



QRO

THE MONTHLY NEWSLETTER OF THE PALOS VERDES AMATEUR RADIO CLUB

APRIL 2012



“Software-Defined Radio 101”: A Short Class by FlexRadio V.P. of Sales and Marketing, Greg Jurrens, K5GJ

Software-Defined Radios have been one of the more-intriguing and leading-edge aspects of radio communication. While SDR is relatively new to amateur radio, SDR started in military applications 20 years ago to emulate 10 different military radios covering 2-2000 MHz.

We are honored to have Greg Jurrens, K5GJ and Vice President of Sales and Marketing for FlexRadio Systems, as our speaker at this month’s PVARC meeting. Greg will present “Software Defined Radio 101”, an overview to understanding SDR and how it works, especially the incredible filtering options. His presentation will feature audio from SDR radios to demonstrate various operating characteristics. Please join us for a very informative evening. ■

Where: Fred Hesse Park
29301 Hawthorne Blvd.
Rancho Palos Verdes.

When: 7:30 pm, Wednesday,
April 18, 2012

No-Knob Radios

Software-defined amateur radios are compact front-end boxes that (in receive mode) divide a signal into two phases, “In-Phase” and “Quadrature”, down-convert from RF into audio spectrum and send it through analog-to-digital conversion into a PC. Digital signal processing using software in the PC, not the front-end box, then generates and controls all “radio” functions. Shown below are the three current Flex Radio transceivers (from left) the 1500, 3000, and 5000 at approximately the same scale. The Flex 3000 (center) is just 1.75 inches tall. PHOTOS: FLEXRADIO SYSTEMS



How Many Ferrite Chokes Will Be In Your Future?

By Diana Feinberg, AI6DF
PVARC President

Divining the future has never been easy.

1960's pop artist Andy Warhol simply predicted that in the future everyone would be famous for 15 minutes.

Not long afterward a well-known mathematician/economist during my graduate student days at the University of Chicago kept ominously warning, "In the future, we will all be Bayesians."

Without the professor knowing it, many ham operators including you and me inadvertently became "Bayesian" thinkers as we've tried resolving electro-magnetic interference issues and software glitches. More on that in a moment.

In line with our April meeting program, let me state I own a software defined amateur radio transceiver and like it. Yes, SDR will have far more than 15 minutes of fame in the future--it's here to stay in one form or another.

But, depending on your technical expertise, the time needed to address software and hardware issues with these radios will also likely exceed 15 minutes. It's not yet fully "plug and play" as you add other software and hardware to your SDR setup. Stirring the pot further: ongoing changes in

new PC microprocessors and operating systems must be dealt with. (Hello, WinDoze?)

So back to the bigger question: why are many hams intuitively already "Bayesian" thinkers?

Stated briefly, Bayesian statistical inference starts with an observed outcome and works backwards to determine the likelihood of possible causes leading to that outcome. Sound familiar when fixing technical problems?

More traditional forms of statistical inference start at the beginning, using likelihoods of various conditions to predict the probable outcome. The professor's prophecy now sounds quite realistic.

Predicting backwards helps when dealing with electro-magnetic interference (EMI) or radio frequency interference (RFI) that now permeates every home and neighborhood. AC power line problems and consumer electronic devices with poor shielding or cheap power supplies have made my amateur radio experience (especially on HF bands) quite unpleasant at times. But at least there's some known likelihood of probable causes that have solutions.

Ferrite chokes are a typical remedy for dealing with many (but not all) forms of EMI/RFI

infiltrating amateur radios on cables, especially common mode currents along a shielding braid. What's particularly telling is the increasing presence of ferrite chokes on connector cables of all sorts.

If you've bought a digital camera, MP3 player, cellphone/smartphone, or video cable (among other things) you already have quite a collection of ferrite chokes (see photo below). There will likely be many more chokes in your future.

Numerous SDR radio owners, judging by comments on websites, find it necessary to install clamp-on ferrite chokes along almost every cable connected to their radio. Some users even need multiple chokes on cables to impede offending interference.

Continued on next page ►



How Many Ferrite Chokes Will Be in Your Future?

► *Continued from previous page*

It's important to note ferrite chokes have ferrite "mixes" tailored for different frequency and impedance ranges. Using the wrong mix might not solve your problem. The two "mixes" commonly used for amateur radio are Mix 31 for HF frequencies and Mix 43 for VHF/UHF. But many split bead ferrite chokes are not marked with the mix used—so "caveat emptor".



"No Mix Marked" split bead ferrite chokes (and these were sold at a ham radio store!) PHOTO: AI6DF

A secondary use for software-defined radios has been as low-cost spectrum analyzers to identify frequencies of noise problems that will add to the chokes in service at your QTH.

