

SCOPE

THE PALOMAR AMATEUR RADIO CLUB NEWSLETTER



Poway Hams need our help!

Hams in Poway worked diligently this past year to get the Poway City Council to enact a Poway amateur radio ordinance that is compliant with Federal FCC regulations.

At a Poway City Council meeting held on September 3rd, the City Council directed the City planning staff to work with Poway amateurs to develop the ordinance and present it to the City Council for approval. The Poway hams are now working this matter with their counterparts in the City.

The plan now is that the Poway City development department will hold a "City Council Working Group" on Tuesday, February 18th. This will be an open City Council meeting at which the public will be invited to present their opinion about the proposed ordinance. It is likely a large public attendance will take place.

Poway hams need a large presence of San Diego County hams in Poway supporting their amateur radio cause!

Detailed time and schedule of events will be announced as soon as possible. Announcements will be carried out in newsletters (if known in a timely manner), via emails, web posts, and blogs of ham radio, on repeaters in San Diego County, etc.

Please mark your calendars to be in Poway on Tuesday February 18th, 2014 to support our fellow hams.

The meeting will take place at Poway City Hall, 13325 Civic Center drive, Poway, CA.

Save the Date

Club Meeting

8 January 2014

Club Meeting Jim NE6O's hex beam he built. It was at Field Day and the MiniMaker Faire.

Board Meeting

15 January 2014

Palomar Amateur Radio Club board meeting at 7:00pm at W6GNI QTH.

City Hall

18 February 2014

Support Amateur Radio by coming to the Poway City Council Meeting

Fold & Staple Crew, December SCOPE AI W6GNI & Kathy, Sonny WA5ACE, Art KB6YHZ, Janet Meyer

The club is still looking for someone or a group of folks to take over the Fold & Staple task each month, assembling and mailing the SCOPE. As noted, in previous News Letters, the January Issue (This ONE is my last one!) Contact any member of the board! (It doesn't have to be done during the day – with the exception of delivering the issues to the Post Office. And that only takes 35 minutes if the paper work is in order.)

Advertisements are free for members

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

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- RF Industries Coax Adapters



San Diego Mini Maker Faire

by Jim NE6O

First, I would like to thank Michelle W5NYV, everyone at the Mini-Maker Faire, and the stall of the Del Mar Fairgrounds. They did a huge amount of work and were constantly cheerful and helpful, under all conditions, making the Faire a great success.



Jim NE6O and Kerry N6IZW set up for SDMMF

The attendance appeared HUGE! (*About 5,200 people attended*) Too many people for the Bing Crosby Hall! Trying to walk from one booth to the other was a major obstacle course. The line to buy tickets stretched all the way to the mid way in from of the O'Brien Hall. These people were waiting outside in the rain and no one complained! (That I could hear.)

Now for my experience. I did not get (or missed) the cancelation of the outdoor exhibit. I brought down my K4HIO Hexbeam and spent an hour or so trying to find the Amateur Radio Stuff. Two booths back to back and the San Diego and San Bernadino Microwave guys were setting up their gear. This was a good choice for inside, since the equipment fit easily on the tables. There was an older 2.4 GHz duplex voice link, a 475 THz video link, and a demonstration of what a microwave interferometer sounds like. The kids really enjoyed making the funny sounds!

I was annoyed that I had nothing to do, then I noticed that the booth across the aisle was empty and by a door. Asked when it would be freed up and a no-show and was told probably 10am. Good enough for me. At 10 am I went outside and put up my Hexbeam and ran coax

into the building to my TS-430S. It worked and made a few SSB and CW contacts. Mostly was answering questions and trying to be a good ambassador of ham radio. The noise was very loud. I felt as if I was always shouting. The Del Mar Fairgrounds crew were very supportive and helpful. When they first came by and looked at the antenna, I thought they were going to tell me to take it down. Not so. The antenna was in a no parking zone, but they brought over traffic cones and the PVC barriers to help protect it.

Now for the bad news. At about 1:30pm a crewman came in and asked if that was my antenna and said it had blown down!. It did not hit anything, but came too close for comfort! It must have happened in the five minutes of heavy rain and high wind that we so seldom see here. I checked the antenna and found that two of the fiberglass spreaders were broken. The rest was in good shape. I took it down and stuffed it in my car, then looked at Model Railroad show. It was wide open compared to the Faire. Over the past few weeks, I got replacements for the broken fiberglass rods, fixed the antenna, and it is up working again.

WARNING: Be very careful when messing around with broken fiberglass! I still have bits of fiber in my fingers trying to get out almost a month later! I was thinking of bringing the broken pieces as a show-and-tell for my presentation, but it is too risky. I will show a couple photos instead.

The Faire was a great success. Lots of quadrotors and 3-D printers. Cool. Thanks again to everyone who was involved and a couple suggestions. Bigger space, less noise, and better weather.

73, Jim Cooper NE6O



Kerry Banke N6IZW demonstrates at SDMMF.

Musings of a Crazy Lady

By Ellen Utschig N6UWW

Way back when I sat on Daddy's knee as a child, slowly turning the dial on his old Hallicrafters so that the voice coming out of the speaker didn't sound like that of Mickey Mouse, I had no idea how much magic was hiding in those big metal boxes on the desk. Daddy never pushed us kids to get our licenses. There were six of us and there was already precious little time for him to be on the radio. He didn't need any competition for the hot seat. I pursued typical childhood interests: bike riding, roller skating, kite flying, romping the fields (which would later become home to UCSD) catching butterflies, pollywogs, blue-belly & horned toad lizards. More often than not I could be found in my secret perch high in the big rubber tree right in our own backyard. My sisters learned to sew & cook. I preferred to be outdoors and never earned any merit badges in home economics.

My brother, Joe, got his ham license (KM6EK) around 1970. In the early 80's my brother-in-law, Mark (NOKII), got his ticket. It was on a family trip to Minnesota for the baptism of one of Mark and our youngest sister's sons in the late 80's that the rest of us kids finally started feeling left out of the fun as far as ham radio was concerned. As four carloads of us toured around Minneapolis, Daddy, Joe & Mark, each in separate vehicles, were able to communicate on their HT's while my sister's family & I were left out in the cold, wondering what the hand gestures and visible laughter was all about. It was then that my sister Katie & her husband Lex & I decided we'd better get our tickets or the rest of the family would all be talking without us (and about us!)

The three of us attended classes weekly at Kearny Mesa Convair Recreation Association. The first night we attended class we saw "HAM RADIO IS FUN" written in giant letters on the chalkboard. We couldn't help but be excited about it with Nick Callas, K6DBJ, as our teacher. Soon we passed our 5wpm code requirement & got our Novice licenses. We were KC6BIZ, KC6BJA & KC6BJB. We could hardly wait for Nick's Technician class the following spring. As soon as we got our CSCE, we made the ritual trip to HRO – the first of many over the years that followed. We all bought identical Kenwood TH-25's. We were "real" hams (or so we thought at the time!) We were N6UWW, N6UWX & N6UWY.

I had just bought a condo. Great...unless you're a ham. I couldn't even hit the local 2m repeater unless I stood on my tiptoes straddling the patio fence. I was able to put a J-pole on a length of PVC pipe which I'd erect temporarily by lashing it to the lattice fence whenever I wanted to chat on the local repeater (usually under the cover of darkness so I

wouldn't draw the attention of "Miss Clipboard" of the HOA).

My little HT provided me with countless hours of fun. I stayed up way too late & got facetious with the gang. I collected countless t-shirts and ballcaps by volunteering at parades and sporting events. It felt great to give back to my community doing public service communications. I got some pretty official looking uniforms with fancy embroidered patches with stars on them. Those fancy uniforms got me the only helicopter ride of my life and I even got mentioned in a QST article (March 1993). Daddy was so proud to see that my picture was there, too! He didn't even care that it was only in black & white.

With the encouragement of Dennis, N6KI, I got into contesting by participating in the local club's Field Day (I'd eventually Chair that group's 5A effort). What a thrill it was to operate on HF using the club's callsign. I had to get my General ticket. There was just too much more fun to be had and it wasn't ONLY on the local repeater. I passed the theory test on my first attempt but it took five painstaking stabs at the code that I finally hurdled that 13wpm wall. Yes! I bought a Drake TR-4 from Karl, N6WLX (now ND8DX) but wasn't too sure about that straight key on the 8½"x11" Plexiglas that he threw in "for good measure". I dabbled with code and will be the first to admit that it has never been enough to get comfortably proficient. I put a length of wire as high as I could get it in the pine tree just off my patio. Harry, W6YOO, pounded in a ground rod into this miserable stuff we call soil (otherwise known as San Onofre Breccia). I was in business.

Solar Cycle 22 was in full swing and I was on HF! The pine tree grew & I spliced more and more wire to my random wire antenna. I bought a laminated world map and started checking off the countries I'd work (some of which I'd never even heard of before!). I got a 10-10 number. I participated in the Challenger Special Event station from W6YOO's QTH and worked all 50 states in 8 hours. I listened as world history unfolded via transmissions from Bosnia-Herzegovina. I kept the condensed smoke in the black box and the magic of ham radio continued to amaze me whenever I'd allow time for it.

Marvin, W6MJM (ex-WB6PKK) encouraged me to join him for checkpoint communications at the off road races in Nevada & Mexico. Woo Hoo! My parents had always forbidden me to go to Mexico and now I was all grown up and nobody could tell me "NO" anymore! I'd be combining my love

of the outdoors with ham radio and I'd be totally safe because "we have communications". My mother said novenas the entire time I was south of the border

continued on page 6

HAM RADIO OUTLET

H
R
O

Jose XE2SJB
Jerry N5MCJ
Joe N6SIX

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Directions: On 163, take **Clairemont Mesa Blvd.** off ramp to East. Stay in right-hand lane. Turn right at stoplight. As you are turning right you can see our beams in this shopping center. Travel 100 yds. On Kearny Villa Rd. and U-turn back to shopping area and HRO sign. Be sure to see our equipment in action on **real** antennas!

SCOPE for January - Membership

Please don't forget the Club when your membership is due!! Some of the folks that still may be due to reinstate – I hope! KD6DCI, KFGWTN, K6AH, WA6NPM. Others still on my "Hopeful" list, left over from ?? month: K6VG, KE6SDF, KF6GOF, KG6ETI, M6MTS, KJ6JMJ, KC6VDX, W9EN, WA6NPM. And some new, WA3WOO, KI6KJG, AF6GM, KJ6FZQ, W6BRX, KJ6LLB, W6DM, N6OPP, KM6GLF, KJ6ACD, KI6YK. Good news, some of these go into 2014!! I really hope I'm not wasting my time making it easy to see when your membership is running low! PLEASE! (Also, do you know your records are on the web site for you to check your renewal date.)

And PLEASE do not ignore the CLUB! I hear numerous folks on the repeaters that have not paid any dues, and quite a few of these are "regulars". Power, insurance, and electronics are not free!

It costs the people that drive to the mountain to work on the repeaters more for gas than membership costs for a year!

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continued from page 4

(maybe THAT's what has kept me safe all these years!) and I made it home, time and again, always with incredible stories of new adventures and new friends.

Fast forward to the year 2000. Y2K meant some extra- long off road races to kick off the millennium celebration: the Nevada 2000 and the Baja 2000. I was the lone radio operator at my checkpoints for the Nevada 2000 (a race which required that volunteers leapfrog throughout the entire state for 6 grueling days of racing in the heat of the summer). Thankfully I was hired on by BFGoodrich for the Baja 2000 and that meant I'd more than likely have a hotel room every night rather than tent camping. Better yet, it brought Wild Bill into my life. Let the good times roll!

Wild Bill got his ticket (WB6BFG) in 2003 and got the DX bug in a big hurry. I knew he'd be a natural contester after hearing him run race radio traffic over the years. Together we've had the good fortune to operate as HQ3Z, GJ2A, E51Z, DX1M & JA1YPA in the recent CQWWSSB contests (he also contested as A73A but I wasn't on that trip & I worked as PJ2W on the YLDXpedition). We've traveled to places we've never dreamed of seeing with our own eyes. We've met fabulous friends throughout the world & have experienced some wonderful times. We're both looking forward to a freighter cruise through the Marquesas in the summer of 2014.

(www.aranui.com)

I know Daddy's been closely watching over me from heaven since becoming a Silent Key in 1995 and somehow, I guess by writing this, I hope he knows how grateful I am that he introduced me to ham radio and all the magic that has come into my life from inside that black box.

New Email Discussion and Announcement Lists

by Michelle W5NYV

PARC has two new email lists. The two new 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/>

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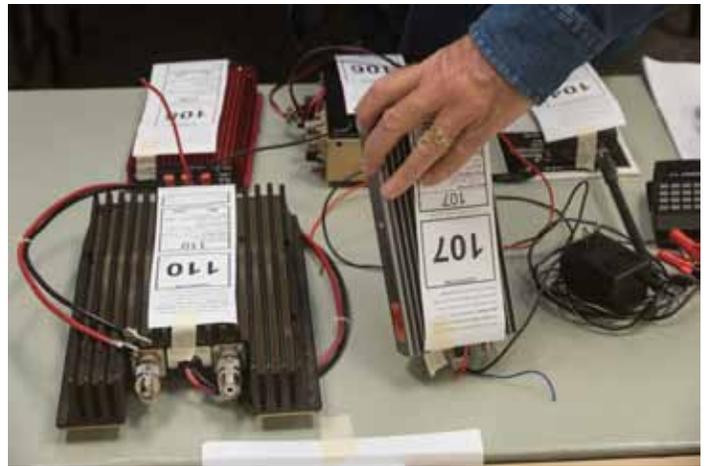
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PC Tips from Dick K6KAL - Registries!

The cleaning of a registry on a PC can impact the performance of logging software and the serial connections to your radio. Old software that loaded drivers that have since been updated may still have some artifacts left behind in the registry.

The safest way to cleanup a MS Registry is to use tools. I have listed three I use periodically. Why three? Well, each vendor has its own way of reviewing registries. They are all good, but no one vendor has it all covered. I run each in succession to make a complete cleanup.

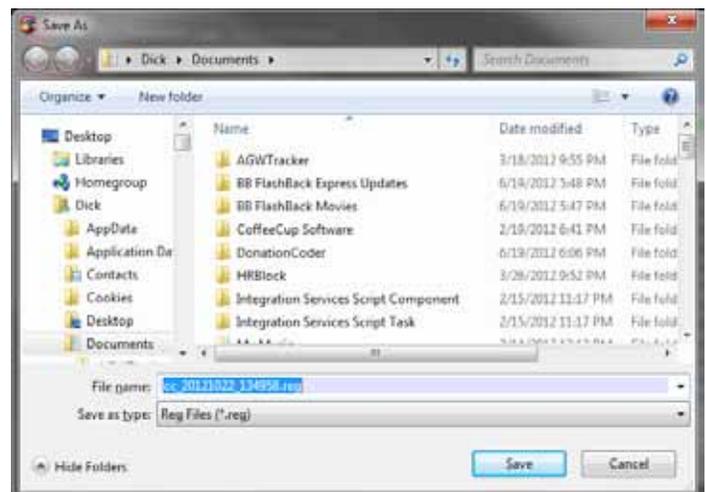
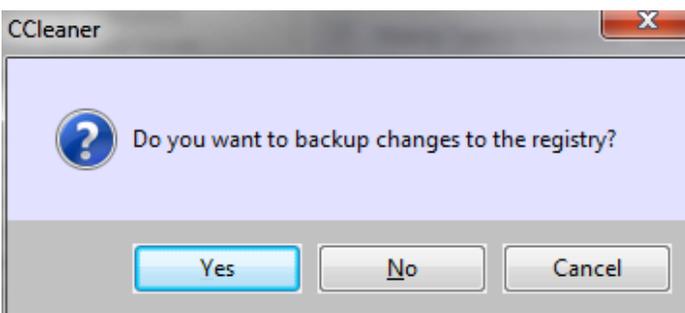
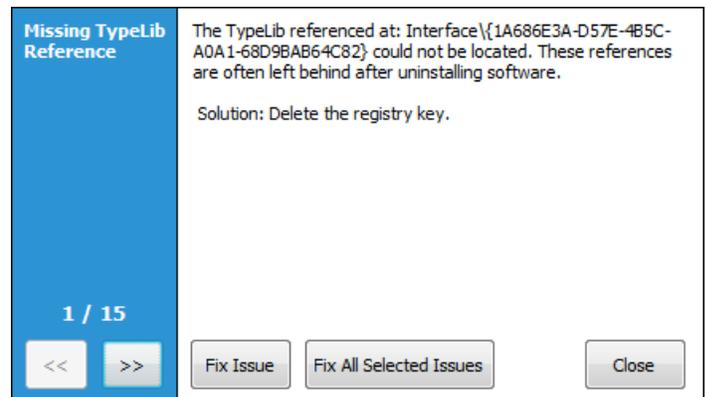
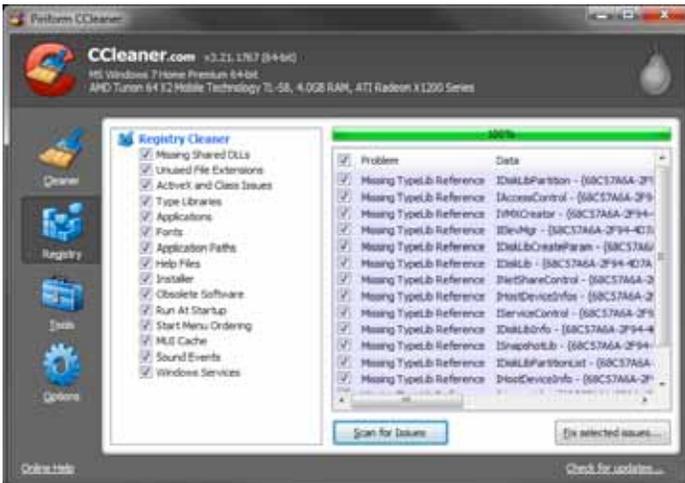
I start with C Cleaner, as it has a built in 'Registry Backup' tool that will allow a user to restore the registry, should some functions fail to work. Next I use Glary Utilities and select Registry Cleaner. And last but not least, I use nCleaner.

Why does each find more stuff? Well some items cover or hide other issues. After they are cleaned, running another process will discover them.

It appears that each vendor has some cleaning processes and procedures that are just slightly different than the others. You can try any one and get good results. Using all three is at the extreme end of the scale, which I employ, as in any one month I load and unload several programs for testing. That definitely leaves a nasty residue behind.

Sample screens of each follow. They are somewhat self explanatory, but to start limit yourself to the 'Registry' cleanup processes for now.

C Cleaner

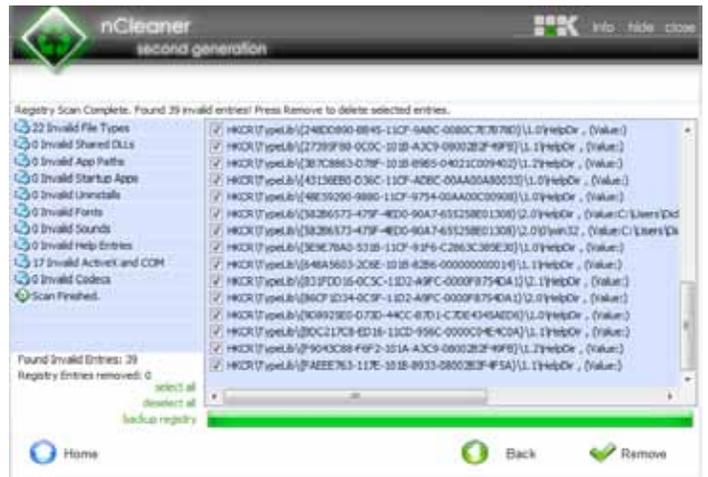
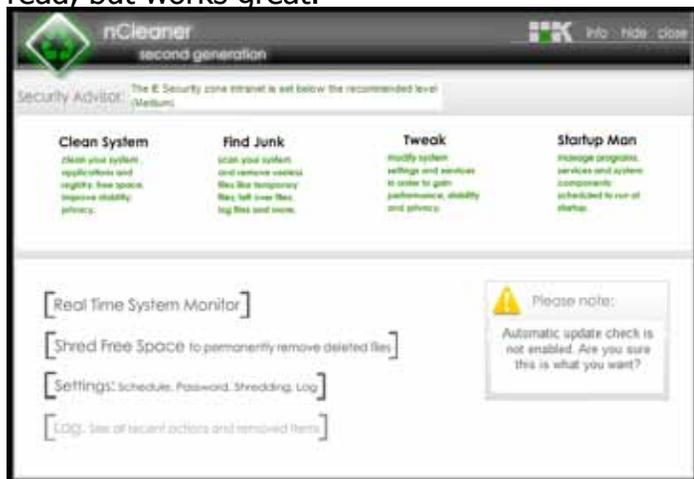


The next registry repair program is Glary Utilities. Another nice feature of this tool is under Files & Folders which will allow you to find duplicate



files.

And finally, nCleaner. This utility has menus that are a little difficult to read, but works great.



Another good habit is to run a freeware utility like 'Malwarebytes' or 'Spybot – Search & Destroy' to check for malware and Trojans and other Ad Ware. With all the junk being attached to eMails, chances are one or two have slipped past any Firewall or Anti Virus software you may have running.

MS has a new version of Microsoft Security Essentials. It was rumored that the original MS product was sub par, so they looked for another software product / company to buy. They did, and this newer version is much improved. For the casual user it works just fine.

I have encountered some users running more than one firewall and or Anti Virus tool on their PC. While the intention is good, the PC performance is not. Each tool imposes its own rules on new software and files, and can cause a huge performance hit. Find a good one, (free or otherwise) and stick with it.

A Note for the contester or DX loggers, just turn off all firewalls, and anti-virus software, as the only inbound data would be from a DX cluster. This should only be done just before a contest, and remember to turn it back on when the contest is over.

If presented with an option to buy an upgraded version or feature, don't. The freeware one is just fine for most home / casual users. Read the install instructions carefully, as many are subsidized by some other tool they will try to install. If in doubt, decline the offers.

"The Victorian Internet"

by Tom Standage

A Book Review by Charlie NN3V

This book is a must read for any ham radio operator. From the confirmed DX champion, to the dyed in the wool CW contester, or the newest tech licensee, everyone will find amusement and wonder in this book's pages describing the incredible impact Morse code and telegraphy had on the world in the mid 1800s. Mr. Standage takes the reader on a jargon-free, can't-put-the-book-down amusing narrative on the triumphs and foibles among many early inventors who contributed to the development of telegraphy and the codes and ciphers that led directly to today's internet-wired world.

