Good News From PARS

I am writing to share some absolutely INCREDIBLE news with you.

Last night (August 5th 2014), the Poway City Council approved an amateur radio ordinance that allows a ham to erect up to a 65 ft high amateur radio antenna with just a building permit.

This is an incredible victory for amateur radio! For many of you who have followed this saga, for a City that has never allowed anyone, even the Federal Government, to erect anything over 35 ft, this is amazing!

Poway hams began the quest for this solution since 1999! Over the past three years, and recently with the assistance of the ARRL and an exceptionally gifted attorney Poway hams prevailed!

THANK YOU, THANK YOU, THANK YOU
Here in Poway we are extremely grateful for the support we received from hams throughout San Diego County. Their attendance at the Council meetings gave clear indication to the Council members that this matter needed to be taken seriously. We Poway hams thank you for taking the time, even on a nice summer evening, to attend what had to be one of the longest meetings in history!

I must remind myself that we saw Democracy in action! It is like making sausage, but in the end, we got great bratwurst!

Again, thanks for your support!

73 de NN3V
Charlie

Come to the Faire

November 2nd 2014 PARC will participate in the Carlsbad Street Faire. Save the date and let Dennis KD6TUJ know if you are available to volunteer at the PARC booth.
Save the Date

Club Meeting
3 September 2014
There will be a program.

Board Meeting
10 September 2014
Palomar Amateur Radio Club board meeting at 7:00pm at W6GNI QTH.

Club Events
12-14 Sept 2014
ARRL Southwestern Division Convention see page 4

Advertisements are free for members
Have items that need to find a new home? Advertise here! Send your ads to scope@palomararc.org

FOR SALE
Free. Telescoping Antenna Mast, 3 section @ about 10’.
Escondido, 760-333-5999 Gilbert Warila

The Ham Radio Lunch Bunch meets Fridays for lunch and socializing at any one of a number of restaurants on a rotating schedule.
The Lunch Bunch signup is http://w0ni.com

Reminders are sent out on Wednesdays.
All are welcome for food and fun!

Some of the restaurants on the schedule are Fuddruckers, UTC Food Court, Spices Thai, Savory Buffet, Denny’s, Callahan’s Pub and Grill, and Phil’s BBQ.

Please support our advertisers.
Their support of the club is vital.
The 2014 Convention is at the Sheraton Four Points San Diego 8110 Aero Dr.

Located on Aero Drive near the Montgomery Field airport which is the same location of the 2010 Convention.

Ticket prices will be listed starting as “early bird”, “pre-registration” and “door price.” Please check for the upcoming dates. Our convention will feature tech forums, vendor’s exhibits, on site radio station, grand banquet, flea market and many more activities. Check this site often to get the latest news regarding our ongoing convention events.

We Plan to have over $5000.00 in Prizes…

Main Prize ICOM IC-7600

Highlights
- Tech Forums
- Amateur Radio Testing
- Venders
- Swap meet

Key Note Speaker 2014 Convention
Ward Silver, N0AX
Author of:

Main Prize ICOM IC-7600

Across
1. Rearrange races
6. Lentinula edodes
13. Eccentric
14. seeing with sound
15. Run off to the chapel
16. not UTC
17. Blemish
18. What politicians do. After the mudslinging.
19. diminuitive of mother in Northumbrian dialect
20. can’t be satisfied
22. Central points
23. A highball drink made from gin or bourbon, half of a lime squeezed and dropped in the glass, and carbonated water.
24. Call on
25. A drying rack for laundry
26. Mainly CaSiO4
27. Tricky pitch
28. Abutment of an arch. Carries the entablature
29. Cavalry member
30. Frightening, but a variant spelling.
31. Anagram of a word for a clearing in a forest.
32. Decayed wood
33. Big mouths
34. Not an elevation.
38. “My man!”
39. All the collections of all the organisms in a region.
40. Halo, e.g.
41. The TSA ruined it.
43. Breathing problem
44. Put down
45. Started
46. Acceptances
47. Salad green