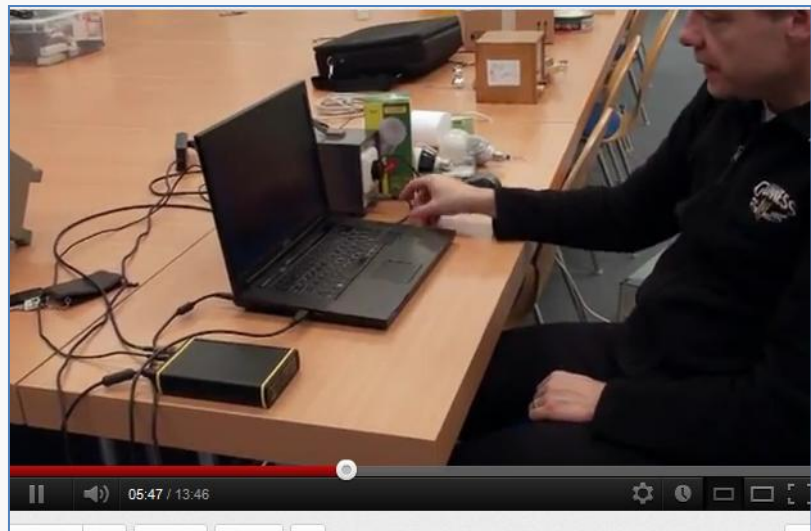
PVARC member Herb Epp, W6RBW, spotted a clever YouTube video (see frames at right) demonstrating how new LED light bulbs aren't as interference-free as thought. Check out:

<http://www.youtube.com/watch?v=o8zMhjXcmoA>

In this English-language video Thilo, DL9KCE, (top-right frame) shows how to build a simple device for testing LED bulb noise with a software defined radio's panadapter display as a spectrum analyzer. The bottom-right frame shows where he discovered broadband noise with a particular LED bulb.

(Thilo's Italian-made Perseus SDR receiver, the small black box near the table edge in the right-center frame, covers a 1,600 kHz spectrum swath. The largest FlexRadio transceiver currently covers 192 kHz of spectrum.)

So, the bottom line comes to this whether you own an SDR or not, fellow Bayesians: If you don't have experience using ferrite chokes now, I predict you will very soon. ■



Resistors, Capacitors, Inductors, Amplifiers: Who Needs Them?

By Clay Davis, AB9A
PVARC Vice President

The future of amateur radio is Software Defined Radio (SDR). Seems like a bold statement doesn't it? But let me tell you why I'm confident there will be one in your future. Don't get me wrong, I have a fond reverence for analog radios. I remember, as a young boy, the orange glow of the vacuum tubes in the HF receiver (RME-84) in my bedroom. How I read about vacuum tube theory in the Radio Amateurs Handbook late into the night, to understand how I could hear ham radio, marine telephone and radio stations in China and Cuba, through this magic box. But, just as vacuum tubes have given way to transistors and transistors to integrated circuits, analog radios are slowly succumbing to the power of digital signal processing (DSP). Most modern HF radios are now a hybrid of analog and digital signal processing. Try and find one that doesn't have DSP somewhere in the specifications. So, the next logical step in the evolution is a radio that is all DSP. And, they're already here.

The PowerSDR virtual front panel



The personal computer (or Mac) sitting on your desk is really just a general purpose digital logic box, with some specialized input and output devices. And, the software you run on it is an ordered set of instructions that tell the computer exactly what to do. One program makes it function as a word processor. Another makes it a web browser that can find and display information from some remote internet web server. So, you can reconfigure your PC's functionality just by changing the software. Or, to put it another way, you could say you have a software defined PC. What if you could do that with a radio?

Continued on next page ▶

Who Needs Resistors, Capacitors, Inductors, and Amplifiers?

(continued)

Well, a Software Defined Radio (SDR) works exactly the same way. It has a specialized adaptor between the antenna and the computer that bandpasses the signal, converts it to baseband, digitizes it and passes it on to the PC. The PC is running a software program that takes this digital signal and uses DSP to perform all of the tuning, filtering, modulation, demodulation, ALC and audio processing of a conventional radio. Additionally the software also gives you a virtual front panel to display and control all of the DSPs functions.

So, why should we care? Let me give you an example of one of my experiences. I bought an analog HF radio and wanted to have enhanced filter capabilities on SSB and CW. The solution was to buy an SSB filter and a separate CW filter. Then grab a screwdriver and pull the cover off the radio and plug the filters into the two connectors provided. After I'd done that, I had two filter performance choices on a front panel switch. But, they were choices between fixed settings. And, no third choice was available, without again removing the radios cover and physically replacing one of the existing filters. Sounds familiar right?