Starting in 1746, French monks painfully demonstrated the instantaneous transmission of electric current along a one mile pair of electric cables; the book describes the amazing interconnection of European cities using optical telegraph towers, many of them located on high ground points that retain the name "Telegraph Hill" to this day. Pioneered by the French, optical telegraph systems permeated everyday living, giving rise to the first commercial distance communication efforts.

But it was not until 1832 that Samuel B Morse, then a portrait painter by trade, happened upon the inspiration for telegraphy while discussing distance communications with a fellow steamship passenger returning from Europe. Years earlier Morse had suffered the late receipt of news of his wife's death (news from his home town of Boston took five days to reach Washington DC where he was staying). The discussion of electromagnetic phenomena for distance effects with the fellow steamship passenger sparked Morse's interest in developing a "code" and the means to transmit news to distant locations. The rest is history.

The book describes the many parallel efforts that transpired simultaneously with the development of the earliest telegraphs. Morse's apparatus was far simpler than European versions, however competition was fierce. In England, Cooke's system was adopted by the railroad companies at first, eventually to be nationalized into the British Post Office service.

Fascinating account is given of the effort to connect Europe to North America using telegraph wires. The pioneer effort of Wheatstone (for whom the Wheatstone bridge is named) nearly sank the effort due to Wheatstone's incompetence. Fortunately cooler heads prevailed, and in August 1857 the two continents were connected with the first transatlantic cable. The frenzy that ensued soon had the world interconnected to such an extent that diplomats toasted one another with the expectation that wars and strife would become a thing of the past thanks to instantaneous communications!

The book presents lively chapters dedicated to "Codes, Hackers, and Cheats" describing how for every idea of useful telegraphy use, a scam soon followed (sound familiar?). "Love Over The Wires" describes how amorous encounters and weddings were arranged via telegraph, and how the family of telegraph operators became an eclectic and highly paid stratum of society in mass demand for their code skills. "War and Peace in the Global Village" recounts the beginning use of telegraphy to deceive and confuse military and commercial competitors, giving rise to the era of disinformation! As the use of telegraphy mushroomed, interconnecting countries, businesses, and even families, Morse, Cooke, and others started looking for ways to automate telegraphy and improve the efficiency of information transmission. The era of bandwidth expansion ensued, the system became automated, and the family of telegraph operators lamented the loss of skills among the newcomers to the code transmission business!

The last two chapters of the book, "Information Overload" and "The Legacy of the Telegraph" describe how the advances of telegraphy paved the way for the telephone, FAX, and the modern day means of communications. For example, Henry Baudot pioneered the electronic optical scanner for one automatic telegraph system, and in the process created the Baudot code on which the ASCII protocol for modern day internet communications are based.

Many anecdotal references are present throughout the book. For example, professional telegraphers in the major telegraph offices referred to lesser operators in rural offices as "hams". A "ham" was considered an inferior code transmitter! Begs the question of how we came to be called hams. Were amateur radio operators considered inferior CW operators?

The book closes with a vivid description of the demise of telegraphic service in the United States when Western Union ceased all telegraph service in 2006, and then paints a vivid contrast between the Victorian Internet and our current internet wired world. In essence, all that is old is new again!

"The Victorian Internet" by Tom Standage is a 200 page eminently readable paperback that lists for \$14.95, is available from Amazon.com for \$10.17, and can be purchased used online for \$7.61. The book is a fun, fast read, full of fascinating information about a technology near and dear to the amateur radio hobby, and will complement any serious library of technology information.

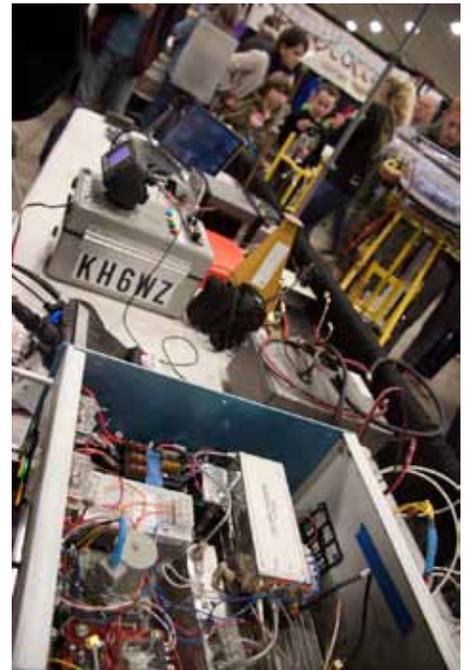
I rate it a "must read".



Amateur Radio Demonstrations at San Diego Mini Maker Faire

Photos by W5NYV

Amateur radio made a big impression at the first ever San Diego Mini Maker Faire. Participants could learn how to solder, and operate several stations. Basic physics and microwave were demonstrated to a large and enthusiastic audience.



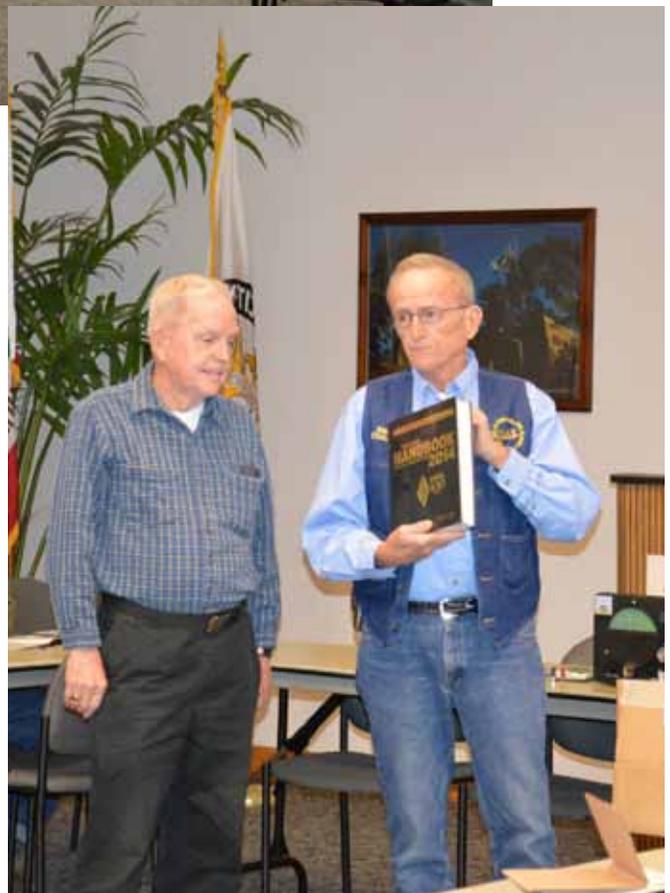
December Social

Photos
by Don
WD6FWE



Plenty of food and fun was enjoyed at the December Membership Social.

And, the 2014 ARRL Handbook winner was announced. Congratulations Fred May N2HLG!



New board members introduced





Ops - N6KI, NN6X, N6EEG

Great Job !

#1 USA

#1 North America

#2 World

Plaque on the way and Certificate Above!



Here is an interesting training tool spotted by Dennis N6KI. While there are a lot of CW pile-up trainers, there aren't as many SSB pile-up trainers.

<https://soundcloud.com/hb9elv/ssb-pile-up-trainer>

Listen to the audio file and write down as many call signs as you can. Scroll down to get answers.



December 2013 meeting of the San Diego Microwave Group - white elephants were exchanged at the annual party. Many PARC members are also members of the SDMG, which meets on the 3rd Monday of each month at Kerry Banke's QTH. All hams with an interest (or want to be interested!) in microwave are welcome to attend.

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You can join or renew your membership on the club's web site <http://www.palomararc.org>

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Submissions: scope@palomararc.org

Questions? Ideas? Comments? W6NWG@amsat.org

Featured Program:

At 7:30pm on 8 January 2014, Palomar Amateur Radio Club will present a program. Jim NE6O will talk about his hex beam antenna. It's seen action a-plenty at Field Day and Mini Maker Faire. Come at 7:00pm to socialize before the 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>

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Save the Date

Club Meeting

5 February 2014

Joe, K6JPE will do a presentation on APRS.

Board Meeting

12 February 2014

Palomar Amateur Radio Club board meeting at 7:00pm at W6GNI QTH.

City Hall

18 February 2014

Support Amateur Radio by coming to the Poway City Council Meeting

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Centennial QSO Party A Great Way to Work All States

The ARRL Centennial QSO Party is a year-long operating event that celebrates hams making contacts. In the end you will have accumulated points, worked new stations and made new friends all over the world.

California's slot is on February 12th. Host call sign is K6NA, and is sponsored by the Southern California Contest Club.

The Centennial QSO Party is made-up of two main activities: (1) W1AW operating portable in each state and most territories; and (2) The Centennial Points Challenge which is the accumulation of points from qualifying contacts made throughout 2014. To have a score listed online in the Points Challenge competition, logs must be submitted through the Logbook of the World (LoTW) system.

W1AW will be on the air from every state and most territories, and it will be easy to work WAS working only W1AW portable operations. This is the first ARRL-sponsored operating event where every member is worth at least one point, so work as many points as you can during 2014! Earn awards based upon points, working all states or working W1AW portable in every state and territory. This is an on-the-air event like no other.

<http://www.arrl.org/centennial-qso-party>

Broadband Hamnet Update

PARC Members Conrad, KG6JEI, and Andre, K6AH, are part of the Broadband Hamnet (BBHN) Core Team and they have been working the past few months on porting the Linksys-based HSMM-MESH software over to the Ubiquiti AirMax line of devices. As this is being written they are set to release their version BBHN1.0.1. It will support the following devices:

- Rocket M2
- Bullet M2 HP
- AirGrid M2 HP
- NanoStation Loco M2 (NSL-M2)
- NanoStation M2 (NS-M2)

These devices will have an enormously positive impact on the utility of BBHN networks. They are environmentally rated to near-military specifications and run several times the RF power of their mesh predecessor, the Linksys WRT54-series devices.

You may recall Andre's presented to PARC last February on the subject. Look for his project, the San Diego HSMM-Mesh Working Group, to kick-off again, with this more suitable hardware, later this year.

More information can be found on the BBHN website,

<http://www.broadband-hamnet.org/>



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Short video above NX6T contest site. This is a view from the NN6X drone. Watch for antenna rotation. Submitted by Dennis N6KI.

Checking in on the Repeater Site



Repeater site visit 28 January 2014. Weather was spectacular. No limbs down, tension on guy wires acceptable. Photos by Michelle W5NYV.

HAM RADIO OUTLET <div style="border: 1px solid black; padding: 2px; display: inline-block;"> H R O </div>	Jose XE2SJB Jerry N5MCJ Joe N6SIX	KENWOOD <i>rf</i> CONCEPTS DIAMOND US TOWERS KANTRONICS YAESU, MFJ, ICOM BENCHER, Inc. HUSTLER COMET AMERITRON	Astron, AEA, OUTBACKER Larsen Antennas TEN-TEC Hy-gain, Tri-EX, Cushcraft And Others <i>too</i> Numerous to Mention!	Drop in to see our display of working equipment. Find out about Pkt location determining equipment (APRS). Check our complete line of magazines, ARRL books, license manuals, and Bulletin Board with all sorts of Goodies listed.
	Open: 10a.m. – 5:30p.m. Monday thru Saturday 858 560-4900 or toll free 1-800-854-6046	Directions: On 163, take Clairemont Mesa Blvd. off ramp to East. Stay in right-hand lane. Turn right at stoplight. As you are turning right you can see our beams in this shopping center. Travel 100 yds. On Kearny Villa Rd. and U-turn back to shopping area and HRO sign. Be sure to see our equipment in action on real antennas!		

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PC Tips from Dick K6KAL - Contesting!

Not all Hams contest, but if you do, here are some hints to help things go more smoothly (from the PC point of view).

1) Turn off any Anti Virus software, Anti Malware and Firewall software. These tend to slow down the system, as many Loggers use some form of database, and with each disk or network access, the Anti Virus software wants to check out things.

2) Confirm that Indexing is turned off. If left on, the Indexing software may decide to start, and use system resources and disk access to complete its task.

3) Disable the power save feature on all USB Hubs. This could cause an interruption while the system tests to see if another port or hub could be shut down. It would not touch the port you are using for the radio as it would be active, but all others would be fair game.

4) Turn off windows updates. This could tie up your interconnection used for DX cluster spots, and again as with other tasks, load up the disk drive access load.

5) If your PC has a built in modem for connection to a phone line, 'disable' it. The PC system when it starts would have tried to assign com3, and this would interfere with your radio, keyer or logging software.

6) Check your systems clock. As some PC's get older, the clocks do not function as one would expect. Many PC's still use an internal battery as backup to the CMOS. If the clocks are off, it is usually an indication that your battery is going.

7) Some laptops have 'Adaptive Brightness' running which monitors ambient light and adjust the screen brightness. Turn it off.

8) The following services can be safely disabled using 'Control Panel > Administrative Tools > Services'. Double Click on the service, and click the 'Stop' button. This will temporarily stop the service until the next time the computer is started. Using Windows 7, I have fewer than 50 processes running. On my XP system there are less than 30.

Below is the list of services that can be safely disabled.

```
Adobe Acrobat Updater, Bonjour
Service, Bluetooth Support
Service, Fax, Google Update
Service, Home Group Listener,
Home Group Provider, iPod
Service, Logitech Bluetooth
Service, Microsoft Antimalware
Service, Mozilla Maintenance
Service, Microsoft Software
Shadow Copy Provider, Parental
Controls, Quality Windows
Audio Video Experience, Remote
Registry, Secondary Logon,
Skype Updater, Telephony,
Volume Shadow Copy, Windows
BioMetric Service, Windows
Backup, Windows Defender,
Windows Time, Windows Search.
```

Well that is about it for the easily controllable items. Most have been the subject of earlier PC Tips. Now for some more obscure settings.

A) When using a PC with 'Real serial' ports, turn off the FIFO function. This is normally used to 'Buffer' data streams with extremely high speed devices (> 38.4). With our Ham radios, 'CAT', 'CI-V' and other protocols, the data exchanges are small, and buffering offers no advantage.

B) Turn off any background tasks. That is to say, when most new software packages are loaded, they insert a small (always running) utility to help their product start faster. A good example of software that use these starters Apple, Adobe Updater, Java (Updater), iTunes, Quicktime, Skype, most wireless printers, and many Microsoft products. (I will cover these is a future tip). Removing the startup part of their software does not change the function, it only takes a few seconds longer to start. These running processes 'Monitor' the system, waiting to 'start' their application. The fewer of them that are running, the more 'Real' memory the system has to use for your favorite Logger.

C) On older systems running XP, do a 'Disk Defrag' sometime before the contest. This will help with the overall disk access performance.

D) Windows 8 works just fine with most logging programs. One note is that if you choose to use a tool like VSPE (Virtual Serial Port Emulator), install the 32 bit version. Not all 32 bit drivers will work on the 64 bit version. This utility allows a radio to be accessed by more than one program at the same time.

E) Most contesting loggers use data files to check call signs. One site for these files is 'Super Check Partial' (<http://www.supercheckpartial.com/>) where you will find the most recent files. There is another file contains the 'Country'. This can be found at (<http://www.country-files.com/cty/>), along with installation instructions for each logger.

F) If you are part of a 'Multi' station contest, check out your network connections. Each Radio / PC will have a station number set somewhere in the software. Confirm that as a log entry is made, the other PC can see the entry. Read the logger documentation and locate the '10 Minute timer' as some contests have a band change restriction. And one last hint, 'Have Fun' and enjoy the pile-ups.

The following is a list of some of the many loggers that are in use. Find the one that works for you. Some loggers do not do contesting well, that is to say, they do not support all contests. If you are into contesting, find a good one, or run two separate applications, one for daily DX, and the other for contests.

Popular Loggers: (some designed for heavy duty contesting *)
For the PC: WriteLog*, N1MM*, WinTest* (Like the old DOS CT on steroids), Ham Radio Delux (freeware version), Logger32, NA by K8CC (DOS), TR4W, XMLog, DX4WIN, SwissLog, TR4W,

And for Apple: iLog, MacLoggerDX, Aether Log Book, Rumped Log Ver.3*

And yes Linux: CQRLOG, CLLOG, DBLog, and a bunch more at : (<http://radio.linux.org.au/?sectpat=logging>)

Other utilities that may be useful:
Audacity, an audio editing application to helps create wav files (<http://audacity.sourceforge.net/>), VE7CC-1 Web Cluster software (<http://www.ve7cc.net/>), WinTelNetX another DX cluster application, to name a few.

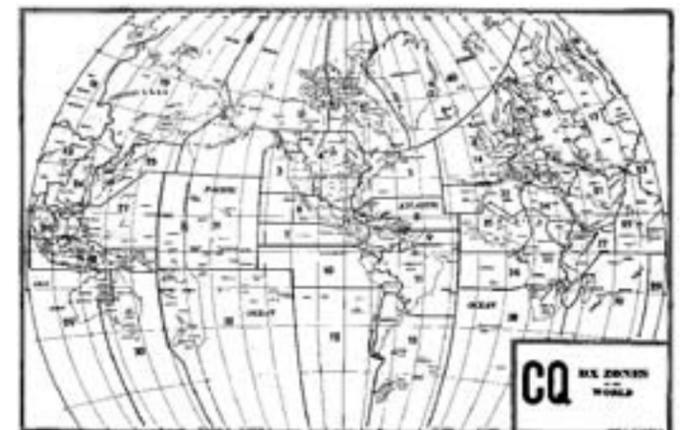
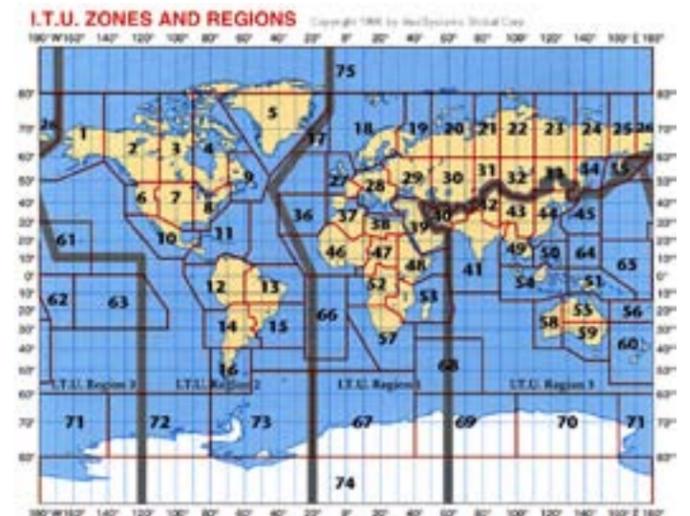
Here are a number of useful web sites:
QRZ, DXScape, dxwatch, DXMaps, DXforMe, LOTW, ClubLog, eQsl, and do not forget to add a

link to your favorite logger.

What ever your flavor is for the Radio Sport, have fun with it. Although you may not be a DXCC hunter or Worked all states enthusiast, PC or Apple based logging tools can make things easier.

I would suggest that all Hams use LOTW (Log Book of the World) to record your contacts. While you may not be trying for any awards, the other operator may. There is also eQSL, and Club Log, which are easy to use and becoming more popular.

One last note: Keep a pencil and paper handy, as computers some time have a mind of their own, and like to test one of the Murphy's Law with you at the worst possible time. Continue to log contacts by hand until the PC operation can be restored.



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You can join or renew your membership on the club's web site <http://www.palomararc.org>

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Submissions: scope@palomararc.org

Questions? Ideas? Comments? W6NWG@amsat.org

Featured Program:

At 7:30pm on 5 February 2014, Palomar Amateur Radio Club will present a program. Joe, K6JPE will do a presentation on APRS. Come at 7:00pm to socialize before the 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>

SCOPE

THE PALOMAR AMATEUR RADIO CLUB NEWSLETTER

Field Day 2014: June 28-29!

ARRL Field Day is the single most popular on-the-air event held annually in the US and Canada. On the fourth weekend of June of each year, more than 35,000 radio amateurs gather with their clubs, groups, or simply with friends to operate from remote locations. Field Day is a picnic, a campout, practice for emergencies, an informal contest and, most of all, FUN!

It is a time where many aspects of amateur radio come together to highlight our many roles. While some treat it as a contest, others use the opportunity to practice their emergency response capabilities. It is an excellent opportunity to demonstrate amateur radio to the organizations that amateur radio might serve in an emergency, as well as the general public. The contest part is simply to contact as many other stations as possible and to learn to operate our radio gear in abnormal situations and less than optimal conditions while having fun. Field Day is/not a contest.

Field Day is one of the main highlights of PARC and a good effort is put forth each year. Last year we scored 4th place in our category



of 5A and had lots of fun while doing so. In addition we placed first among all the San Diego (SDG) clubs. We set up 5 main stations plus a satellite station and GOTA. We hosted a Radio merit badge class for the Boy Scouts and had the help of the Young Marines during setup and takedown. There was a testing session that took place on Saturday and as a result, two new hams were licensed into the hobby. We even had a world class BBQ prepared by the famous Psycho Kitchen.

Whichever aspect Field Day sparks your interest, whether it be the contesting, setup and takedown and seeing how all the equipment goes together, commanding a station, the Saturday picnic BBQ, or just hanging out with good friends, I hope you will join us this year for the Palomar Amateur Radio Club 2014 Field Day effort.

Field Day is a group/club effort. We did not achieve the results of last year without having fun and we certainly didn't do it with just one person. If you are interested in helping in any way, please contact me. No former FD experience is needed.

Field Day is scheduled for June 27, 28, and 29 2014. If we are allowed to use the site at Santar and Rancheros in San Marcos, this will be the Club's last time. Permission, if we receive it, should come in the next week. We, the Club, need to start looking now for a new site for future use.

Plans are starting now for the Field Day preparation nets, to help coordinate Palomar's efforts. A few station captain offers have already been received. Thank you for your offers. One item of concern, at least to one Club officer, is the transportation of Club equipment by private means. The club may be required to contract (rent) a transport unit or company to move Club equipment to alleviate their concerns.

The sooner we identify our needs, the sooner we can solve these hurdles to provide a great Field Day.

Looking forward to seeing you there.

Greg Gibbs
KI6RXX
760-583-9668

Save the Date

Club Meeting 5 March 2014

Dr. Henry Richter
on "Long distance
communications"

Board Meeting 12 March 2014

Palomar Amateur Radio
Club board meeting at
7:00pm at W6GNI QTH.