Down
1. Fragrant resin
2. Sage
3. Opposite of heats.
4. Keepin up ______
5. “The Catcher in the ___”
6. Largest island in the Mediterranean Sea
7. Ancient
8. “Cast Away” setting
9. “Sesame Street” watcher
10. Antiquity, hostility
11. An alloy of iron and nickel, found only in meteorites on Earth.
12. Recluse
14. B-52
16. Ellsberg, Snowden
18. Pointless arguments. Like about code vs. no code.
21. Teed off
22. If you don’t have this, coffee making is messy.
24. Took evasive action
25. Skin infection due to a fungus.
27. What some of us are making during the week.
28. De facto
29. Dance music from Pará, Brazil.
30. Covered with ash.
32. ___ of people at Dayton!
34. Colossal
35. Fencing action
36. Bailiwicks
37. Indian breads.
39. Breakfast staple
42. Athletic supporter?
43. “20/20” network

See page 8 for a report about amateur radio activities at DEFCON 22. Above is this year’s event badge (the large white circuit card on the right) and on the left is a 3D printed medallion given to all who passed their Element 2 exam at the convention. It says DC22 /AT.
in the drop in charger while driving without it tipping over. As a result, I reverted to keeping the charger at home and leaving every day with a full charge. If you plan on operating heavily, you better bring along a few more charged batteries.

The radio has just one knob – an integrated power switch and volume control. The audio comes out of an estimated 1” speaker. Audio quality is high-pitched, and comparing it side by side with my old Icom handheld – it leaves a lot to be desired.

The radio includes “blinking” alarm and a flash light feature. If you push and hold the call button, the bright white LED will flash on and off, the LCD display will flash orange, and the speaker will produce an alarm sound. I haven’t figured out how that’s useful – but it’s there. The White LED also doubles as a flashlight. I found this handry at night if you leave the radio on the night stand.

The LCD display is functional, but I did find a few interesting “features.” The S-meter graph was fashioned after the cell phone signal strength indicator, only that it’s not an S-Meter – it’s a two- level squelch, on/off indicator.

The battery level indicator has three levels, but it didn’t seem to respond linearly to battery life left.

Channels can be displayed as a frequency or a 7 character alpha numeric name. The radio had both A and B sides. The display mode for each side can only be frequency or alpha numeric for both A and B sides. The display mode for each side can only be frequency or alpha numeric for the entire side and cannot be intermingled. I found this to be a major functional annoyance.

The radio supports both VFO and memory modes like typical ham radios, but since it does not have a second knob, all frequency/memory tuning is done via the keyboard. I did not find that very pleasing since pushing the Up/Down buttons is much slower and less comfortable than a rotary knob.

Configuring typical operating modes such as repeater shift, tone, and tone squelch is all done via the by evidence in menu systems. Getting in and out of the menu takes a minimum of 5 key strokes. To rapidly switch modes, this can get quite tedious.

Programming memory channels is the most counter intuitive procedure, and mastering it will take a number of failed attempts. The most practical approach to programming memory channels is to use the USB cable. I tried the Baofeng software unsuccessfully but did have good luck with CHIRP.

The scan rate in either VFO or memory modes is done at a rate of roughly two steps per second. Compared to typical radios, this is obscenely slow. For all intents and purposes, the scan mode is useless.

One feature that I was looking forward to is the broadcast FM receive mode. Sensitivity in broadcast mode is mediocre, but that’s comparable to other radios and is sufficient to pick up local stations. One major annoyance is that while in broadcast mode, the radio will also monitor the A Side channel and switch over if the squelch is broken. After the first time this occurs, the radio will begin to ping pong between the broadcast and Side A channel repeatedly even if there is no activity on the Side A channel.

A feature that I like a radio to have is AM receive mode, which is fun, especially if air travel is involved. The Baofeng, however, does not support AM receive mode.

Overall, the radio was very disappointing as compared to main stream, handheld radios. It wasn’t practical for band monitoring, scanning, or entering newly found repeaters. It is, however, small, light, and sturdy. If you intend to pre-program channels for your destination (using the cable), it won’t let you down. If you lose it, you won’t shed a tear. Personally, I plan to only use it for fixed channel operation, but for future travel, I will sport a main stream handheld radio.