What if I also want a pan adaptor, variable IF bandwidth, dynamic noise reduction, dual receiver capability, audio compression or expansion, continuously variable filters and more? What if some creative ham invents a new operating mode? Then I have to either buy extra hardware, get out the soldering iron, or just live with what I already have. There must be a better way!

Enter software defined radio. After doing some research and looking at demonstrations of various SDRs, I took the leap, at Hamcon, and bought a Flex 3000 SDR. It is simply amazing! Sitting on my desk is this small blue box with no knobs, frequency displays, or meters (the blue brick). It does have the usual input and output connections (mic, phones, key, antenna and speaker). But, it also has one connection my other radios don't. It has a Firewire port that connects directly to the Mac (running Windows 7 with Bootcamp). The Mac is running a software program called PowerSDR, which gives the radio all of its functionality. It has a beautiful graphic user interface that you will recognize instantly as the front panel of an HF transceiver. And, because ALL of the DSP is done in the computer and ALL the front panel controls are virtual (on the computer screen), everything can be redefined and new functionality added just by downloading new software. Remember the screwdriver and soldering iron? Don't need them any more!

Just like the word processor replaced the typewriter by adding convenience and new functionality, software defined radios bring operating convenience and functionality that's not available in their analog cousins. Now I have an interactive graphic spectral display of what's happening on the band (similar to a pan adaptor). If I see a station transmitting I can click on the display with the mouse and the radio tunes there instantly. There's also a panfall display which shows a history of the spectral display. I can see where a station was transmitting last and "click tune" to be there when he keys down again (i.e., calling CQ). When working split, I can see the station the DX is talking to and click tune my second VFO on him (dual receive). My filter bandwidth is overlaid on the spectral display. So, if its too wide, I can grab the filter edge with the mouse and drag it where I want it. I've found this to be effective when two SSB stations overlap one another. I can drag the filter edge (not the VFO) off of the station I don't want and it's gone! The flexibility and interactive control are just awesome. No more pushing function keys, selecting menus, and turning a dial to select menu items before getting back to the QSO.

Once you discover SDR, you'll probably be curious to know how they do all of that filtering, demodulation and processing without resistors, capacitors, inductors and amplifiers. After all, that's the stuff that's supposed to make radios work. Right? Well, at our April meeting, Greg Jurrens, Vice President Sales and Marketing for FlexRadio, will be giving a program on SDR 101, an introduction to software defined radio. I hope you will come and see for yourself what the excitement is all about. ■

Observations by Diana, AI6DF, (Flex-1500 owner) on some PowerSDR features

For publishing purposes, these screen shots were taken using PDSR's demonstration mode on a wider-screen. Use your PDF magnifier to view any menu item.

These two panadapter views show a single-receiver without the waterfall display.

Sign of the software times: Note unique menu item, "Report Bug"

In CW mode here, the green IF pass band was selected at 500 Hz wide, but can be made incredibly narrow in software with slider controls (see bottom).

Mode-dependent controls automatically appear— here for CW; when SSB selected (bottom) the controls switch to microphone and equalizer settings.

DSP filtering options include a Tracking Notch Filter that will follow an offending signal as it moves.

Speed: 25 WPM Pitch Freq (Hz): 600 VAC

Iambic Sidetone Show TX CW Frequency

Break In: Enabled Delay (ms): 300

MON TUN MUT X2TR

AF: 50 AGC-T: 90 Drive: 50 AGC Preamp Med Med SQL: -134 BCI Rejection

4/6/2012 LOC 09:53:28 CPU %: 37.0

VFO A: 10.117 609 30M CW TX VFO Sync VFO Lock 7.000000 Tune Step: -50Hz Save Restore VFO B: 7.000 000 TX 40M Extra CW RX1 Meter TX Meter Signal Fwd Pwr -126 dBm

160 80 60 40 30 20 17 15 12 10 6 VHF+ WWV GEN

LSB USB DSB CWL CWU FM AM SAM SPEC DIGL DIGU DRM

1.0k 800 750 600 500 400 250 100 50 25 Var 1 Var 2 Low 350 High 850 Width: Shift: Reset

A lot happens on one panadapter screen (CW above, SSB below). Watch these controls (and others) in motion at PVARC's April 18 meeting. ■

Databases attached to software: Note how band plan limits are automatically shown for any frequency, here 14.189 MHz indicates for 20-Meter Amateur Extra class operators only.

