additive 3-D printers. (There's also "subtractive" 3-D printing that starts with a solid block of metal and gets machined-down to final shape and size but it's beyond the hobbyist level.) We'll see you on Sept. 7 for learning more from Alan on this fascinating technology.

3-D Printing

Alan LaFever, AK6G

Fred Hesse Community Park 29301 Hawthorne Blvd. Rancho Palos Verdes

Thursday, Sept. 7, 2017 7:30 pm Visitors welcome.

Optional no-host pre-meeting dinner is 5:30-7:00 pm at Red Onion Restaurant, 706 Silver Spur Road, Rolling Hills Estates. (No reservation required, order what you wish.)

Our 2017 International Lighthouse & Lightship Weekend at Point Vicente had a fast set-up...



Above: PVARC Lighthouse Weekend antenna setup crew about to raise our tower after assembling HF hexbeam antenna on Friday afternoon, August 18. From left: Hugo, KM6DQU; Rick, KM6GXZ; Ray, N6HE; Gary, WA6MEM; Peter, KE6JPM; Clay, AB9A; and Ron, AC6RW.



Left:: Assembling the K6PV operating position inside the Pt. Vicente Lighthouse museum were Ron, AC6RW; Ray, N6HE; and Hugo, KM6DQU..

PHOTOS: DIANA FEINBERG, AI6DF

...we got on the air, the lighthouse continued doing its thing too, and...

Right: That's Clay, AB9A, photographing the PVARC's tower trailer after our Lighthouse Weekend station went on the air.

Middle: Pt. Vicente Lighthouse at dusk as K6PV operates 40-meter phone.

Bottom: Commemorative banner inside the museum building acknowledges lighthouse history.



K6PV Operating Stats for 2017 International Lighthouse Weekend from Pt. Vicente

We worked:

- 40 states (missed four New England states, Nevada, New York, North Carolina, North Dakota, Pennsylvania, Wyoming)
- 3 DX entities (Canada, Puerto Rico, Hawaii)
- 262 contacts (all SSB)



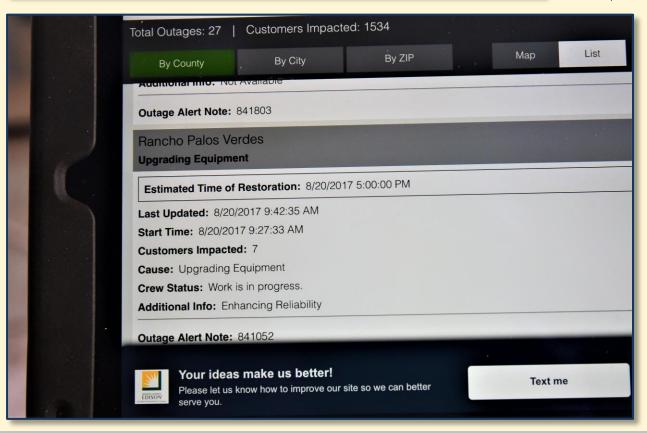
...our operations were uneventful until Sunday morning when a nearby "planned" Edison outage cut AC power



Left: Sunday began as a beautiful morning until 9:27 am when the entire Pt. Vicente Lighthouse complex suddenly lost all mains electric power.

Below: Neither the Coast Guard residents nor we were advised Southern California Edison had scheduled an all-day outage for upgrading nearby equipment. Photo is iPad screen display from Edison's online "Outage Center." Ray, N6HE, later brought a Bioenno lithium-iron battery to extend our HF operations.

PHOTOS: DIANA FEINBERG, AI6DF



...No one went home hungry after our annual family picnic (some were encouraged to take extra food home!)



Everyone enjoyed plenty of food and friendship during our family picnic on Sunday, August 20, 2017.

PHOTOS: DIANA FEINBERG, AI6DF



USB microscopes are ready for your project's "close-up"

By Jerry Kendrick, NG6R

If you work with electronics—maybe solder very small components on circuit boards or troubleshoot some obscure anomaly that has heretofore eluded you—there's no substitute for getting really close to your work.

