



QRO

THE MONTHLY NEWSLETTER OF THE PALOS VERDES AMATEUR RADIO CLUB

JUNE 2014

Solutions for when your ham radio equipment and other electronics have interference from non-radio sources

Got electrical noise? Many hams, even those with just an HT radio, do. If you don't, you probably soon will. Proliferating electrical devices in your home, your neighbors' homes, and your neighborhood provide tremendous potential for electromagnetic or radio frequency interference.

Our June speaker Brian Thorson, AF6NA, spoke about electrical interference at our January 2011 meeting but new electronic devices and changes in your neighborhood's electrical system always bring new challenges in the fight against EMI/RFI.

Brian's experience is as an electromagnetic fields specialist at Southern California Edison and an avid amateur radio operator, especially in the amateur microwave bands. He last spoke to us about getting started in 10 GHz microwave communication.

Join us on Wednesday, June 18, for an informative presentation and zap that noise. ■

"Interference to Radios and Televisions"

**Brian Thorson, AF6NA and
Electromagnetic Fields Specialist,
Southern California Edison**

**When: PVARC Monthly Meeting, 7:30 pm,
Wednesday, June 18, 2014.
Visitors Welcome.**

**Where: Fred Hesse Park Activity Room, 29301
Hawthorne Blvd., Rancho Palos
Verdes**

**Also: 1) Pre-meeting no-host dinner at the Red
Onion Restaurant, 736 Silver Spur Rd.,
Rolling Hills Estates, 5:30-7:00 pm;
2) "Elmer's Corner" during the meeting
refreshment break; details on page 2.**

Also at PVARC's June 18, 2014, Monthly Meeting...

- “Elmer’s Corner”—free lamination of your wallet-size FCC license
- Overview of K6PV’s 2014 ARRL Field Day operation
- Opportunity to briefly describe your ham activities
- Drawing for a \$25 Ham Radio Outlet gift certificate

Protect your wallet-size FCC license by having it laminated. At Elmer’s Corner during the refreshment break at our June 18 meeting we’ll have a professional-grade laminating machine for free laminations of your wallet-size amateur radio license. You might have noticed the FCC, when it sends your new license, advises wallet-size licenses be laminated to prevent the text from smudging or becoming wiped off.

At the start of this month’s meeting we’ll again let everyone introduce themselves and optionally briefly mention their recent activities. We realize there are months when each of us has no time for ham radio, work/family issues take precedence, or maybe there’s nothing we’d like to share.

We’ll also have our monthly drawing for a \$25 Ham Radio Outlet gift certificate at the meeting’s end. All who joined or renewed their PVARC membership in 2014 are automatically entered in the drawing and the winner must be present. Shawn, KK6MNN, won the HRO gift certificate at our May meeting after the first two names drawn were not present. ■

This Month at Elmer’s

Non-radio tech, but very good for our tech: Elmer’s Corner during the refreshment break at this month’s meeting goes “non-tech” with a professional-grade laminating machine for complimentary laminations of members’ wallet-size FCC amateur radio licenses. This laminator, shown in foreground, is far superior to the one we used at a club meeting in 2010 to laminate member licenses.

Corner



There's no other day for amateur radio like Field Day

By Diana Feinberg, AI6DF
PVARC President

In a similar vein to Irving Berlin's song, "There's No Business Like Show Business," there's no day like Field Day for amateur radio.

I attended my first Field Day in 2006, intending to stay for about 20 minutes. But after briefly observing, I soon became the logger entering contact information into the computer. Three hours later, the microphone was handed to me. Since then I've become very connected with the PVARC's Field Day.

What makes Field Day so unique? It's an interesting mix of simplicity but complexity, teamwork with individualism, and a focus on public relations yet personal and club pride in amateur radio.

On the air, Field Day is a very easy contest to participate in. The exchanges are short and simple; you can learn in just 15 seconds what to say. Hundreds of stations are vying for your attention—it doesn't take long to find someone calling, "CQ Field Day," or find yourself calling it.

Our club is again operating a Field Day "Get On The Air" station, enabling any ham regardless of license class—especially newer amateurs—to experience both the HF bands and the thrill of working a highly competitive contest in a low-stress environment. Our "GOTA Coach" this year is Chris Storey, KA6WNL, who is highly experienced and a very congenial instructor.

Behind the scenes, Field Day embodies tremendous teamwork among club members to make this event happen. The PVARC operates multiple stations with multiple operators during Field Day's 24-hour run. We need members to help set up our stations within a three-hour window. Once we go on the air, we need members to handle logging the contacts into the Field Day software for submitting our entry to the ARRL. Of course, we need members to make contacts on the air. And finally, members need to

take down our tents and equipment when Field Day's brief, but intense, overnight run ends.

Field Day has another purpose for amateur radio. It's an annual opportunity to show our communities how ham radio operators can work together, quickly set up field stations, and operate with emergency power should the need arise. Serving the public during emergency situations has been a cornerstone for amateur radio since its earliest days and will continue.

Ham radio has come a long way in the past 100 years. But there's still no day like Field Day for amateur radio and our club. ■