A major SDR feature: Width and Shift levers variably and visually move the IF pass band in software over wider (or narrower) limits in any mode (shown here in SSB)

Speed: 25 WPM Pitch Freq (Hz): 600 VAC

Iambic Sidetone Show TX CW Frequency

Break In: Enabled Delay (ms): 300

MON TUN MUT X2TR

AF: 50 AGC-T: 90 Drive: 50 AGC Preamp Med High SQL: -94 BCI Rejection

4/6/2012 LOC 09:57:07 CPU %: 30.3

VFO A: 14.189 700 20M Ext/Adv SSB TX VFO Sync VFO Lock 7.000000 Tune Step: -50Hz Save Restore VFO B: 7.000 000 TX 40M Extra CW RX1 Meter TX Meter Signal Fwd Pwr -102 dBm

160 80 60 40 30 20 17 15 12 10 6 VHF+ WWV GEN

LSB USB DSB CWL CWU FM AM SAM SPEC DIGL DIGU DRM

5.0k 4.4k 3.8k 3.3k 2.9k 2.7k 2.4k 2.1k 1.8k 1.0k Var 1 Var 2 Low 150 High 2106 Width: Shift: Reset

SPLT A > B Beat A < B IF->V A <> B XIT 0 RIT 0

NR ANF Panadapter NB NB2 AVG Peak SR BIN TNF +TNF MultiFX Swap

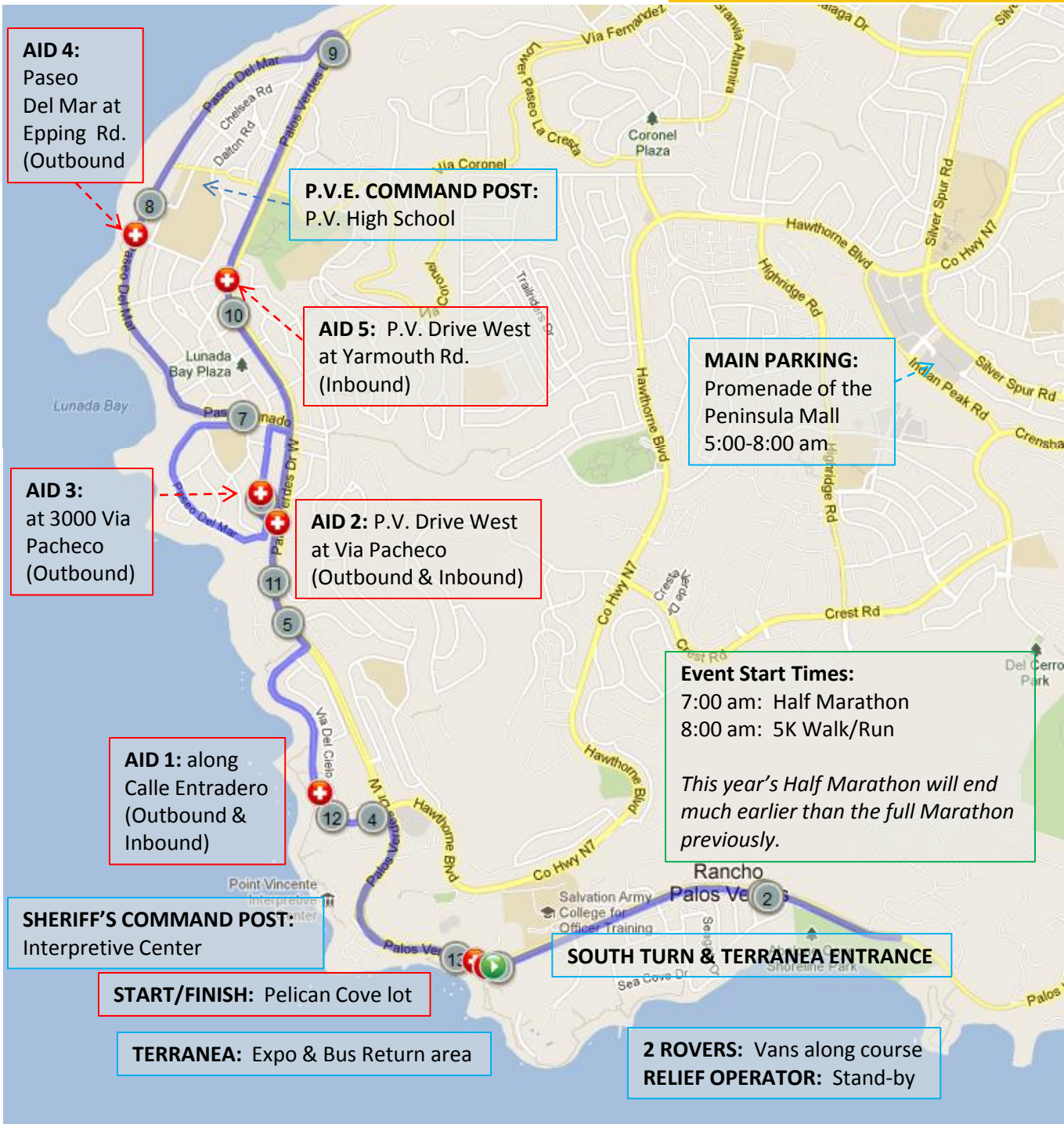
Mic 10 Transmit Profile Default CPDR 3 Show TX Filter on Display VOA 200 RX EQ TX EQ DEXP -40 VAC

Palos Verdes Half & 5K



We still need PVARC radio operators at several locations on Saturday, May 19, for the Palos Verdes Half.

