



June 2014

# ARCOver

A Community Service Organization Dedicated to Amateur Radio Since 1970

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**ARRLFD14**  
**June 28-29**  
**HAM RADIO**  
**On the Air from Anywhere!**

[www.arrl.org](http://www.arrl.org)

E-mail: [W6SBA@arrl.net](mailto:W6SBA@arrl.net)



Website: <http://www.w6sba.org>

Hello W6SBA,

First off, I'd like to thank everyone who helped out with Armed Forces Day. It was a big success! Thank you Ray - WA6OWM for taking the lead, working the event, and facilitating our involvement with TARA! Thanks also to Patrick - K6PDG, Jerry - KJ6JJ, James - KI6UPL, Glenda - KF6QFE, Scott - N6LEM, Alan - KG6ZPL, and Jim - W6IVW for supporting the event and doing a great job organizing the parade participants, reporting no-shows, and giving advance notification of aircraft fly-overs. I'm extremely happy we were able to contribute to the Torrance community this year. Events like this are so important, especially since we're a "Special Service Club". Again, I thank everyone involved for investing their time and energy, and for supporting this important event!

On a sad note, I am sorry to report that Tom Carter - KI6RC has resigned from the club for personal reasons. Tom has always been an energetic contributor, an enthusiastic presenter, and demonstrated such passion for amateur radio, especially satellite communication. I am really going to miss him and his upbeat personality! Per the By-Laws of the club, I was duty bound to appoint a replacement for Tom within 30 days. I nominated Ray Grace - WA6OWM, and both Ray and the council accepted this appointment. Ray will be going out of town shortly, so his first council meeting under this appointment will be August.

It's June, and Field Day is just around the corner. This year, it will be the 28th and 29th. Friday June 27, starting at 5pm we will be on the top floor of the West Parking Garage at TMH (Torrance Memorial Hospital) assembling the antennas. We really need all the help we can get for this critical phase of the set-up. Also, if you're available earlier in the day, we also need help at Joe's QTH to help load all the gear from his garage into his van. Likewise, on Sunday, will need a similar support crew to tear down our set-up and transport all back into Joe's public storage center :p

Food-wise, we're going to be well fed this year. We will be planning to buy subway sandwiches for Saturday Lunch, Rob KB6KMX will be preparing his famous tri-tips, and for Sunday, Ed Hinz - KN6JN will be cooking breakfast for us! The club will also have donuts available Saturday morning around 8am during Field Day set-up. Each meal (Sat Lunch, Sat Dinner, Sun Breakfast) is \$10 each, or all 3 for \$25. Please email Joe and let him know which meals you're interested in, so we can plan accordingly. Please bring money to the club meeting in June.

One last item, we need pick-up trucks this year. If you have a vehicle that's working, we need your help! There are lots of supplies that need to be transported to TMH, and there are also tables and chairs which need to be moved to the top floor of the parking garage. Please contact Joe if you can bring a truck to help the club out!

That's it for now, see you at the club meeting and Field Day!

Alex - KD6LPA

## CLUB OFFICERS FOR 2014

### President

**Alex Marko** - KD6LPA  
kd6lpa@socal.rr.com - 310-530-6614

### Vice-President

**James Murakami** - KI6UPL  
katsu442@yahoo.com - 310-480-7794

### Secretary/Treasurer

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310-328-0817

### Activities Council Member

**Bruce Jackson** - KK6BJ  
bjackson@ucla.edu - 310-502-0071

### Events Council Member

**Ray Grace** - WA6OWM  
rgrace3@verizon.net - 310-370-1913

### Information Council Member

**Steve Wojtak** - KJ6VWN  
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### Past President

**Alan Parks** - KG6ZPL  
thermic72@sbcglobal.net - 310-558-8718



Alex - KD6LPA and James - KI6UPL are this month's scheduled speakers. They will discuss Field Day Preparations, and will have a brief overview of our set-up, computer network and software, and if possible, a demo of the PSK software we will be using this year. We will also discuss duty assignments and any last minute prep details needed for the event.

Come out and play at Field Day the weekend of 27th-29th, it's a time of good food and making contacts across the globe.

Here are the answers to last month's questions.

1) What is the impedance of an inductor of 47 micro henrys at a frequency of 4.468 MHz?

$$X_L = 2 \pi f L = 2 \times 3.1415 \times 4.468 \times 1,000,000 \times 47 / 1,000,000 = 2 \times 3.1415 \times 4.468 / 47 = .5973 \text{ ohms}$$

2) What is the impedance of a capacitor at 47 micro farads at a frequency of 4.468 MHz?

$$X_C = 1 / 2 \pi f C = 1 / (2 \times 3.1415 \times 4.468 \times 1,000,000 \times 47 / 1,000,000)$$

This happens to be the inverse of the calculation on question 1, so,  $X_C = 1 / X_L = 1 / .5973 = 1.6742 \text{ ohms}$ .