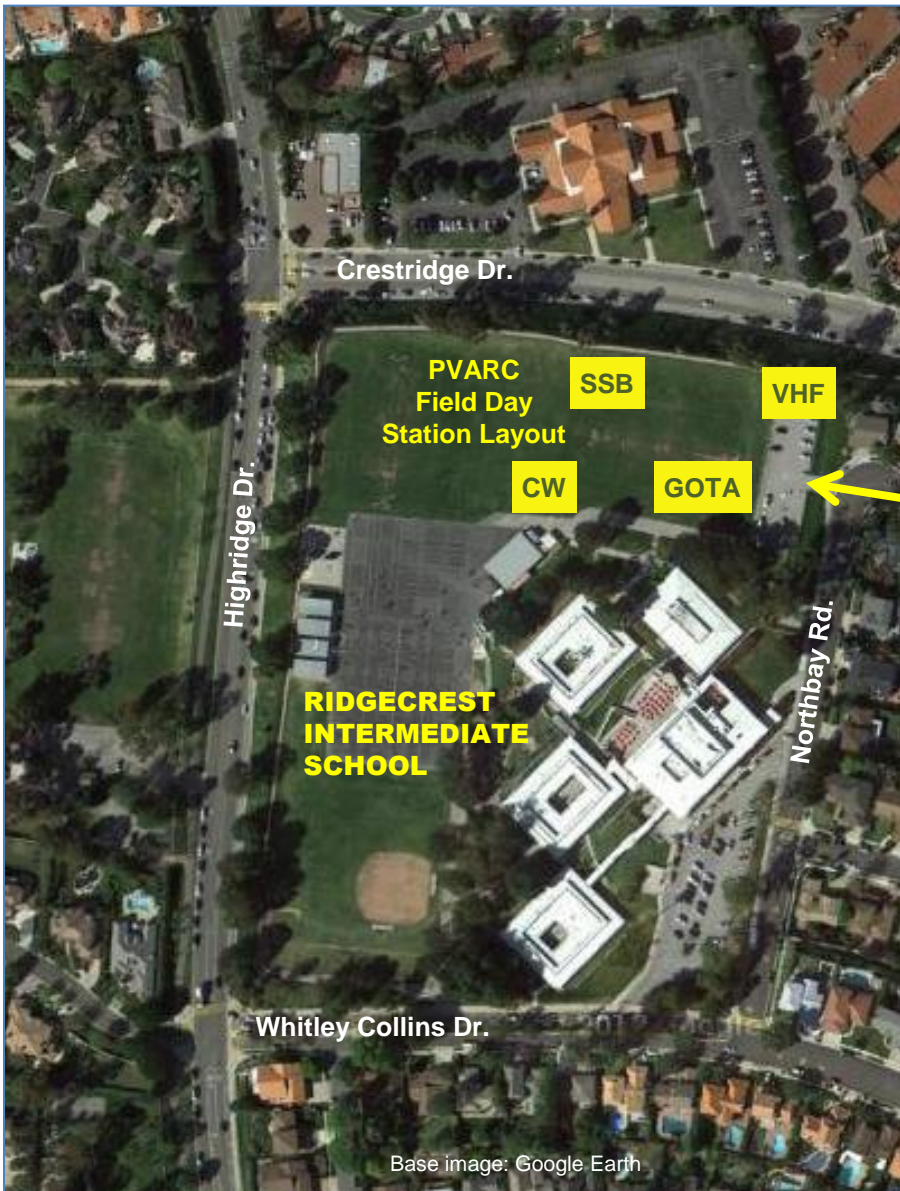


Scenes from the PVARC's 2013 FD: Teamwork is what makes it happen. PHOTOS: AI6DF





It Really Is Amateur Radio's Big Day!



We'll be at Ridgecrest Intermediate School, 28915 Northbay Rd., Rancho Palos Verdes, CA, for nearly 30 hours (including set-up and take-down).

Be sure to sign one of the check-in lists so you will be included in our calculation of how many PVARC members attended this year's Field Day.

Park here

For safety reasons...

Please wear a hard hat, protective eyewear, and gloves if you are involved with station set-up or take-down of our antennas and the tower trailer. Closed-toe shoes are highly recommended.

All operators and visitors during night hours should carry a flashlight and HT radio tuned to the K6PV repeater (447.120 MHz, PL 100.0). K6PV will be used for communicating within the PVARC's Field Day site during all hours of Field Day operations.

Base image: Google Earth

More on our 2014 Field Day ►

The PVARC's 2014 Field Day Schedule, Saturday and Sunday, June 28-29



Time (PDT)	CW Station
SATURDAY 0730	Tent, Yagi antenna assembly begin
1000	Generator connected
1015	Out of band phase noise testing
1045	Final station adjustments
1100	Field Day is "On The air"
1100-1800	Rocco, N6KN, primary CW operator
1800-2359	Jerry, NG6R, primary CW operator
SUNDAY 0000-0600	Diana, AI6DF, primary operator, 75-meter SSB
0600-1100	Jeff, K6JW, primary CW operator
1100	Field Day goes "off the air"
1100-1300	Station take-down

Time (PDT)	SSB Station
SATURDAY 0730	Tent, canopy, and Yagi antenna assembly begin
1000	Generator connected
1015	Out of band phase noise testing
1045	Final station adjustments
1100	Field Day is "On The air"
1100-2359	Various operators. How about you?
SUNDAY 0000-0600	Various operators.
0600-1100	Various operators.
1100	Field Day goes "off the air"
1100-1300	Station take-down

Time (PDT)	VHF/UHF Station
SATURDAY 0800	Canopy, antenna assembly begin
1000	Generator connected
1045	Final station adjustments
1100	Field Day is "On The air"
1100-1830	Various operators. How about you?
SUNDAY 0800-1100	Various operators.
1100	Field Day goes "off the air"
1100-1300	Station take-down

Time (PDT)	GOTA Station ("Get On The Air")
SATURDAY 0800	Canopy, antenna assembly begin
1000	Generator connected
1015	Out of band phase noise testing
1045	Final station adjustments
1100	Field Day is "On The air"
1100-1800	Chris Storey, KA6WNK, is our "GOTA Coach" and will provide friendly guidance to all. If haven't operated on the HF bands (or seldom do), this is your chance to learn!
1800-1900	GOTA station take-down

Saturday Lunch:

This year our club is providing a pizza lunch at 12:00 noon Saturday for everyone at the Field Day site. Hand-cleaning towels will also be provided.

Eliminating Pesky Adjacent Band Interference in Multi-Station Operations (K6PV's Catalina IOTA, Field Day, ILLW)

By Jerry Kendrick, NG6R

As many know, the Palos Verdes Amateur Radio Club participates in several multi-station/multi-operator events each year—viz., the Catalina IOTA in February, ARRL Field Day (FD) in June, and International Lighthouse Weekend in August.

But several HF transceivers operating in close proximity have the potential for creating cross-band interference during these events. For example, a station operating on the 15-meter band can unintentionally interfere with another station on 20 meters a hundred feet away. Our recent experience is that such interference can be significant enough to totally disable a station on an adjacent band until operation of the interferer ceases. This article describes a means of taming that interference, allowing transceivers operating on adjacent bands to operate harmoniously and without impact to one another (i.e., with a tolerable level of interference).