Closing comments:

1) the manufacturer’s User’s Manual is useless, used the version authored by the “Radio Documentation Project”.
2) Only purchase USB programming cables with FTDLI chipsets, and avoid Prolific chipsets at all costs.
3) CHIRP seems to work ok for programming the radio. Information, drivers, and software for all of the above is available at: http://www.miklor.com/uv5r/
Amateur Radio at DEFCON 22
By Michelle WSNYV. Amateur radio was prevalent at DEFCON 22, held in Las Vegas 7-10 August 2014. Two of the talks were on amateur radio, and a record-setting license exam session was held. Summaries of the talks follow.

Steganography in Commonly Used HF Radio Protocols
Paul Drapeau PRINCIPAL SECURITY RESEARCHER, CONFER TECHNOLOGIES INC.
Brent Dukes
Imagine having the capability to covertly send messages to an individual or a larger audience, without the need for large centralized infrastructure where your message could be observed, interrupted, or tampered with by oppressive governments or other third parties. We will discuss the opportunities and challenges with steganographic implementations in widely used amateur radio digital modes, and present a proof of concept implementation of hiding messages within innocuous transmissions using the JT65 protocol. This technique could theoretically be used to implement a low cost, low infrastructure, covert, world wide short message broadcasting or point to point protocol. No messages in codes or ciphers intended to obscure the meaning thereof were actually transmitted over the amateur bands during the creation of this talk.

Paul Drapeau is currently the Principal Security Researcher for Confer Technologies Inc. He has held senior level IT security roles and consulted on information security topics for various organizations for over 15 years. Technologies Inc. He has held senior level IT security roles and consulted on information security topics for various organizations for over 15 years. Paul has a bachelor’s degree in computer science from the University of Rhode Island and has been licensed as an amateur radio operator since 1986.

Brent Dukes has a decade of experience working in software and systems engineering roles. He spends his nights tied to various hardware hacking projects sitting in pieces all over his lab, and participating in CTFs. His idea of fun is reverse engineering and modifying toys and consumer electronics for the purposes of good. Brent has been a licensed amateur radio operator since 2006.

The second amateur radio related talk was about how RF fields can interrupt GFCIs. In some cases, RF can destroy them.

Girl… Fault-Interrupted.
Maggie Jauregui SOFTWARE SECURITY TEST ENGINEER
GFCI’s (Ground Fault Circuit Interrupts) are a practically unnoticeable part of our daily lives, except maybe for those of you who have to fumble around with the Reset button on your hair dryer to get it to work, of course.

I discovered a way to completely melt (magic smoke demo included!) the GFCI mechanism for several off-the-shelf electro domestics wirelessly using specific RF frequencies. Similarly, I’m able to trip other GFCI’s (the type built-in to several apartment/home walls) creating a DoS on running electro domestics.

Electro domestics might not be the worst this vulnerability has to offer, since GFCI’s are used on many different types of electronics.

I plan on building a directional antenna to hopefully perform remote electro domestic DoS. I will list all vulnerable patents, my discovered vulnerable products, all applicable frequencies, and all affected switch types (such as dumb GFCI’s). I also commit to do responsible disclosure of any sensitive electrical attacks, such as RF interference for equipment upon which people’s lives or livelihoods may depend.

Maggie Jauregui (@MagsJauregui)
LinkedIn: http://www.linkedin.com/pub/maggie-jauregui/46/26a/358

Amateur Radio at DEFCON 22

The license exam session was held on Sunday, August 10th from 12:00pm - 3:00pm. In previous years, the session was walk-in with minimal wait. Usually a couple dozen people sat for the exam with no waiting. For a variety of reasons, in 2014, the response was greatly increased. The prevalence of amateur radio in the talks and during the exam revealed that amateur radio allowed for greatly increased opportunities to experiment and hack were obvious reasons, but in talking with the people in line, a diversity of reasons were revealed. Some people wanted to collect the credential as a status symbol. Some viewed it as a way to get an objective measure of their technical knowledge in wireless communications. Some wanted to be able to experiment with high-powered WIFI. Some wanted to explore topics raised by the Steganography talk. Many others had no specific reason for getting their license, other than it was cool, their friends had it, there was a community of people out there that “did radio and they wanted to join. And finally, at least one person in line was there because his mother (mel!) made him take the exam that weekend. That person was Michael Easton.