3) If the two circuit elements described above are in series, what is the total impedance?

The impedance of a series L-C circuit is the difference of the two impedances. By convention, the capacitive impedance is subtracted from the inductive impedance. So,  $X = X_L - X_C = .5973 - 1.6742 = -1.0769 \text{ ohms}$ . The minus value is only used if determining the total impedance, Z, of an R-L-C circuit, so, in the absence of any other resistance in the circuit, we would normally say that the impedance is 1.0769 ohms. In reality, there is always other resistance in the circuit although it may be small.

4) What is the Q of a parallel R-L-C circuit consisting of an inductor at 47 micro henrys, a resistance of 180 Ohms, and a resonant frequency of 4.468 MHz?

The formula for Q is  $Q = R / X$ , where R is the circuit resistance and X is either the inductive or the capacitive inductance at circuit resonance. This is the formula used in the FCC licensing tests. It is incorrect. The correct formula is  $Q = X / R$  if the resistance is in series with the inductance. The formula,  $Q = R / X$  is OK if the circuit resistance is large as compared to the inductance. This is usually the case. We will use the formula as stated in the license manuals. So, in our case, the inductive reactance is the same as in problem 1, so  $X_L = .5973 \text{ ohms}$ . Therefore  $Q = 180 \text{ ohms} / .5973 \text{ ohms} = 301.3561$ .

## Quiz! COLUMN

BY ALAN, KG6ZPL

I have had very little response to this quiz so I thought I would try a different type of question this month. Please send answers to me at [thermic72@sbcglobal.net](mailto:thermic72@sbcglobal.net). Please include your name and call and indicate in the subject line something regarding the quiz. I get a lot of e-mail so it is easy for me to delete if I don't know what the message is about. Thanks. So here goes.

- 1) Divide 60 by  $\frac{1}{2}$  and add 5. What is the answer?
- 2) How many months in a given year have 30 days?
- 3) A box weighs 30 pounds plus half of its own weight. How much does the box weigh?

Send responses to Alan at:  
[thermic72@sbcglobal.net](mailto:thermic72@sbcglobal.net)



## BARGAIN HUNTER

I have been looking for bargains, as all ham operators are fond of doing, for hand-held transceivers and did some pricing research.

I was particularly looking for 2 meter-440 for satellite use. I found many interesting devices at very high prices that include many bells and whistles and some more affordable units as well.

Here is what I found:

### From Universal Radio:

Kenwood tribander 144/220/440 for 299.95. This does include the club repeater frequency for the extra money ICOM 144/440 for \$474.95 includes D star capabilities, for those so interested Yaesu FT 1 DRS 144/440 for \$359.99 including all of the new digital capabilities

### Best bargains are:

Powerwerx and Universal offer Wouxun KG-UV3d for \$99.99, \$40 extra for programming cable with CD-highly recommended for those not fluent in Mandarin manual translation.

### Amazon offers:

TYT TH-UVF1 for \$99.96 with no information about programming.

A very interesting offering having nothing whatsoever to do with satellite frequencies is the Alinco 222/902 which includes the club repeat or frequency as well as 900 which seems to have a few local LA basin repeaters. I have never been on 900 and wonder if any club members have any experience with this frequency.

(This might make a slightly interesting article or sideline since it appears some club members do not have HT transceivers and thought this might spark some interest, particularly if there is a lurking interest in satellite or other mode of communication)

I will try to come up with some other newer material Please let me know if you have any suggestions

73 de Bruce  
KK6BJ

## Beat The Heat -- Rescue Your Radios

Article taken from eHam.net  
<http://www.eham.net/articles/32051>

One of my daily activities (retired guy) is checking into eHam.net and looking over the stations shown in Spotlight and Shack Showcase. Over time I noticed a common thread: equipment stacked in various ways on some kind of shelving - typically wood. The equipment is usually close together with gear shoved up next to the shelf sidewalls. Of particular note is how close together everything is. Often an amplifier is crowded in with all of the rest. The shelving might or might not have an open back. Crowding of gear seems to be the usual practice. Many times the stuff is stacked three levels high.

I recently replaced all of hf my equipment with new stuff (I love you Ten-Tec) and produced my version of the wooden shelves and stacking. At the end of every operating session I wait until my gear cools and on go the dust covers. While waiting for the gear to cool I have been noticing that it seemed to be too hot for the duty cycle I was running. Inadequate heat dissipation was clearly the problem. I recalled the wise words of my first Elmer back in the early 1960s: "Heat is the number one enemy of electronic equipment". So, what to do?