High levels of RF energy can affect nearby active electronics in these multi-ops settings (e.g., reaction of sensitive circuits to strong electromagnetic fields, receiver front-end overload, harmonics, intermodulation, coax and connector signal leakage, etc.). One of the primary effects is phase noise created “out of band” (OOB) by the HF transmitter of station A, radiating from its transmit antenna, then being picked up by the receive antenna and transceiver of nearby station B operating on an adjacent band, and then seen as “in-band” interference at station B.

For example, if station A is working SSB QSOs on 21.3 MHz in the 15-meter band, a small amount of RF energy is unintentionally being radiated at, say, 14.04 MHz, where nearby station B is attempting to work a CW contact on 20 meters. Yes, that amount of OOB RF energy is very small and well within the transmitter's spec for OOB radiation, but the extremely close proximity of the two respective antennas can result in enough RF coupling to cause interference. The key to solving this problem is finding a means to reduce the

OOB radiation from station A before it gets to its transmit antenna so that station B won't be negatively impacted.

This OOB interference phenomenon has been the topic of many technical articles over the years (see links to Related Articles at the end). The subject especially resurfaces as Field Day nears because the ARRL's Field Day rules require a “must-stay-within” 1000-foot diameter circle for co-located Field Day transmitters. But few clubs and other FD participants can approach this amount of separation due to site property constraints. Also, multi-ops events like the Catalina IOTA simply do not provide the opportunity to distance the various station antennas sufficiently for needed RF separation.

Band-pass filters (BPFs) are the method most accepted for controlling OOB radiation where it originates, namely at each station transmitter. Band-pass filters allow the intended communication signals to pass, but attenuate those in adjacent bands. One filter design we've examined is especially appealing because it provides very good band isolation and its component parts are relatively inexpensive. The filters we've constructed are called “Ugly Filters” by their designers because the housings are made from cases of non-functioning personal computer power supplies. These filters were designed by the Nashoba Valley Amateur Radio Club of Massachusetts and described at <http://www.n1nc.org/Filters/>.

Each K6PV FD operating station will have a set of these filters, one filter for each band that station will transmit on. The station operator will place the appropriate filter between the transceiver output and the antenna coax connector prior to operating on a particular band. [Note: If a linear amplifier were to be used (not applicable for the three K6PV ops), the filter would be placed between the transceiver and the amp.]

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Eliminating Pesky Adjacent Band Interference in Multi-Station Operations (K6PV's Catalina IOTA, Field Day, ILLW)

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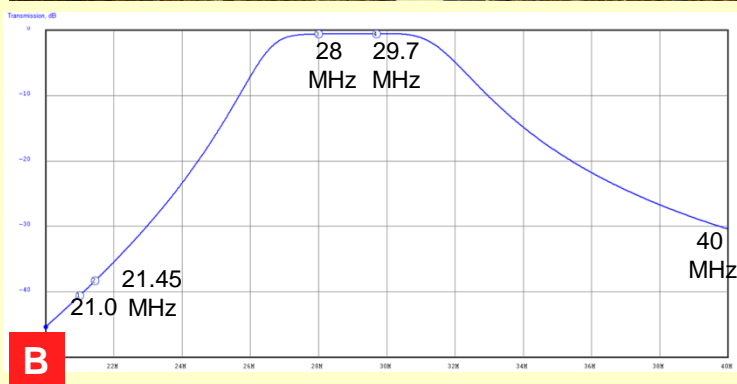
So, with three simultaneous stations each able to operate on 10m, 15m, 20m, 40m, 80m and 160m, eighteen separate filters might be needed (unless some stations coordinate their operations and share filters, which could be impractical if stations are widely separated or isolated and aren't communicating closely). Of course, if only one of our three stations would ever transmit on, say, 80m or 160m, then only that station needs an 80m or 160m filter.

Photo A at right shows one of these filters the author constructed; this one for 10m. The cases are easy to acquire, as computer repair shops will freely donate non-working PC power supplies destined for e-waste disposal. Scrap aluminum sheet material can be pop-riveted on to cover larger case openings. The air core coils are wound with AWG #14 insulated wire, as found in Romex house wiring cable. The coil forms use ordinary PVC schedule 40 plumbing pipe. The capacitors, formed using series and parallel combinations of readily available ceramic capacitors, can be bought from eBay or electronics swap meets relatively cheaply. But the brass support hardware may be the most expensive components! Brass is required, as only non-ferrous (non-magnetic) metal can be in close proximity to coils to avoid altering their inductance.

The goal of each filter, as explained earlier, is allowing the desired in-band signal to pass from the transceiver to its antenna while attenuating any OOB signals before they can be radiated. The author calculated performance of this 10m filter using a free "student version" download of Elsie, a software program by Jim Tonne, W4ENE, for LC filter analysis and synthesis available at <http://tonnesoftware.com/elsie.html>. The schematic for this 10m filter was entered into Elsie and the theoretical frequency response spectrum is shown above as Photo B. Markers indicate the 10m band edges, as well as band edges for the 15 meter band. Note there is very little attenuation in the 10m pass band from 28.0-29.7 MHz but almost 40dB of attenuation at the 15m upper band edge of 21.45 MHz. Recall that 40dB equates to four orders of magnitude in power reduction, turning what might otherwise be an S7-level totally QSO-annihilating interference into an S1-level non-factor, well below the typical noise floor.