Can you help?



Use It or Lose It: Why It's Important to Get On the Air For Maintaining Your Readiness, Learning, and Ham Bands

By Mike Corey, KI1U
ARRL Emergency Preparedness Manager

In the March 2012 issue of *QST* your ARES E-Letter editor Rick Palm, K1CE, had some great advice and insight on training and certifications for EmComm. Taking part in regular training, whether a new course or a refresher, has several benefits. First, it lets our served agencies know that we take not only our relationship with them seriously, but their mission, too. Second, the learning experience itself benefits the individual Amateur. And third, taking part in regular training keeps us informed on what is happening with our served agencies.

Our focus on training, though, has missed something very important. Where do we start training? What is the first thing you should do if you want to help with emergency communications and public service? What is the most important training we can take part in? The answer was found in your Amateur Radio license study manual.

At the risk of being tarred and feathered by die hard EmComm enthusiasts, Amateur Radio is not all about emergency communications. It is about getting on the air and making use of the spectrum we've been granted. Training starts by turning on your radio. Any time you get on the air is training and a learning experience. It doesn't matter what you do on the air: Field Day, rag chewing, nets, DXing, contests, etc. What matters is that you get on the air. Not just when there is an ARES event or an emergency, but at every opportunity.

GET ON THE AIR!

Think about this: what would we be doing if we didn't have spectrum to use? We get to keep our spectrum not by spelling out all the "what ifs" and doomsday scenarios. We keep it by using it, and using it a lot. There are those that wouldn't mind taking some of our spectrum from us. Saying we need it in an emergency doesn't always work; after all, even public safety feels the sting of spectrum grabs.

So how is getting on the air training? By being active on the Amateur bands, you will increase your knowledge of propagation, rules and regulations, station building, antennas, modes of communication, and build networks through the QSO's you make. It is a perpetual learning environment. After 25 years as an Amateur, I still learn new things by being active on the bands. Don't take my word for it; ask around to those in your EmComm group that have been there, done that, and have a closet full of t-shirts. Getting on the air is a learning experience.

You may not get a certificate for getting on the bands (well perhaps if you try DXing or contesting) and your served agency may not understand your excitement for logging that new country on 10 meters, but you will be learning and growing as an Amateur. So start training and get on the air. I hope to see you in my logbook soon. ■

Please Use This Opportunity: PVARC Nets On The Air, Tuesdays at 7:30 pm

PVARC members are encouraged to check in during our club's weekly Tuesday night nets. Checking-in is a simple way to verify your radio is working, your batteries are charged (if using an HT), and your antenna radiates properly. Some club members owning multiple VHF/UHF radios use a different radio each week for checking-in to our club nets or their served agencies. Now that's preparedness and learning!

We expect the K6PV repeater to resume its normal signal coverage soon. The weekly PVARC Bulletin emailed to all members every Thursday will advise which alternate repeater our club nets will use in the meantime. ■

The ARRL Needs To Know Soon If CC&Rs Restricted Your Ability to Provide Emergency Communication

From the ARRL Website

Do you live in a CC&R- restricted community or participate in EmComm activities? Have deed restrictions / HOA covenants prevented you from erecting amateur radio antennas? Have these restrictions prevented you from full participation in emergency communications activities during disasters? If your answer is "Yes", ARRL needs to hear about your experience.

In response to the Congressional directive to prepare a study to assess Amateur Radio's role in emergency and disaster communications and the impact of private land use regulations on the amateur community's ability to provide such communications, the FCC issued [DA 12-523](#) soliciting comments from the public. The period for public comment runs until May 17, 2012.

"As part of the study contained in [Public Law No. 112-96](#), the Commission has opened a 45 day period for comments to be filed on the issue," said ARRL Regulatory Information Manager Dan Henderson, N1ND. "Because of the short deadline for the study to be completed and presented to Congress -- before the end of August -- the ARRL and the amateur community must quickly mobilize their response."

The FCC *Public Notice* focuses on two specific areas for comments. The first is the role that Amateur Radio has played and continues to play to support emergency and disaster relief organizations, such as FEMA and local/state emergency management agencies. The second is to determine impediments to enhanced Amateur Radio communications. This would include the impact that private land-use regulations -- such as deed restrictions and homeowner association covenants -- have on the ability of licensed amateurs to fully participate in providing support communications to the served agencies.