A recent acquisition for our garage electronics workbench is a digital microscope that uses USB and a computer monitor for its display. A disc is supplied with a software program that is placed on your computer desktop. When clicked, the icon pulls up the microscope's viewing image and the fun begins. Figure 1 shows the layout at our garage workbench, the microscope and the retractable wall-mounted monitor, which is connected remotely to a laptop computer located in an equipment rack off-camera.





Figure 1. Views of USB microscope (left) and retractable wall-mounted 23" monitor (right) used for image display; laptop computer is off-camera PHOTOS: JERRY KENDRICK. NG6R

The unit we purchased from Amazon for about \$60 [ELENKER Digital Microscope 500X 2MP HD Imaging Endoscope] is an amazing addition to our growing electronics test facility. It's operated from DC power supplied by the computer's USB's 5 volt connection. It has a great deal of optical zooming capability and doesn't rely on "digital zooming" found on many of the USB microscopes advertised on eBay, Amazon and other websites. [Beware of those, because they have a fixed magnification of maybe 20X or 30X and rely upon use of software "digital zooming" (effectively cropping and throwing away pixels) to achieve the unrealistically high magnification claims.] This unit, by contrast, has an internal optical magnification/focus control shown in Figure 2 that enables maintaining the 2 megapixels of image information throughout the full magnification range. Continued on next page ▶



Figure 2. Microscope internal optical magnification and focus control, enabling full 2 MP of imagery PHOTO: JERRY KENDRICK. NG6R

USB microscopes are ready for your project's "close-up"

► Continued from previous page

The area to be examined by the microscope is lit from above by eight LED lamps in the circumference of the lens, as shown in Figure 3. There is a thumbwheel adjustment in the USB line near the unit that controls lamp intensity, from no light (i.e., dependent only on ambient light in the room) to more intensity than is generally needed, enabling fine control of lighting conditions. There is also a "snapshot" pushbutton on the side of this control that enables capturing a 2 megapixel jpg image on the computer when the user is ready to take a photo of the subject.





Figure 3. LED lights (*left photo*) and (*right photo*) in-line light intensity thumbwheel adjustment; snapshot pushbutton on side of control. PHOTOS: JERRY KENDRICK NG6R

You'll note in Figure 1 that the microscope on-screen image doesn't fill the entire wide-screen monitor. It can be made to do so; however, the optics seem to "prefer" a somewhat square (1-to-1) aspect ratio. To set the proper aspect ratio on your monitor, you can just place a coin under the microscope and pull the image corners until the coin appears round instead of oval (a bit more than in Figure 1, in which the coin still appears slightly oval). It is necessary to make this image aspect ratio adjustment each time the computer/microscope is initially booted up. Once it's set, all examinations in that session will have the proper appearance.

There are several focus/magnification adjustments available on the device. The main vertical positioning adjustment is the rotatable knurled outer shaft on the vertical support bar. That brings the microscope lens closer to or farther from the surface below. It rotates smoothly with only a small amount of mechanical hysteresis. Additionally, a thumbscrew at the end of the horizontal bar (bottom left in Figure 2) can be easily loosened or tightened to position the lens vertically to the right general height for the level of magnification desired (or to rotate the lens around to get the preferred image orientation on the screen).

The internal focus/magnification control (Figure 2) works in concert with the main vertical positioning control to achieve the best focus for the height of the lens above the examination surface. Actually, the lens body can be removed from the support structure altogether and used in handheld mode. It could also be set up as a monitor, much like a spy camera or a room or door monitoring camera. Focal length can be set to "infinity" or for any intermediate distance. (There are better devices for that type of application, but the capability exists.)

USB microscopes are ready for your project's "close-up"

Continued from previous page

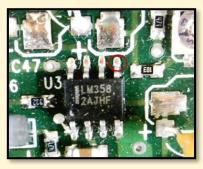
To illustrate just a portion of the magnification range of this device, the photographs in Figure 4 are of an electronics printed circuit board (PCB) on which we might wish to examine one small area—in this example, the integrity of the solder connection of one lead of an 8-pin LM358 dual op-amp IC.



