DECEMBER 2008

the SCOPE

A Newsletter by and for the Palomar Amateur Radio Club

Photos by W5NYV.

Our Nominees

I am pleased to announce the nominees for the 2009 Board of Directors for the Palomar Amateur Radio Club. Elections will be held at the Club Meeting on the 3rd of December.

President Dennis Baca KD6TUJ
Vice President Terry Runyon K3PXX
Secretary Loren Hunt AD6ZJ
Treasurer Georgia Smith KI6LAV
Director #1 Paul Williamson KB5MU
Director #2 BALLOT
Conrad Lara KG6JEI
Steve Jensen KI6JEX

Please join us for our Holiday Social and Elections. We will have food, fun, and fellowship. Set aside some "dessert room" for holiday goodies, as many club members bring treats of every type.

Call To Action

The City of San Diego, which is currently suffering through a severe financial crisis, seems have time and money to spend on new restrictive regulations against Amateur Radio.

If these new regulations are enacted, you can be sure that it will become extremely expensive and almost impossible to install a new antenna in San Diego.

Read about the proposed new regulations and what you can do to help on page 2.

Save the Date!

Club Meeting
3 December 2008
Holiday Social

2009 Board of Directors Elections

Skywarn Recognition Day
6 December 2008
0000-2400 UTC
80m-2m phone

Board Meeting
10 December 2008
7:00pm at the QTH of W6GNI

How To Help

Comments should be titled "Draft Amateur Radio Communication Amendments" and submitted to dsdldc@sandiego.gov no later than January 2, 2009.

Summary of New Regulations

In a nutshell, new antennas will require

1. An expensive "Process Three Site Development Permit"

2. Installation on an expensive retractable tower and retracted when not in use.

3. Location in the least visible location on the site from adjacent public rights of-way and adjacent properties.

4. The quality of being reasonably screened from adjacent public rights-of-way and adjacent properties.

5. It to be removed if not used for 2 years.

Possibility of Retroactive Enforcement

There is also a good chance that they might retroactively attack existing antennas on the location, screening and retraction issues.

These new restrictive regulations are not needed. The current regulations work and do not need modifications.

Take the time today to write a short, polite, firmly-worded email about this issue and help amateur radio in San Diego. The best way to make an impact is to speak up about the negative effects of a proposed regulation. Hearing directly from as many different members of the affected population as possible is vital to affecting the outcome of the proposed regulations. Comments should be titled "Draft Amateur Radio Communication Amendments" and submitted to dsdldc@sandiego.gov no later than January 2, 2009.

President's Message

The November Meeting included nominations for the elected PARC board positions: President, Vice President, Secretary, Treasurer, Director #1 and Director #2.

Only one nominee was presented for each of these positions, except Director #2, so there will be an election for Director #2 at the December 3rd meeting.

The November meeting was "Lessons Learned from Hurricane Charley", presented by Wayne Barringer, KB6UJW.

It was very informative on what is expected of amateur radio operator volunteers during such events.

Also in November, the PARC board took the steps necessary to have the tower at our repeater site sealed with epoxy paint and to add additional paint to the buildings.

The idea is to help our facilities last at least another 25 years, for our use.

The December 3rd Meeting will be our annual elections and Christmas Social. Per PARC Bylaws, at the end of this meeting, PARC will have a new president.

I am thankful for the opportunity to have served the club and I am pleased with that have been nominated to lead PARC next year. I hope that you will join me in supporting them to the best of each of our abilities for the next year.

I hope to see you on December 3rd.

Steve Early, PARC President

New Ham Radio Antenna for Elfin Forest

By Mickey Cross

On November 6, Tom Martin, KG6RCW, and Jim Egerton, W6SST, helped install a Diamond X-50 2 m / 440 Dual Band antenna on the roof of the Elfin Forest Fire Department.

Up to this time, the fire department did not have a ham radio on premises, but thanks to a grant from the Elfin Forest Community Foundation, Mickey Cross, KI6CSY, was able to purchase the antenna along with a 2 m/440 dual band Yaesu FT-7800 and power supply.

