www.wvara.org November 2012

The Heterodyne

Newsletter of the West Valley Amateur Radio Association

November Meeting

"Recent Developments Coming Out of the Elecraft Lab" by Eric Swartz, WA6HHQ

Wednesday November 14
Meeting Starts Promptly 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**	**Status**
6 Meters	52.580- MHz	151.4 Hz	Operating
2 Meters	147.39+ MHz	151.4 Hz	Operating
1.25 Meters	223.96- MHz	156.7 Hz	Operating
0.70 Meter	441.35+ MHz	88.5 Hz	Operating
0.23 Meter	1286.2- MHz	100 Hz	Operating

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!

About the Meeting Speaker and Topic

Eric Swartz, WA6HHQ, who got into the hobby at age 14, is the chief operating officer of Elecraft, an Aptos CA based electronic kit company that has been very successful in bringing the build-it-yourself tradition back to ham radio. Eric will be talking about recent developments coming out of the Elecraft lab. He will be demonstrating the new ultra-portable KX3 transceiver (ideal for backpacking) along with some other new/cool modules. Elecraft is constantly introducing new upgrades to their product line and without a doubt produces some of the best gear in the ham radio universe. More information is available at http://www.elecraft.com .

ARRL Field Day Results

The official ARRL results are out, and WVARA's Field Day Team came in #3 out of over 2600 nationwide. Yeah team!
http://www.arrl.org/files/file/ContestResults/2012/2012-FD-QST-v2.pdf

Annual Elections Will Be Held for 2013 Officers and Directors

Position	Current Holder 2012	Candidate 2013
President	Jim Peterson, K6EI	Bill Frantz, AE6JV
Vice-President	John Glass, NU6P	John Glass, NU6P
Secretary	Scott Emery, AD6RY	Scott Emery, AD6RY
Treasurer	Jon Kelley, K6WV	Jon Kelley, K6WV
Past President (Director 2012)	Rick Ibarra, WE6AAI (appointed)	Jim Peterson, K6EI
Director 2011-2012	Brian Goldberg, KG6BKI	Brian Goldberg, KG6BKI
Director 2011-2012	Phil Verinsky, W6PK	Rick Ibarra, WE6AAI
Director 2011-2012	Dave Schultheis, WB6KHP	Dave Schultheis, WB6KHP
Director 2012-2013	Chuck Kamas, AD6CL	Continues from 2012
Director 2012-2013	Svend Jemsen, KF6EMB	Continues from 2012
Director 2012-2013	Kevin Smith, KK6VF	Continues from 2012

Holiday Party - Wednesday Dec 12 - 6:30 to 9:00PM

WVARA's Holiday Party will be potluck at our regular meeting location.

440 Repeaters

Many amateur radio operators are very familiar with single repeater operation: a club, association or individual puts a repeater on a pair of frequencies at a specific location and lets others know about it. If others want to use the repeater, they may program the correct frequencies and ctcss tones into their radios (and optionally ask permission) and start talking.

But there are other ways of operating repeaters, and this article will describe some other methods of operating on the 440 band in the Santa Clara Valley.

One approach is to have multiple repeaters on the same frequency pair. The WB6ECE repeater group (http://www.wb6ece.org/) has six repeaters at different locations around the south Bay, all using the same frequency pair. Each repeater responds to a different ctcss tone, so the user can determine which repeater s/he wishes to operate.

The coverage areas of the six repeaters include some overlap, so two users could communicate on the same repeater, or using two different repeaters, depending upon each user's location.

Users of two different repeaters must be careful, however, to pause between transmissions, so that the repeater they are operating can stop transmitting before the next person transmits. Without the pause, two repeaters could be transmitting at the same time, causing a loud heterodyne for users who can hear them both.

This repeater system has been enhanced to operate in "simulcast" mode. Five of the repeaters have been linked such that the signal from any station that transmits on any of the five repeaters will be retransmitted on them all. This is somewhat common in public safety, but it is not very common in amateur radio.

This approach allows (for example) a user in Oakland to talk with a user in Santa Cruz or Monterey.

Another approach is to have multiple repeaters on different frequencies linked together by RF (radio frequency) links. The California Amateur Radio Linking Association (http://www.carlaradio.net/) is an

(Continues)

example. C.A.R.L.A. has 31 repeaters at locations in California and Nevada. Each repeater can be operated independently or linked to all of the other repeaters, depending on the ctcss tone used.

Each repeater responds to a specific “local” tone or a (different) “link” tone. If a user wants to talk to a local friend, s/he uses the “local” tone. This brings up only the local repeater. If a user wants to talk to someone who is elsewhere on the network, s/he uses the “link” tone. This brings up all of the repeaters. Users must pay close attention to what ctcss tone they are using, so as to select the appropriate repeaters.

With this type of system, one or more “local” conversations could be conducted simultaneously throughout the coverage area without using the entire network. However, if you need to contact someone and you don’t know which system they are using, you can use the “link” tone and they should be able to hear you regardless of which repeater they are operating.

One consideration in this type of operation is that if you intend to store the frequencies and tones of all the repeaters in your radio, it will take up quite a few memory channels. Some users only store the frequencies of a couple of nearby repeaters. However, if one is going to travel, one would need to store a few more frequencies.

Because of the so-called “PAVE PAWS” problem (U.S. Air Force radar at Beale Air Force Base), some of the 440 repeaters have been “adjusted” to transmit less power, and at least three repeaters have been removed from service and replaced with two-meter repeaters.

Another approach is to have multiple repeaters, covering a large geographic area, connected by the Internet Repeater Linking Project (IRLP) (http://www.irlp.net/).

The Western Intertie Network, also known as the WIN System (http://www.winsystem.org/index.html) is an example. This is mostly a California system, but repeaters from all over the world can link in; stations regularly check in from Alaska to Alabama to Australia.

Each repeater is connected by IRLP to a “reflector” station that allows multiple connects. The WIN system typically consists of between 40 and 60 repeaters around the west and around the world, each connected to Reflector 9100.

Generally speaking, all repeaters on the system are always linked together, and the individual repeaters can only be isolated from the network by a control operator of that particular repeater.

This means that local conversations on a single repeater are retransmitted system-wide. System guidelines request that stations that are near each other move off the network to other (local) repeaters.

This also means that the system is busy for many hours each day. That may be good or bad news for someone who is listening at home, but it’s good news for folks who are driving on a boring stretch of road like Interstate 5 for several hours at a time and want to listen to conversations to keep them awake.

Dave Schultheis
WB6KHP FL96HRI

Buy and Sell

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

Tom Dunbar, W6ESL Operating From The Mojave Desert

Tom Dunbar, W6ESL spent a couple of days in September operating portable from the Mojave Desert. He reports that band conditions on 15 and 17 meters were particularly good, but that it did get fairly toasty in the van midday -- hence the Big Gulp beverage. Note the full-size 17 meter whip mounted on the center of the van's roof. Tom says it works great, but isn't a good choice if you are driving mobile.

2012 West Valley Amateur Radio Association Officers

President: Jim Peterson, K6EI
Vice President: John Glass, NU6P
Secretary: Scott Emery, AD6RY
Treasurer: Jon Kelley, K6WV
Directors:
Chuck Kamas, AD6CL
Svend Jensen, KF6EMB
Brian Goldberg, KG6BKI
Kevin Smith, KK6VF
Phil Verinsky, W6PK
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Rick Ibarra, WE6AAI

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Phil Verinsky, W6PK

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See You At The Meeting!