A



B

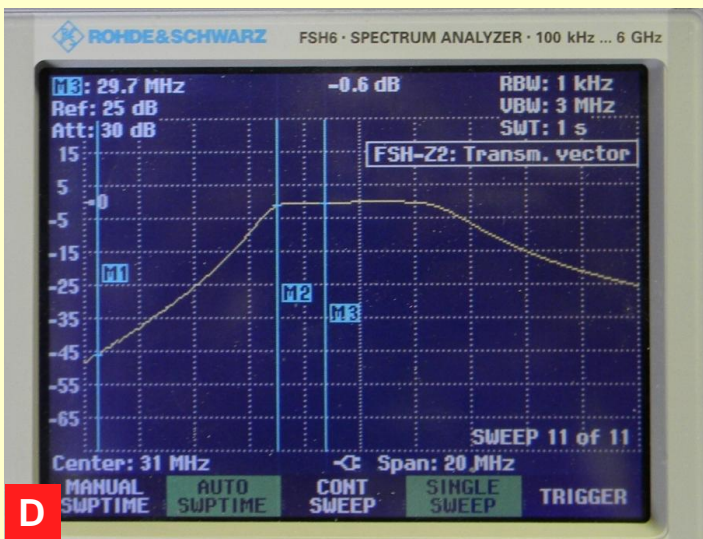
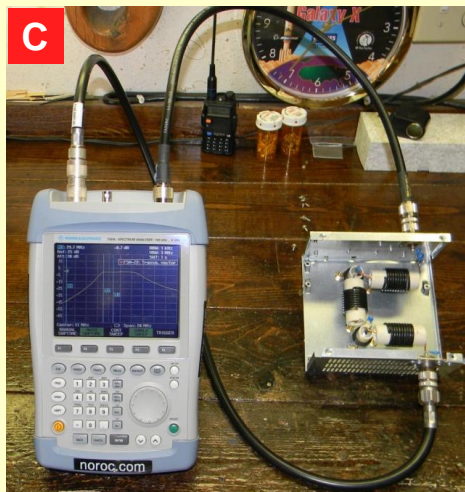
PHOTOS: JERRY KENDRICK, NG6R

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Eliminating Pesky Adjacent Band Interference in Multi-Station Operations (K6PV's Catalina IOTA, Field Day, ILLW)

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To confirm Elsie's theoretical results for our low-cost "Ugly Filters" a Rohde & Schwartz vector network analyzer owned and operated by club member Norm, K6UU, was configured as shown in Photo C (on right) for testing the 10m bandpass filter and those on the other HF radio bands.



As can be seen in Photo D (left), the actual performance of this 10m BPF is very close to Elsie's theoretical prediction shown in Photo B. Similar predicted and actual data have been gathered on additional homemade filters covering the 15m, 20m, 40m and 80m bands.

The "Ugly Filter" design for 160m calls for three PC power supply cases to house the more complicated BPF for this band. The author chose instead to design and construct a low-pass 160m filter that could be housed in only one case. While it provides only about 15dB of isolation for the adjacent 80m band, it provides in excess of 40dB of attenuation at 40m and higher-frequency bands.

Commercial bandpass filters are available for all HF bands to address the cross-band phase noise interference problem cited in this article, such as this Model 405 40m filter (Photo E) by Industrial Communication Engineers (ICE), belonging to club member Ray, N6HE.

But our initial assessment is that this 400-series ICE filter, using a 2-stage design, isn't as robust as our homemade filters with a 3-stage filter design. Not only are the commercial filters much more expensive to acquire, especially in the large numbers we need, their adjacent band attenuation is not as good. For example, with a commercial 2-stage filter for 10 meters adjacent band attenuation at the 15m band edge is about 25dB compared to about 40dB for the 3-stage homemade filters.



Above: A two-pole commercial 40-meter band pass filter made by the former Industrial Communications Engineers, Ltd., now owned by Array Solutions, Inc. Array Solutions has since upgraded their band pass filters to three-pole designs, but purchasing multiple sets of filters for all our stations would be quite costly.

PHOTOS: JERRY KENDRICK, NG6R

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Eliminating Pesky Adjacent Band Interference in Multi-Station Operations (K6PV's Catalina IOTA, Field Day, ILLW)

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Of course, even more-capable (meaning more stages and more expensive) commercial BPFs are available, such as the REMO Luxury bandpass filters that attenuate as much as 80dB in adjacent bands. However, it would cost over \$1,500 to fully equip our club with this level of interference protection.

Photo F shows the low-cost homemade filters already completed for the PVARC's 2014 Field Day on June 28/29. Our experiences with these will be carefully noted and reported in a future newsletter.

One final thought: This application has been focused solely on nearby stations operating on different HF bands. But, what if two close-proximity stations want to both operate on the same band, e.g., one on CW at the bottom of the band and the other on SSB nearer the top of the band? This is a much harder problem to solve inexpensively due to minimal frequency separation. This problem is usually addressed either by maximizing physical separation between the two station antennas, orienting them so that their radiation patterns are not toward each other and/or using polarization diversity by making one antenna vertical and the other horizontal.

Nevertheless, filter design activity by the author on this challenging problem will continue and, if there is sufficient success, will be reported in a future **QRO** newsletter. ■



ALL FILTERS CONSTRUCTED AND PHOTOGRAPHED BY:
JERRY KENDRICK, N6GR

Related Articles of Interest:

<http://www.n1nc.org/Filters/>

<http://www.mrasz.hu/technikai/2009/BPF%20for%20HF.pdf>

<http://radioaficion.com/cms/band-pass-filters-for-hf-transceivers/>

<http://www.arrl.org/files/file/Technology/tis/info/pdf/9805044.pdf>

<http://www.arrl.org/files/file/Technology/tis/info/pdf/001009qex013.pdf>

http://www.john-loftus.com.au/vk4emm/articles/Band-pass_filters.pdf

<http://www.iceradioproducts.com/images/ICEBPFdatasheet.pdf>

http://www.ameradio.com/doc/Remo_BPF_LUXURY_filters.pdf

<http://tonnesoftware.com/elsie.html>

Is there an ARRL Convention in your near-future?

1



Agenda **Hotel & Travel** **Presenters & Forums** **Exhibitors & Flea Market**

ARRL National Centennial Convention 2014

Thursday, July 17, 2014 - Saturday, July 19, 2014

Connecticut Convention Center
100 Columbus Blvd
Hartford, Connecticut 06103
[Map and Directions](#)

What's Popular:

[Convention News](#) • [\\$5,000 Centennial Station Giveaway](#) • [Exhibitors](#) • [Printed Flyer \(PDF\)](#)

Come celebrate! Thousands of members and friends of **ARRL** will gather at the Connecticut Convention Center in Hartford, ARRL's birthplace, to celebrate the organization's first 100 years of members "Advancing the Art and Science of Radio." Founded in 1914, ARRL (American Radio Relay League) is the national association for **Amateur Radio** in the US and the largest organization of radio amateurs, or "hams," in the world.