Club Supported Event 15 March 2014

Shelter Valley 50k and
30k runs. Hams will be
providing the comms on
the course. See pg. 9.

Advertisements are free for members

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March Meeting is Way Out

Our next meeting is March 5, 2014. The presentation will be by Dr. Henry Richter on "Long distance communications"

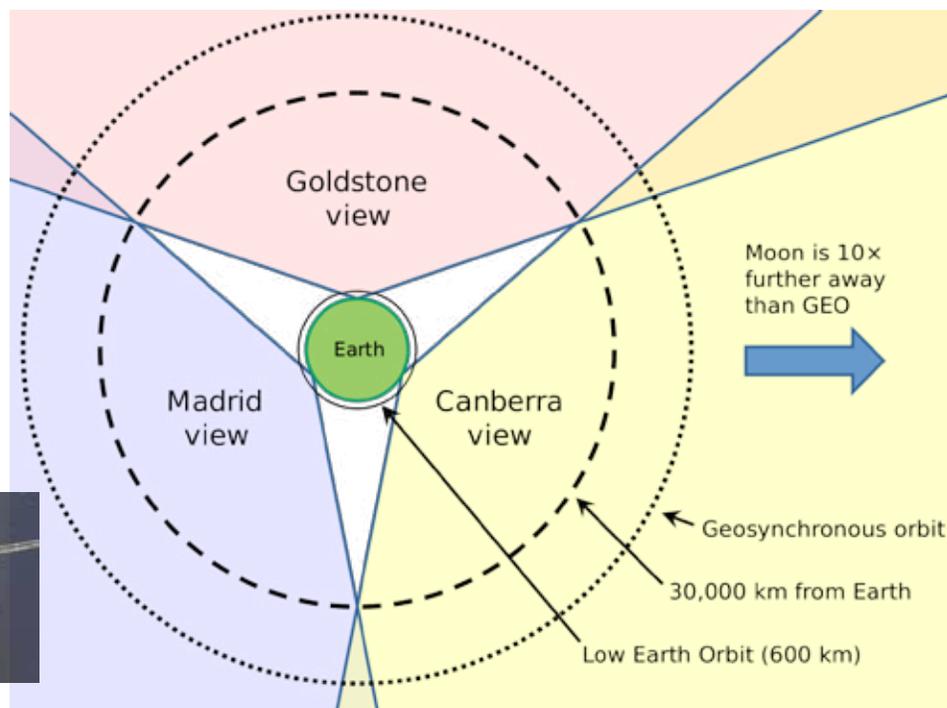
DXing Europe? No, a bit farther than that. Come and hear how NASA communicates with Voyager at 11,700,000,000 miles. Radio transit time about 18 hours (distance=2/3 of a light-day). NASA operates a deep space net (DSN, see diagram below) in three locations, spaced 120 degrees around the globe. They each have a 210-foot diameter antenna plus several smaller ones about 85 feet in diameter. They stay in touch with the two Voyagers, plus 32 other spacecraft like Cassini orbiting Saturn, the Mars rovers, the Mars orbiters, and a bunch more.

If you missed the talk at the Escondido Amateur Radio Society, here is another chance to hear it.

Dennis
Palomar ARC

At right, view from the Earth's north pole, showing the field of view of the main DSN antenna locations. Once a mission gets more than 30,000 km from earth, it is always in view of at least one of the stations. Below, Voyager 1.

Find out more at
<http://deepspace.jpl.nasa.gov/dsn/>



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At left, a bolt from one of the largest antennas at the Goldstone Deep Space Network site. For size comparison, here it is below on my work bench.

Want more space comms? Send text messages to ISS! Video:

<https://www.youtube.com/watch?v=HdS3EqRooN8#t=103>



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/>



Ham radio operators do it
until their gigahertz.

<p>HAM RADIO OUTLET</p> <p>Jose XE2SJB Jerry N5MCJ Joe N6SIX</p> <p>H R O</p>	<p>KENWOOD rf CONCEPTS DIAMOND US TOWERS KANTRONICS YAESU, MFJ, ICOM BENCHER, Inc. HUSTLER COMET AMERITRON</p>	<p>Astron, AEA, OUTBACKER Larsen Antennas TEN-TEC Hy-gain, Tri-EX, Cushcraft And Others too Numerous to Mention!</p>	<p>Drop in to see our display of working equipment. Find out about Pkt location determining equipment (APRS). Check our complete line of magazines, ARRL books, license manuals, and Bulletin Board with all sorts of Goodies listed.</p>
<p>Open: 10a.m. – 5:30p.m. Monday thru Saturday <i>Ask about our great prices</i> 858 560-4900 or toll free 1-800-854-6046</p>	<p>Directions: On 163, take Clairemont Mesa Blvd. off ramp to East. Stay in right-hand lane. Turn right at stoplight. As you are turning right you can see our beams in this shopping center. Travel 100 yds. On Kearny Villa Rd. and U-turn back to shopping area and HRO sign. Be sure to see our equipment in action on real antennas!</p>		

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EMCOMM Net!

Next SDG North County Emergency
Communications Net -- Wednesday, Feb 26,
2014 at 7pm

ALL interested Amateurs, including ARES, CERT,
EARS, PARC, and RACES members are invited to
participate.

Repeater check-ins begin at 7:00pm on the
147.030 (+103.5) ECRA Repeater on Palomar
Mountain. After that, a frequency will be
announced for a simplex mapping net in
each local area. Please use 147.480 simplex
to contact stations east of Mount Woodson,
146.445 to reach stations along the I-15 inland
corridor, or 146.550 for the cities along I-5 and
the coast.



Palomar Amateur Radio Club and the San
Diego Six Shooters Club will conduct an
Operating Day April 26th for public
demonstration of Amateur Radio. This event
will be hosted on the parking lots of FRY's
ELECTRONICS in San Marcos and San Diego,
respectively. Plans are to be operational by
9:00 AM and continue to 5:00 PM. We plan
to demonstrate different formats and have
asked supported agencies to come show how
amateur radio supports their needs.

2014 ARRL Southwestern Division Convention

September 12 - 14, 2014
Will be held at the
Sheraton Four Points Hotel
8110 Aero Drive, San Diego CA. 92123

ARRL Centennial Operating Event Report

by Jeff Davis N0DY

The team at NX6T helped to celebrate the ARRL Centennial by participating in the Centennial Operating Event. The W1AW call sign is being passed to all 50 states, and stations in each state are given the opportunity to represent the ARRL by giving out QSOs with, in this case, W1AW/6. NX6T was honored by being one of the stations asked to help represent California. As a special bonus, the week selected for W1AW/6 operations included the weekend of the ARRL DX CW contest.

Normally, Dennis, N6KI, does all the coordination for contests and events at NX6T. This time, however, Dennis would be out of town at the Yuma Hamfest and operating the ARRL DX CW contest from there. Since I'm the New Guy at NX6T, Dennis asked if I would coordinate the operators for the W1AW/6 event. I didn't really know what I was getting into when I said yes!

One thing I did know – the ARRL DX CW contest and the Centennial Event would occur over the Valentines Day weekend. I knew that "special coordination" would be required with the XYL in order to play radio that weekend. What's worse, the contest started at 4:00 PM on Friday, February 14. Timing could not have been worse. Fortunately for me, my XYL was very understanding when I approached her, only requesting that in exchange I be sure to be home to watch the Super Bowl with her! (Dennis, the bill for the large batch of roses delivered to her workplace will be in my expense report).

We got off to a late start with the operator coordination as emails from Glenn, K6NA, the statewide coordinator, were being rejected by my email provider. By the time we figured that out, we'd lost about a week. I sent out an all points bulletin for operators and quickly discovered what radio silence sounds like for email! Fortunately, members of the team stepped up in the next few days and we got a slate of operators sufficient to give a good showing.



Cary, VE4EA foreground; John, WA2OOB background

Dennis and John, WA2OOB, offered to help set up the station for the event. We decided to set it up in a "Multi-2" configuration, with two independent operating positions, each with a K3, a P3 Panadaptor with SVGA monitor, an ACOM 2000 linear and the ability to select any of the multitude of available antennas (2-3 element SteppIRs, 2-2 element 40M yagis, an Inverted V each for 80 and 160, and a receive loop antenna). Dennis was insistent that we have a "Plan B" in case a radio died, and WA2OOB pulled together a Plan B kit consisting of a TS-590 and all the cables and operating manuals. Should something happen, we wouldn't have to scramble to find the right cables and hookups to get back on the air. This worked as planned to keep Murphy away, and we had very solid performance from all the equipment the entire week of the event.

Finally, the day of the Centennial Operating Event arrived. We started operations at 4 PM on Tuesday, February 11 (0000Z Feb 12). I was on 20m CW and John, WA2OOB, on 40m phone. I found where the station from the previous week, W1AW/KH6, was operating on 20 meters with a

steady run going, and precisely at 0000Z they went QRT and W1AW/6 was on the air on their frequency. The steady run for W1AW/6 lasted only a minute or so, and soon became a torrent of calls as hams from all over the world clamored to get W1AW/6 into their logs. The wall of sound from so many callers was a complete thrill! I quickly went split and it was amazing to see the pileup on the Panadaptor display. Starting about 1 kHz up from my transmit frequency was what appeared to be an S9+ signal varying from 5-10kHz wide. The pileup was really well behaved and we were giving out W1AW/6 at a rapid clip. Band conditions were wide open and we had callers from Asia, North and South America, Europe and Oceania all at the same time. What a rush!

We're not normally a RTTY station, but for the operating event we decided we would try to give out RTTY contacts. Being a complete noob at RTTY, I looked to my buddy Paul, KB7V to put together some cables to get us on the air with RTTY. Between Paul, WA2OOB, and myself, we fiddled around enough to finally get RTTY working and although we had a few teething



Ron, WQ6X foreground; Gayle, K6GO background

pains early in the week, we were giving out RTTY QSOs with gusto by day 2 or so.

In the station setup and planning, we were very careful about interstation interference. Each operating position has its own bandpass filter, and of course we never scheduled ourselves to have two stations on the same band at the same time. What we didn't think of, though, was the interstation interference that occurs in the shack when you have a phone operator and a CW op going at the same time. It's tough enough to keep your rate high with a big noisy pileup, add to it a guy operating phone about three feet from you, all excited from the pileup, and almost shouting into the mike! VE4EA, WA2OOB and I took turns that first night QRMing each other in the shack. Lesson learned: keep the phone ops acoustically isolated from the CW ops if at all possible – best is not to have simultaneous phone and CW operations going at all. It was a challenge we would have to live with for much of the week.

It was a great week. All of the ops, WA2OOB, VE4EA, N6ERD, KB7V, N6CY, W2PWS, WQ6X, NA6MB, K6GO, K4RB, N6KI, and DG1CMZ all did a great job. I couldn't keep myself away, even when I wasn't scheduled to operate. Between the all nighters during the ARRL DX CW contest and my brain refusing to shut off with all the excitement, I got very little sleep during the week. But it was worth it!

Final tally: 6,115 QSOs, of which 3,627 were on CW, 2004 on phone, and 484 on RTTY.

DAILY OPERATIONS

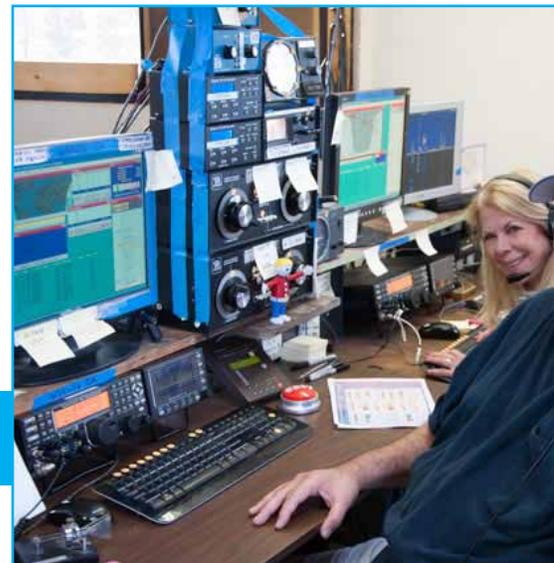
BAND	SSB	CW	RTTY	OTHERS	DUP
160	0	47	0	0	0
80	317	23	75	0	7
40	67	698	0	0	15
30	0	0	0	0	0
20	604	1166	91	0	59
17	0	0	0	0	0
15	294	660	308	0	24
12	0	0	0	0	0
10	722	174	10	0	19
50	0	0	0	0	0
TOTAL	2004	2768	484	0	124

TOTAL QSO : 5 256

ARRL DX CW

BAND	QSO	DXC	DUP	POINTS	AVG
160	0	0	0	0	0.00
80	0	0	0	0	0.00
40	0	0	0	0	0.00
20	0	0	0	0	0.00
15	859	86	7	2223	2.59
10	0	0	0	0	0.00
TOTAL	859	86	7	2223	2.59

by Doranne Jacobson



John WA2OOB foreground; Gayle, K6GO background



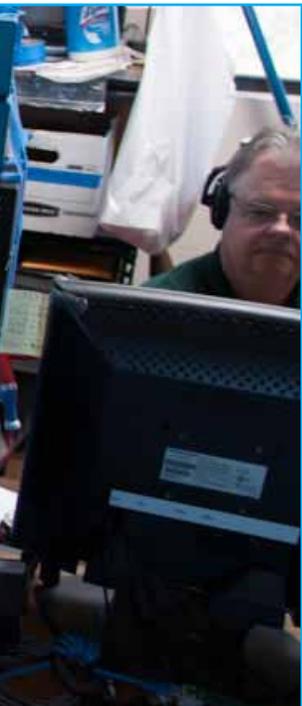
NODY (left) and KB7V (right) in deep concentration



Paul, KB7V foreground; Jeff N0DY background



ARRL Centennial Operating Event Photos from Jeff Davis N0DY.



KB7V foreground, left; WA2OOB background, right

February 18th Poway City Council Meeting Report

by Charlie NN3V

I am writing on behalf of all the Poway hams to give you an after action report of the Poway City Council meeting held last night. First, in brief, THANK YOU, THANK YOU, THANK YOU. THANKS to

All the San Diego county hams, Powegians included, who showed up at the meeting (some 60+).

All who signed petitions to support our recommendation of a 65 ft antenna height approved with a building permit and neighbor notification.

The many attendees who brought non-ham family members to wear the PARS badges and show support.

Hams and non-hams who spoke to the Council and staff (the antenna issue at the meeting lasted from 7:18 PM until 10:15 PM).

The hams who at the last minute filled the Councilmen's email in-boxes with notes of support (last minute, because it was only at the last minute we discovered that email yes/no votes are tallied in the political nose count. Several clubs rallied to support the urgent request).

The volunteers who staffed the sign-in table to distribute the PARS badges.

The Boy Scout troops who led the Pledge of Allegiance, and paraded the colors for the opening ceremony, all wearing the PARS logo.

The ARRL for supporting us with ARRL officer presence.

The success of last night's meeting would not have been possible without all that support.

But, success sometimes is partial. And so it was last night. PARS will distribute a detailed summary of results shortly. There was a lot that happened, in various separate comments and actions, and we need a couple of days to analyze it.

In brief, we had some 20 speakers from the amateur radio community including a summary PowerPoint presentation supporting our

request, and we had some 8 "opposition" speakers from the Green Valley Civic Association (GVCA) who opposed the idea of granting permission to amateurs for erecting antennas above 35 feet, as antennas are ugly and cause a lowering of property values. (GVCA members commented that it was obvious the hams had stacked the deck for last night's meeting and GVCA would be better prepared the next time! ATTENTION: next time we still need the San Diego County hams to rally to Poway's help!

After all the pro and anti speakers were heard, we were regaled by the gut-wrenching discussions among the councilmen and the city development staff in looking for ways to decide whether or not it was necessary to have separate processes to decide if a tower could be permitted at 55 instead of 50 feet.

And so, did hams win or lose?

Well, we knew going in there would be no "decision" at the meeting. We hoped to see our position supported. The "core" of everything we said is contained in the PowerPoint presentation.

We heard several city councilmen loosely say they thought 65 ft was a reasonable accommodation; we heard unanimous consensus they want the permitting steps in Poway cleaned up and simplified; and as they discussed antenna height there was no denying they agreed we should be allowed to have antennas higher than 35 ft.

The difference is to be found in the various "ways of getting to higher height" that they talked about. As always, the fine print can get you.

The city councilmen decided to send the development staff back to work on a draft ordinance that meets the federal regulations, and bring it back to the city council in 90 days with at least an 80% completion status.

PARS challenges remain many. But the bottom line for us is to remove the 35 foot height limit altogether; do away with the "3 choices of antenna elevation permits" currently in the flawed draft ordinance; simplify the byzantine permitting process used by Poway; and eliminate the staff's effort to try and "design antennas in the ordinance language".

More on all this soon.

73 de NN3V

Old West Trails 50k Ultra and 30k Fun Run

by Conrad KG6JEI

This is a new event being held in Shelter Valley. It is a perfect place to practice your emergency radio skills. This event will kick off our endurance run season leading up to several other events later this year. If you have never worked a run before and wish to get involved this event should prove to be an enjoyable low-stress introduction.

We have recently seen new hams become involved in helping in these endurance runs and the one thing we keep hearing is that they provide chances to see all the beauty of the county that most are not even aware exists and to have a great time with fellow amateur radio operators doing what we do best. Our friend and Shelter Valley resident Ed informs us that this time of year is usually the best time to experience the beauty of the desert, with warm days and cool nights.

Unlike other events that often require a mobile to be effective we will have great coverage and the only required equipment will be an HT.

The run starts at 0700 Saturday March 15th and all runners are expected to be finished by 1700.

Please go to

<http://www.oldwesttrails50kultra30kfunrun.com>

for more details of the event.

Our radio volunteers are invited to visit the start finish line to enjoy the festivities after their stations close.

The point of contact for this event for those wishing to volunteer is W6ABE Ed Genest who can be reached at w6abe@arrl.net.

Contest Report

from Dennis N6KI

While attending Yuma Hamfest, I joined up with veteran contester Dave K6LL at his modest station in Yuma and operated Friday and Saturday evenings and night and a few hours on Sunday afternoon.

We bested our 2013 score and enjoyed the great conditions on Saturday, but the A index shot up on Sunday making conditions mediocre.

Dave does not really have very effective antennas on 80 and 160 meters due to his 48-foot tower and postage stamp size lot but we felt we did really well on 40 - 10 meters.

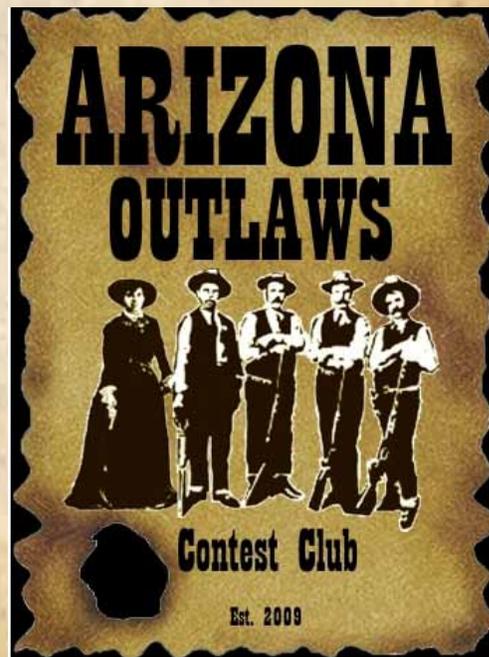
Call: K6LL
Operator(s): K6LL N6KI
Station: K6LL
Class: M/S HP
QTH: AZ
Operating Time (hrs): 40
Location: USA

Band	QSOs	Mults
80:	60	35
40:	460	84
20:	631	96
15:	754	108
10:	793	102
Total:	2698	425

Total Score 3,437,400

Club: Arizona Outlaws Contest Club

Comments: Saturday was fabulous! Sunday, not so much.



I Hate Magic!

W6PUG

Did you ever have one of those occurrences in life where something really weird happens, and you use every logic you can imagine, talk to your peers and mentors, trying to figure it out, but then the problem "fixes itself" and you never really understand what just happened? I call that 'magic'. My two favorite Wikipedia definitions of magic are "the use of paranormal methods to manipulate natural forces" and "attributed to extraordinary beings or objects". Most engineers are very familiar with the variations of Murphy's Law, but even Murphy's infamous Law has some boundaries, but not so with magic.

For almost a year, I have been deaf on 75m, absolutely stone deaf. I have two radios, an Icom 756PIII and an old Collins 75S-1 receiver, which exhibited the same characteristics. I looked at my radio setup (which has not changed much since I first got it, and at which time 75m worked just fine). It behaved quite well on 15, 20 and 40, which did not help my troubleshooting direction.

I tipped my antenna over (commercial multiband vertical dipole) and went through every single connection with nothing visible. I ordered and changed the capacitor at the TOP of the antenna in my process of "Easter-egg troubleshooting" (which 'Doug-ikipedia' defines as 'I have no idea what I am looking for but I will change some parts and see if I get lucky'[which I didn't]). No change: deaf as a stump. I hate magic!

My Elmer, N7TLL/ZL1TV, had blown a cap in his antenna some time ago, and what he had learned was that resonance for 75m on that antenna shifted from 3.8MHz up to 4MHz when it blew, and told me to check that. I dragged out my AIM 4170 antenna analyzer, downloaded the latest version of software for it, spent a half day re-learning how to run the thing, swept the antenna on all of its frequencies, ran the TDR (time domain reflectometer) on the coax, and basically did not find anything too out of normal for the antenna, based on its history. Resonance on 75m is dead on 3.8MHz. Growl ... growl ... grizzle ... groan ... maybe a little bit of whining thrown in for good measure ... so nothing seems to be wrong with the antenna. I even called the antenna manufacturer and sent

him copies of my frequency sweeps of the antenna and he offered up, "Looks good to me ..." More growling ... more grizzling I hate magic.

Antenna ok ... Coax looks good.... Radio seems to be normal on all other bands.
Whiskey Tango Foxtrot?!

Gotta be magic!

Another ham friend of mine, K6YNP, who is a fairly accomplished DXer, came down from Orange County (hundred miles away) and poked and twiddled at it for a while, and could come up with nothing ... absolutely nothing ...

So I gave up and just figured I would run 15m to 40m. Did I say how much I hated magic?