1X (camera)



2X (camera)



8X (microscope)



75X (microscope)

Figure 4. PCB with (approximate) magnifications

The vendor's claim for this microscope is 500X, but demonstrating this magnification range limit is difficult. Factors such as focus control sensitivity and the object's uneven surface begin to dominate at really high magnification levels. I.E., the closer the lens to the object, the more exaggerated the effect of height differences in the surface becomes—a portion is in focus but the rest is not, making the image look distorted and perhaps unusable. However, it's clear that there is certainly a lot more magnification available than was demonstrated in the example shown at left.

Regardless of the actual magnification limit, we've found this unit to be quite useful for examining electronic components, solder connections and PCBs. It is also versatile and useful for other closeup examinations besides things electronic. It comes with 5 specialized tips (which I've not yet attached) for use in health examination of ears, nose, throat, teeth; use in collection hobbies such as stamps, coins, antiques; and for viewing nature close up, such as insects, minerals, leaves, feathers, etc. This unit, coupled with the supplied software, also has video and photo capture capabilities if your application calls for that. Some examiners in the life sciences or health sciences, as well as YouTube posters who want to show close-ups of certain processes or procedures, might find this feature useful.

Magnification needs for the types of soldering assistance, inspection, and troubleshooting tasks sometimes faced by ham operators and electronics experimenters can probably be satisfied with a USB microscope. Just make sure it's the type with adjustable internal optics. Please contact me if you have any questions about this device's features or applications.

It's here: HAMCON 2017 / ARRL SW Division Convention in Torrance

Our final mention: Don't miss HAMCON 2017, September 15-17, (also known as the ARRL Southwestern Division Convention) at the Torrance Marriott Redondo Beach Hotel (Del Amo Center).

Beat the lines by registering in advance online at www.hamconinc.org and pickup your convention materials at the express check-in. Or you may register at the convention door.

There's a full array of technical talks on all aspects of amateur radio (see the HAMCON website). Equally interesting is the 63-booth Vendor Hall with many major ham radio manufacturers. If you want to see or touch Elecraft, FlexRadio, BridgeCom products, for example, HAMCON 2017 is your place.

Bonus: ARRL Assistant Lab Manager Bob Allison, WB1GCM, will do free testing of any HT radio using the ARRL's calibrated spectrum analyzer. Bring your HT to help the ARRL get data on HT models.

The PVARC is again staffing HAMCON's Information Desk during Convention operating hours. (See the next page for times when we need PVARC members to help.)■



For us, it's conveniently held at the Torrance Marriott Redondo Beach Hotel next to Del Amo Fashion Center.

♦ PVARC's financial report is available upon request to any member.

Palos Verdes Amateur Radio Club

An American Radio Relay League Affiliated-Club

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Ron Wagner, AC6RW, Dan Yang, K6DPY

Contacts:

QRO Editor: 310-529-6450, <u>ai6df@arrl.net</u>
Webmaster: 310-377-4444, <u>kelvin@vanderlip.org</u>

Email us: k6pv@arrl.net Website: www.k6pv.org

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 at dusk as viewed through the museum building doorway during 40-meter SSB action in the 2017 International Lighthouse & Lightship Weekend.. PHOTO: DIANA FEINBERG, AI6DF

PVARC members needed to staff Information Desk at **HAMCON** 2017 – it's our convention responsibility

We need YOU!

The PVARC is staffing the HAMCON 2017 Information Desk at a prime location across from ARRL exhibits and next to HAMCON's Registration Desk.

Please advise when you can fill one of our twohour time slots.

PVARC members will work in pairs to handle attendee questions about the convention or surrounding areas.

Although smartphones eliminate asking many questions our advice is always reassuring. At HAMCON 2015 the most frequent question was where to deposit the raffle tickets.

We'll have detailed information books at the desk for your reference, including nearby health-care locations.