"This study is not about zoning ordinances or regulations adopted by the local or state

governments," Henderson explained. "Amateurs already have the limited protection of [PRB-1](#) to assist them with those situations. The areas of concern here are the limitations that are placed on a property when it is purchased, either as part of the deed of sale or by restrictions imposed by the neighborhood/homeowner's association. Those restrictions -- sometimes referred to as CC&Rs -- are not currently covered by the FCC's PRB-1 decision from 1985."

To allow the ARRL to quickly collect and collate relevant information from the amateur community to help support the filing it will make with the FCC on this issue, a website has been setup. The site -- www.arrl.org/ccr-study-information -- provides details about what kind of information is needed by the ARRL.

Also on the site, you will find links to two online data collection forms. The first form allows you to provide information about specific emergency communications in which Amateur Radio has played a role since January 2000. The second form asks for specific information on the CC&Rs/deed restrictions that control your property. It also asks you to provide information on how those restrictions have impacted your ability to fully support emergency communications.

"Whether you are an ARRL member or not, your information and situation are important to helping us make the case for all amateurs," Henderson said. "Whether your support communications are with ARES®, RACES, SKYWARN, CERT or other emergency and disaster groups, your voice should be heard. If you cannot operate effectively from home during an emergency because CC&Rs prohibit adequate antennas on your property, that is important to document and quantify. This issue affects all of Amateur Radio, not just ARRL members."

Continued on next page ►

**WELCOME NEW MEMBERS OF THE
PALOS VERDES AMATEUR RADIO CLUB
IN 2012**

Robert Hanel, KJ6RAA

Gary Parsons, KJ6NIY

Steve Mandich, K6NT

Gina Mandich, KF6MYQ

Robert King, KI6EAI

Jack Reeves, K6JWR

Ken Carr, K6HRN

Dick McKay, K6VGP

Barbara Alexander, KJ6OVW

Brian Okamoto, KJ6RVX

David King, KI6EAI

Warren King, KJ6TLG

Wayne Barnhart, N6QCU

Harlan Rector, N9XZL

Brad Perranoski, KJ6UML

Leroy Radcliffe, KI6EAO

ARRL Seeks Input on Restrictive CC&Rs Impairing Emergency Communication

► *Continued from Page 8*

The ARRL's Henderson said that due to the short timeframe that the FCC has allotted for public comment, time is of the essence. In order to allow the ARRL to develop its comments, the ARRL asks that all information sent by the amateur community be received at the ARRL no later than April 25, 2012: "We realize this is a very short turnaround asking for your response, but this is based on the time provided by the Commission for the comment window."

It is important that when you provide specifics of your CC&R, you also provide the ARRL with a copy of its actual wording. If you have the CC&R in a digital format (or you can scan the document into a file), it can either be uploaded through the website above or it can be sent via an e-mail to CCRinfo@arrl.org. If you do not have an electronic format, a hard copy may be sent via US mail to: CCR Study Information, ARRL, 225 Main St, Newington, CT 06111.

"We need factual, specific details," Henderson said. "The more accurate information we have -- including copies of the CC&R language -- the stronger case we can make. Having copies of the exact CC&Rs is important. It allows us to demonstrate the wide variation of restrictions. Including the specific text is as important as any other piece of information you provide."

If you have questions about what is being requested, you may contact the ARRL Regulatory Information Office via [e-mail](#). "Again, time is of the essence in this matter," Henderson said. "This is the best opportunity that amateurs have had to address the impact of overly burdensome private land use restrictions. If Amateur Radio is to succeed in this effort, it is going to take all of us working together." ■



Coming Soon

More Components Donated by Bob, W6ODI, at PVARC's Next Meeting, Plus a Frequency Counter Auction

At our April 18 club meeting there will be another table full of electronic components donated by Bob Lace, W6ODI. PVARC members are free to take any components for re-use in their own projects.

The bottom photo shows some of the many items offered at last month's meeting. The various bins and drawers in the picture actually contained multiple parts or components.

Bob has also donated a Yaesu YC-355D Frequency Counter (photo at right) which will be auctioned at our April 18 meeting. The frequency counter comes with its instruction manual. The unit has a small amount of rust on its metal case, but otherwise is in good condition.