During the 1996 Harmony Grove fire, all of the communications equipment in Elfin Forest did not work due to overloaded or burned lines: land lines, cell phones, and fire department radios.

Although fire department communications radios have improved, Mickey felt it was important to have back up communications.

The residents of Elfin Forest want to express their appreciation for all of Tom's preparation work and the items he donated and for the time that he and Jim spent getting the antenna set up.

Good Amateur Practices, Revisited

Some eighteen months ago, I wrote an article for the Scope, titled: What is "Good Amateur Practice", and how can it affect us?

The Scope Editor liked it so much that it ran as the Presidents' Message rather than my usual submission.

What I wrote then is just as valid today, but recent events in the regional Amateur Radio Community have caused me to reflect on this topic again.

At the time, I wrote about how we conducted ourselves off of the air, and how the general public might perceive that.

In a QST article, Riley Hollingsworth was quoted:

"Good amateur practice is a hard thing to define… I'd have to say it's operating with the realization that frequencies are shared, that there's going to be occasional interference and that's no reason to become hateful and paranoid."

This article pretty much said that good amateur practices amount to being a good neighbor when on the air and gave several good examples.

Recently, it was brought to my attention (by a number of operators, both young and old), that some of our seasoned veterans have decided that newer operators should look elsewhere for a home, rather than with PARC or PARC repeaters.

These self appointed vigilantes have an apparent habit of making off-color personal comments, and in some cases have flat-out told the newer hams to look for other repeaters.

Their actions have painted PARC with a broad brush, giving the message that PARC does not welcome new operators.

As President for the last four years, I can assure you that PARC leadership has worked long and hard to communicate a very different message.

The PARC Message should be "Everyone Welcome".

I would like to cite the patient example of Rod Dinkins AC6V (SK), who would greet all new hams on our repeaters, and work with them to be better operators. Rod in particular, and others, in general, would go out of their way to help new operators feel welcome and improve at the same time.

Why has this changed, and what can we do about it?

Well, for the most part, it has not changed. Most of us welcome new hams openly.

However, there are few grumpy old men that need to reconsider their positions on the next generation.

I think that we can all help by welcoming new operators and provide encouragement for them to join PARC, learn our protocols, and become better operators.

On the other side of the equation, we can each take the grumpy old men aside and encourage them to be better operators as well. If they decide that they don't have to be friendlier, then perhaps PARC Leadership may invite them to find other repeaters on which to be grumpy.

Regardless, your help is needed in making PARC a friendlier place.

That kind of help is a major part of Good Amateur Practice.

Steve Early AD6VI

Can You V-F-T-O-M?

by Wayne Barringer KB6UJW

The topic of radio operator proficiency frequently surfaces at some very predictable times throughout the year. Unfortunately, many of the times, the focus is a repeat topic from past years.

I'm sure it doesn't happen everywhere, but it certainly seems to be a popular focus of discussions during annual exercises, training or any time radio operator proficiency is anticipated.

For example, take passing messages between radio operators during a scheduled exercise. It seems as if every year, "someone" has to be reminded (usually on the air during the drill) to "slow down" (does this also happen in your area, too?)

Why does it seem to be so hard to remember we can speak much faster than we can write?

Or how about the topic of being able to program your own radio! Is it only where I live, or does that also happen repeatedly where you live? I wonder, why is it so many of "them" seem to wait until the day of exercise to "test" out their skills levels...only to bring a renewed level of frustration or embarrassment to other participants who are prepared, ready and wanting to be professional?

Why does there always seem to be one or two radio operators who are willing to "show up" and ask others to program the radio they bring to the exercise?

Field Day is months away. As it gets closer, the radio airways will become very "busy" as local groups enter the fray and try to "beat" the competition...well, in "points" anyway!

Maybe this is a good time to pass on a simple reminder that each of us is individually responsible for our own preparedness, and how we conduct our radio operations.

Got a new radio recently? Or, maybe you've again discovered an old rig in the garage and want to test it out during Field Day?

Here a simple "self-test" you can use to evaluate your own operator proficiency before you ever walk out the door.