Friday, Sept. 15	PVARC Member	PVARC Member
12:00- 2:00 pm	Bob, AB6SY	
2:00-4:00 pm	Jeff. K6JW	
4:00-6:00 pm		
6:00-7:30 pm		

Saturday, Sept. 16	PVARC Member	PVARC Member
7:00-9:00 am	Bob, W6HIP	
9:00-11:00 am	Taffy, WA6LKV	
11:00 am-1:00 pm		
1:00-3:00 pm		
3:00-5:00 pm		

Sunday, Sept. 17	PVARC Member	PVARC Member
7:00-9:00 am	Pat, W6PBH	
9:00-11:00 am		
11:00 am-1:00 pm		

PVARC Short News Items

The PVARC's upcoming meeting topics...

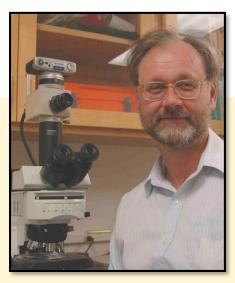
The October 5th monthly PVARC meeting features a new presentation by your **QRO** Editor Diana AI6DF about the various member-supported VHF/UHF linked repeater networks in California. These include well-known networks such as the PAPA System, CACTUS System, DARN System, WIN System, and RABBIT System...plus some lesser-known and private ones. This presentation will compare the respective systems' repeater coverage, bands used, transmit modes employed, brief history, "system personality," and annual membership cost.

Our November meeting topic will be announced shortly.

Elsewhere.... our club Vice President Ray Day, N6HE, will be speaking at the Western Amateur Radio Association's monthly meeting in Fullerton on October 2 about the PVARC's 2017 Catalina Island DXpedition. In addition, Ray, N6HE, and Clay Davis AB9A, are giving their Direct Sampling Radio presentation featuring the Icom IC-7300 (from our July meeting) at the United Amateur Radio Club monthly meeting in San Pedro on November 17.

...plus later this year

Our 2017 Holiday Dinner is at Ports O'Call Restaurant on San Pedro's waterfront Thursday, December 14, 2017, in the upstairs "Breakwater Room." Returning for an encore guest speaking engagement is Dr. Jay Jones, WB9FPM and Professor of Biology at University of La Verne (photo at right). Jay spoke at our December 2011 Holiday Dinner and his presentation then was very well received. More information to follow.





Need a PVARC patch?

If you want a PVARC logo patch for a hat, shirt, jacket, softside bag or whatever we have a new batch with higherresolution stitching.

New patches are available for \$4 each at all our meetings or by contacting Dave Scholler, KG6BPH, at 310-373-8166 (or email him at: jdavidscholler@hotmail.com.) If you order a PVARC club jacket one patch is sewn onto the jacket's left front and included in the cost. These jackets may also be ordered through Dave Scholler. ■

Short News Items

Next PVARC HF Enthusiasts Meeting is Saturday, Sept. 9

The PVARC's HF Enthusiasts Meeting will be Saturday morning, Sept. 9 at the home of Ray Day, N6HE. These informal gatherings from 1000-1200 hours enable our members with any interest operating on the HF bands to share thoughts, projects, or seek advice from others. Contact Ray at rayday@cox.net if you wish to attend to ensure sufficient seating.

"No-Stress, No-Pressure" help for our newer hams

The PVARC Board of Directors has been discussing ways in which our club can help newer hams better understand how to operate their radios (and/or help purchase the best one for whatever 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 ???

We envision this being a non-stressful, pleasant experience for everyone. Standby for further information.■

PVARC Holiday Dinner details coming soon

In October we start accepting reservations for our annual holiday. Save the date: Thurs., Dec. 14.■

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. Thanks!