Think outside my shelving. Step back and take a look through different eyes. I did so and saw two things. First, trapped heat second, two sources of that heat requiring different methods of dissipating it.

First, radiant heat coming off of the heat sinks on the back of my transceiver and power supply. Also heat from inside of those two units and my amplifier causing hot enclosures/cabinets. Radiated heat needs lots of space to dissipate.

Second, heat riding the forced air exhaust from my amplifier and the small fan that cools the heat sink fins on the back of my transceiver. The columns of air moved by those fans need lots of space to dissipate the heat they are carrying.

Goodbye wooden shelves. I took a walk-about through the shelving section of my local big box store. I found a great set of adjustable steel wire



shelves for twenty bucks. Very strong and no solid surface area. My gear now almost floats in the air with lots of open space above, below, and to the sides of every unit. My amplifier sits in a wide-open space on my desktop with not much around it. Heat problem solved. Everything is now running much cooler. The pictures below tell the story. Beat the heat - rescue your radios.

## KITS AND MORE

Submitted by Bruce, KK6BJ

We have all had a love hate relationship with kits and building stuff. Hopefully a better experience than President Bush had with broccoli or most of us have with flossing and hopefully a lot better than with root canals and colonoscopy.

The same might be said about CW and other non SSB modes, for many of us anyway.

I made a couple of Pixie transceiver kits 2 years ago for the club building demonstration and found more, better, more affordable, and cooler stuff on a recent search. 40 meters seems the best bet for evening operations with QRP CW and so some of the kits that might be fun are:



QRP ME. com offers a thru the hole, low part count, non SMT, put-it-in-an-Altoids Tin-and-brag 40 meter kit for \$40.00 even. I just bought one and will report the results e-Bay has the original pixie as a \$14.99 kit, \$13.87 assembled (go figure) from 201388 ming and a fancier version 3 for \$21.99, \$26.99 from Ivy textile

These kits are Chinese and the supporting directions might provide a challenge. Similar kits from Greece are available on eBay for about \$10.00 more and appear to be on a slightly wider board (for fat fingered folks like me?) and might offer certain advantages.

All sources take American Dollars and credit cards or Pay Pal (Chinese Yuan and Euros-formerly Drachmas not necessary for transaction)

It might be fun for those interested to build a small transceiver and see if we could get a close in QSO with a dummy load sometime, perhaps at a picnic or a club session.



**Thursday Night Net**  
@ 7:30 p.m.

Please join us on W6SBA 224.38 minus offset and the PL at 198.2 hz you can share your experiences or just say hello!

Submitted by Alan,  
KG6ZPL



A club member asked “**What are the qualities that led the club to purchase Yaesu FT-450D’s for club use**”.

I asked the Council members this question at the last Council meeting and got the following points.

The radio is good value for its cost as compared to other transceivers in its price class. Many members are already familiar with the product family.

Importantly, Yaesu is local so repairs or other support is easier than with some other products.

The radio is a software defined radio (SDR), so upgrades to its processing are available via downloads. While the radio is an SDR, it has knobs so no additional computer is required for operation.

The radio has a relatively easy to navigate menu system as compared to many other radios.

For its price point, the radio has excellent filtering. The radio is easily adaptable to digital modes of communication.

I’d like to remind club members that the FT-450 is available for loan to club members in good standing (as is all of the club’s equipment) if you would like to familiarize yourself with its operation in your own shack.



**Operators do it til their gigahertz**

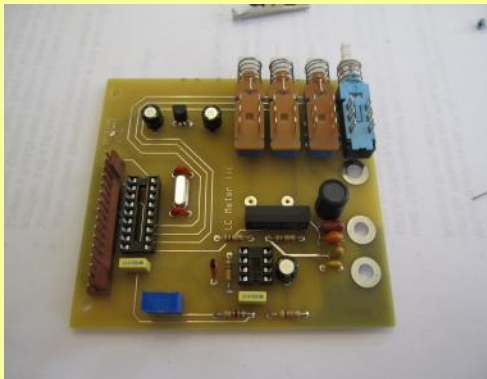


Ha Ha funny one!