[Register Now](#)

Contact Information

ARRL
8 AM to 5 PM ET M-F
tel 860-594-0200
[Email Us](#)

Payment Instructions

Pre-registration recommended.
[Register Now](#)

3-Day Ticket
BEST OPTION
Thu, Fri, Sat
\$75 advance (Youth* \$50)

2



ARRL Southwestern Division Convention 2014 San Diego September 12th - 14th



Sponsored by: [SANDARC](#)



- **Top:** ARRL 100th Anniversary Convention in Hartford, CT, July 17-19, 2014. See its website at: <https://www.regonline.com/builder/site/Default.aspx?EventID=1248082>
- **Center:** 2014 ARRL Southwestern Division Convention in San Diego, Sept. 12-14, 2014. Early-bird registrations due by May 30. Website at: <http://www.sandarc.net/~convention2014~/index.php>
- **Right:** The 2015 ARRL Southwestern Division Convention comes to L.A. at the Torrance Marriott Hotel, Sept. 11-13, 2015. The PVARC is one of 13 amateur radio clubs organizing this convention.



3

PVARC Short News Items

2014 Palos Verdes Half-Marathon Is Cancelled

We recently learned this year's Palos Verdes Half-Marathon scheduled on November 15 has been cancelled due to costs of staging this unique running event. The race's ocean-side route and tranquil location for many years gave the Palos Verdes Marathon a unique marketing edge as "The Marathon With A View."

PVARC members provided radio communication at the Half Marathon and its predecessor full Marathon for over 30 years. We are saddened this year's race won't be held after 47 previous runnings. The Rolling Hills Estates Kiwanis Club is the race's sponsoring organization and proceeds supported numerous non-profit groups providing social services in the South Bay.

Our club typically had 22 to 31 amateur radio operators each year staffing all key positions on the race's route and at major support locations, along with a net control station. Until 2012 the 26.2-mile Palos Verdes Marathon was the 2nd-longest continuously operated marathon in the United States, behind only the fabled Boston Marathon. The Palos Verdes Marathon had also been designated as a qualifying race for the Boston Marathon. We hope the Palos Verdes Half-Marathon or full Marathon will return at a future date. ■

**PALOS 2014
VERDES HALF**
Strive For Your Personal Record

Cancelled
Saturday
November 15
2014

Home Runners The Course The Day After the Race Sponsors Volunteers Who Benefits? Kiwanis Contact

The Palos Verdes Half has been cancelled for 2014.

The run meanders along Lunada Bay, Bluff Cove and Abalone Cove.
You will have scenic vistas, rolling hills, and refreshing sea breezes on this out and back course.

Above: Screen shot from the Palos Verdes Half Marathon's website home page, taken June 13, 2014.
SOURCE: <http://palosverdeshalfmarathon.org/>

PVARC Short News Items

Save the date for International Lighthouse Weekend, Aug. 15-17

Shining since 1926...

The PVARC will again operate on the HF bands from inside the Pt. Vicente Lighthouse during International Lighthouse and Lightship Weekend on August 15-17 (Friday-Sunday.) Our annual family picnic next to the Lighthouse's base is at noon on Sunday, August 17.

We are already registered with the ILLW organization to jointly-operate from Pt. Vicente Lighthouse with the U.S. Coast Guard Auxiliary. The Coast Guard Auxiliary amateur operators use the Museum building at Pt. Vicente for their station and a separate antenna. This joint operation is another reason for the HF bandpass filters our member Jerry Kendrick, NG6R, describes elsewhere in this **QRO** issue.

2014 marks the Pt. Vicente Lighthouse's 88th year of operation. ■

PHOTO: DIANA FEINBERG, AI6DF

...and lighting the way since 1764, with a special celebration right now



Sandy Hook Lighthouse on the New Jersey side of New York Harbor's outer entrance is the oldest continuously-operated lighthouse in the United States. On Flag Day Saturday, June 14, 2014, this lighthouse held a very public 250th anniversary celebration.

Sandy Hook's original whale-oil lamp was first lighted on June 11, 1764, as the fifth of 11 lighthouses built in the former 13 British colonies on America's east coast.

Today it is the oldest standing lighthouse in the U.S. having endured wars, weather, and technology changes. It's latest technological advance is a webcam at its crown.

Sandy Hook Lighthouse, in the Gateway National Recreational Area, will be on the air during International Lighthouse Weekend as K2USA. ■

Sandy Hook Lighthouse, New Jersey.
NATIONAL PARK SERVICE PHOTO BY JERRY KASTEN
<http://www.nps.gov/gate/photosmultimedia/index.htm>

PVARC Short News Items

PVARC receives equipment donation from estate of W6PRO

Although not a PVARC member, Robert Kurtz W6PRO (SK) was an extremely active ham radio operator in Rolling Hills Estates for over 60 years. His widow, Hildegard Kurtz, graciously donated to the PVARC last month much of Bob's remaining amateur radio equipment.

We are very appreciative for this donation. We're currently testing Bob's former gear including a Heathkit SSB-200 linear amplifier, various Heathkit test equipment, an EICO oscilloscope, an Astron power supply, and an Alinco dual band HT,

Bob Kurtz was an electrical engineer at Rockwell International and predecessor North American Aviation for many years, serving as Chief Project Engineer on the B-1 bomber and previously as the avionics manager for other aircraft programs. ■

Cross-band setup operating for PVARC's Tuesday Night Nets

We finally established a 2-meter simplex to 440 MHz repeater cross-band link enabling our members near Lunada Bay, lower Hesse Park, and the Golden Cove areas to reach our club's weekly nets.

Net participants from the Peninsula's west side can use a 2-meter simplex frequency, currently 144.910 MHz, Tone Squelch, PL 156.7, to get onto K6PV's 447.120 MHz repeater frequency pair. This link would only be applied during our Tuesday night nets, not 24/7.