WELCOME NEW MEMBERS OF THE PALOS VERDES AMATEUR RADIO CLUB

IN 2016-2017

BRUCE GILBERT, KM6DQX

CARL HINDMAN, KM6DRB

HUGO DOMINGUEZ, JR., KM6DQU,

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, KM6GXX

HEIDI STROMBURG, KG0GGY

MIKE SEMOS, N6DBS (RETURNING MEMBER)

RICK HEASTON, KM6GXZ

LARRY FADDEN, KK6TXN

STEVE SHERIDAN, KM6IQO

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 <u>4</u> 26 27 28 29	30 31 <u>1</u>
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	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	NO VEMBER D	ECEMBER
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	
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) CQ Worldwide RTTY WPX Feb. 10-12: Feb. 17-19: ARRL DX (CW) Feb. 25: North American RTTY QSO Party Feb. 24-26: CO Worldwide 160-Meter (SSB) Mar. 3-5: ARRL DX (SSB) Mar. 24-26: CO Worldwide SSB WPX May 26-28: CQ Worldwide CW WPX Jun. 10-11: ARRL June VHF Contest Jun. 24-25: ARRL Field Day

IARU World Championships July 8-9: 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

Major Ham Radio Conventions

Feb. 4: Palm Springs Hamfest Feb. 17-18: Yuma Hamfest, Yuma, AZ Apr. 21-23: International DX Convention, Visalia, CA

HamVention, Xenia OH May 19-21: HAMCON 2017, Torrance Sep. 15-17 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.



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

www.n6rpv.net/pvarc or www.k6pv.org

NEW MEMBER & MEMBERSHIP RENEWAL FORM

NEW:	or Renewal:	MEMBERSHIP	DATE:	
Last Name:	First Name:	:s	Spouse:	
Street Address:				
City:			Zip:	
Phone: Home	Work	с	ell	
Email address:	(Unless otherwise noted e	mails will be sent to t	the applying member only)	
	License Class:			
Other amateur radio	o groups you belong to:			
Additional Househo	old and/or Family Members (if Applicable):		
Name	Call Cla	ass ARRL	Birth Mo./Day:	
Name	Call Cla	ass ARRL	Birth Mo./Day:	
Name	Call Cla	ass ARRL	Birth Mo./Day:	
		Individual m	nembership (\$15.00) \$	
	House	hold and/or Family m	nembership (\$20.00) \$	
	Addition	al donation to suppo	rt PVARC activities \$	
Ca	sh: or Check #:	Date	TOTAL \$	
Please make checks p	ayable to: Palos Verdes Amateu	ur Radio Club; Dues bas	ed on January 1 st to December 31 st year.	
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/pvarc/constitution.htm or upon request.)				
Signature:			Date:	
Family Member Sign	ature:		Date:	
Family Member Sign	ature:		Date:	

HAMCON 2017

ARRL Southwestern Division Convention September 15-17, 2017

Torrance Marriott Redondo Beach Hotel 3635 Fashion Way Torrance, CA 90503



Hamcon, Inc. is a 501(c)3 Non Profit Organization Donations to Hamcon, Inc. are tax deductable

"Ham Radio for Everyone" is our theme with much to see and do at HAMCON 2017

- Full range of talks by experts on radio equipment, operating techniques, public service, DXing, technical subjects, and much more
- · 10,300 sq. ft. Vendor/Exhibit Hall with 63 booth spaces
- Distinguished speakers at Saturday lunch and dinner, and Sunday breakfast
- Extensive prize drawings
- W1AW/6 Special Event station
- · ARRL Forums, Ham License test sessions
- Young ham forum
- Sunday swap meet
- Discount hotel room rates (available through the Marriott link on our website)
- · With more to come . . .

AND FOR THE FIRST TIME EVER

Special Friday Afternoon tour of the Battleship Iowa

- · Includes Catered Buffet Dinner in the Officer's Wardroom
- Tour the Radio Room (not open to the general public) and operate the ship's NI6BB amateur station
- Bus transportation to and from the Marriott Hotel included
- · Limited to 80 guests, so register early

For complete convention details, registration and hotel bookings log onto:

WWW.HAMCONINC.ORG

Tell your friends and relatives about the PVARC's next Technician and General license classes at Hesse Park on November 4th and 11th

Two Free Amateur Radio Courses

FCC <u>"Technician"</u> course (entry level) FCC <u>"General"</u> course (2nd level) Each course is 2 sessions

The sessions will be on 4 and 11 November 2017

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 18 November 2017

At the start of the 4 November 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 <u>no fee</u> 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.