V-F-T-O-M stands for:

1. **Select the [V]FO mode**
2. **Program the desired [F]requency**
3. **Select the [T]one option**
4. **Program the offset, either "+" or "-"**
5. **Save it into [M]emory**

V-F-T-O-M is an easy way to evaluate your familiarity with your own equipment "before" you even leave the house.

Either way, learning and practicing V-F-T-O-M will go a long way to reducing the chance that you will be the one to show up, carry your radio up to the group, and ask, "Does anyone know how to program my radio?"

Be safe. Stay ready.

Above, Wayne Barringer KB6UJW gives a presentation on Lessons Learned from Hurricane Charley at the November 2008 Palomar Amateur Radio Club general meeting. Photo composite edited by Paul KB5MU from Dennis KD6TUJ's video.

Club Classified Advertisements

Personal equipment ads are free to members and will run for at least one month.

Send your ad to scope@palomararc.org

Commercial ads are $2 per column inch per month. We will adjust your ad copy to conform to the number of inches bought.

(9.23) Yaesu FT-301D HF transceiver. Club Donation. 160 - 10 meters, SSB, AM, FSK, CW modes. Full power output 100 watts and RX sensitivity is very good. Red digital LED display down to 100 Hz. With mobile microphone, external +12V power supply and factory manual. $200. See WB6IQS John at club meeting or e-mail at WB6IQS@att.net.nospam.

(9.23) This radio, pictured below, belonged to my father, John Wesley Budd MD. He retired at the end of WWII with the rank of Commander in the Medical Corp. He was attached to a Marine Air Wing and he took the radio all over the South Pacific with him during the war. He was involved in the Battle of Guadalcanal and others in the Solomon Is. After retirement from his medical practice, in 1970, he learned Morse Code and was active in Ham Radio. His call sign was WA6BTM. He probably went under the name of 'Bud'. He passed away in 1994 at the age of 89. I know he would be very proud to pass the radio and speaker on to whoever could make use of it. They may need a bit of tuning up.
- Joanna Budd Bravender

Contact board@palomararc.org if you would like to adopt and refurbish this radio.

WW6E Silent Key

Dennis N6KI reports, "About 10 years ago, mas o menos, Buck was a "Notorious" character and fixture on the 73 repeater. He spoke with a heavy "Okie from Muscogee" accent and was always wheeling and dealing ham gear. He was always there to help anyone needing any kind of help."

He and his XYL Mary WW6C (formerly N6NOG) had moved back to Joplin, MO

Buck passed away on August 20th at 4:30am in Joplin, MO. Services were August 25th at 10:00am in Joplin, MO. He was buried in Tipton Ford, MO at the Spring Valley Cemetery. He was 66 years old.

Help Mataguay

Ernie Cowan writes, "Hi there…I am trying to assist in acquiring VHF equipment to set up a station at the Mataguay Boy Scout Camp near Warner Springs. My son is the resident ranger/caretaker there and they only have telephone communication. During a fire, there are concerns that phone lines might be down.

"I am hoping we could find equipment that people might be willing to donate, including base unit, ht's, mobile, power supply and antennas so that a good system could be set up at the camp. It could also make a great club project.

"The equipment would be donated to the Boy Scouts of America, so it would be tax deductable. Perhaps you can help spread the word and have anyone interested in helping contact me at (760) 518-8050.

"Best regards,
Ernie Cowan KE6GGP"

PARC Anniversary

The club began in February 13,1936 as North San Diego Radio Club. The name changed to Palomar Radio Club prior to the June 1936 publishing of QST. Association with ARRL began on May 8, 1937. February 2009 marks our 73rd anniversary. Two more years will be our 75th and we would like to do something very special.

- First, we would like a volunteer to lead the 75th anniversary organizational effort. We would like to see events throughout the year take advantage of our anniversary theme.

- Second, we would like to hear from all of you that may have any stories, memorabilia, documents, photographs, and other items that could be presented and shared at our 75th anniversary events.

Please contact board@palomararc.org or any officer at a meeting to help with making our 75th anniversary year special.

Thank you for your participation and support.