## MORE KIT FUN – LC METER KIT

We all have spare electronic parts (resistors, capacitors, etc.) in our junk box. Resistors are pretty easy to figure out if you have good eyes to read the color bands or by using a multi-meter to read the ohm values. But what happens if you have a capacitor or an inductor? What do you do then? Well, I was stuck in that dilemma. I was working on a project and I had a few axial lead inductors and I needed to read the value. Similar to a resistor, the color bands on them were hard to see; difficult to distinguish the color orange from brown to yellow. Performing a search on the Internet, I realized there are these devices called L/C meters to measure inductance and capacitance. There were many on the Internet to choose from but instead of buying a premade, off-the-shelf unit, I decided to look for a kit version since I love to solder.

That's when I came across the Almost All Digital Electronics L/C Meter IIB. I checked the eHam website to see how the reviews were. At 4.8 out of 5, the reviews were favorable. So I went ahead and ordered. Yes, I purchased this kit to help build my other projects. So while I was waiting for this L/C meter to come in, my original project was on hold. After a week of waiting, the kit arrived in the mail. All the parts were there and I realized that it will be a fairly easy project to build. The kit comes with easy to follow, step-by-step colored instructions which is available on the Internet. As an added benefit, it comes with a nice case which gives it that professional look. This project took me half a day to complete but I know I could have built it faster. I took my time to carefully build this project since I did not want to make any mistakes and re-solder.



First thing I do when I start any kit is confirm that I have all the necessary parts. I took the component sheet and one by one, taped the components to the sheet. There are roughly 20 parts that need to be soldered to the board. I started with the small resistors and worked my way up to the larger parts. The instructions have plenty of pictures and were very detailed, showing precisely which components go into each hole. Next came the IC sockets for the IC chips, which was a bit of a pain but got through it. Next came the 14 pin connector for the LCD screen, the capacitors, crystal, voltage regulator and the switches. The instructions will give you little hints on what to lookout for when you're putting the kit together. Once all the parts are put together, it's time for the smoke test. I inserted the 9 volt battery and powered on the unit crossing my fingers. I was momentari-

ly distressed since nothing came up on the LCD screen, however I remembered there was a contrast control and after fiddling with that, the characters showed up on the screen. Success! Now with the L/C meter completed and tested, I was able to go back to read the axial lead inductors to complete my other project. The meter is self-calibrating and the accuracy is within 1%.

If you're interested in this kit, it's called the Almost All digital electronics L/C Meter IIB. The website is [www.aade.com](http://www.aade.com). The meter costs \$99.95 and it was a fun project to build. For those who wants to purchase a preassembled unit, that goes for \$129.95. If you currently don't have an L/C meter in your bag of tricks, I would recommend getting one.



73!

James (KI6UPL)



## From The Secretary

1. **Attendance drawing:** The winning member for the May meeting Attendance drawing was Heidi-KG0GGY. However, she had left early and was not present for the drawing, sorry Heidi but you must be present to collect the kitty. The kitty for the June meeting will be 25 dollars.

2. **Out of town:** I was out of town for both the meeting and the Torrance Armed Forces parade. Sorry about that I thought it be better to celebrate my birthday with my brother in the old country. I did and had a wonderful time in PA country. I unfortunately was so busy visiting family members and other things that I never even got a change to use the HT to make contacts out there. I did check in to Echo link several times to make contact here is was great. As we all know things went on as well even without me hahaha. So thank you. Joe-WB6MYD

3. **Swap meet:** I was at the TRW swap meet this past Saturday May 31st and attempted to sell the 2 radio's we have left from the donated equipment by Ernie-WB6MHD. This did not happen, we are asking too much money by the looks of things. So let's see if we can do this differently. Let's see what if anything you wish to offer would be acceptable. This is for the Yaesu FT 101E all HF band transceiver complete with manual and microphone. The other is the KLM 2000 2m all mode transceiver also complete with manual. I can see you raising your eye brows and saying does this means we will accept an 1 dollar and some change offer or what? No, we do need to be reasonable so let's set the minimum for the Yaesu at \$ 125.00 and for the KLM at \$ 75.00. I am again offering you these radio's as club members first before having to do something different with them. Make an reasonable offer and let's see what happens or at least talk about it. Please give this some consideration.

4. **SCE Safety presentation:** We thank Bruce-AF6NA for making the SCE Safety presentation. This was as reported an excellent presentation as shown by the interaction with a lot of questions and answers by those present. Safety is always of our main concern especially as we are about to start our FD 2014 event. So thank you Bruce from all of us at the SBARC.