So check out the parts table on April 18 at Hesse Park--perhaps there will be something for an upcoming project or learning experience you are contemplating. ■





A Whale of a Tale, March 24, 2012: The whales have really trained this fellow for his Field Day. Every time a whale indicates it is passing Pt. Vicente, the guy updates his scoreboard outside the Pt. Vicente Interpretive Center. And they all did it without radio communication! PHOTO: AI6DF



Joe Pace, NZ6L, and Steve Smith, KO6ZC, finalize assembly of tri-band Yagi for our CW station at 2011 Field Day. PHOTO: JOHN FREEMAN, WW6WW

This Year's ARRL Field Day Is June 23-24, 2012

PVARC will again operate at Ridgecrest Intermediate School for the 2012 ARRL Field Day on Saturday-Sunday, June 23-24. We'll be operating around the clock and welcome participation from all members.

Whether you can help install antennas, operate SSB or CW, handle logging, or just be there—there's an opportunity for everyone.

Last year in the ARRL's LAX section the PVARC ranked as the #1-scoring Field Day station in the 2-A category and 4th highest-scoring station across all categories. ■

International DX Convention in Visalia is April 20-22

There's still time to register for this year's International DX Convention in Visalia, CA. So far, 10 PVARC members are known to be heading there.

See <http://www.dxconvention.org/> for more information. PVARC's Mel Hughes, K6SY, is the Chair of this year's DX Convention and Jeff Wolf, K6JW, is the Program Chair. Joe Locascio, K5KT, is also on the Convention's organizing committee. ■

Habitat for Humanity's "Palos Verdes Ride" Set for April 21

The PVARC is still slated to handle radio communication needs of Habitat for Humanity's inaugural "Palos Verdes Ride for Habitat" on Saturday, April 21. We could use one more operator for this event. Contact Diana, AI6DF, if you can help. ■

Time For Tea...but No Crumpets

Tea-drinkers, rejoice. Along with our usual light refreshments, beginning at our April 18 monthly meeting we'll have several decaffeinated tea varieties available for member and guest consumption. ■

PVARC "Elmer's" Wanted

There's a tremendous amount of ham radio knowledge and experience in our club. Would you be willing to share some of that knowledge with club members?

We would like to compile a list of Elmer's in PVARC. Let our club Vice President Clay Davis (AB9A@arrl.net) know if you are willing to Elmer a newer ham in some ham radio aspect. Or could you give a brief (maximum 20-minute) hands-on talk regarding a topic to a small group of fellow members before one of our monthly club meetings at Hesse Park (i.e., from 7:00-7:15 pm)?

No one is obligated to serve as an Elmer or receive an Elmer's knowledge. But a strength of many amateur radio clubs such as ours is the depth of knowledge members have access to. We hope you can help. ■

◆ 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	Clay Davis, AB9A
Treasurer	Bob Sylvest, AB6SY
Secretary	Daniel Yang, K6DPY
Past President	Jeff Wolf, K6JW
Directors:	Ray Day, N6HE
	Peter Landon, KE6JPM

Appointed Offices:

Interim QRO Editor	Diana Feinberg, AI6DF
Asst. to Editor	Paige Omoto, KI6MAH
Webmaster	John Freeman, WW6WW
Club Librarian	Bryant Winchell, W2RGG
VE Coordinator	Dave Scholler, KG6BPH
VE Liaison	Diana Feinberg, AI6DF
Yahoo PVARC Group Moderator	Daniel Yang, K6DPY

Contacts:

Interim QRO Editor: 310-544-2917, ai6df@arrl.net
 Webmaster: 310-541-6971, jfree@cox.net

Email us: k6pv@arrl.net

Website: www.palosverdes.com/pvarc

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

QRO is published monthly by the Palos Verdes Amateur Radio Club, ©2012 all rights reserved.

For permission to reprint please contact PVARC at: k6pv@arrl.net

Front page photo: Looking south to the Pt. Vicente Lighthouse on a late-March afternoon. AI6DF

Palos Verdes Amateur Radio Club 2012 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	29			

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					

 Club Activity  Club Public Service

2012 Major Contest Dates

 ARRL  CQ Magazine and Other

Jan. 7-8: ARRL RTTY Roundup
 Jan. 21-23: ARRL January VHF Sweepstakes
 Jan. 28-29: CQ Worldwide 160-Meter (CW)
 Feb. 11-12: CQ Worldwide RTTY WPX
 Feb. 18-19: ARRL DX (CW)
 Feb. 25: North American RTTY QSO Party
 Feb. 25-26: CQ Worldwide 160-Meter (SSB)
 Mar. 3-4: ARRL DX (SSB)
 Mar. 24-25: CQ Worldwide SSB WPX
 May 26-27: CQ Worldwide CW WPX
 Jun. 9-10: ARRL VHF QSO Party
 Jun. 23-24: ARRL Field Day 
 Jul. 14-15: IARU HF Championship
 Jul. 21-22: CQ Worldwide VHF
 Aug. 4-5: ARRL UHF Contest
 Sept. 29-30: CQ Worldwide RTTY DX
 Oct. 6-7: California QSO Party
 Oct. 27-28: CQ Worldwide SSB DX
 Nov. 3-4: ARRL Sweepstakes (CW)
 Nov. 17-18: ARRL Sweepstakes (SSB)
 Nov. 24-25: CQ Worldwide CW DX
 Dec. 1-2: ARRL 160-Meter Contest
 Dec. 8-9: ARRL 10-Meter Contest

PVARC Nets

Join in every **Tuesday** at 7:30 pm on K6PV, 447.120 MHz (-), PL 100.0. All members and guests are invited to check in and share information.