Dennis KD6TUJ
Michelle W5NYV

The First Transceivers

Virtually all HF "radios" manufactured and in use today are "transceivers." We take for granted that when we push the microphone "push to talk" or activate the VOX, we're transmitting on the same frequency that we're listening on, unless we have the "split" mode activated. This was not always the case!

Until the advent of the transceiver, we used separate receivers and transmitters, typically with no common components. Usually, the same antenna was used, and switched between the units by a relay or electronic TR switch. This meant that the received frequency and transmitted frequency were determined independently.

Before World War II, most transmitters were crystal controlled and receivers were tunable. Each ham had a handful of crystals for each band worked, and was restricted to those frequencies. Some transmitters had multiple crystal sockets with a switch to select the desired transmit frequency without plugging and unplugging crystals. For example, my 1950 vintage Viking I has ten switch-selected crystals, while my 1956 vintage Heathkit DX 35 has three. The receivers were tunable, and many, if not most, contacts were conducted on two different frequencies. As a holdover from those days, we sometimes still hear an "old timer" finish his CQ with his call followed by "and tuning." The practice, after calling CQ was to tune up and down from the transmitting frequency listening for replies.

Following the war, the VFO, or Variable Frequency Oscillator, became common. A number of manufacturers, including Hallicrafters, Heathkit, Johnson, Meissner, WRL and others offered outboard VFOs that could plug into the crystal socket of a transmitter, sometimes with minor modifications, and allow the operator to choose any frequency in the band. (The first Novice licenses, beginning in 1951, were restricted to crystal control. This restriction was in place for many years.) Some manufacturers, notably Collins, began incorporating VFOs into their transmitters.

The technique of adjusting the transmit frequency to the receive frequency was known as "zero beating." Most operation in those days was on CW and AM, and the procedure was as follows. To match an AM signal, the VFO only (no amplifier) was activated, and the frequency tuned until a heterodyne (a loud whistle) was heard. The frequency was adjusted slowly until the pitch of the heterodyne became lower and lower and eventually became inaudible. At that point, the transmit and receive frequencies were the same. On CW, the BFO was turned off, and the VFO adjusted similarly until the CW signal was heard, as the VFO acted as the BFO. Again, the frequency was adjusted until the beat frequency disappeared, or "zero beat" was achieved. Of course, this was a somewhat cumbersome procedure, but having both stations on the same frequency was a great advantage in reducing QRM.

During the 1950s, SSB became more and more popular, and most of the commercial SSB units used a heterodyne type of frequency determination so that the SSB signal could be generated at one frequency and mixed with the VFO frequency to provide output in the desired band. In 1957, Collins introduced the KWM-1 transceiver, the first to offer "automatic zero beating." Since the same VFO was used to control the transmitter and receiver, the user was automatically transmitting on the receive frequency. Although this is the norm today, it represented a great advance in terms not only of operating convenience, but also in size, weight, and cost. As the state of the art advanced, not only was the VFO shared, but audio, IF, filter, metering and power supply functions were shared as well. The original transceivers, the Collins and the others we'll discuss, were aimed at the growing mobile market. Ease of

operation and size were most important to mobile operators. The KWM-1 was restricted to the 10-11-15-and 20 meter bands (note that 11 was still a ham band until 1958!). It was a great success, and is much in demand on the collector market today. However, with a mobile power supply, speaker, and mounting bracket, the cost of the installation was upwards of $1100! Although Collins quality of production and engineering was legendary, the cost of a mobile setup could equal or exceed the value of a decent used car it was mounted in!

Shortly thereafter the KWM-1 was superseded by the KWM-2, which added 80 and 40 meter coverage. It was still expensive, but was a popular choice in that era. I believe these were the first of the "true" transceivers. There were some rigs made that combined a transmitter and receiver on the same chassis, but had few if any common circuits except the power supply. These were not transceivers in the sense that operating circuits were not shared.

In the early 60s, some other manufacturers jumped on the bandwagon and introduced their own transceivers, again aimed mostly at the mobile market, although they could be used as fixed stations. Two typical early transceivers are shown here.