5. **Quiz Column:** Alan-KG6ZPL posed 4 questions in the May Arc Over and I hope this was discussed at the meeting. Alan is trying to stimulate our minds with these questions since while basic knowledge we all should have, we likely have buried this way back in our minds since not using it on a daily basis. He also posted the answers to the 3 questions he posed in the April Arc Over and here again basic theory we all knew so well years ago was shown still to be the same but forgotten. Q 2 was a little more complicated and made you really think a lot. Q 3 Alan had talked about in his last presentation and so should have been pretty fresh in our minds and yet how many knew the answer

right off the bat. The reason I am pointing this out is that we need to sometime think about these things making this a lot easier and more enjoyable. On the other hand I think we need to encourage Alan by participating so he can continue to come up with these questions making us think about this. I know we're not in school to become engineers or what have you but I think and I hope all of you find this interesting enough to let Alan know to continue with this. Thank you.

6. **Updates needed:** I had posted as a Question of the month "should we continue the Attendance drawing". Since I was absent from the meeting I'll have to wait till I hear the report. Also, the FD 2014 T shirt ordering needs to be updated. I will try to see if I can add this after the Council meeting.

7. **Membership:** As I reported in last month's Arc Over to all that we have been able to maintain our membership level pretty well again this year. We have 78 members as of May 1, 2014 which include our Honorary members as well as non licensed members. I for one while paying very little attention to other clubs in the area have found this not to be so for the other clubs. I find this very encouraging for the SBARC. Yes we can do things differently or better or more or whatever right but these numbers speak for itself. Participation seems always a big problem and it is but on the other hand we have to recognize that most of our membership isn't 18 any more either. So as the longest member of the SBARC I am proud of this record. I do my best to always keep in mind that we are members of a club which is made up of members and we try to work as a team. This can go back to the fact that we have this hobby of ours in common and one of our goals is to be prepared in that what has been given to us to use. Your elected officers continually strive for the best and work hard to do this with suggestions and providing opportunities to work with each other and yet have the enjoyment of each and every one of our members. Your President and Vice President are likely required to move out of the area due to their work requirements which is very upsetting. Yes we will overcome this as well as so many other things we've come across, members having resigned because the club failed them or did not provide something they were looking for. We need to be sympathetic to all of this and while we can ask what it is you want us to do? I have an answer which is if you want to change things in whatever way ask or show or talk this over within our own framework we've have found to work so well over all these years. Our Pres and VP are not given much choice others would perhaps do well to talk to others and work with it. This club is for you and by you, you have questions or suggestions talk to us. Anyway, this is one of pet peeves you might say. I as your Secretary/Treasurer work hard to do the things that perhaps I should let others do but do them so it gets done. Thank you for letting me have my say here, I sometimes get a little overzealous as far as this club goes, I mean well.

Thanks Joe-WB6MYD

## CALENDAR

**Council Meeting** - 1st Wednesday of the month  
Call Joe - WB6MYD (310) 328-0817

**Club Meeting** - 3rd Thursday of the month  
**June 19, 2014 - 7:30 p.m.**  
Torrance Memorial Med Center  
West Tower, Room A

**Club Nets** - **W6SBA WEEKLY NET**  
Every Thursday @7:30pm  
(except the night of club meetings)  
**PVUSD EMERGENCY NET**  
1st Tuesday of the month  
09:30 Hours on the W6SBA repeater

**TRW Swap Meet Saturday,**  
**June 28, 2014**, 7-11 a.m.

**VE Session** - Contact: Joe WB6MYD  
Phone: (310) 328-0817  
jlanphen@ca.rr.com or w6sba@arrl.net

**Social Event** - Contact: Joe WB6MYD  
Phone: (310) 328-0817  
jlanphen@ca.rr.com or w6sba@arrl.net

Answers to Mr. Wave's face on page 5: Eyes = Amplitude modulation;  
Mouth = Frequency modulation

## CLUB SERVICES

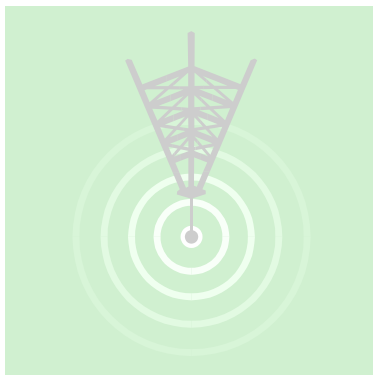
Awards Manager (HF/VHF)	Cliff - K6LH
Health & Welfare	Joe - WB6MYD
Swap Meet Chair	Joe - WB6MYD
VE Test Liaison	Joe - WB6MYD
VE Test Sessions	Joe - WB6MYD
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Proofreader	Alex - KD6LPA

**South Bay Amateur Radio Club Repeater**  
224.38 MHz · PL - 192.8 Hz Offset -1.6 MHz  
(See Calendar for Weekly Net Times)

## NEWSLETTER SUBMISSION

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TO:



Address Correction Requested

*A COMMUNITY SERVICE ORGANIZATION*

W6SBA

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