PVARC Meetings

7:30 pm on **3rd Wednesday** of every month, except August and December, at Fred Hesse Park, 29301 Hawthorne Blvd., Rancho Palos Verdes. Guests always welcome. Optional no-host dinner at 5:30 pm before club meetings at the Red Onion Restaurant, 736 Silver Spur Road, Rolling Hills Estates.

August 19: Annual family picnic at Pt. Vicente Lighthouse in conjunction with International Lighthouse & Lightship Weekend.

December 12: Holiday dinner

PVARC Public Service Events

April 21: Habitat for Humanity's "Palos Verdes Ride for Habitat" Bike-A-Thon
May 19: Palos Verdes Half
August 11: Rolling Hills Estates "Hills Are Alive" 5K/10K
Sept. 3: L.A. Harbor "Conquer the Bridge" Race
Sept. 22: RAT Beach Bike Tour
October 13 & 18: Great California ShakeOut

PVARC's Islands on the Air Annual DXpedition

Feb. 22-26: Two Harbors, Catalina Island.



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

**NEW MEMBER &
 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 (\$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.

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.palosverdes.com/pvarc/constitution.htm> or upon request.)

Signature: _____ **Date:** _____

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

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



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. With a short course, you can become an amateur radio operator; learning Morse Code is no longer required. Join the over 700,000 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 sessions are on 28 April & 12 May 2012

Technician 10:00 AM to 2:00 PM both Saturdays

General 2:15 PM to 5:00 PM both Saturdays

FCC tests will be 2 PM to 4 PM on 19 May 2012

The Palos Verdes Amateur Radio Club will make a brief presentation at 2:00 PM after the 28 April Technician class on how you can get 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: \$18 for the Technician, \$18 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 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.

For more information contact Walt, K1DFO, at walt.ordway@yahoo.com

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 all short text items in this month's QRO into a larger body of text to facilitate conversion into speech.

Page 1: The top photo shows the Pt. Vicente Lighthouse looking to the south on a March afternoon. The three photos at the bottom show models of Flex software defined radios.

Page 2: The photo at lower right shows how ferrite chokes have become common on consumer electronic devices. Shown with ferrite chokes are cables for a docking station, an MP3 player, and a digital camera.

Page 3: The photo in the left column shows two split bead ferrite chokes with the caption, ““No Mix Marked” Split bead Ferrite Chokes (and these were sold at a ham radio store!)” PHOTO: AI6DF
The three photos on the right are frames from a YouTube video demonstrating use of a software defined radio to identify noise frequencies from light emitting diode bulbs. The top right photo shows the German amateur operator, Thilo, who made the video. The middle right photo shows a small software defined radio next to his computer with a homemade device for testing light bulbs. The bottom photo shows the software defined radio display of broadband noise from one LED light bulb.

Page 4: The photo in the middle shows the panadapter screen of the Power SDR software used by Flex radios.

Page 6: The top photo shows various features of Power SDR software in CW mode and the bottom photo shows various features in SSB mode.

Page 7: A map shows the operating locations for radio operators at the 2012 Palos Verdes Half Marathon.

Page 10: The illustration at the left bottom is the 2012 ARRL Field Day logo.

Page 11: The photo at center right shows a Yaesu YC-355D frequency counter that will be auctioned at our next meeting. The photo at the bottom shows the table at last month's meeting with components donated by Bob, W6ODI.

Page 12: The top photo shows a whale watcher near the Pt. Vicente Lighthouse. The caption says, “A Whale of a Tale, March 24, 2012: The whales have really trained this fellow for his Field Day. Every time a whale indicates it was passing Pt. Vicente, the guy updates his scoreboard outside the Pt. Vicente Interpretive Center. And they all did it without radio communication! PHOTO: AI6DF.”
The bottom photo shows a scene from last year's PVARC Field Day, with the caption: “Joe Pace, NZ6L, and Steve Smith, KO6ZC, finalize assembly of tri-band Yagi for our CW station at 2011 Field Day. PHOTO: JOHN FREEMAN, WW6WW”.

Page 14 shows the club's calendar for 2012.

Page 16: The photo at top left shows a handheld Kenwood HT radio as part of the announcement for our next ham radio license classes.