I had just helped a ham friend of mine, who is approaching 80, put up a beautiful horizontal dipole cut for 75m so he can ragchew with friends in the evenings, and he invited me to join, since I know about half of them, and it was with total humiliation that I admitted to him that I had never found out why I was deaf on 75m. Dogs occasionally go deaf for no definable reason other than perhaps advancing age. Wonder if I can use that excuse? No? More growling ... more grizzling

Finally one day I am sitting here in the shack while the XYL is traveling for work for a week, and this is just bugging me to death. It does not go away. It nagged at me, confusticating (confusion + frustration = confustication) me because I cannot figure out what paranormal activity has invaded my shack!

My whining is now reaching a fevered pitch and the pugs are looking at me with no small hint of fear in their eyes. Maybe it was my drooling; I don't know. As an extreme variant of my Easter-egg troubleshooting (totally abandoning myself to having no idea what I am doing), I decide I will do a factory reset on the Icom, so I dragged out the manual on it, and it instructs to hold two buttons down and cycle the power switch. Now, the Icom is powered by an external Icom power supply, and I had developed the (bad) habit of shutting the radio off by shutting off the power supply, so I hold down my two buttons and cycled the power supply just like I always do, and nothing happened, no reset, just turned itself on and same operation as

before. Now I am doing a loud growl and more than a little grizzling. After trying to reset it more than a few times, it dawned on me that the instructions did not say to cycle the power; they said to cycle the power switch! In my last breath of hope before I swear off ham radio, I held down my two buttons and cycled the power switch - and it WORKED! The radio reset itself to factory defaults, and then it came alive on 75m!

The magic gremlins woke up! In fact, the Collins also came alive (which makes absolutely no sense to this day)!

I'm back! WOW !!

Here I am, in control of my shack again! I don't know what happened, or how it happened. Just gotta be magic!

I was pretty happy about that, but it nags my very soul to not know how or why the radio got into this lockout mode and like I said, I hate magic! I sent an email to Richard VK3TXD, and went through this whole scenario with him, and lamented about how I missed almost a year of playing on 75m, and his response was classic:

"Doug, Doug, Doug. You should know that as soon as you stick a computer in a radio [and a few kind words to make me feel better but not really].

What made you think it needed a factory reset? I doubt I would have considered that".

I really wanted to go back to him with some exotic explanation of how I figured it out using some esoteric differential diagnostic process (ever watch "Dr. House" on the television?), but in all honesty, the only answer I can give him is just dumb luck based on an illogical approach to a problem that I never really understood brought on by the only thing I can find reasonable: pure magic.

So now that I am radio-operational, I am going to (again) tackle that computer sound card that refuses to work even though all of the diagnostics say it is working fine.

I really hate magic.



Some Magic at the November 2013 Operating Day. PARC has another operating day planned for April 2014. Will you come out and play with us?



Visalia Convention Registration Opens

Registration Information

When:
April 04-06, 2014

Where:
Visalia Convention Center, Visalia, CA USA

Pre-register (Before March 4, 2014) to be eligible for pre-registration drawing.

Please complete the online registration form then select to pay online or print your filled out form and mail your form and payment.

NOTE: If paid by PayPal save the e-mailed receipt from PayPal as that is your only proof of registration and payment. You will NOT get any other confirmation. The confirmation number (2014xxxx-xxxxxx) on this receipt will be required for banquet seating to be assigned.

For questions regarding registration please e-mail the [convention registrar](#).

DX stations who need assistance please e-mail [Joe Locascio, K5KT](#).

[Online Registration Form](#)

<http://www.dxconvention.org/reg/>

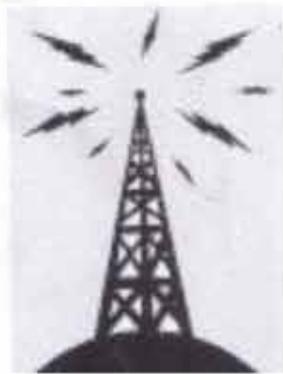


November 2013 Operating Day. Come in April!



OPERATING DAY

Saturday, April 26, 2014



FRY'S ELECTRONICS
150 South Bent Street
SAN MARCOS, CALIFORNIA 92069
9:30 AM to 5:30 PM

HOSTED BY PALOMAR AMATEUR RADIO CLUB

www.palomararc.org

contact Dennis KD6TUI (760) 672-0223

Come operate on the ham bands at Fry's
70cm, 2m, 6m, 10m, 15m, 20m



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Editor: Michelle Thompson W5NYV

Submissions: scope@palomararc.org

Questions? Ideas? Comments? W6NWG@amsat.org

Featured Program:

At 7:30pm on 5 March 2014, Palomar Amateur Radio Club will present a program. The presentation will be by Dr. Henry Richter on "Long distance communications"

DXing Europe? No, a bit farther than that. Come and hear how NASA communicates with Voyager at 11,700,000,000 miles. Radio transit time about 18 hours (distance= $\frac{2}{3}$ of a light-day). NASA operates a deep space net (DSN, see diagram below) in three locations, spaced 120 deg around the globe. They each have a 210-foot diameter antenna plus several smaller ones about 85 feet in diameter. They stay in touch with the two Voyagers, plus 32 other spacecraft like Cassini orbiting Saturn, the Mars rovers, the Mars orbiters, and a bunch more.

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

SCOPE

THE PALOMAR AMATEUR RADIO CLUB NEWSLETTER

Report: Work Party on the Mountain

On Wednesday March 19th a work party consisting of Don WD6FWE, John WA2OQB, Greg KI6RXX, and Dennis KD6TUJ went to the repeater site to repair the telephone connection and place a conduit run to improve the 146.700 packet repeater.

Arriving about 10:00 AM, the usual start time, we proceeded to open the rooms. Pulling the phone from the generator building to the phone entry point showed the connection on the block building was good. Next, check the "vault". Thanks to Mike K6MRP for the advice and historical knowledge about a splice located in it. This is where we found good moist earth surrounding an old splice. Opening the splice, John and Don found the lines no longer shorted and continuous for use. Cutting back and resplicing the line repaired service to the sheds. John soldered the connections and taped the lines to help prevent moisture from coming back. Don brought a "field camera" that takes stills

with a motion sensor. He placed this on a tree facing the tower.

Don started working to reinforce the freezer door hinge that has become loose over years of service. Bringing a long (12 inch) bit to pass a hole for the new bolts to use, Don drilled through the door and reinforcement plate. Three new pass through bolts now secure the hinge and door together.

Remember to clear snow or debris away from the door landing before opening the door.

As these projects were going on, Greg and Dennis trenched a conduit run between the generator building to the sunken building. You always need to be careful when digging around the site. You never know what you may find buried.

Going down about two feet you can, and probably will, find copper strapping. Also between the buildings there are power runs for 120 VAC and 48 VDC. Found those. And another grey line by the sunken building going to the generator building. Not sure what that run is. The sweep was glued and set to 10 feet of conduit, and placed for adjusting. Dug a little more down and straightened the curve to fit better. Before placing the other sweep we drilled a hole by the 6 meter cavity space for the conduit to pass.

Hmm, metal floor on the outside. Should have checked. There is wood floor on the inside. The bit I brought is a wood bit of 2 9/16. Greg has a 2 inch metal hole bit. Used the 2 inch bit. now we need to file it out. Not so easy. Time to cheat. Use the wood bit down to metal, then use the metal bit on a offset to enlarge the hole. 2 additional drillings brings us to filling a small amount to finish the hole to size. Back to checking the measurement of the length. We check the travel of the sweep and the offset between the access hole to

continued on page 3



Save the Date

Club Meeting 2 April 2014

Ron Rosson N6XT on his
DX Adventures

Board Meeting 9 April 2014

Palomar Amateur Radio
Club board meeting at
7:00pm at W6GNI QTH.

Operating Day 26 April 2014

Operating Day at Fry's
Electronics San Marcos.

See pg. 15.

Advertisements are free for members

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

Icom IC 2200H 2M transceiver. Orig Manual,
Nifty Manual, Mike, Power cord, mobile mount
\$125

Drake UV3 3 Band VHF/UHF transceiver with
manual, all 3 modules, mike, tone encoder \$375

Kenwood TS 850S with auto tuner, cw filter,
power cord, manual. No mike. \$550

Yaesu FT100 with original manual, mike,
power cord, mobile mount, packaging and box.
Upgrades done \$500

Drake TR7 with power supply, mike, manual, 2
cw filters \$675

Drake W-4 Wattmeter. Cabinet could use paint.
\$70

Ron K2RP K2RP@ARRL.NET or 760 436 8109

Tear off the back cover
of the Scope and give it to
a friend. It has information
about our next meeting on
one side and our Operating
Day flyer on the other.



Tree hazard at work party. Photo by Don WD6FWE.

IMPULSE Electronics .com

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Coax Connectors

Custom Cable Assemblies

AGM Batteries and Accessories

CTek & UPG Batteries Chargers

Fuses and Holders

Terminals and Splices

Tools

RF Industries Coax Adapters



continued from front page

mark and cut the conduit. Set and glue the up tube into the sweep sets the generator side. Going to the sunken building side will be a small challenge. There are two conduits and coax runs to avoid, as well as the loose earth. The sweep goes on rather easy, BUT the up tube does not want to cooperate. Three tries and frustration. Cut the total length and try again.

(Hint: do not spill glue or glue earth to yourself.)

It works. Next time we will bring a end screw connection and drill the final access to the sunken building.

Reviewing the site and checking the buildings, everything appears to be fine. Battery water levels are good. Repeaters are working. Supplies are stored, and buildings are secured.

As we go back to our vehicles, Don points out where he placed the camera and notices a tree had cracked and fallen onto an adjoining tree (see photo at left, page 2).

This is "good" because below the fall is a guy wire for the top of the tower. We assessed this to be OK for now, but we need to remove this as soon as possible. This also caused us to review all the trees on the property. A neighbor to the north has a branch that has been broken across their dive for at least a year. Some of the ends of the limbs just reach on our land. The neighbor to the east has a tree of concern. It is an older tree and we can not tell if it is budding. If this tree has a problem, at least it should fall away from our equipment.

The next trip now includes a chain saw and a daredevil.

We left the site just after 2:00 PM. Great day on the hill with great weather.

Dennis
KD6TUJ



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/>



Palomar Amateur Radio Club and the San Diego Six Shooters Club will conduct an **Operating Day April 26th** for public demonstration of Amateur Radio. This event will be hosted on the parking lots of FRY's ELECTRONICS in San Marcos and San Diego, respectively. Plans are to be operational by 9:00 AM and continue to 5:00 PM. We plan to demonstrate different formats and have asked supported agencies to come show how amateur radio supports their needs.

**HAM
RADIO
OUTLET**

Jose XE2SJB
Jerry N5MCJ
Joe N6SIX

H
R
O

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KANTRONICS
YAESU, MFJ, ICOM
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too
Numerous to
Mention!**

Drop in to see our display of working equipment. Find out about Pkt location determining equipment (APRS). Check our complete line of magazines, ARRL books, license manuals, and Bulletin Board with all sorts of Goodies listed.

Open: 10a.m. – 5:30p.m. *Ask about our great prices*
Monday thru Saturday
858 560-4900
or toll free 1-800-854-6046

Directions: On 163, take **Clairemont Mesa Blvd.** off ramp to East. Stay in right-hand lane. Turn right at stoplight. As you are turning right you can see our beams in this shopping center. Travel 100 yds. On Kearny Villa Rd. and U-turn back to shopping area and HRO sign. Be sure to see our equipment in action on **real** antennas!

Field Day 2014: June 28-29!

ARRL Field Day is the single most popular on-the-air event held annually in the US and Canada. On the fourth weekend of June of each year, more than 35,000 radio amateurs gather with their clubs, groups, or simply with friends to operate from remote locations. Field Day is a picnic, a campout, practice for emergencies, an informal contest and, most of all, FUN!

It is a time where many aspects of amateur radio come together to highlight our many roles. While some treat it as a contest, others use the opportunity to practice their emergency response capabilities. It is an excellent opportunity to demonstrate amateur radio to the organizations that amateur radio might serve in an emergency, as well as the general public. The contest part is simply to contact as many other stations as possible and to learn to operate our radio gear in abnormal situations and less than optimal conditions while having fun. Field Day is/not a contest.

Field Day is one of the main highlights of PARC and a good effort is put forth each year. Last year we scored 4th place in our category of 5A and had lots of fun while doing so. In addition we placed first among all the San Diego (SDG) clubs. We set up 5 main stations plus a satellite station and GOTA. We hosted a Radio merit badge class for the Boy Scouts and had the help of the Young Marines during setup and takedown. There was a testing session that took place on Saturday and as a result, two new hams were licensed into the hobby. We even had a world class BBQ prepared by the famous Psycho Kitchen.

Whichever aspect Field Day sparks your interest, whether it be the contesting, setup and

takedown and seeing how all the equipment goes together, commanding a station, the Saturday picnic BBQ, or just hanging out with good friends, I hope you will join us this year for the Palomar Amateur Radio Club 2014 Field Day effort.

Field Day is a group/club effort. We did not achieve the results of last year without having fun and we certainly didn't do it with just one person. If you are interested in helping in any way, please contact me. No former FD experience is needed.

Field Day is scheduled for June 27, 28, and 29 2014. If we are allowed to use the site at Santar and Rancheros in San Marcos, this will be the Club's last time. Permission, if we receive it, should come in the next week. We, the Club, need to start looking now for a new site for future use.

Plans are starting now for the Field Day preparation nets, to help coordinate Palomar's efforts. A few station captain offers have already been received. Thank you for your offers. One item of concern, at least to one Club officer, is the transportation of Club equipment by private means. The club may be required to contract (rent) a transport unit or company to move Club equipment to alleviate their concerns.

The sooner we identify our needs, the sooner we can solve these hurdles to provide a great Field Day.

Looking forward to seeing you there.

Greg Gibbs
KI6RXX
760-583-9668



Hinge needs replacing. Photo by WA2OOB

"The door hinge we fixed will need to be replaced. This is because the hinge is actually broken so only 2 of 3 bolts on the outside of hinge are holding the hinge to frame of building."

Don WD6FWE



Tower at work party. Photo by WA2OOB

SANDARC Report

by Conrad Lara

As you may be aware the Palomar Club is a member of the San Diego Amateur Radio Council.

We can have up to 2 delegates and 2 alternates assigned to represent the club. Currently assigned are Dennis KD6TUJ and myself Conrad KG6JEI as delegates, and Greg KI6RXX as an alternate.

It has been brought to our attention by Mr. Acevedo N6SIX, the SANDARC Chair that it is a duty of the delegates to provide updates to our club and it's members. One of our objectives as SANDARC delegates and Palomar club members is to diligently follow all rules as set forth in respective Bylaws and California Corporations Code and to do things right as much as possible, the first time, so that we do not have to be repeat ourselves. Our efforts are better spent on Amateur Radio rather than constantly repeating administrative tasks because we do things wrong. After reviewing the SANDARC Bylaws it has come to our attention that Mr. Acevedo is correct. Our goal has been to keep updates to PARC positive and with out any positive info from SANDARC there have been no updates. As providing updates is a requirement, we will now start.

About a year and a half ago SANDARC attempted to change its bylaws, the Palomar delegates noted numerous procedural issues in the voting that occurred on those bylaws. Palomar delegates worked for over a year before the SANDARC leadership admitted that the Palomar delegates were right and a bylaws violation occurred in the previous votes. SANDARC has recently just re-voted these bylaws with a different result than the previous vote. We however are already witnessing SANDARC's board not observing the requirements that they proposed and had adopted by the membership

SANDARC has also just recently adopted a "Grievance Policy" which appears to have halted resolution of further issues as the procedure halts all discussion on a subject until a delegate meeting and if the board follows through on the next change that has been suggested the policy could allow issues to persist for just short of a year before they are resolved. The board of SANDARC has already been seen to use this procedure to halt any discussion of questions as soon as they are sent.

The lack of communications with SANDARC is not a new occurrence. As delegates we have sent letters and requests to the board on many occasions only to have them not be acknowledged, nor responded to. SANDARC

has not been checking its postal mail box on a regular basis either, allowing additional issues to remain unresolved for long periods of times.

On Thursday February 27th Greg and myself went down to the regularly scheduled SANDARC meeting. We are disappointed to report that none of the SANDARC Board Members attended the meeting. This is disappointing as this is about an 80 mile round for the delegates. To put this in perspective, where we meet for the repeater site work parties, Mothers Kitchen at the top of Palomar Mountain, is only 78 mile round trip.

Why should we as members care? Well, PARC is a longtime member of SANDARC, the actions of SANDARC reflect upon us. In addition SANDARC purports to represent the amateur radio clubs of San Diego and their members. This means actions taken by SANDARC reflect upon the whole radio community.

SANDARC is best known for hosting the Southwestern convention every 4th year. Should SANDARC fail to follow proper business practices the conventions may stop. SANDARC is also known for performing many of the Amateur Radio Testing sessions in San Diego county, many persons in the club likely have a license because of SANDARC testing. If SANDARC continues to have issues the matter could be taking up by the FCC with, as of now, unknown repercussions to those of us in the county

We will end the report with a brief overview of the SANDARC financial, The budget for fiscal year 2013-2014 that SANDARC approved is to have a \$12,224 dollars deficit this year, with only \$8,000 of that attributable to convention. At this time it appears SANDARC will indeed be significantly in the red this year as since April the general fund has decreased to \$6,276, the convention to \$7,422, a CD has held nearly constant at \$10,387, and the only account to show a significant balance increase is the VE fund which is collected to be used solely for reimbursement of out-of-pocket expenses as incurred in preparing, processing, administering or coordinating an examination has increased since April approximately \$2,000, after expenses, to \$10,655.

On March 17th 2014 the SANDARC Chairman emailed an announcement that the number of meetings will be reduced from 10 per year to 4 per year. SANDARC meetings are now announced to be held on the last Thursday of January, April, July, and October. The meeting location is still being negotiated.

Respectfully submitted
Conrad Lara
Palomar Amateur Radio Club
Delegate to SANDARC

Visalia Convention Coming Soon

Registration Information

When:
April 04-06, 2014

Where:
Visalia Convention Center, Visalia, CA USA

Pre-register (Before March 4, 2014) to be eligible for pre-registration drawing.

Please complete the online registration form then select to pay online or print your filled out form and mail your form and payment.

NOTE: If paid by PayPal save the e-mailed receipt from PayPal as that is your only proof of registration and payment. You will NOT get any other confirmation. The confirmation number (2014xxxx-xxxxxx) on this receipt will be required for banquet seating to be assigned.

For questions regarding registration please e-mail the [convention registrar](#).

DX stations who need assistance please e-mail [Joe Locascio, K5KT](#).

[Online Registration Form](#)

<http://www.dxconvention.org/reg/>

SWD Coming Up this Fall



2014 ARRL Southwestern Division Convention

September 12 - 14, 2014
Will be held at the
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8110 Aero Drive, San Diego CA. 92123

Palomar Amateur Radio Club

10-10 International is the largest and most active 10m club in the world. Open to all radio amateurs with 10m privileges, the goal of 10-10 International is to keep the band active through nets, activities, and awards. Once an amateur has joined 10-10, he or she is assigned a 10-10 number. Thanks to the efforts of Preston W6ASP, Palomar Amateur Radio Club W6NWX holds the number #74644.

Additionally, W6NWX has joined the ranks of calls with a specially awarded 10-10 VP number.

Awards in 10-10 are given in batches of 100 contacts. Each grouping of 100 contacts is called a BAR. When a 10-10 member attains the 500 BAR, he/she will automatically become a member of the International 500 Club and will be assigned an Honorary VP Number to be used in conjunction with his/her 10-10 number.

There are two additional activities available for members of the International 500 Club, the VP Contact Award and the VP Worked All States Award.

After a VP number is received a member can make a minimum of 100 contacts with other VP's and exchange VP numbers for the basic VP Contact Award. Endorsements are available for contacts in multiples of 100. VP numbers may be used only once.

A VP member may earn the VP WAS award for completing contacts and exchanging VP numbers with other 10-10 VP members in each of the 50 United States.

Would you like to help W6NWX achieve the VP Contact Award and VP Worked All States?



Earns Major Award from 10-10

Work our call, W6NWX and exchange our 10-10 and VP number. Rules for submitting contacts to 10-10 International are found here:

<http://www.ten-ten.org/tenvp.html>

Despite relatively poor band conditions, Preston persevered with 10m and W6NWX. On behalf of the entire club, thank you Preston! This is a major achievement, and exemplifies one of the many diverse aspects of the activities available to club members.

-Michelle W5NYV (#74808)

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300 2/9/2014	800	1300	1800	2300	2800	3300	3800
400 2/13/2014	900	1400	1900	2400	2900	3400	3900
500 2/13/2014	1000	1500	2000	2500	3000	3500	4000

Poway Antenna Ordinance

by Charlie NN3V

The writing of the Poway ordinance continues at a glacial rate, but continues. You think Washington is slow..... :=))

Recently, Poway hams had two productive meetings with the City staff working on the ordinance. They were good meetings, and several misunderstandings appear resolved.

The current plan is for another City Council workshop meeting on May 6th.

At that meeting, the City staff will present several options to the City Council, as well as a draft of the proposed antenna ordinance. The options will address specific issues that were left undecided at the February 18th. meeting, and are the final elements needed to complete the draft antenna ordinance. It is expected that the Council members will decide on specific "issues".

The process then will lead to a final draft of the ordinance, to be presented later to the Council for final approval.

Based on the information exchanged during the working meetings held with the City staff, Poway hams are cautiously optimistic that their interests are prevailing. HOWEVER.....

At the city council workshop planned for May 6th. it is vital that the amateur radio community rally to support the Poway hams.

At the last City Council meeting, opponents of the draft Poway amateur radio antenna ordinance stated publicly that the Council had "...sandbagged Poway residents...". The insinuation was that there had not been sufficient warning for the opposing residents to ready themselves for opposition to this draft ordinance catastrophe.

Poway hams expect that at this next City Council workshop, the one that is the critical decision meeting, opponents of amateur radio antennas in Poway will be out in force.

Poway hams ask our fellow hams throughout San Diego County to rally to our support on May 6th.

Details of the meeting will be announced shortly. But as of now it is expected to take place at Poway City Hall , Tuesday May 6th., 7:00 PM

Please mark your calendar and plan on turning out to support the Poway hams!

73 de NN3V
Charlie

NX6T Wins North America Category for All Asia SSB 2013

Ops: N6KI, WA2OOB, N6ERD, W2PWS, N6EEG, WA3IHV
Award Medallion expected in mail - That's 2 years in a row !

