

The Heterodyne

Newsletter of the West Valley Amateur Radio Association

January Meeting

**The Evolution of Handheld Radios
from Walkie Talkie to the Modern HT
by Dr. Ed Fong, WB6IQN**

**Wednesday January 14
Meeting Starts at 7pm**

Meeting Location:
American Red Cross,
Silicon Valley Chapter
2731 N. First Street at Plumeria Dr
(southwest corner) in San Jose
Map at www.wvara.org/meetings.html

WVARA Repeaters (W6PIY)		
Band	Frequency	PL
6 Meters	52.580- MHz	151.4 Hz
2 Meters	147.39+ MHz	151.4 Hz
1.25 Meters	223.96- MHz	156.7 Hz
0.70 Meter	441.35+ MHz	88.5 Hz
0.23 Meter	1286.2- MHz	100 Hz

Club Net

WVARA's club net is on the W6PIY repeaters each Tuesday at 8:30 pm. All repeaters are linked together during the net. The net script can be found at www.wvara.org/net.html.

Visitors Are Welcome!

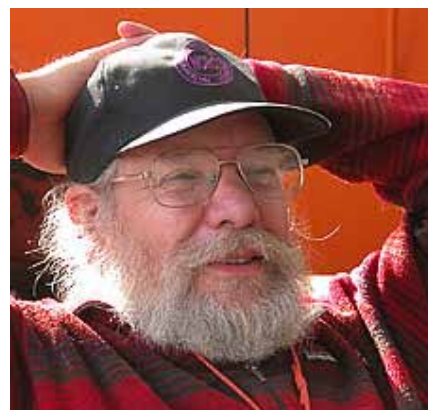
President's Letter

The State of the Club

Financially we seem to be in good shape. We had more members dues last year than expected, less income from the flea market than expected, and some unexpected donations. This year we have additional budget items for an additional contest, mugs for speakers, and some repairs to the repeater.

In the long term, we need to build up reserves to fix the repeaters when the old equipment supporting them fail. How we build up the reserves is up in the air, but more repeater members, donations, or other sources are being considered. We are also looking for ways to increase their use.

As has happened in the last couple of years, we are increasing our activity schedule. Our meeting schedule will remain the second Wednesday of every month with a holiday dinner in December. Our picnic will happen again this year. We have a number of operating events coming up. Our old standby, Field Day, returns June 27-28. The fiftieth running of our newer standby, the California QSO Party is scheduled for October 3-4. We are planning an appear-



ance in the ARRL VHF contest on September 12-14. Stay tuned as plans firm up for these events.

In addition, for those of us who think that operating events are a lot of sitting, George Williams, N6NKT is planning to activate several mountain summits as part of the Summits On The Air (SOTA) program. If the idea of climbing a mountain and operating appeals to you, come along.

To borrow a quote, "Hum baby, its going to be fun."

73, Bill - AE6JV

About the Meeting

The Evolution of Handheld Radios from Walkie Talkie to the Modern HT by Dr. Ed Fong, WB6IQN

The next WVARA meeting will be this Wednesday, January 14. Dr. Ed Fong, WB6IQN, will give an enlightening presentation: "The Evolution of Handheld Radios from Walkie Talkie to the Modern HT". The evolution has been 50 years — from 3-transistor walkie talkies that went a little farther than you can shout to today's full featured dual-band HT's using SDR architecture and costing only \$35. Ed Fong, WB6IQN, will share his 50-year relationship with the "walkie talkie" from the early days of the Allied Knight C100, 100-mW walkie talkie, to the present day inexpensive but yet effective Wouxun and Baofeng radios. Along the way, he will discuss the famous Motorola HT220 and its architecture, the Tempo S-1 which was the first hand held synthesized radio, and first mini dual band HT's. The first mini HT's being the Standard 508C, the ICOM IQ7a, and the Yaesu VX2. For military history buffs, Ed will show a Motorola SCR536 (the radio that landed on Omaha Beach), a PRC77 (the primary backpack radio used in Vietnam), a GE Pocketmate (the radio that was used in the Watergate Break-in) and many more.



Dr. Ed Fong, WB6IQN, has had an illustrious and diverse career as a circuit design engineer at National Semiconductor and EE instructor at UC Berkeley. He is best known within the radio amateur community as the inventor of the DBJ-1 dual-band J-pole antenna and its successor the DBJ-2 roll-up dual-band J-pole featured in QST, in February 2003 and March 2007 respectively.

Meeting Location: Silicon Valley Chapter of the American Red Cross, 2731 N. First Street at Plumeria Drive (southwest corner) in San Jose. Visitors are welcome, and of course there will be chocolate chip cookies.

If you haven't been to the Red Cross, "talk-in" is usually available on the Association's repeaters. Best choice would be 2m/220.