We thank Herb Clarkson, KM6DD, and Mel Hughes, K6SY, for enabling these crossband links from their QTHs above Hesse Park. We're still fine-tuning the cross-band to avoid interference with other users.

As many know, 144.910 MHz is the only designated 2-meter crossband frequency allowed by Southern California's amateur 2-meter frequency coordination group, TASMA. ■

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

Palos Verdes Amateur Radio Club

An American Radio Relay League Affiliated-Club

Board of Directors:

President	Diana Feinberg, AI6DF
Vice President	Malin Dollinger, KO6MD
Treasurer	Peter Landon, KE6JPM
Secretary	Mike Caulfield, AF6VT
Directors	Clay Davis, AB9A, Ray Day, N6HE

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Club Librarian	Bryant Winchell, W2RGG
K6PV Repeater Trustee	Mel Hughes, K6SY
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Net Control Operators	Malin Dollinger, KO6MD, Dale Hanks, N6NNW, Peter Landon, KE6JPM, Bob Sylvest, AB6SY, Dan Yang, K6DPY

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Mailing Address:

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

Monthly Meetings:

Third Wednesday (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:

Karen Freeman, KG6BNN, 310-541-6971

To order a Club jacket or patch:

Dave Scholler, KG6BPH, 310-373-8166

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Front page photo—*The Pt. Vicente Lighthouse on a June morning after the "June gloom" fog burned off.*
PHOTO: DIANA FEINBERG, AI6DF

PVARC Short News Items

Updated club roster now on PVARC website

We recently updated our club roster to reflect all 2014 membership information as of May 23. The next update will be later this month.

The roster is on our website at: www.palosverdes.com/pvarc/files/PVARC_ROSTER.xls as an Excel spreadsheet.

The PVARC roster is still password-protected; ask a club officer if you need the password. Please heed our request not to share the PVARC roster with others or to use the roster for any commercial purposes. ■

Speaking at PVARC's July 16th meeting will be...

Our July 16th meeting has a subject of rapidly-growing interest within the amateur radio community. Bill Prats, K6ACJ, will speak on "Arduino, Picaxe, and Raspberry Pi for Ham Radio." These low-cost general purpose microprocessors are now being programmed for numerous applications. Many discrete devices have evolved into software-controlled devices using generalized processors, whether in a PC, tablet, or these low-cost microprocessors.

Bill Prats is a major contributor to the ARRL's recently-published book, "Ham Radio for Arduino and Picaxe", <http://www.arrl.org/ham-radio-for-arduino-and-picaxe> ■

Radio for sale by PVARC member

For Sale: Yaesu FT-2000 Transceiver w/Yaesu DMU 2000 Data Management Unit.

100 watts output to 160m through 6m.
Firmware upgrade down at factory.
Used less than 50 hours. Mint condition.
Recently published prices for both new- over \$5,000. Asking \$2500.

Contact: Bryant Winchell, W2RGG, at: w2rgg@arrl.net

WELCOME NEW MEMBERS OF THE PALOS VERDES AMATEUR RADIO CLUB IN 2013-2014

CINDY MATSUDA, KJ6NWO

BLAKE BARTOSH, KK6CZC

DAVID BLOODGOOD, K6WN

LARRY SHAPIRO, K6RO

NICHOLAS WAGNER, KB6PL

STEVE MARSCHKE, KK6EOS

DEBBIE MARSCHKE, KK6EOW

ANDREW DECRISTOFARO, KI6BKD

DOMINIC DECRISTOFARO, KI6BOO

RICHARD CARL, KF6ZRF

DON BEAUMONT, KE6PMN

CINDY SATTLER, KK6EOZ

DAVE HELD, WA6PHS

RAPHAEL YOON, KJ6ZYD

JOEL PASTOR, WJ1P

TERRI PASTOR, W6BMD

THOMAS BACALJA

ERIC OLSON, KK6JPV

JAMES MAXWELL, W6JBN

CARL BARNES, AI6BA

ALLEN BINDER, KK6MNU

HENRY BREMER, KK6MNO

SCOTT HARTNETT, KK6MNM

JAMES LIAO, KK6MNT

RICARDO QUINONES, KK6MNQ

SHAWN SORBOM, KK6MNN

KELVIN VANDERLIP, JR., KK6MNS

Palos Verdes Amateur Radio Club 2014 Calendar

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

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

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

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

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

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

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

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

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

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

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

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

- xx Club Meeting
- xx Club Net
- xx PVARC HF Operations
- xx PVARC Public Service
- xx Ham Convention
- xx PVARC Ham License Class

2014 Major Contest Dates

- ARRL
- CQ Magazine and Other

- Jan. 4-5: ARRL RTTY Roundup
- Jan. 18-19: ARRL January VHF Sweepstakes
- Jan. 24-26: CQ Worldwide 160-Meter (CW)
- Feb. 8-9: CQ Worldwide RTTY WPX
- Feb. 14-16: ARRL DX (CW)
- Feb. 22: North American RTTY QSO Party
- Feb. 21-22: CQ Worldwide 160-Meter (SSB)
- Mar. 1-2: ARRL DX (SSB)
- Mar. 28-30: CQ Worldwide SSB WPX
- May 23-25: CQ Worldwide CW WPX
- Jun. 14-16: ARRL June VHF Contest
- Jun. 28-29: ARRL Field Day
- July 12-13: IARU World Championships
- Jul. 18-20: CQ Worldwide VHF
- Aug. 2-3: ARRL UHF Contest
- Sept. 13-14: ARRL September VHF Contest
- Sept. 26-28: CQ Worldwide RTTY DX
- Oct. 4-5: California QSO Party
- Oct. 24-26: CQ Worldwide SSB DX
- Nov. 1-2: ARRL Sweepstakes (CW)
- Nov. 15-16: ARRL Sweepstakes (SSB)
- Nov. 28-30: CQ Worldwide CW DX
- Dec. 5-7: ARRL 160-Meter Contest
- Dec. 13-14: 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 **3rd Wednesdays** except February (2nd Wed.), August and December (no meeting) at Fred Hesse Park, 29301 Hawthorne Blvd., Rancho Palos Verdes. Guests welcome. A no-host dinner at 5:30 pm before club meetings is held at the Red Onion Restaurant, 736 Silver Spur Road, Rolling Hills Estates.
3rd Sunday in August: Annual family picnic at Pt. Vicente Lighthouse.
December 10: Holiday dinner. Ports O'Call Restaurant, San Pedro.