Great job !
73, Dennis N6KI

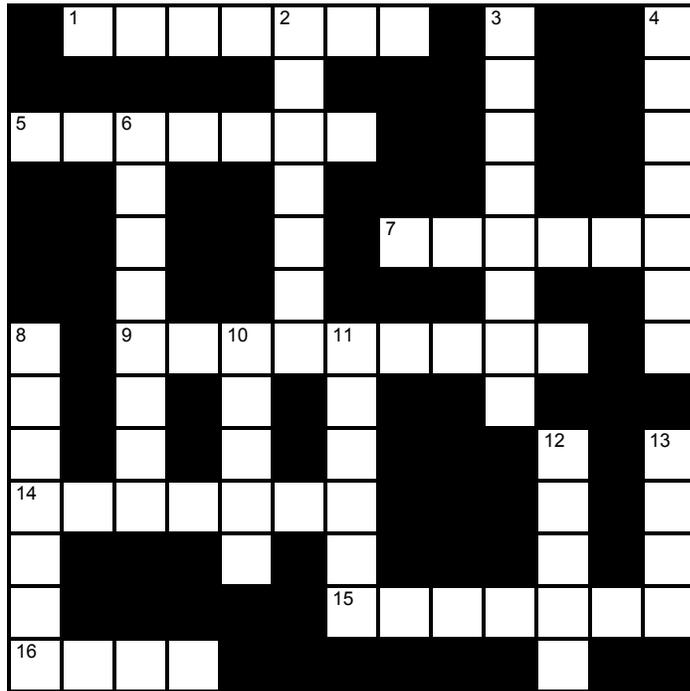
Multi Op. Single TX (QSO, Point, Multiplier)																				
Band		80			40			20			15			10			Total		Score	
Continental																				
AF																				
EU	HG7T	31	62	29	172	172	79	345	345	140	683	683	183	63	126	46	1,294	1,388	477	662,076
OC	DX1PUP				224	224	76	18	18	17	490	490	139	59	118	37	791	850	269	228,650
NA	NX6T	7	14	5	239	239	80	199	199	87	393	393	116				838	845	288	243,360
SA	CV5D				132	132	63	46	46	34	190	190	83				368	368	180	66,240
AS	UA8A	52	284	26	368	1,048	56	875	2,463	87	1,426	3,546	91	14	40	14	2,735	7,381	274	2,022,394

Across

- 1 Batteries have it (7)
- 5 Something you can do (7)
- 7 Rap session? (6)
- 9 Open at DC (9)
- 14 Pulls you along in a river (7)
- 15 Get (7)
- 16 Makeup, e.g. (4)

Down

- 2 Feeler (7)
- 3 What you got when you dialed 0 (8)
- 4 Open mike night participant (7)
- 6 Gets you into the group (8)
- 8 A circle of components (7)
- 10 ___ to the people! (5)
- 11 Leetah's lifemate, or something that slices (6)
- 12 AM/FM device (5)
- 13 Surfing need (4)



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AUCTION

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When: April 10th 2014, Seller check-in 6PM, Buyer check-in 6:30PM, Auction begins 7PM

Where: Escondido Salvation Army Community Center 1301 Las Villas Way Escondido, CA 92026

More Info: <http://www.earsclub.org/auction>

Payment: Cash, Check, Paypal, Credit card.



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Editor: Michelle Thompson W5NYV

Submissions: scope@palomararc.org

Questions? Ideas? Comments? W6NWG@amsat.org

Featured Program:

At 7:30pm on 2 April 2014, Palomar Amateur Radio Club will present a program. The presentation will be by Ron Rosson N6XT on his DX Adventures!

This was my 1st time in Samoa for an attempt to visit Tokelau ZK3 with N7CQQ. Due to the boat schedule or lack thereof we did not make it to Tokelau. The route to Samoa took us through American Samoa for few days then on to Samoa. While I was in American Samoa John and I were invited to go NH8S Swain Island by the organizers of the expedition. But we had to decline due to the arrangements that we had already made for Samoa. It was great experience for the 1st time to be on the other end of the pile up.

73 & Best DX

Ron Rosson N6XT Ex (WB6ORX)

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

SCOPE

THE PALOMAR AMATEUR RADIO CLUB NEWSLETTER

City Workshop in Poway

Yes. It is that time again.

On Tuesday, May 6th., the Poway City Council will again host a City Workshop to decide the fate of amateur radio antenna heights in Poway .

This will be the DECISIVE meeting.

The city development planning staff was given the task of finalizing the draft antenna ordinance, based on the discussions held between the City Council members at the February 18th City Council workshop.

Poway hams remain cautiously optimistic that we will finally get a break from the very restrictive rules under which we live. Naturally, nothing is certain in the land of political decision making, especially when a hotly contested City Council election is about to begin!

We know our opposition is massing for an offensive at this meeting. For many years past, they have been instrumental in using their seemingly strong influence on the council to prevent us from enjoying our amateur radio rights. They hope to sway the Council by their presence (vote count) again.

Here in Poway we are grateful for the bodily presence support San Diego County hams gave us in February.

This time we need every bit we can muster of ham presence at the Council Meeting.

So on behalf of the Poway Amateur Radio Society, I ask you to spread the word about Poway's needs, and encourage your club members, your ham radio friends in San Diego County, and their families and significant others, to come out and support Poway hams by their presence at the Poway City Council meeting.

The meeting is scheduled Tuesday May 6th, at 7:00 PM, at the Poway City Hall , 13325 Civic Center Drive , Poway CA .

We ask that all attending arrive at 6:00 PM

Hot dogs and refreshments will be served to all hams who attend. All beef hotdogs. No brethren ham will be consumed!

At the gathering, all those attending will be given a PARS name sticker to wear into the Council meeting in order to demonstrate a large presence of support.

Please come, enjoy food and camaraderie, and help us win one for ham radio in Poway .

73 de NN3V
Charlie



Save the Date

Club Meeting
7 May 2014

Come hear all about recent updates to LOTW.

Board Meeting
14 May 2014

Palomar Amateur Radio Club board meeting at 7:00pm at W6GNI QTH.

Club Event?
T-Hunt!

See page 12 for details.

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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 is looking for a Volunteer to serve as a Director for the Club. The Club thanks Rich Lippucci NI6H for his service to the membership. Any member who wishes to assist the Club through the position of Director should contact an Board member to let us know of your interest. It is through the volunteering of time (and service) that the Club continues to exist.

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IC-7100 Installation in a 2013 Honda Fit

Paul Williamson, KB5MU

After crashing my BMW Z4 in December and ordering a replacement sports car for eventual delivery in July, I found I needed a car to drive in the meantime. So, I bought a new 2013 Honda Fit, a cheap and cheerful subcompact hatchback with very basic equipment. Since I wasn't planning to keep it very long, I didn't really think about a ham radio for it. But then two things happened to change that. First, I found that the Fit is a surprisingly good car. I think I'll keep it. Second, I noticed Icom's latest mobile HF rig, the IC-7100.

It has a unique control head design, with a large LCD touchscreen facing up at a nice angle. The control head includes the speaker and the microphone connector, so it makes for a very clean installation with only one cable to run from the main rig to the operating position. Smart design.



Finding a place to put a rig in a modern car can be a challenge. Even on a base model car, they spread the controls out to take up all the space on the dashboard. Much of the top of the dashboard is out of bounds

because of the passenger airbag. There isn't any extra space around your legs. What that leaves is the center console. In the Fit, there's space in front of the stick shift for cupholders and a 4-inch square tray. Luckily, there are other cupholders on the dash, so these cupholders can be sacrificed. The thing is, this space is well below the driver's normal line of sight. Any display mounted down there would have to be large and easy to read, and facing up at a nice angle. Exactly like the IC-7100's display!

To make the control head hover in just the right place for easy operation, some kind of mounting bracket is needed. There are many, many commercially-made mounts for mobile electronics. The line of Lido mounts they're featuring at Ham Radio Outlet look very nice, but I went another way, for maximum flexibility. I picked up a 6-inch gooseneck designed for use on stage with a microphone stand, a mounting flange for installing a mic stand on a desktop, and a ball head designed to mount a small camera or audio recorder on top of a mic stand. In another example of smart design, Icom has provided a standard 1/4"-20 tripod thread on the bottom of the IC-7100's control head, so it threads right on without any special bracketry. The ball head lets me fine tune the display angle, and it's easy to take the control head off.

I envisioned mounting the gooseneck's flange on the bottom floor of one cupholder. The flexible part of the gooseneck would then be fairly straight and vertical, with the weight of the control head balanced on top. The cupholders are a separate piece that pops right out, so it'd be easy to bolt through. But I worried that it might pop out too easily with a tall stalk attached. To avoid that problem, I'd have to



attach to the floor of the square tray instead, which is part of the main console covering. It took only one screw and two plastic push-in fasteners to release the console cover, but I had to unscrew the shifter knob to remove it entirely.

Mounted on the tray floor, the gooseneck would have to bend out over the cupholders to reach the right position, placing some twisting stress on the rather flimsy plastic floor. If I just mounted the smallish flange to the tray floor, it might flex too much. A stiff 4-inch square plate would reinforce the floor of the tray against the leverage of the cantilevered control head. At the hardware store I found a steel lid for an electric junction box, very stiff and already the right size. I just had to drill it for the mic flange and bolt the combination onto the tray floor. Unfortunately, a curve in the plastic meant I couldn't hide the plate underneath, so I put the plate on top. I used standard fender washers underneath the flange, but they stuck out too much around the corner bolts, so I made a backing plate out of some scrap aluminum I had on hand. I chose nyloc nuts so they wouldn't shake loose.

With the control head mounted, the next question was where to put the main radio unit. It's not very large by HF radio standards, but

the interior of the Fit doesn't offer many hiding places. It's a hatchback, so there is no trunk. The trick rear seats fold both forward (making the cargo area wider) and backward (opening up a taller floor-to-ceiling cargo area), so nothing can go beneath or behind the rear seats. The floor of the storage area under the hatch is just heavy cardboard covering up the spare tire. Something could be mounted to the side panels back there, but it'd impinge on the cargo space.



The best place would seem to be on the floor under the front seat. There is almost enough room, but only with the radio mounted

sideways. With the seat all the way back, the unit is completely underneath, but my legs aren't that long. With the seat in driving position, the unit does stick out a little. The Honda floor mat normally covers this area. I considered trimming it, but if I just bend the mat up over the radio it hides the radio and protects it from feet, without blocking any of its vents. Best of all, with the seat all the way forward the radio is completely exposed, making it very easy to reach all the cables and the SD card socket.



One problem with this location is that the heating vent for the rear passenger blows directly at the radio. I'm just hoping this won't cause an overheated radio or a grumpy frozen passenger.



The next question was how to mount the radio unit there. It has vents on the top and bottom as well as at both ends, so it probably should not be placed directly on the carpet. The IC-7100 does not come with a mounting bracket for the main unit (boo, Icom), but the MB-62 bracket is available. What I've done in the past is cut two slits in the carpet for the vertical ears of the mounting bracket, so I

<h2>HAM RADIO OUTLET</h2> <div style="display: flex; align-items: center; justify-content: center;"> <div style="border: 1px solid black; padding: 2px; margin-right: 5px;">H R O</div> <div style="text-align: right;"> <p>Jose XE2SJB Jerry N5MCJ Joe N6SIX</p> </div> </div>	<p>KENWOOD <i>rf</i> CONCEPTS DIAMOND US TOWERS KANTRONICS YAESU, MFJ, ICOM BENCHER, Inc. HUSTLER COMET AMERITRON</p>	<p><i>Astron,</i> AEA, OUTBACKER <i>Larsen Antennas</i> TEN-TEC <i>Hy-gain, Tri-EX,</i> <i>Cushcraft And Others</i> <i>too</i> <i>Numerous to</i> <i>Mention!</i></p>	<p>Drop in to see our display of working equipment. Find out about Pkt location determining equipment (APRS). Check our complete line of magazines, ARRL books, license manuals, and Bulletin Board with all sorts of Goodies listed.</p>
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could bolt the bracket to the hard floor below the carpet. I didn't do that here for two reasons. First, it looks like there are some working car parts under the floor there, and I didn't want to mess around under the car to look for safe drill points. Second, the carpet in the Fit is not so much carpet as a single big fuzzy rigid floor pan. Getting up under it would mean removing all the seats and who knows what all else. I didn't want to do that, either. So, I needed to install the MB-62 on top of the carpet somehow.



What I came up with was a metal strip that mounts between the two rear bolts that anchor the front seat. One side of the MB-62 bolts to the strip. For the moment, the other side of the MB-62 is left floating on top of the carpet, held down only by the weight of the radio. Since the strip is made of lightweight (0.020) aluminum I had on hand, it can twist rather easily, so the radio is not held rigidly. It can't move around, but it can flop a little. I choose to think of this as shock mounting.

Power wiring for a 100W rig simply must come directly from the battery, which is in the traditional location in the engine compartment up front. The Fit's engine is tiny, but then so is the engine compartment. At first glance, it seemed like there was no access at all to the firewall without going under the car. I searched the internet for advice on ham radio installations in a Honda Fit, without finding anything specific.

Casting my net a little wider, I found another hobby that involves putting high-powered devices into cars: extreme stereo competition. These guys run multiple kilowatt amps and achieve ridiculous sound pressure levels (SPL). I found a guy hanging out on FitFreaks.com forums who goes by the handle Fit4Spl. He has put a huge competitive sound system into a Fit and documented every step of the process! He had pictures showing exactly

where to find a convenient grommet with room for a big power cable. You have to disassemble the air box (two screws) to see it from the engine compartment. From inside, it's way up under the dash above the gas pedal, but reachable. I cut a slit in it with a Xacto knife and fished my power cable through with a wire coat hanger.

The power cable is 10 gauge red-black automotive zip cord I found at Willy's Electronics. Both sides are fused at the battery end with blade-type fuseholders, also from Willy's. The cable is secured in several places with nylon zipties. After passing through the firewall grommet, it's secured again to a handy bracket and routed toward the center of the car. There it passes along the center console, beneath the plastic cover, being careful to avoid the shifter and emergency brake mechanisms. It sneaks out between the cover and the carpet near the rear leg of the front seat, and passes in front of the leg and under the seat slide rail into the radio area.

I terminated the power cable near the radio with a standard Anderson Powerpole connector, and constructed a short jumper from Powerpole to the new-style Icom 4-pin power connector, which I found at QSRadio.com. With Powerpoles here I can easily add a RigRunner to provide power for accessories, or power the radio from a separate portable battery or AC power supply. The Fit's own battery is pretty tiny, so I won't be able to operate parked for very long without an auxiliary power source.

The single cable from the control head to the radio goes the same way as the power cable, down the center console. The provided control cable is much longer than needed in this installation. Rather than try to rebuild the control cable, I found a spot inside the center console where I could coil up the excess, out of the way and hidden.

That leaves antennas. The IC-7100 has two antenna connectors, one for 2m and 70cm, and the other for 6m and HF/MF. Most of my mobile time ends up being on the PARC 2m repeaters, so the VHF/UHF antenna needs to work well. It also needs to stay attached even when the car goes into my garage or any parking structure. The best way to do that is put a hole in the center of the roof, and that's what I did. This is actually the first car I've ever had where that's possible. I've had sunroofs and/or luggage racks, or convertibles. Step one is to drop the headliner enough to peek inside and make sure there's nothing but air below where you want to drill. On the Fit, that's pretty easy: two clips each to remove the left side front and rear grab handles, and pop off the interior trim pieces that capture the edge of the headliner: rear quarter trim and B pillar trim. There's nothing at all going on above the headliner in the Fit, I just had to miss the reinforcing braces.



Going first class, I bought the special 3/4" hole saw that's designed just for this purpose. It made short work of making a very nice hole in the roof. The instructions call for removing the



paint in a narrow ring around the hole. I did that with a little wire wheel attachment in a cordless Dremel tool. Then I dropped in and tightened up the Larson NMO mount, fishing the pre-attached coax out to the side of the headliner.

Here's a critical step that I almost missed. Just above the edge of headliner, there's a cryptic-

looking thing that runs from the front of the front side window to the back of the rear side window. It consists of a black plastic L-channel with a tight roll of white fabric nestled in it, loosely tied every few inches with a flimsy-looking ribbon. As you have probably guessed, it's the side curtain airbag. If the coax runs between the airbag and the interior, it will interfere with airbag deployment. Luckily, the airbag is mounted on standoffs away from the body panels, so it's easy to route the coax over the top of the airbag. On my first stab at routing the coax, I missed this point, because I wasn't expecting to find an airbag up there. The Fit has airbags built into the front seats, and I assumed they were the only side airbags. Apparently not.



The rest of the VHF/UHF coax routing is simple: down behind the trim on the B pillar (that's the one between front and rear doors), being careful not to interfere with the driver's shoulder harness, which also runs inside that pillar. Then out under the edge of the plastic trim near the left rear foot of the front seat, and into the radio area. I left a short turn of slack to make it easy to manage the connector, and cut off the excess coax (along with the provided connector). I soldered on a PL-259 plug with the appropriate reducer. This reminded me for the umpteenth time just how horrible those connectors are, so at my next work break I ordered some quality crimp-on PL-259 connectors and the right crimp tool for them. For next time.

The choice of HF antenna is a little less straightforward. Mobile HF antennas are always compromises, of course. Each operator has to decide what tradeoffs to make. My operation is generally random and unplanned, so I wanted all-band coverage without stopping the car to change the antenna. There are basically two ways to do that: a screwdriver antenna (that is, a whip with a built-in motorized coil in the base to tune it) or a plain whip with a separate antenna tuner. The general consensus seems to be that the screwdriver design performs better. I have a screwdriver antenna on my Land Cruiser (well, sometimes I do). They are big and heavy and ugly, and even with a so-called automatic controller, they are a bit of a pain to operate. The auto controller guesses which direction to run the motor by detecting the RF frequency (either with a counter or, more recently, by interfacing with the radio's remote control port), and then looks for a dip in SWR. Which is the same way you'd tune a screwdriver manually,

more or less. It works, most of the time. But it takes a few seconds, or more than a few if you're changing to or from 80m or 40m, or a whole lot more if it runs the coil all the way to the stop without finding the SWR dip. I didn't want to deal with that.

With an automatic tuner that interfaces to the radio, the plain whip can be tuned on any frequency in just a second or two with a single button press. You hear a brief burst of relay chatter from the tuner, and you're ready to go. A much nicer experience. What's more, if you're parked you can easily clip additional wire to the top of the whip and make a superior antenna out of it, and the tuner will just automatically handle it. This appealed to me, so I decided to try out the plain whip solution.

The best place to put the HF whip is also on the center of the roof. That would probably have been feasible, but it just didn't seem like a good idea. The HF whip is going to be too big to go into any garage, so its base needs to be readily accessible so the whip can be removed at a moment's notice. I decided to mount the whip with a classic ball mount, halfway up the side of the car, just forward of the tail lights. This specific spot is handy because the inside of the exterior sheet metal is accessible there, through a little trim hatch that provides access for changing bulbs in the tail lamps. For better access, the rear quarter trim is pretty easy to remove.

The common Hustler ball mount is a terrible piece of cheap junk. Avoid at all costs. There's a little machine shop in North Carolina called Breedlove Mounts. Hank Breedlove specializes in antenna mounts carved out of solid chunks of brass and aluminum. As he says, "stronger than it needs to be." I chose his ball mount plate set with the smaller 3" plates, because of the limited amount of room in the side wall of the Fit. It's a beast. If I have to switch to a screwdriver antenna in the future, this ball will be plenty strong to hold up a small one. I was a little worried that the sheet metal would be too flimsy, but it seems quite solid enough.

The ball is electrically isolated, so you can feed it from inside the car and the ball itself becomes the base of the antenna. I think this isolation will be enough to handle 100 watts. If not, it'll arc over. In that case, the fallback is to mount a heftier insulator on top of the ball, and bring the feedline out through the body panel, bypassing the ball. Breedlove makes an insulator like that out of a hunk of Delrin. I ordered one, but I hope it stays in reserve.

A spring is a good idea between a rigid mount and a long whip that can hit things. Hustler's seems fine, so that's what I got. It supposedly has a braid inside to make sure the two end caps stay electrically connected.

The usual whip length is 8 feet, though longer ones are available. The base of the whip on my Fit is about 39 inches above the road, so an 8' whip tops out a few inches above 11 feet. This should clear just about anything you'll find on the road. Of course, it's still way too tall for parking garages. There are two ways to deal with that. Well, three, if you count simply avoiding all parking garages. You can remove the whip, or you can bend the whip over. If I remove the whip, I'm standing there with an 8-foot rod in my hand, and a subcompact car to put it into. It turns out the whip actually does fit into the car, with the rear seat folded down, diagonally from the hatch to the passenger's footwell, but that isn't going to be very convenient if the car isn't almost completely empty.

DX Engineering has a solution for this problem: an 8' whip that breaks apart into three pieces with a hex wrench. That's what I bought. I have a notion that I might end up leaving just the bottom section of the whip installed, most of the time. In that configuration, it should still tune up on the higher bands, and the shortened whip isn't high enough to cause any problems.

Bending the whip over looks like it will work, too, somewhat to my surprise. The whip is rigid enough to stay up (not straight, but up) at freeway speeds, but it's still supple enough to bend forward all the way to the rearview mirror without apparent stress. It even follows the curve of the car rather nicely. In the old days, one would install a special clip on the gutter to capture the tip of the bent-over whip. Cars don't have gutters anymore. I'm still pondering a nice way to capture the tip. Probably something involving a loop of string and a hook mounted somewhere.

The remaining element of the HF antenna system is the automatic tuner. I chose the Icom



AH-4, which gets good reviews and is the officially supported tuner for the IC-7100. It's a white plastic weatherproof box, about 7x3x9 inches. Coax and a control cable come in one end from the rig. The other end has a ribbed insulator for an unbalanced single wire antenna. The antenna really starts inside the tuner, passes through the ribbed insulator, along whatever jumper wire you add, and out along whatever whip or wire it's connected to. It might seem like you could shift the effective start of the antenna by interposing some coax, but the math says that just adds losses.

Really, the tuner should be mounted outside, exactly where you want the base of the antenna to be. I've seen that done on pickup trucks, but it didn't seem like a reasonable installation on the side of my little car. I mounted the tuner inside. There's a four-inch jumper between the ribbed insulator and the back of the ball mount. That means about eight inches of my antenna is inside the car. That's not ideal, but it was the best I could figure out. To do even that well, the tuner had to be mounted at an awkward angle, halfway into the rear quarter trim panel and halfway hanging out into the cargo space. The trim panel and the bulb access hatch had to be modified to make room. I used a hot-knife tip on my Weller soldering gun for that task.