And for those who are hungry, several of us will be eating dinner prior to the meeting at the Burger King at 2532 Channing Avenue, just off Seaboard Avenue and near the corner of Trimble Road and De La Cruz Boulevard. Map of restaurant: <http://mapq.st/3-l0rpFmro>

Hope to see you there!

Jim, K6EI

Build Your Own 6 Meter Portable “Ladder Line” J-Pole by Tom Server, Jr., NT6S

Materials Needed:

- Exactly 13 feet of 450 Ohm “Ladder Line” (\$0.38 per foot, or \$4.94 at HRO)
- 12 to 18 inches of RG-8X coax (\$0.59 per foot at HRO)
- 1 PL-259 connector (\$2.69 at HRO)
- 1 UG-176S adapter (\$0.74 at HRO)
- 1 UHF-11 female UHF barrel connector (\$4.99 at HRO)
(You could attach about 50 feet of RG-8X right to the feedpoint, but that would not be as portable)
- About 50 feet of light rope to throw over a tree limb to hang it with.

If you already have an extra RG-58 or RG8X short coax jumper lying around, just cut one connector off, and use it. You will still need a UHF barrel connector. And you will need an appropriate length of RG-58 or RG-8X coax with connectors (and adapters) to attach to your radio...

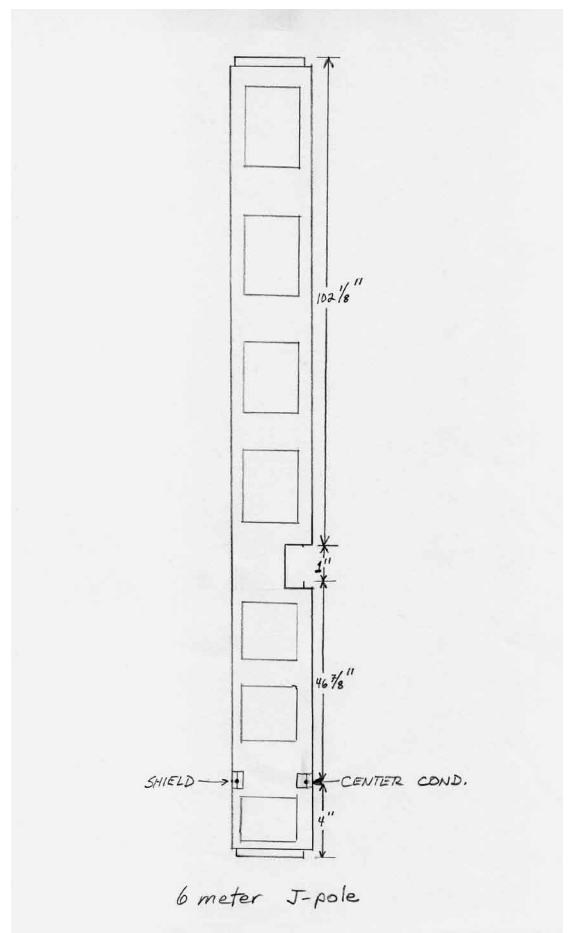
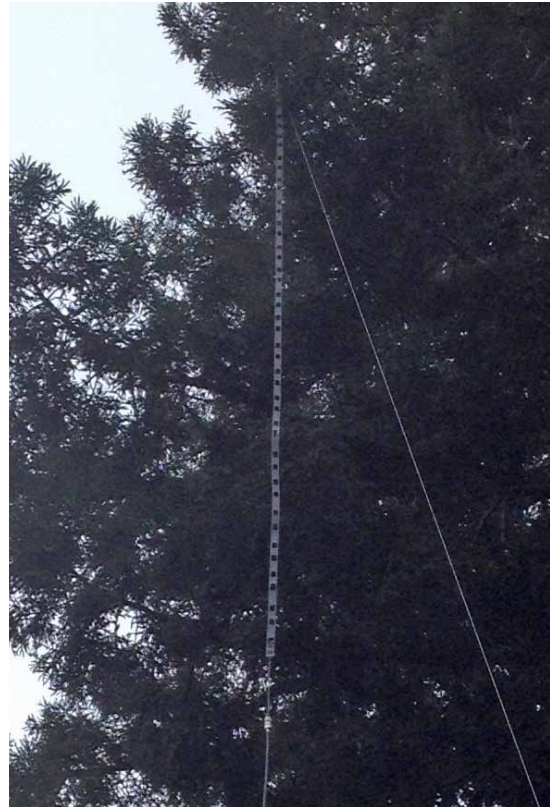
Construction:

The first thing to do is to decide which end of your ladder line is going to be the top of the antenna, and which end is going to be the bottom. Starting with the bottom of the antenna, strip exactly 1” of insulation from both wires, and remove the 1” of extra plastic between those wires. Now take those 1” wires that are sticking out of the bottom, and bend them sharply towards each other and solder them together. Repeat the above procedure for the top of the antenna.