Major Ham Radio Conventions

- Apr. 4-6: Intl. DX Convention, Visalia
- May 16-18: Dayton HamVention
- July 17-19: ARRL 100th, Hartford
- Sept. 12-14: ARRL SW Div., S.Diego.

PVARC Public Service Events

- August 9:** Rolling Hills Estates "Hills Are Alive" 5K/10K
- Sept. 1:** L.A. Harbor "Conquer the Bridge" Race
- Sept. 20:** RAT Beach Bike Tour
- Oct. 12:** Mary's Promenade 5K/10K
- Nov. 15:** (Canceled) Palos Verdes Half-Marathon

PVARC HF Operating Events

- Feb. 19-23: Islands On The Air DXpedition, Catalina Island;
- June 28-29: ARRL Field Day;
- August 15-17: Intl. Lighthouse Weekend, Pt. Vicente Lighthouse

PVARC Ham License Classes

Fred Hesse Park (Fireside Room), 29301 Hawthorne Blvd., Rancho PV
Feb. 8 & 15; May 3 & 10; Sept. 20 & 27



Palos Verdes Amateur Radio Club
 P.O. Box 2316
 Palos Verdes Peninsula, CA 90274
 www.palosverdes.com/pvarc

**NEW MEMBER &
 MEMBERSHIP RENEWAL FORM**

NEW: _____ **RENEWAL:** _____ **MEMBERSHIP DATE:** _____

Last Name: _____ **First Name:** _____ **Spouse:** _____

Street Address: _____

City: _____ **Zip:** _____

Phone: Home _____ [] **Work** _____ [] **Cell** _____ []
 (please indicate [x] which number(s) [limited to two] you would like included in the PVARC roster)

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 (\$15.00) \$ _____

Household and/or Family membership (\$17.00) \$ _____

Donation to the John Alexander Fund \$ _____

Donation to the Repeater Fund \$ _____

Other Donation to PVARC \$ _____

Cash: _____ **or Check #:** _____ **Date** _____ **TOTAL \$** _____

**Please make checks payable to: Palos Verdes Amateur Radio Club; Dues based on January 1st to December 31st year.
 All New and Renewal Member applications must be signed below.**

In applying for or renewing my membership in the Palos Verdes Amateur Radio Club, I agree to abide by the Club's constitution and by-laws (available on-line at: <http://www.palosverdes.com/pvarc/constitution.htm> or upon request.

Signature: _____ **Date:** _____

Family Member Signature: _____ **Date:** _____

Tell your friends and relatives about the PVARC's September 2014 Technician and General license classes



Whether for emergency communication, communicating around the world, or learning a bit about electronics, there's nothing else like amateur radio (also known as "ham radio"). Amateur radio operators have long provided the communication "when all else fails" during disasters. Please tell your friends and relatives that with a short course, they can join the over 710,000 men, women, and children in the United States from all walks of life who are licensed to operate ham radios.

Two Free Amateur Radio Courses

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

FCC "**General**" course (2nd level)

Each course is 2 sessions

The next sessions are on 20 September & 27 September 2014

Technician 9:30 AM to 1:45 PM both Saturdays

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

FCC tests will be 10:00 AM to Noon on Saturday, 4 October 2014

The Palos Verdes Amateur Radio Club will make a brief presentation at 9:30 AM at the start of the 20 September Technician class on how to get further involved with amateur radio.

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

No pre-registration required; no fee for either course; taking the FCC Test is \$15

Optional Material (sold at cost)

- Gordon West book with all the FCC test questions,
\$22 for the Technician, \$26 for the General;
- Copy of PowerPoint charts: \$20 for the Technician, \$20 for the General.

For courses sponsored by the Palos Verdes Amateur Radio Club, students thru grade 12 who also pass their examination at a PVARC 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 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.

For more information contact Walt, K1DFO, at waltordway@juno.com

(The Fine Print: The following cruise is not sponsored by the PVARC. This ad is shown solely for the convenience of our members and neither conveys nor implies any endorsement or assumption of liability by the Palos Verdes Amateur Radio Club.)

***My Pin Money Travel, LLC Announces
Its Fourth Amateur Radio Cruise
MPMT'S HAM RADIO CRUISE 4
On the Carnival Magic April 19, 2015 for 7 Days***

**The perfect gift for the “hard to buy for” person.
Great vacation with family and friends**

Planned activities onboard include seminars conducted during days at sea, working Maritime Mobile on two ship installed HF stations with DX for all licensed amateurs and all the fun of a Carnival Cruise! Special arrangements have been made with Carnival Cruise Lines for two HF operating stations and antennas.

Cruise from Galveston, Tx. To Belize, plus
Roatan and Cozumel returning to Galveston.



Only 48 cabins reserved. Book quickly - don't miss the great prices & extras!*

All prices are double occupancy and include government taxes and fees. You may book an Inside Cabin or a Balcony Cabin as part of our reserved group price until November 20, 2014.

After that date, prices are subject to availability.

(Ocean View, Cove Balcony and Suites available by special arrangements.)

DEPOSIT of \$250 PER PERSON DUE AT BOOKING in order to assign your stateroom.

*Each guaranteed stateroom also receives a \$25 onboard credit, bottle of wine and 2 tote bags.
TRAVEL INSURANCE IS OPTIONAL, BUT HIGHLY RECOMMENDED.

Cruise through Debbie Rumfield, N5DSR with My Pin Money Travel, LLC (MPMT) who can be reached at mypinmoneytravel@yahoo.com or by telephone at 832-656-0731.

This event is organized by Lance Rumfield, WD5X, in an effort to offer amateurs the ability to enjoy the rare opportunity of operating at sea while participating in a terrific vacation.