The coax and control cable for the tuner route through the rear quarter trim panel and under the rear door sill trim, and emerge in front of the left rear foot of the front seat. They pass under the slide rail and into the radio area. This coax,



too, is cut to length except for a short service loop, as is the tuner control cable.

The ball mount, a handy tie point on the body, and the ground terminal on the tuner are all tied together with braid. That is, however, just the beginning of "bonding" the car together with braid. I need to go back and braid across all the door, hatch, and hood hinges, and braid up the exhaust system and engine, and anything else that looks likely. The experts agree that this is important for mobile HF performance.

Even before doing any bonding, though, the HF antenna tunes up like a dream. A press of the tuner button on the control panel, and in a second or two it's done. It even tunes successfully on 80 meters, though the AH-4 is not rated to do that with a whip that short.

As for how well it gets out, I can't say yet. I've barely tried using it yet.

One thing I do know. There's a serious problem with ignition noise, even on VHF. I'm hoping this will be much reduced when I'm done bonding the car together. If not, then I'll have to find a way to address the ignition noise specifically. Some of the old wisdom about how to do that no longer applies, though. Car ignition systems have changed dramatically. Or so I've read.





Above: video of taking down of a tree hazard at the repeater site work party. By Don WD6FWE.

Repeater Site Work Party

by Dennis KD6TUJ

A small group went to the mountain on Wednesday April 9, 2014. Conrad KG6JEI picked up Dennis KD6TUJ, then went to Mike's K6MRP house to pick up some club equipment for storage. After picking up three tower sections, and additional parts we picked up some block and tackle from Mike. Mike offered to come up, an offer we could not refuse. Don WD6FWE and Gerry K6GAB met us at the site. Mike soon followed. As usual, the block building was opened up to air out the batteries so they may be checked. Dennis started to do the finish work on the conduit from 73 to 700. Conrad checked for correct fittings to terminate the coupled line and completed the terminations. (There is no such thing as enough line for a measured run!) Gerry had a chance to check out the site and see the repeaters. Don checked out the battery levels. Mike arrived and work was started to send a line through the tree to secure a pull rope. Only 1 1/2 inches thick by 200 feet. Don took a few tries, then Mike tried a few. A toss finally made it close enough. After trimming a few branches with a pole saw, the rope was close. Hey Conrad, bring your truck around. Tying off to the hitch, Conrad and his truck pulled the line higher on the trunk to create a little pull for the drop. Mike fired up the chain saw easily. Since the fires there has been a large supply of wood that needed to be cleared, so he burns it in his fireplace to lessen the fire's leftovers. Choosing an angle, he cut the drop wedge out and proceeded to the fall cut. 2 1/2 minutes later the danger of the broken tree was removed along with the sister tree it was resting on. Gerry left to continue with his plans. Conrad finished the line connections. The 146.700 packet repeater is now coupled to the 146.730

antenna to be used for receive enhancement. We started talking about site mapping. Mike showed us the connections he has made to improve the site. We checked the old battery building and determined that there were no more low voltage connections. Checked out the "old" inverters. They are determined to be non-functional and will be removed at a later time. Mike then checked the battery charger for the string and noticed a RED light on. The supply had errored in some manner. Zero current was leaving the charger. The power/breaker switch was in full off position. The voltage meter read 48vdc. It should be reading 54vdc. Resetting the main switch brought life back. Output at 30+ amps. Slowly the voltage came up to 51 1/2 vdc after 45 minutes or more. Discussion was offered on how the switch was thrown. Seismic activity (tree falling)? SDGE line surge? Recent electrical storm activity? Bigger question - how long was the switch off before Mike noticed? Overall, the two major projects were completed. Dropping the tree hazard and coupling the packet repeater to a higher/more gain antenna. Don brought more distilled water for stock on hand to use in the batteries. PVC was brought for another trip to encapsulate the phone lines to prevent moisture from shorting them in the future. And a trim board is on the hill to replace the trim on the block building that has some critter work in progress.

One of the next trips needs to be on a weekend day to provide manpower to unload the tower sections from Mike so the trailer may be returned.

Dennis

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Across

- 1 Commuter line (4)
- 3 Bow (4)
- 4 Iron (5)
- 6 Small hole, like in a flute. (7)
- 9 Take on (6)
- 10 Ballyhoo (4)
- 11 Go bad (4)
- 12 Fusion (5)
- 14 Decline (3)
- 16 Carbonium, e.g. (3)
- 18 You might use this as a lever. (5)
- 20 Bend (5)
- 22 The place you take your ore. (7)
- 23 20-20, e.g. (3)
- 24 You might put this coil in parallel to an armature. (5,4)
- 25 Real radios glow in the dark and are warm. (14)
- 29 You need this so the sewer won't stink. (3,4)
- 35 "Don't go!" (4)
- 36 Minor player (3)
- 37 Light bulb goes into. (6)
- 39 Casting need (4)

Down

- 1 Catch, in a way (4)
- 2 Hams often accused of. (9)
- 16 Inactivity (7)
- 17 Cashew, e.g. (3)

- 3 Trick taker, often (3)
- 5 A bare axis or cylinder with staves or levers in it to turn it round, but without any drum. (7)
- 6 Potential difference. (7)
- 7 Bug (3)
- 8 Bond (4)
- 13 Delay (3)
- 14 One out? (7)
- 15 Provides supportive surface, wedge-shaped. (4)
- 19 Type of insulator. (5,5)
- 21 Fritter away (5)
- 26 .0000001 joule (3)
- 27 Greasy (4)
- 28 Video maker, for short (3)
- 30 Away (4)
- 31 15-ball cluster (4)
- 32 Suidae Ferrous (3,4)
- 33 Can't have enough of the right type of these. (5)
- 34 Carpenter's tool (5)
- 35 Fastener (4)
- 38 E or G, e.g. (3)

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SPONSORED BY THE SAN DIEGO T-HUNT GROUP & CQ MAGAZINE WORLD WIDE FOX HUNTING WEEKEND

Starting times will be 10:30 AM to 1:30 PM at 5 minute intervals. If you start at 1:30 you will have until 3:30 to complete the course. NO REGISTRATIONS FEES! This is not a TRUE International style Hunt other than using 2-M FM, having 5 T's and using the MOE-MOI-MOS-MOH-MO5 format. For information on International style hunts go to www.homingin.com/intlfox.html . Antennas may be any polarization but radiated power will be the same on all T's. We will be using punch card verification for the hidden T's. There will be orange & white flagging tape on each punch within 10 feet of the T's which will be concealed. We will have some equipment for loan to those that do not have small 2-M beams. There will be experienced Hams present to demonstrate techniques for those that want to experiment with Amateur Radio Direction Finding (ARDF) and a practice T before the start. You do not need a Ham License to participate! A Pot Luck BBQ is planned for 3:00 PM for those interested. Bring your own buns burgers/dogs and we will provide drinks, salad, beans, grill & condiments..... Contact Joe Corones, N6SZO @ H-858.484.3582, C-858.603.5545, jcorones@gmail.com OR Joe Laughlin, KE6PHB at H-619.461.7854, C-619.403.3149, KE6PHB@cox.net for information.

DIRECTIONS: In Escondido, at the junction of I-15 & Via Rancho Parkway, go east .75 miles past Beethoven and make the first left turn into Kit Carson Park. Follow park road .3 miles to tennis courts and park your vehicle. We will be in the "Ray Love Picnic Area" by the south end of Tennis Courts. GPS 33-04'-32.92"N & 117-03'-40.34" W. Call our cell phones if directions are required. Look for T-Hunt signs.

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Tower History

by Dennis KD6TUJ

The following and more can be found on the website shortly. There is a lot involved to operate our Club. An occasional reading of the past can bring a lot of respect to our past and current members.

Friday June 10, 1983 escrow closed on the Palomar Amateur Radio Club repeater site. Complete with 240 easy payments. No longer have to worry about being evicted over possible RFI to the landlord or rent increases.

August 1983 executive meeting discussed the erection of a tower on the repeater site, to permit the UHF antennas to be raised above the trees, and to establish in being a tower on the site in view of the moratorium on commercial towers in our area of Mount Palomar. Bob WA6QQQ told the committee of the possible availability of a 70' self-standing tower. Bob WA6QQQ also describes the engineering problems inherent in a large multiple repeater site. After hearing his discussion, the Committee was of the mind that the PARC site could handle 1-3 more repeaters. Stan, W9FQN, will look into obtaining a building permit for a tower.

September 1983 ...W9FQN reported that he would accompany Bob, NC6J, to the PARC repeater site to locate the corners of the Club's property, since Bob had managed to get a map resulting from a previous survey. Stan also informed the Committee that it is going to take a 12 cubic yard footing for the donated 70' tower. He estimates that it will cost the Club as much as \$2K to move the tower to the mountain and erect it.

December 1983 TOWER DONATED BY RADIO STATION KOGO RECEIVED The PARC is finally the owner of a 70' free-standing tower which was very generously donated by radio station KOGO. Stan, W9FQN, assisted by N6AEF, N6GSS, N6GZI, K6HAV, KA6HZF, and WB6IQS loaded the four tower sections onto Stan's boat trailer on Saturday, 19 November, and removed the tower from KOGO's transmitter site to a storage space on Stan's property....The move, for which \$50 was budgeted, cost nothing, thanks to Stan's loan of his boat trailer. The Club thanks radio station KOGO for this wonderful donation of a very high quality, hot-dip galvanized tower. It's a dandy! Thanks also to Bob Gonsett, WA6QQQ, who steered the Club to the tower and greased the skids in our direction.

January 1984 Plans are proceeding apace to

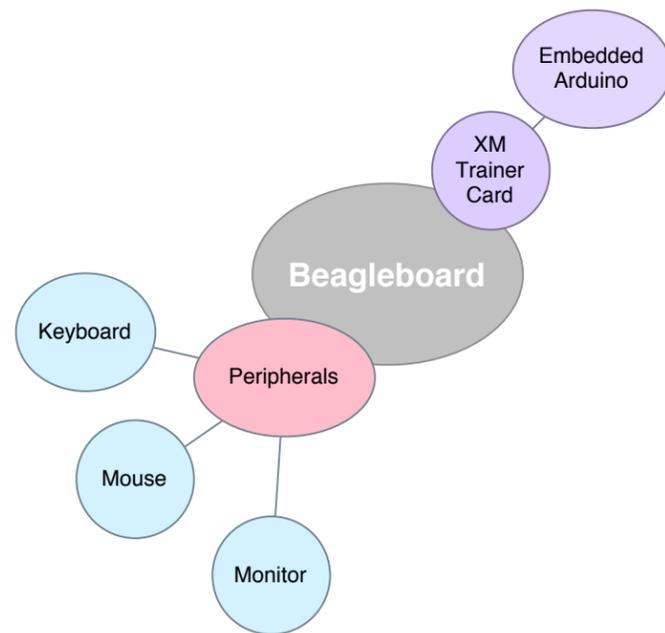
come by the wherewithal necessary to buy the re-bar and concrete necessary to pour the base.

...
May 1984 Executive Committee Meeting The Committee voted to authorize Stan, W9FQN, to apply to the County for a building permit to erect our tower: and to spend up to \$650 for the installation of the tower. ...

June 1984 Executive Committee Meeting Stan, W9FQN, told the Committee that the reinforcing rod is in the hole for the tower base...

July 1984 Executive Committee Meeting ... W9FQN reported that the concrete base for the tower could be poured by the end of July. Tower fund has topped \$1000!...





Microcontroller Comparison

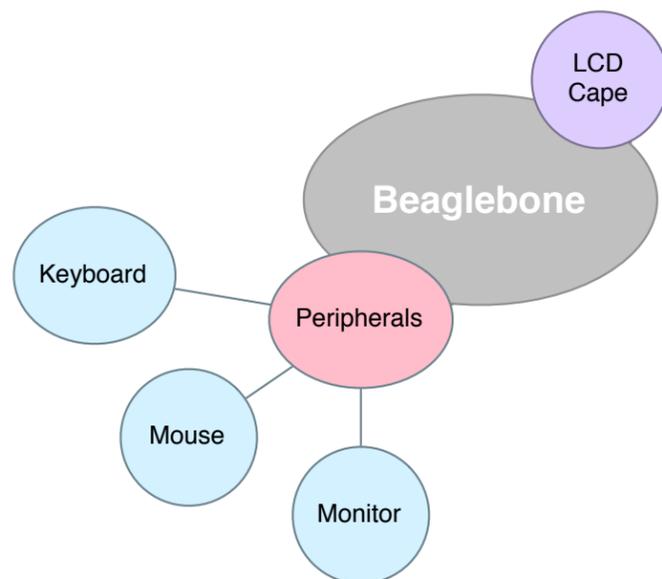
by Michelle W5NYV

The April 2014 QST had two excellent articles about microcontroller projects in amateur radio. As a microcontroller enthusiast, I was very happy to see the projects and resources featured.

This article is a summary of the microcontrollers I've worked with recently. I have four different types, for four different projects. They vary in how difficult they are to set up and use, and in how capable they are. Difficulty and capability are, as one might expect, related. The more capable the controller, in general the more difficult it is to configure and program. The evaluations are based on my impressions, and are scored relative to each other.

I refer to microcontrollers as "platforms". In general, a platform is a tool consisting of a set of hardware with dedicated software that can be used to solve a wide variety of problems. If a hardware/software system is intended to solve a narrowly defined set of problems, the system is usually referred to as "a solution".

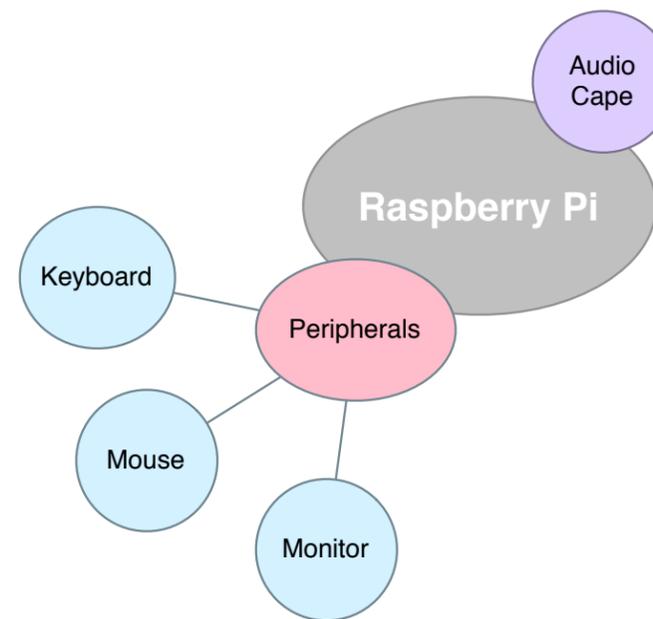
The first platform is the Beagleboard (see diagram above). It is a standalone single-board fanless computer based a 1GHz ARM processor. Peripherals can be directly connected to it. I have a keyboard, mouse, and monitor. The variant I have is called the Beagleboard XM. It has a daughter card (a dependent circuit that plugs into the main board) called the XM Trainer. This daughter card has a second processor called an Arduino on board. This project is intended to be a follow-bot. The Arduino is slated to



run the motors (code already works for this) and the ARM processor will run the obstacle detection and decision-making algorithms (work on this is in the very early stages). Setting up a Beagleboard can be a challenge, even for someone well-versed in operating a personal computer. The steps are many, and some of the commands border on arcane. The Beagleboard, Beaglebone, and the Raspberry Pi all use an SD card as a hard drive. The SD card must be prepared and the operating system loaded before it can be installed on the board.

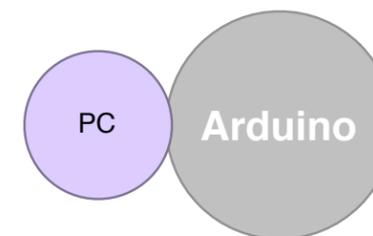
Missing a step in preparation, or doing a step incorrectly, can result in damage to the SD card or the machine that the SD card is being prepared with. The boards do not come with documentation. It's expected that the proud new owner will go out to the web and find the instructions for preparing the SD card with the operating system they have chosen. In general, this means a version of Linux that has been specially written for the processors these boards are built with. Angstrom, Android, and Ubuntu are popular choices. If you design your own hardware to interface with these boards, you may need to write the drivers yourself. Working with these boards can be very DIY.

The second platform is the Beaglebone (above). It's a stripped-down version of the Beagleboard. It also accepts peripherals directly plugged in. Like the Beagleboard, I have a keyboard, mouse, and monitor plugged in. This board was intended as an audio recorder, but has been repurposed with an LCD daughter card for human-computer interface experiments. Daughter cards for these types of boards are often referred to as "capes". You can think of it as if the main card is wearing a superhero cape, which grants special super powers.



The third platform is a Raspberry Pi (above). It is also ARM-based, but wraps the ARM processor in a larger chip called the BCM2835, from Broadcom. Like the Beagle family, peripherals are directly plugged in. This device has a keyboard, mouse, and monitor. This platform became the audio recording project platform with the addition of an audio daughter card, or Audio Cape. The cape allows all sorts of audio to be distributed in and out of convenient connectors. This allows much simpler management of the audio compared to the bare platform. Setup of this platform was easier than the Beagleboard, on par with the Beaglebone, but not as easy as the Arduino.

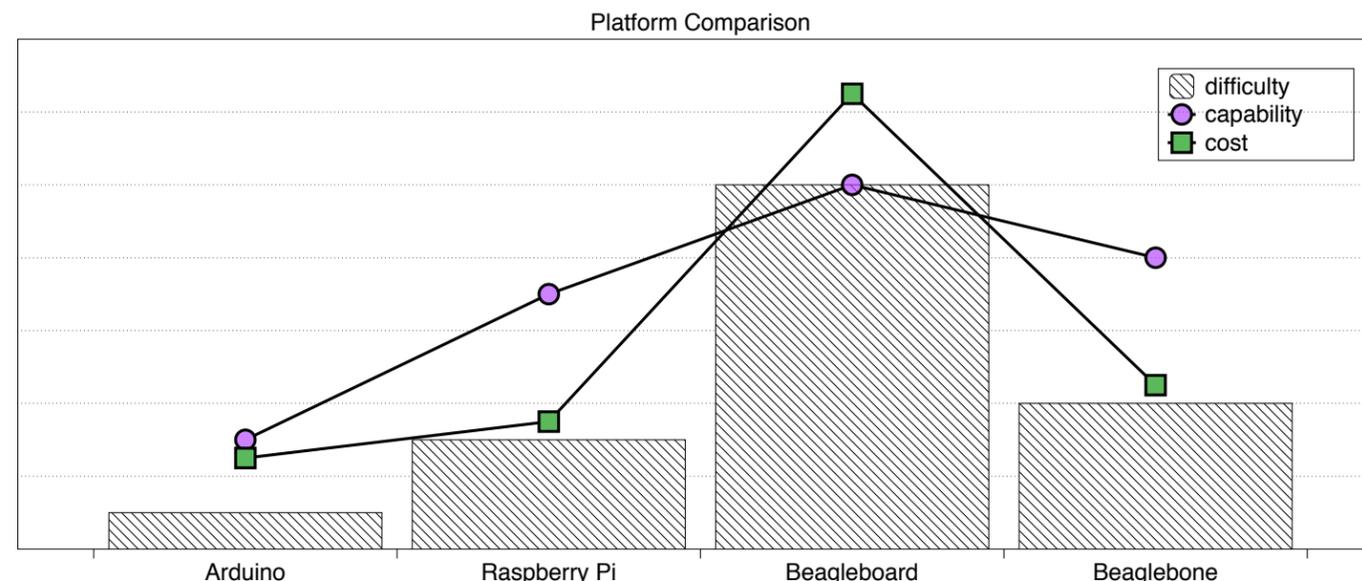
The fourth platform is the Arduino (at right). The Arduino does not normally directly take peripherals. It connects to a personal computer through a USB connector. The host computer's keyboard, mouse, and monitor are relied upon during programming. The Arduino is less capable by comparison to the Beagles and the Raspberry Pi. Like the other platforms, a wide variety of expansion cards are available. Unlike the other platforms, the Arduino has a software development environment that is very easy to use. There is no SD card. You program the Arduino using a variant of Processing, a language designed for non-programmers.



Arduinos are commonly and effectively used as the brains for LED projects, quadcopters, home automation, and other projects that don't require a large amount of complex signal processing. The ARM-based platforms can handle complex signal processing in addition to all the things that the Arduino can do. The final consideration is cost.

Platform	Cost
Arduino	\$25
Raspberry Pi	\$35
Beagleboard	\$125
Beaglebone	\$45

Below is a platform comparison chart of my impressions of how each platform stacks up against each other in terms of cost, difficulty, and capability.



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Submissions: scope@palomararc.org

Questions? Ideas? Comments? W6NWG@amsat.org

Featured Program:

At 7:30pm on 7 May 2014, Palomar Amateur Radio Club will present a program about Logbook of the World.

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>

SCOPE

THE PALOMAR AMATEUR RADIO CLUB NEWSLETTER

Field Day 2014: June 28-29!

ARRL Field Day is the single most popular on-the-air event held annually in the US and Canada. On the fourth weekend of June of each year, more than 35,000 radio amateurs gather with their clubs, groups, or simply with friends to operate from remote locations. Field Day is a picnic, a camp out, practice for emergencies, an informal contest and, most of all, FUN!

It is a time where many aspects of amateur radio come together to highlight our many roles. While some treat it as a contest, others use the opportunity to practice their emergency response capabilities. It is an excellent opportunity to demonstrate amateur radio to the organizations that amateur radio might serve in an emergency, as well as the general public. The contest part is simply to contact as many other stations as possible and to learn to operate our radio gear in abnormal situations and less than optimal conditions while having fun. Field Day is/not a contest.

Field Day is one of the main highlights of PARC and a good effort is put forth each year. Last year we scored 4th place in our category of 5A and had lots of fun while doing so. In addition we placed first among all the San Diego (SDG) clubs. We set up 5 main stations plus a satellite station and GOTA. We hosted a Radio merit badge class for the Boy Scouts and had the help of the Young Marines during setup and take down. There was a testing session that took place on Saturday and as a result, two new hams were licensed into the hobby. We even had a world class BBQ prepared by the famous Psycho Kitchen.

Whichever aspect Field Day sparks your interest, whether it be the contesting, setup and take down and seeing how all the equipment goes together, commanding a station, the Saturday picnic BBQ, or just hanging out with good friends, I hope you will join us this year for the Palomar Amateur Radio Club 2014 Field Day effort.