At this point you now have to decide which side will be the “short side” of the “J” (which makes the other side the “long side” of the “J”). Once you decide, on one side of the ladder line, measure up from the bottom $50\frac{7}{8}$ ” and cut through the conductor at that point. Measure up 1” from this point and cut through the same conductor again, and snip out that 1” of wire. You just made the “short side” of the “J”.

Now, measure up from the bottom of the antenna $3\frac{3}{4}$ ” on each side, and carefully strip off $\frac{1}{2}$ ” of insulation from that point up towards the top of the antenna. The coax will attach here at exactly 4” from the bottom.

To connect the coax to the ladder line, first strip about $\frac{3}{4}$ ” of the outer vinyl jacket from the coax. Then separate the braided shield from the center conductor, and bend the two away from each other at right angles to the axis of the coax. Next strip about $\frac{1}{4}$ ” of insulation from the coax center conductor.



As per the diagram, attach the coax center conductor to the “short side” of the “J” and the coax braid to the “long side” of the “J”. Attach by bending the coax conductors around the exposed ladder line wires, then solder them in place at exactly 4” from the bottom of the antenna. I cut some holes in the ladder line insulation just below the feedpoint to secure the coax to the J-pole with tie-wraps before soldering.

After making all your cuts in the ladder line insulation, and after soldering all your connections, seal everything up good with electrical tape to help keep water out of the joints to minimize corrosion.

Assuming everything is put together according to plan, the J-pole should resonate at about 52 MHz and cover the FM section of the band with a 1.5:1 bandwidth of about 3 MHz. I am not certain how much power this antenna can handle before it starts melting, but I do know that it handles my 5 watt HT just fine.

73, Tom - KT6S



WVARA Net Check-Ins (W6PIY)					
Each Tuesday at 8:30 PM					
All Repeaters Linked Together During Net					
Call Sign	Name	12/16/14	12/23/14	12/30/14	1/6/15
AA6RB	Roy				X
AB6XS	Kevin		X		
AC6Z	Jeff		X		
K6BRF	Bert		X		
K6QFO	Mike	X			
KA6AMB	Mark	X	X	X	X
KD6VOR	Marv	X			
KJ6ZZI	Michael		X	X	X
KK6QKQ	Mick	X			
KK6VF	Kevin	NET	NET	NET	NET
KS6PD	Steve				X
W6ESL	Tom	X	X	X	X
W6HOC	Howard	X	X	X	X
W6PK	Phil				X
WB6KHP	Dave	X	X	X	X
Total		8	9	6	9



November 1, 2014

Dear Amateur Radio & DX Enthusiast,

Next year is the 66th consecutive year for the International DX Convention. The meeting, sponsored by the Northern California DX Club, will be held at the beautiful Visalia Convention Center in downtown Visalia, CA. IDXC, the premier DX Convention in the United States, is attended by over 800 serious DX'ers and contesters looking to improve their skills, their stations and see the latest equipment.

Convention Highlights:

- Full day of training on Friday, April 17, 2015: Contesting and DXing Techniques
- Friday Evening Dinner Options: TopBand, IOTA, and Contesting
- Open DX Forum
- 15-20 DX & Technical Seminars
- 35-40 Exhibitors in large Exhibit Hall
- QSL Card Checking
- Great Raffle Prizes
- Eyeball QSOs w/DX Friends
- Excellent Keynote Speakers
- Access to great California vacation destinations (see description on website)
- Registration Starts: 12-08-2014
- Website: dxconvention.org

We intend to make IDXC 2015 the best DX Convention ever, and hope you'll be able to join us.

Sincerely,

John Miller, K6MM
Kevin Rowett, K6TD
Rich Seifert, KE1B
IDXC 2015 Co-Chairmen



Items For Sale By George, N6NKT:

Hy-Gain TH-7DX, 7 Element, Tri-Band, 10/15/20M \$150

Manual available at <http://www.hy-gain.com/support.php?productid=TH-7DX>

Down from Palo Alto ARC office, disassembled and located in Cupertino

KLM KT-34, 4 Element, Tri-Band, 10/15/20M \$200

Boonton 92EA RF Voltmeter \$200

Contact George Williams, N6NKT, n6nkt at yahoo dot com

Send Buy and Sell information to: het_editor at wvara dot org

2015 West Valley Amateur Radio Association Board

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The Heterodyne is published monthly by the West Valley Amateur Radio Association and sent to all club members via the web. Please obtain permission from the author to re-publish any article in this publication.

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Hope To See You At The Meeting!