Collins had perhaps the most advanced development and production facilities, so it's hard to believe that perhaps the next transceiver to hit the amateur market was built in a garage in Benson, Arizona. In 1961, Swan introduced three small SSB only transceivers, the SW 120, 140, and 175. These were single band units, operating on the 20, 40 and 75 meter bands respectively. They were meant primarily for mobile service, and only 12-volt power supply was offered. In contrast to the pricey Collins, each transceiver cost only $275, plus another $100 for the power supply. Instructions were included for using the radio on other AC powered supplies. The tube complement was 14 tubes, including a 6DQ5 final, which ran about 125 watts PEP input.

These became immediately popular, and inspired generations of small, moderately powered and moderately priced SSB transceivers by Drake, Hallicrafters, National, and others. By 1963, Swan had moved out of the garage and relocated to Oceanside, right in our backyard. Many of our older members remember the factory and know people who worked there. Talk to our older club members, and you'll hear some oral history! At this time, The Swan 240 was introduced. For only a few dollars more ($320), the buyer could enjoy three bands of coverage: 75, 40, and 20 meters. An AC power supply was offered at $95, which was compatible with the earlier single banders. The legendary Swan 270, 350, 400 and 500 followed, all during the 60s.

It wasn't long before Heathkit, the leader in electronic kits, made their offering. In 1963 the HW12, HW22, and HW32 (75, 40 and 20 M) single band SSB transceivers were introduced, and the astounding low price of $120 each. For less than half the price of the SW series, the buyer was rewarded with a similar receiver, but 200 watt PEP input using 2 6GE5 tubes, built in VOX, optional crystal calibrator, switching for external linear, among other features. Matching power supplies for AC and DC (mobile) were offered. The HP 13 mobile supply listed at $60, while the HP23 AC supply was only $40.

Perhaps this series accounted for the tremendous increase of SSB activity in the early 60s. A beginning ham, or more experienced one, who might not have been convinced that SSB would supplant AM could "get his feet wet" on one band, with power supply, mike, speaker and transceiver and get change from $200! For comparison, the Heath Apache, a 150 watt AM transmitter only was about $250. Note that this is for a transmitter only, while the HW12 series was a transceiver. The Apache was a complicated kit to build, while the new transceivers were built on one circuit board.

These proved to be enormously popular, and

there are many that survived. There were even a couple of kits made by other vendors to convert their single banders to three-band operation. In 1966, some slight improvements were made, and an "A" version replaced the originals. Production continued until 1974, making an 11-year run with no substantive changes.

Of course, there were some disadvantages to transceivers. These early ones had no provision for CW operation, and in fact the receivers only covered the phone portion of the bands. Now, of course, the phone bands have been greatly expanded, so that now they don't even cover the entire phone bands. There was no possibility of "split" operation, which is so important in DX work today. The receivers, while quite good, lacked the notch filters, variable selectivity, noise limiters, and other features that were common on the better receivers of the day. But for the price, they couldn't be beat, and thousands were made. Even more importantly, they provided a foundation upon which was built the modern transceiver of the day. By 1968, Heathkit was offering the HW100, a transceiver covering 80 thru 10 meters, had CW capability, and other significant improvements. I'll write an article in the near future highlighting the HW100 and its successor, the HW101.

The units pictured here are both 40 meter models. They are very usable in today's conditions, and those who attended the Palomar and Golden Triangle picnics this year saw the Heathkit in action!

November Fold and Staple

KB6NMK Jo KB6YHZ Art
W6GNI Al @ Kathy

Membership Report

New Members Joining PARC:
KI6TTU, KB0AUP, and KI6PGI. (And before the ink dried, KI6TTU became K0DHE!)
And we received two reinstatements.

Above is the good news. Now for the bad news. The club membership decreased 11 last month.

We have been sending out reminders to all those that let their membership expire in 2008. If you are reading this on the web, and get one of those reminders, PLEASE renew!

SCOPE

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2006 Holiday Social.
Photo by W5NYV

Featured Program

Our annual holiday party will be held 3 December 2008 at 7pm at the Carlsbad Safety Center. Bring food to share. Several board games and children's games will be available for loan during the evening.