Field Day is a group/club effort. We did not achieve the results of last year without having fun and we certainly didn't do it with just one person. If you are interested in helping in any way, please contact me. No former FD experience is needed.

Field Day is scheduled for June 27, 28, and 29 at the same location as last year and years prior. The empty lot located at the corner of Santar and Rancheros in San Marcos. This will likely be the clubs last time as they plan to start building on site Monday. We, the Club, need to start looking now for a new site for future use.

Field Day preparations are continuing. We have filled all station captain spots and have received many offers of help and equipment. Thank you to all those who have offered to help thus far. We are moving in the right direction and on track to have another fun and successful Field Day. We are now looking for voice and CW operators. If you are interested please contact me or one of the band captains. Join us on the weekly nets, Wednesday at 8pm.

Check out our article online:
http://events.10news.com/PARC_Field_Day/289191767.html

Find us at <http://www.arrl.org/field-day-locator>

Looking forward to seeing you there.

Greg Gibbs
 KI6RXX
 760-583-9668



Congratulations Wild Bill!

Save the Date

Club Meeting

4 June 2014

Come hear all about Field Day!

Board Meeting

11 June 2014

Palomar Amateur Radio Club board meeting at 7:00pm at W6GNI QTH.

Club Event?

Field Day!

See this issue for details.

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Drake UV3 3 Band VHF/UHF transceiver with manual, all 3 modules, mike, tone encoder \$375

Kenwood TS 850S with auto tuner, cw filter, power cord, manual. No mike. \$550

Yaesu FT100 with original manual, mike, power cord, mobile mount, packaging and box. Upgrades done \$500

Drake TR7 with power supply, mike, manual, 2 cw filters \$675

Drake W-4 Wattmeter. Cabinet could use paint. \$70

Ron K2RP K2RP@ARRL.NET or 760 436 8109

FOR SALE

- 1) Weller EC1002 Solder Station, regular pencil: \$75
 - 2) Weller EC1002 Solder Station, thin pencil: \$65
 - 3) Fluke 83, probes, and case: \$110
- Contact kk7kx: assi@kiloxray.com

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.

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- Terminals and Splices
- Tools
- RF Industries Coax Adapters



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SWD Coming Up this Fall



2014 ARRL Southwestern Division Convention

September 12 - 14, 2014
Will be held at the
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Minutes

Palomar Amateur Radio Club

Board of Directors Meeting

MARCH 12, 2014

President Dennis Baca KD6TUJ called the meeting to order at 19:13 pm at the home of Al Donlevy, W6GNI. In attendance were:

President: Dennis Baca, KD6TUJ
 Secretary: Jim Cooper, NE6O
 Director #2: John Rotondi, WA2OOB
 Repeater: Conrad Lara, KG6JEI
 Membership: Al Donlevy, W6GNI
 Repeater Site: Don Johnson, WD6FWE
 Field Day: Greg Gibbs KI6RXX

TREASURER

- Kim was not able to attend the meeting and sent the treasurer's report by email.
- Motion by Conrad, KG6JEI to approve the Treasurer's Report. Seconded by Don, WD6FWE. The motion passes unanimously.

SECRETARY

- Jim, NE6O distributed the February Board minutes.
- Accepted with unanimous consent.

NEXT MEETING

- At the April meeting, Ron Rosson, N6XT will talk on his Vacation/First DXpedition to America Samoa and Samoa with N7CQQ.
- We still need a May program
- Greg, KI6RXX will present a program on

the upcoming Field Day at the June meeting.

•

MEMBERSHIP

- Al, W6GNI, reports that membership is at 285, down 4 from last month.

REPEATER

- Don, WD6FWE reports that the site is OK on his latest visit.
- There are plans to take the 700 and run a connect to merge the receive to the 146.730 repeater
- Plan to decommission one of corner reflectors and use their cavities for other units
- Conrad, KG6JEI presented an inventory of the large items on the repeater site.

SITE REPORT

- Don plans to repair the phone line and run one half inch coax.
- Don plans a work party at the site on March 19 at 10am.

FIELD DAY

- We have a verbal approval for the same site this year. Construction on the site will start later so this will be the last time there.
- We still need station managers for 15/40 SSB and one CW station
- PARC may run 4A this year.
- GOTA will have 10 meters for its own use. This will reduce band scheduling conflicts.
- Greg, KI6RXX reports that the Field Day Weekday planning net will begin on Wednesdays at 8pm
- Greg, KI6RXX suggests replacing 3 coax lines with new 100 foot RG213 coax .
- Conrad, KG6JEI moved to purchase 3 runs of coax from RF parts not to exceed

<p>HAM RADIO OUTLET</p> <p>Jose XE2SJB Jerry N5MCJ Joe N6SIX</p> <p>H R O</p>	<p>KENWOOD rf CONCEPTS DIAMOND US TOWERS KANTRONICS YAESU, MFJ, ICOM BENCHER, Inc. HUSTLER COMET AMERITRON</p>	<p>Astron, AEA, OUTBACKER Larsen Antennas TEN-TEC Hy-gain, Tri-EX, Cushcraft And Others too Numerous to Mention!</p>	<p>Drop in to see our display of working equipment. Find out about Pkt location determining equipment (APRS). Check our complete line of magazines, ARRL books, license manuals, and Bulletin Board with all sorts of Goodies listed.</p>
<p>Open: 10a.m. – 5:30p.m. <i>Ask about our great prices</i> Monday thru Saturday 858 560-4900 or toll free 1-800-854-6046</p>	<p>Directions: On 163, take Clairemont Mesa Blvd. off ramp to East. Stay in right-hand lane. Turn right at stoplight. As you are turning right you can see our beams in this shopping center. Travel 100 yds. On Kearny Villa Rd. and U-turn back to shopping area and HRO sign. Be sure to see our equipment in action on real antennas!</p>		

\$350. Seconded by Don, WD6FWE. Passes unanimously

- Greg, KI6RXX presented a list of possible commercial transport of equipment from the storage site to the FD site.
- Insurance has been applied for to indemnify the property owner
- Greg, KI6RXX Field Day Status Report is attached at the end of these minutes

NEW BUSINESS

- The next Operating Day will be April 26, 2014 at Fry's in San Marcos.
- Dennis, KD6TUJ asked Al, W6GNI to write a check for \$1200 for the Self Insurance as approved last month
- The Scout Fair will be held on April 26, 2014. Conrad has offered to support them.
- Should BOD minutes and treasurers reports be presented at the General Meeting?
- State of California Statement of Information filed on February 14, 2014. John, WA2OOB moves to reimburse \$20 to Dennis to reimburse his filing for the State of California Statement of Information. Don, WD6FWE seconded. Passed unanimously
- The annual EARS auction will be on April 10.
- John, WA2OOB will do the PARC auction

Next month's board meeting will be the second Wednesday, April 10, 2014 at the house of Al Donlevy, W6GNI and will start at 7pm.

Unanimous motion to adjourn at 9:15 pm.

Respectfully submitted
Jim Cooper, NE6O
Secretary, Palomar Amateur Radio Club

Attachment:

Palomar Amateur Radio Club
Field Day 2014 Status Report

1. Field Day this year will be the fourth full weekend in June.
2. The year Field Day will fall on Friday June 27th, Saturday June 28th, and Sunday June 29th.
3. Persons who have volunteered for Band Captain thus far:
 - Ron K2RP volunteered to take one of the CW Stations
 - Don, WD6FWE volunteered for GOTA
 - Mike, NA6MB volunteered for 20/80 SSB with KI6RXX as co-captain.
 - Possible Band Captains: John WA2OOB and Rich NI6H

4. We are still in need of at least 1 voice station on 15/40 SSB and a CW station.

5. Looking at running 4A based on equipment availability, and having a dedicated HF spot for GOTA.

6. Request to start weekly Field Day Planning Net on Wednesdays at 2000 hours.

7. Several runs of Field Day supply coax are less than an optimum length. The shortest are approximately 47', 56', and 57'. Propose replacing these runs with 100' each direct replacement. Old stock to be kept in PARC supply.

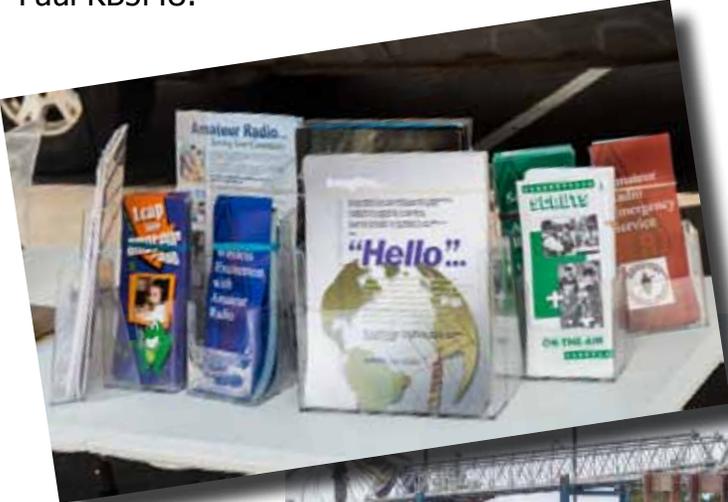
8. One item of concern, at least to one Club officer, is the transportation of Club equipment by private means and the liability it might present to the BOD. The club may be required to contract (rent) a transport unit or company to move Club equipment to alleviate their concerns. Attached are quotes that will give us a general idea of cost for transportation one way. Keep in mind these are just estimates. Our costs will probably be higher based on our special needs of same day transportation vs 1 day which generally doesn't include the date of pickup, Sunday service, and heavy lifting / awkward loading requirements. Is this something the board is interested in?

- Cost of 100 foot RG213 coax terminated with PL259 each end:
 - Cable Experts \$129.95 (AES)
 - RF Parts
 - \$113ea under 200 feet purchased 0.95+18 (\$2 each connector, \$7 each to solder on)
 - \$106ea 200-499 feet 0.88+18 (\$2 each connector, \$7 each to solder on)
 - \$102ea 500+ feet 0.84+18 (\$2 each connector, \$7 each to solder on)
 - HRO no price listed/offered. Tired to sell different product when in person.
 - Recommend ordering 3 cables from RF Parts at 100' each for a total cost of \$318.00 USD plus any applicable tax; for a total cost not to exceed \$350.00 USD (249.80 with 10% tax)

9. Work Parties need to Inventory Station Boxes, Create Dipole Antenna Holders, Take down and Repair 5th tower that is on top of shed, and repair 20M antenna element.



Above, Greg KI6RXX and Tom KI6IET put up the Palomar Amateur Radio Club banner at the April 26th Operating Day at Fry's Electronics. Photo by Michelle W5NYV. Photos below and pg 12-13 by Paul KB5MU.



Upcoming SANDARC Vote at July PARC Meeting

SANDARC will be holding a special meeting this month to comply with their bylaw provision of having the VEC budget presented to the Delegates for approval. At this time they will also present a SANDARC operating budget. This special meeting is required as a result of the meeting schedule changing to quarterly without first checking with their bylaws.

At the last meeting there was discussion of spending monies in accordance to procedure as a result of participating in the SANTEE STREET FAIR. This event is open to all SANDARC members to educate and demonstrate to the public (like our Operating Days). SANDARC (who has no annual income) will be spending \$800.00 to obtain two (2) adjoining booth spaces.

Expected attendance will be 60,000 individuals. This is a great opportunity to capture more interested people. All Clubs are encouraged to have representatives and their flyers/trifolds available as people come from all over. Palomar delegates, in trying to follow procedure offered to initiate support by offering \$50.00 as a Club and each Delegate for a total of \$150.00 to start the Clubs pooling together to support this event.

Sadly, there was no other Club response or support.

SANDARC's Board has decided to do this expenditure and participate. (A good idea, but how to follow its own bylaws?)

A informative letter sent by Dennis to the Board was returned and directed to be sent as a grievance. To comply, this was done as directed. The Board acted on the letter at a Special Board Meeting. (All are special Board meetings as no Board meeting are scheduled.) The Board concluded that the information sent was appropriate and acted on the letter. This was required to be heard as a process at the Delegate meeting.

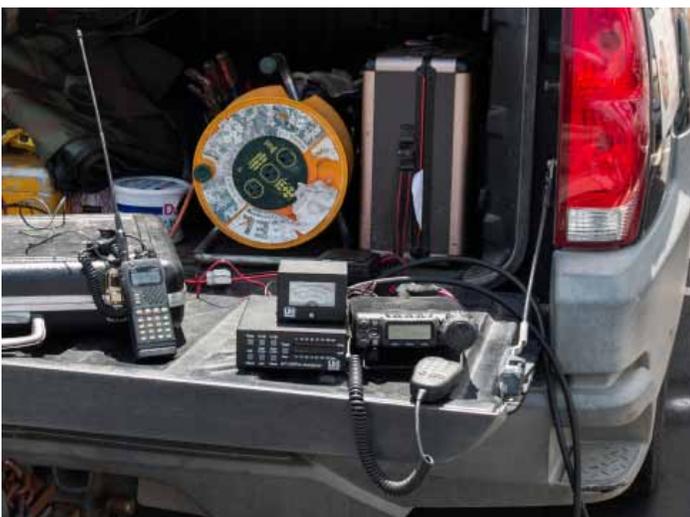
Conrad has had a long-standing request to review the Secretary's records to help him learn, understand, and help him to support SANDARC. SANDARC has continually refused to allow anyone to look at any records. Conrad has requested to do this at a mutual convenience and a mutual time, possibly over a snack or meal. SANDARC's continual answer is "What is Conrad going to find that we did wrong?" I really don't understand how learning about the group in order to help deserves this sort of a response.

After over a year and a half of stalling, The current Board has decided that this request must be asked of by a Club as the Club is the member of SANDARC. A Delegate who represents the Club, with the Club's full endorsement and authority to act for them, does not have the authority to make this request.

I hereby ask the membership to endorse this request at the JULY meeting.

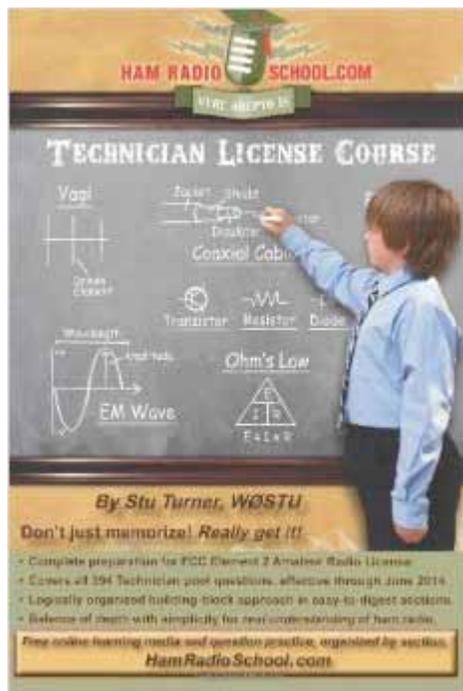
This is making me wonder what IS in the records.

Dennis



In addition to having a family, working two jobs, and other activities, I was asked by my parish to teach a class at our school. I decided to teach "Introduction to Radio Theory." After a bit of work, Brian (AG6CF) and I decided to use Radio [Ham Radio School.Com](http://HamRadioSchool.Com) as the school book. It was a great book. There are not many ham books designed for a younger audience. We essentially went over one chapter of the book per week, a couple of chapters we broke up and we went over Chapter 1 for three weeks as it has a lot of basic information in it.

There were 14 kids who started the class, and 10 who completed it. Several dropped for various reasons through the year including moving. Of the 10 who completed the year long hams training course, 7 decided to take the HAM license test. Of the 7 who took the HAM license course 5 children passed the exam. The youngest child was 11 years old, the oldest was 14. That is five new hams, and a new generation of ham users. We are trying to get the 11 year old on a net to talk to the 91 year old ham guy they know. That will be very fun.



Presented here is an article by my friend Alex, KK6CSR on a home school co-op class that he taught on "radio theory and electronics". It ended with an official ham test, and 5 of 7 kids (ages 11-14) passed. Great story!
73 DE
AG6CF - Brian

How did we do this? Work mostly, and it was a team effort, including the right book. Every week we went over the actual questions from the exam as "weekly test." We also introduced the [Snap Circuit](#) kits for the chapters covering electronics. Learning by actually doing is a wonderful thing." I can't say enough good about the Snap Circuits, this brought things to life for the kids. They spent time annoying their mothers by building and placing motion sensor alarms in random rooms of the house, building FM radios and launching small fans into the air. All of that "fun" was obviously to get them excited about the basic of electronics. The [HamRadioSchool book](#) was very critical in helping channel this. It has practice exams every week thus the kids were getting the material and actually building week by week on it. The last month we had weekly tests that were actually the HAM exam, so four of those.

At the end, we did a "ham cram" where we spent all day going back over the questions. AG6CF and I conducted that class. We didn't plan well, and thus were up at 0200 the morning before the

class trying to finish. That was a good night of drinking and putting together study material. Surprised it was as clean as it was. Just joking! I guess the important part of this from my perspective was breaking down complex concepts to something easy to understand and remember. The last was we prayed a lot and asked [Saint Isidore of Seville](#) (the patron saint of [the Internet](#), computer users, [computer technicians](#), [programmers](#), [students](#)) to pray for us also. Mike Maston brought out a crew of VEs to give the exam – something very impressive to the kids. Brian is a VE, and helped. The kids took the exam. I prayed. In the end, 5 of the 7 passed the technician exam.

Anyway, a great big well done for the kids in the class and all of the effort they put in. Thanks to Brian. Thanks to Mike and the VEs. Thanks to supportive parents. And I guess I will take a little credit. Spreading this kind of knowledge and skills is critical. It is doubly critical to pass it on to our youth. Helping these children expand their knowledge of the physical universe feels like a great accomplishment. Those kids looked so happy to receive their ham licenses, Brian noted it was like watching kids get a puppy at Christmas ... in the movies.

New Director Appointed

An opportunity became available to serve the Club's membership in the position of serving as a Director. This was offered to the membership and a person came forward. Greg Gibbs KI6RXX, who has been helping with Field Day has offered his service. At the Board meeting in May, Greg was affirmed by the Board. We thank him for his offer of service.

Dennis

Repeater Use in Recent Fires

This past month North San Diego County became the hot spot for fires. An accidental fire started in the 4S Ranch area. This small fire suddenly grew in the afternoon. The next day a fire started in Carlsbad that flared into a major concern. Fires then started in Fallbrook at the Weapons Station, Highway 395 south of San Luis Rey river, I-5 north of the scales, Oceanside riverbed east of College, Las Pulgas east of I-5, and more.

The repeaters were monitored for use and need. Unlike the past 2003, 2007, and the blackout, the repeaters were maintaining use a little above normal. No net was required to maintain control, and no request was made from supported agencies.

Through membership dues, and the knowledge and skills of volunteers (who we need more of), the Palomar Amateur Radio Club repeaters are available to the community to assist in their needs.

The Fallbrook machines were in heavy use as they were closer to the fire line in their city.

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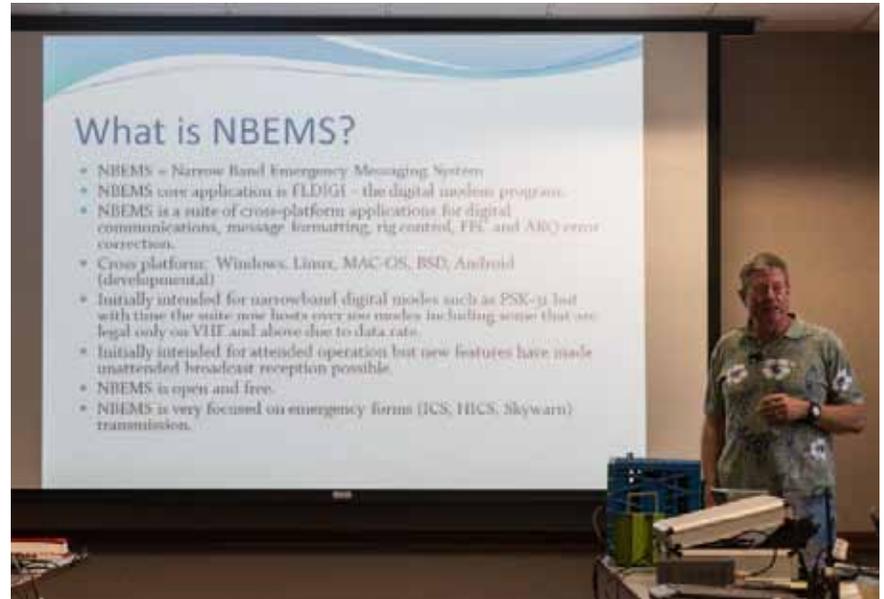
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NBEMS Presentation at ARES

report by Paul KB5MU

At the regular ARES meeting on Saturday morning, May 10, Bill Calderwood K1CT gave a presentation and hosted a workshop on NBEMS, the Narrow Band Emergency Messaging System. This is a software suite and a set of procedures, all designed to make it easy and efficient to pass written messages in the precise formats required by various served agencies. For example, a local emergency under the Incident Command System will probably want them to look like the standard ICS 213 General Message Form. The NBEMS program FLMSG makes it easy to fill out many such forms, and then provides just the filled-in information to be transmitted. The NBEMS operator would use the program FLDIGI, a full-featured HF digital modes program, and a transceiver interfaced with a sound card, to transmit the message over the air, perhaps using HF NVIS propagation. On the other end, FLDIGI would receive the transmission. If all goes well, FLDIGI would automatically recognize the message format and pass the information to FLMSG, which would present the message in the original form.