**Carnival reserves the right to add a fuel surcharge of \$9 per person per day if oil goes to \$70/barrel

**NOTE: U.S. Customs recommend all cruise passengers possess a valid
U.S. passport in order to board the ship!!!!!!**

(The Fine Print: The following cruise is not sponsored by the PVARC. This ad is shown solely for the convenience of our members and neither conveys nor implies any endorsement or assumption of liability by the Palos Verdes Amateur Radio Club.)

Details about the 2015 Ham Radio Cruise, continued

Operating Details as planned:

Two Kenwood TS-480 HX (or similar) HF mobile transceivers with two screwdriver antennas will be installed on the ship's aft railing. Stations and antennas will be on opposite sides of the ship at the stern. Bring your own keyers/phones/computers /interfaces/etc!!! (Sorry - no HF operation or external antennas of any kind will be allowed from individual staterooms, balconies, or public areas.

Houston Amateur Radio Supply has again graciously agreed to be our sponsor !!! **Thanks Dave!!!**

Personal Handi-Talkies may be used on the Carnival Magic while at sea!!!

Special permission to operate onboard the Carnival Magic has been arranged as long as proper licensing is obtained and formal agreements between Carnival and My Pin Money Travel are acknowledged and followed.

Amateur operation will be while in U.S. or international waters.

Each participating amateur will receive a copy of the authorization to operate as signed by the Captain of the Magic, Technical Coordinator, Travel Agent and the amateur!

Licensing Requirements:

If you wish to operate a station or handheld while on board, copies of the following documents must be submitted to Debbie as soon as possible as it may take up to 90 days to acquire all required documents and we must have documents submitted to Carnival before final guaranteed selling date:

- 1) Copy of valid U.S. amateur license
- 2) Confirmation of completed IARP application. Please send your paperwork, photo and monies to the ARRL immediately as this process takes time. The ARRL will forward a batch of the permits to Debbie shortly before sailing. She will forward you a copy of your permit and provide you the original IARP once on the ship.

Please consider joining us in 2015. We had a great time in 2011, 2013 and 2014 and look forward to another great event!!!!

Note: Only licensed amateurs who are participants of this limited opportunity group event will be allowed to operate amateur equipment while on the Carnival Magic.

Captions to photographs and other illustrations in this month's QRO

Certain software programs that convert the text of PDF files into spoken words reportedly have difficulty converting short stand-alone text items such as photo captions and text boxes. The following combines or explains all short text items in this month's QRO into a larger body of text to facilitate conversion into speech.

Page 1: The photo at top left shows the Pt. Vicente Lighthouse on a June day morning after the "June Gloom" fog burned off. PHOTO by Diana Feinberg, AI6DF

Page 2: The photo at the bottom shows the laminating machine and pouches which will be brought to the June 18 PVARC meeting.

Page 3: Two photos at lower right showing club members at our Ridgecrest School site have the combined caption, "Scenes from the PVARC's 2013 FD: Teamwork is what makes it happen. PHOTOS: AI6DF "

Page 4: The three emblems at the top of this page show the PVARC logo, the 2014 ARRL Field Day logo, and the Field Day "Get On The Air" logo. An aerial photo at center left shows the PVARC's Field Day site at Ridgecrest Intermediate School and the locations of our various stations there.

Page 5: The illustration at top right is the ARRL's 2014 Field Day logo. Four tabular panels on the rest of the page indicate the times of activity at each of our transmitting stations during Field Day.

Page 7: A photo at upper right shows one of the bandpass "Ugly Filters" built by Jerry Kendrick, NG6R, for our club's multi-operator events. A graph at middle right shows the theoretical attenuation measurements generated by the Elsie software program for the 10-meter bandpass filter which Jerry built.

Page 8: The photo at upper right, Photo C, shows the test set-up for measuring the actual performance of the bandpass "Ugly Filters" built by Jerry Kendrick, NG6R. The photo at middle left, Photo D, shows the screen of a Rohde & Schwartz analyzer displaying the actual performance curve of the 10-meter bandpass filter. The photo at bottom left, Photo E, shows a commercially-made bandpass filter from Industrial Communications Engineers, Ltd.

Page 9: The photo at upper right shows the complete set of all the bandpass filters Jerry Kendrick, NG6R, constructed for the PVARC. A listing at the bottom of the page shows links to articles providing additional information about bandpass filters.

Page 10: Three illustrations on this page show respective information for the ARRL's Centennial Convention in Hartford, CT, this July; the ARRL Southwestern Division 2014 Convention in San Diego this September; and the logo for the ARRL Southwestern Division's 2015 Convention at the Torrance Marriott Hotel in September 2015.

Captions to photographs and other illustrations in this month's QRO, continued

Certain software programs that convert the text of PDF files into spoken words reportedly have difficulty converting short stand-alone text items such as photo captions and text boxes. The following combines or explains all short text items in this month's QRO into a larger body of text to facilitate conversion into speech.

Page 11: The screen shot at the bottom of the page has the caption, "Above: Screen shot from the Palos Verdes Half Marathon's website home page, taken June 13, 2014. SOURCE:

<http://palosverdeshalfmarathon.org/>

Page 12: The photo at the top shows the Pt. Vicente Lighthouse with the headline, "Shining since 1926..." PHOTO: Diana Feinberg, AI6DF . The photo at the bottom shows the Sandy Hook, New Jersey, Lighthouse with the headline, "...and lighting the way since 1764, with a special celebration right now." The photo caption reads, "Sandy Hook Lighthouse, New Jersey.

National Park Service photo by Jerry Kasten <http://www.nps.gov/gate/photosmultimedia/index.htm>

Page 15: The entire page shows the PVARC's activity calendar for 2014.

Page 16: The entire page is the PVARC's membership form.

Page 17: The entire page is the announcement for Walt Ordway's next ham radio licensing classes on September 20 and 27, 2014.

Pages 18-19: Both pages contain information about next year's ham radio cruise aboard a Carnival Lines ship in the Caribbean. A disclosure notice at the top of both pages reads, "*(The Fine Print: The following cruise is not sponsored by the PVARC. This ad is shown solely for the convenience of our members and neither conveys nor implies any endorsement or assumption of liability by the Palos Verdes Amateur Radio Club.)*