At 13, this was Michael’s first trip to DEFCON. My first trip was DEFCON 2, in 1994. Now it its 22nd year, the computer security conference has grown from a single-tracked punk no-one-gives-their-real-name party where the hotel phone system and elevator controls were routinely vandalized, into an epic, multilayered sponsored celebration of all hackable things, with people standing in line for 3 hours to take a test that inserts their real name and address into an FCC database.

For DEFCON 2, you were lucky to be given a laminated badge. For DEFCON 22, your badge had a processor, a port, LEDs, and could be hacked to do all sorts of amazing things (photo pg 5). Over the past several years, competitions to hack the badges and make them do cool tricks has resulted in badges that flew dirigibles in the main hall that followed the lowest noise, badges that measured random number over wireless links, and badges that were expanded with screens and speakers to provide visual and auditory entertainment suitable for Las Vegas tastes.

For DEFCON 2, there were t-shirts available. For DEFCON 22, there were t-shirts, bags, notebooks, lab coats, work shirts, and a large vendor and with vendors, and companies selling all sorts of goodies, ranging from lockpicks to software defined radio cards.

For DEFCON 2, you had amazing comraderie. For DEFCON22, you had... amazing comadrie! It’s not common that an annual event can evolve so dramatically yet still keep the same spirit, but DEFCON is one of those events that has not only kept the spark alive, it’s grown the spark into a fire.

For DEFCON 2, there were t-shirts available. For DEFCON 22, there were t-shirts, bags, notebooks, lab coats, work shirts, and a large vendor and with vendors, and companies selling all sorts of goodies, ranging from lockpicks to software defined radio cards.

The room for the amateur radio exam served as the Cryptography Village during the other days of the convention. Villages at DEFCON are subject-specific areas where people can get hands-on experience. Lockpick Village, Hardware Hacking Village, Wireless Village, and Cryptography Village were some of the villages in 2014. Below is a video of the lengthy line.
Club Email Discussion and Announcement Lists

by Michelle W5NYV

PARC has two email lists. The two lists offer additional ways to stay up to date with your fellow amateur radio operators. Signing up is very simple.

Go to http://www.palomararc.org/mailman/listinfo

Click the link corresponding to the list you want to sign up for.

Fill in the form, and you're on the list.

PARC-Announce is a very low-traffic mailing list for announcements approved by the club. Expect only a few messages per month, maximum, including a notice about each club meeting. If you have an announcement you'd like to have published to this mailing list, please send your request to board@palomararc.org for approval.

PARC-Talk is an open list for PARC members to discuss anything related to amateur radio and to the club. Please post in plain text. Don't attach files.

We will not use Scope-notice, Scope-pdf, Meeting-remind or any other mailing list for unsolicited messages or announcements.

Don’t forget - PARC is on Facebook too!

Find us at https://www.facebook.com/groups/194674987710/

Got Site?

We've known for a while that our time at the San Marcos site would come to an end. This (mostly) level, high-visibility site will finally be developed this coming year. That means it’s time for a new chapter in PARC’s Field Day adventures. Where should the club have our next Field Day?

Send your ideas to board@palomararc.org

We need volunteers to make it happen for 2015! Sign up now and be a part of it all.

It is not too early to start thinking about who will serve as the President for the next year. Dennis will not be available due to health concerns expressed by his wife. (Longevity will be severely shortened if he continues.) Please consider who can serve.

Palomar Amateur Radio Club Annual Auction

Always in October!

Bring your tired items, your can’t-get-round-to-its, your duplicates, your what-is-its.

They get a new home, and you get some cold cash.

1 October 2014 at 7:00pm
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Questions? Ideas? Comments? W6NWG@amsat.org

Featured Program:
At 7:30pm on 3 September 2014, Palomar Amateur Radio Club will present a program.

We look forward to seeing you at the Carlsbad Safety Center, 2560 Orion Way, Carlsbad, CA.

Sign up for the PARC Email Lists:
http://www.palomararc.org/mailman/listinfo