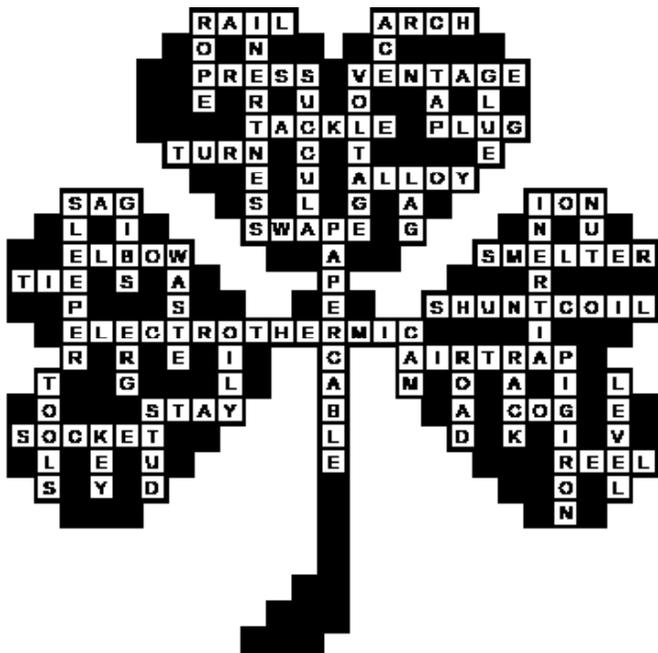
ARES operators were invited to bring their equipment to the workshop. Several messages were exchanged using both PSK31 and one of the faster HF digital modes, on a 40m frequency of 7.073 MHz with an audio center of 1500 Hz. We found that our dummy loads were too well shielded to communicate even across the room, so we deployed short wires as makeshift antennas for testing. The NBEMS package is compatible with Windows, Linux, and the Mac, and all three types of computer were represented in the room. However, nobody in the room had ever used FLMSG on the Mac, and considerable time was spent debugging the Mac setup linking FLDIGI and FLMSG. One of the other NBEMS applications we learned about is FLHELP, a complete online user manual for the suite of programs. If we had used FLHELP instead of flailing about, we would have had the Macs set up correctly in much less time.





May Scope puzzle solution

June Puzzle - Word List



- Amateur
- Antenna
- Camping
- Club
- Contest
- Day
- Emergency
- Field
- Food
- Friends
- Fun
- Overnight
- Palomar
- Points
- Preparedness
- Public
- Radio
- Service





Operating Day at Fry's Electronics in San Marcos 26 April 2014
The event was a big success! Thank you to all participants.



Dayton 2014 Report

by Howard KY6LA

SDR's and pseudo-SDR look-a-like's were everywhere.

In fact, you could not pass a booth without seeing a large 27" - 40" monitor with a Spectrum Display.

It would appear that the day of the blind radio is finally done for everyone except for Dennis N6KI.

Even the Japanese were trying to pretend that they had SDR's which of course they did not.

Crowds were way up from the past few years. Weather was COLD. There was rain and hail, so most people were inside rather than outside at the flea market. Food was terrible as usual. The venue was dirty as usual. The sewage truck button says it all.

Dayton Amateur Radio Association nets more than \$600K annually. You would think that they could at least fix something.

We stayed at the Miamisburg Doubletree Inn. I got a group rate for our group that included free Breakfast and a Hospitality Suite.

The Hospitality Suite proved to be really convenient place for the group to meet after the show every day for Adult Beverages.

I rented a 12 passenger bus that I drove into the BUS Entrance at Dayton every day. Free Parking for buses. IF you have to Chutzpah!

There seemed to be an incredible number of portable antennas for sale. Is everyone going onto a DXpedition?

Icom and Yaesu and Kenwood had their big booths.

Kenwood's was dead. Nobody was playing with their blind radios.

Yaesu was almost dead. But they had some traffic because they were giving away free hats.

Icom had some action but no exciting products whatsoever. It's pretty obvious that they are stuck resting on their laurels from the 20th century. People were buying legacy Icom radios from HRO but most of the blind radios were now in the flea market where they belonged.

You sort of got the feeling that they Japanese have given up on HF and were spending a lot of energy on yet another useless 2M digital mode.

Heiberling was there with their \$20K radios.

I am waiting for Rob Sherwood and Adam Farson to decide on an appropriate comparative standard (receiver noise power??) so that we can finally get some indication as to the relative specs of different radios. The direct sampling SDR's are just so totally different that it has been difficult to find a measure that can be applied equally.

Ten-Tec and Alpha Amps have merged under the Alpha Amps banner. Rumors of SDR from Ten-Tec for 2015 but don't hold your breath as they may not survive.

Amateur Electronic Supply was a NO SHOW. Are they going out of business?

Elecraft was lined up with 3 order takers who were 2 - 5 people deep for 3 days. They could not take money fast enough. Spent some time with their Remote Control Console and its designer. Far too bulky and knobby to be convenient for travel. However, we did a QSO between his remote in Monterey, CA and my Remote via iPad to my 6700 in La Jolla.

I like my iPad solution much better. There were rumors of a K4 - which would be a true SDR, but like everyone else the SDR hardware is easy but the software takes a very long time.

An interesting side note is that John NA6L sat with the Elecraft Remote Kid and Gerald Youngblood (President of Flex) on the flight back to Dallas. Perhaps he can give us insights into the future of remoting.

Clearly Remoting of Radio's is that next Holy Grail. Everyone has a cludge approach. So the first guy off the block with a Native iPad App will take the world by storm.

The second Holy Grail is Contesting Work Flow. There are several people working on new Paradigms for Contesting using SDRs. Clearly someone is going to finally get it right so that even Dennis can retire his blind radios!

SPE Amps showed off their 1.3K-FA - 16lb Amp - 1,500 watts. perfect for DXpeditions. I had a long talk (to be continued at Friedrichshafen) with the president of SPE who promised me the Programming API for the 2k-FA by early 2015.

GAME CHANGER

Clearly one of the major stars of the show was Flex. Flex introduced their new entry level priced SDR –Model 6300 – for \$2,495 + \$300 for an ATU - this is a radio with much better specs than ANY \$8,000 Japanese Radio for about 1/3 the price.

Flex admitted that it was a 6500 Hardware inside, dumbed down in firmware to 2 slices of radio's rather than 4. They left off the preselectors, the microphone and some antenna switching matrices to keep the price down. Other than that it's the 6500.

They brought 150-200 of the 6300 with them to Dayton. ALL WERE SOLD BY FRIDAY NOON. And, their entire production is spoken for. Backordered to August! Both John NA6L and Howard W6HDG picked up new 6300's on Friday. Lucky for them they did not wait to buy them.

HUMOR of the TRIP. John NA6L was so engrossed in his conversation with Gerald YoungBlood and the Elecraft Remote Kid that he left his 6300 in the Airplane Overhead Bin when he Deplaned in Dallas... Fortunately – Howard W6HDG spotted the box and carried both 6300's off the plane, or John would have been chasing his radio in the lost and never found bin!

CQWW WPX Contest, CW

Call: WQ6X
Operator(s): N6KI WQ6X KB7V WA2OQB
WB6NBU NN6X N6EEG K4RB N0DY
Station: NX6T

Class: M/2 HP
QTH: CA
Operating Time (hrs): 48

Summary:
Band QSOs

160: 5
80: 102
40: 658
20: 1498
15: 1191
10: 158

Total: 3612 Prefixes = 1096 Total Score = 9,619,592

Club: (San Diego Contest Club)

Best M2 Category performance from NX6T portable site. Condx good on Friday eve and Saturday but A index shot up to 19 put the fire out. Could not get much going on 80 or 10 meters all weekend. Sigs in EU very weak on Sunday but they seemed to hear us OK. Winds kept power line noise up almost all weekend and tested our ability to dig the serial numbers out ! 3 K3s - 2 ACOM 2000A, 70 ft & 40 ft portable tower trailers, 2 3 EL SteppIRs, 2 2 EL 40 mtr Yagis, 80 & 160 Inv V dipoles. Not much for antennas but compared to some of the Antenna Farms we compete against, we just make up for the deficiency with good persevering Ops !

73 de N6KI (San Diego Contest Club)

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You can join or renew your membership on the club's web site <http://www.palomararc.org>

Editor: Michelle Thompson W5NYV

Submissions: scope@palomararc.org

Questions? Ideas? Comments? W6NWG@amsat.org

Featured Program:

At 7:30pm on 4 June 2014, Palomar Amateur Radio Club will present a program about Field Day.

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>

SCOPE

THE PALOMAR AMATEUR RADIO CLUB NEWSLETTER

Field Day is over. The next steps will be to start compiling the results and submit them to the ARRL for Field Day credit. Overall I would say this year's Field Day went well.

We started on Friday collecting the gear at about 8:00am. Then it was off to get the new tires for Dennis's trailer that stores and then hauls the club's towers each year. The tires are apparently a special size and were delivered that same day to the tire shop. The only thing that delayed us was that the Good Year tire shop ran out of the right size valve stem. Thankfully there was a Big-O tire shop down the street that Good Year was able to purchase from. We arrived onsite around 1:30pm. Only about two hours and thirty minutes behind schedule. Thank you to everyone who waited patiently. We were able to catch up though, and actually finished setup about an hour earlier than last year. Yay impact drill! Our usual source for water, Daisy, was unavailable this year due to starter problems. So who came to the rescue? None other than the San Marcos Fire Department. They brought a truck around 2:30pm. Boy, they can sure fill the trash cans faster than Daisy's little garden hose. Murphy was fairly quiet this year. Our only hiccup was the placement of the two voice station towers. The ground isn't as level as I remembered in some spots and thus we weren't able to extend them all the way. At the end of the day a few of us retreated to Phil's BBQ.

Saturday went well. Moat stations were on the air at 11. Once the 20m voice station realized their antenna was pointed in the wrong direction, they were off. We had the ARRL Southwestern Division Director visit our site as well as the Assistant Section Manager. In addition we got a visit from the Union Tribune. A representative from Diamond Antennas came and gave us some free antennas to be raffled off to new club members who signed up during Field Day at the next club meeting. Tom KI6IET manned the info table this year and did a great job at getting visitors and club members to sign in. He also got a handful of new members to sign up as well. Food this year was provided by Gina Roberts N1OW and it was extraordinary as usual. A new addition to this year's menu was

Psycho Chili, and boy was it delicious.

Tear-down on Sunday went very smoothly. Just before Field Day was ending at 10:30am, we got a visit from a passer by wanting to know what all the commotion was about. He was from the Daily News. We chatted with him and showed him around the site, of course all the while trying to indoctrinate him into the hobby of Ham Radio.

By this time next year, our Field Day site is planned to become a DMV. Unfortunately, nothing in that acronym spells Field Day. This means we the club will have to start looking now, for a new site. Please send any suggestions to the board.

Field Day is a group effort and our club sure puts on a great effort each year. The Palomar Amateur Radio Club Field Day Extravaganza isn't accomplished without all the hard work and support from our membership. Many hands make light work and it clearly shows with how smoothly this year's Field Day went. Thank you to all who helped make this year's Field Day a great success!

If anyone is interested in running Field Day next year, I am more than willing to help them out. :-)

73 DE,
Greg Gibbs KI6RXX
760-583-9668



Save the Date

Club Meeting 2 July 2014

N6SZO and KE6PHB will talk about Hidden Transmitter Hunting

Board Meeting 9 July 2014

Palomar Amateur Radio Club board meeting at 7:00pm at W6GNI QTH.

Club Events Save the Dates!

PARC Picnic August 24
Harbor Days September 27,28 with Oceanside CERT
Operating Day November 23

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

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Drake UV3 3 Band VHF/UHF transceiver with manual, all 3 modules, mike, tone encoder \$375
Kenwood TS 850S with auto tuner, cw filter, power cord, manual. No mike. \$550
Yaesu FT100 with original manual, mike, power cord, mobile mount, packaging and box. Upgrades done \$500
Drake TR7 with power supply, mike, manual, 2 cw filters \$675
Drake W-4 Wattmeter. Cabinet could use paint. \$70
Ron K2RP K2RP@ARRL.NET or 760 436 8109

FOR SALE

- 1) Weller EC1002 Solder Station, regular pencil: \$75
 - 2) Weller EC1002 Solder Station, thin pencil: \$65
 - 3) Fluke 83, probes, and case: \$110
- Contact kk7kx: assi@kiloxray.com

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.

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2014 ARRL Southwestern Division Convention

September 12 - 14, 2014
Will be held at the
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**HAM RADIO
FLEA MARKET/GARAGE SALE
SUMMER SOCIAL**

WHEN: SATURDAY, JULY 19 9:00 AM TO NOON

WHERE: K2RP QTH
659 SHANAS LANE
ENCINITAS
760 436 8109

WHAT: SWAP BUY SELL ANY HAM RELATED EQUIPMENT. EMPHASIS ON VINTAGE GEAR, BUT ANY GEAR IS WELCOME.

BRING YOUR OWN TABLE. PLAN TO TAKE ANYTHING HOME WITH YOU THAT DOESN'T SELL!

YOUR HOSTS:
RON K2RP
JOHN K6KOI



Check Out PLARC

Hello,

Just trying to get the word out about our club up on Pt. Loma in San Diego... Here's our details:
PLARC (Point Loma Amateur Radio Club)

Public Facebook:
<https://www.facebook.com/pages/Point-Loma-Amateur-Radio-Club/1805469812927803>

W6RDF is the call sign of the Point Loma Amateur Radio Club's radio station in San Diego, California. This call sign is used for all radios/repeaters operated by the club and its members. The club maintains both a 2m repeater and Amateur TV.

2M Amateur Repeater:

Input Frequency 145.380 MHz
Output Frequency 144.780 MHz
Subaudible Tone (CTCSS) 107.2

Location:

Latitude 32.420035N
Longitude 117.145412W
Grid Square DM02pr

Amateur TV Repeater:

Input Frequency 434.0 MHz AM
Output Frequency 1277.5 MHz AM

Thank you,
Brian Jester
KB8UIP & VE3SPG

Field Day Video



<p>HAM RADIO</p> <p>OUTLET</p> <p>H R O</p>	Jose XE2SJB Jerry N5MCJ Joe N6SIX	<p>KENWOOD <i>rf CONCEPTS</i> DIAMOND US TOWERS KANTRONICS YAESU, MFJ, ICOM BENCHER, Inc. HUSTLER COMET AMERITRON</p>	<p><i>Astron,</i> AEA, OUTBACKER <i>Larsen Antennas</i> TEN-TEC <i>Hy-gain, Tri-EX,</i> <i>Cushcraft And Others</i> <i>too</i> <i>Numerous to</i> <i>Mention!</i></p>	<p>Drop in to see our display of working equipment. Find out about Pkt location determining equipment (APRS). Check our complete line of magazines, ARRL books, license manuals, and Bulletin Board with all sorts of Goodies listed.</p>
	<p>Open: 10a.m. – 5:30p.m. Monday thru Saturday 858 560-4900 or toll free 1-800-854-6046</p>	<p>Directions: On 163, take Clairemont Mesa Blvd. off ramp to East. Stay in right-hand lane. Turn right at stoplight. As you are turning right you can see our beams in this shopping center. Travel 100 yds. On Kearny Villa Rd. and U-turn back to shopping area and HRO sign. Be sure to see our equipment in action on real antennas!</p>		

PARC fully participated in the 2014 Field Day. Photos by Greg KI6RXX, Don WD6FWE, and Paul KB5MU.



NX6T All Asia CW Contest M/S HP 2014

Condx not so good and a skeleton crew of 4 Ops kept the score down from our 2012 500K point record.

We took First Place for our M/S HP Category but 3rd place overall for North America as N6RO who did a Multi-Multi and K6XX SOAB both in Northern CA where they had much better propagation to Japan and China.

I could hear N6RO on Monterrey peninsula working many JA stns we could barely, if at all, hear.

All Asian DX Contest, CW

Call: NX6T
 Operator(s): N6KI WA2OOB WB6NBU K4RB
 Station: NX6T

Class: M/S HP
 QTH: CA
 Operating Time (hrs): 24

Summary:

Band	QSOs	Mults
160:	0	0
80:	0	0
40:	110	50
20:	387	137
15:	424	128
10:	52	26

Total: 973 341 Total Score = 348,502

From Dennis N6KI

Field Day Photos from Paul KB5MU



Field Day Photos from Ron K2RP

At left is Dick, K6AA, ARRL "Grand Raccoon" for Southwest division with Jo, KB6NMK and Bob K4RB at the 80/20/10 CW station.

Below, Gina of Psycho Kitchen fame. The food was excellent!

Thank you so much for helping make Field Day an enjoyable experience for participants and visitors.



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SANDARC Vote at July Meeting

Last month the Club was noticed that there will be a vote at the July meeting. This vote is to ask SANDARC to allow our delegate to review SANDARC minutes and other records to better learn about SANDARC so we, PARC and PARC's delegates, can better participate to benefit the amateur community.

At the July 2, 2014 General Meeting, after proper notice as directed by the Palomar Amateur Radio Club Bylaws, the following vote will be taken:

The Membership requests of SANDARC to allow a records review by Palomar's Membership to include Minutes of SANDARC and other records to improve the knowledge and ability of Palomar's Members.

There has been an ongoing request for over one year by Conrad to review these records to improve his ability to serve Palomar, assist other non-SANDARC Clubs, and the general amateur community. This request has been offered to be at a mutually convenient location and time. (There is the possibility of meeting for a snack or meal.)

The most recent decision by SANDARC is that the Club must make this request, that the delegates can not make this request. Apparently the power and authority given by the Palomar Membership to their Delegates to act in Palomar's best interests is not recognized for this effort to learn more about SANDARC.

Dennis



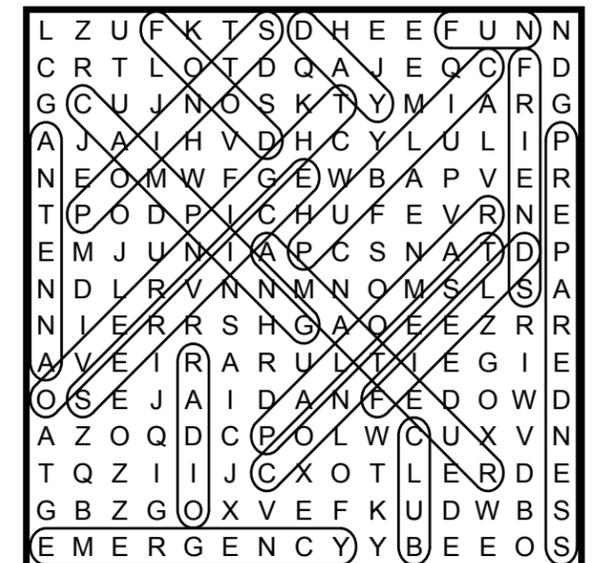
NEQO-7QP-INQP-ARI Contest Report

We attained 2nd place overall for MS HP Category in 7QP which is very difficult contest for us as we skip over many of the W7 states !!

First Place went to K2SSS in Rochester NY who apparently can hear more W7 states than we can. It appears he was Single Op who turned on his Packet Cluster putting him in MS Category and he also ONLY WORKED CW which is worth more points than SSB. Hard to beat guys who have the propagation advantage and wish 7QP sponsor would create SO Assisted instead of lumping these guys in to MS Category !
73, Dennis N6KI

Call	Score	Mlt	QSO	PH	DIG	QTH	Operators, ..
K2SSS	156195	117	445	0	0	NY	
NX6T	112125	115	203	183	0	CA	N6KI, WA2OOG, N6ERD, WQ6X, KB7V, NN6X, N6EEG, W2PWS, NW6O
K2DSW	61830	90	229	0	0	IA	
K6MMM	54648	92	116	117	4	CA	KE1B
SP9LJD	52915	95	105	121	0	DX	
W6SX	42966	77	186	0	0	CA	
N2BJ	39750	75	164	19	0	IL	
AA3B	38709	69	187	0	0	PA	
KH6LC	35120	80	109	56	0	HI	+AH6RE
DL6KVA	24282	71	114	0	0	DX	
NE1QP	24003	63	103	36	0	MA	K1MK, NJ1F, W1TO @K1TTT
N8BJQ	21717	57	122	0	5	OH	
K2MK	18411	57	99	13	0	NJ	
W5ASP	17160	65	88	0	0	TX	
N3QE	13524	49	86	6	2	MD	
I1EIS	13038	53	82	0	0	DX	
N4GG	12852	42	102	0	0	GA	
G0ORH	12000	50	80	0	0	DX	
N4VV	10320	43	80	0	0	TN	
N9FN	10080	36	56	56	0	IN	+K9FNJu
K9EN	7068	38	60	3	0	WI	
SM6BZV	6042	38	45	12	0	DX	
N4DW	5814	34	57	0	0	TN	
VE7IO	5040	28	60	0	0	BC	
AB1QP	4692	34	40	9	0	CT	
K2SX	4224	32	44	0	0	SC	
VE2FK	3654	29	42	0	0	QC	
K3IU	1782	22	27	0	0	RI	
AA4GT	1311	19	23	0	0	FL	
N3NZ	1140	19	20	0	0	PA	
JR1BTG	495	11	15	0	0	DX	
W9UUU	32	4	0	4	0	IN	
KD6WKY	9	1	1	3	0	CA	
W2RR	3	1	1	0	0	NY	WA2AOG

June Puzzle Solution



BBHN Mesh Testing in Northern San Diego County

Andre K6AH previously presented on BroadBand-HamNet, a self configuring, easy to use network high speed network for Amateur Radio.

<http://www.broadband-hamnet.org>

My own implementation of this solution was put on the side burner while development of Ubiquiti hardware was developed. Earlier this year that goal was finally reached.

With the available of new, affordable, commercially-available off the shelf hardware that can be mounted outdoors exposed the elements I am happy to say testing has begun in various areas across the County.

On Wednesday June 25th 2014 KG6JEI-Oceanside-NW was mounted in the North West corner of the Oceanside Valley. This node is being tested in the Oceanside area to see the coverage that can be provided with simple setups. Links in the 5-mile range are being obtained easily (with an unobstructed path) from this multi-access hub point.

Access is not limited to just the Oceanside Valley, we are already seeing testing into Fallbrook and are able to establish links.

Testing and demonstration was also done



VIEW FROM NEW NODE LOOKING OUT ON THE CITY



NODE MOUNTED TEMPORARILY AT CONRAD'S KG6JEI'S HOUSE (3.6 MILES AWAY)



NODE INSTALLED TO PROVIDE ACCESS TO OCEANSIDE AREA HAMS MOUNTED AGAINST BUILDING

at Field Day where two mesh nodes (2x NanoStation M2's) were used pointed towards each other to provide a highspeed digital link from the field day site.

Look forward to an additional presentation at the PARC meeting in the future and I look forward to hearing from my fellow hams in the county as the networks expand.



2 NODES INSTALLED AT DENNIS KD6TUI'S HOUSE (5 MILES AWAY) WITH 6M VERTICAL ABOVE

Minutes

Palomar Amateur Radio Club Board of Directors Meeting

MAY 14, 2014

President Dennis Baca KD6TUI called the meeting to order at 19:17 pm at the home of Al Donlevy, W6GNI. In attendance were:

President: Dennis Baca, KD6TUI
Vice President: Joe Petersen, K6JPE
Secretary: Jim Cooper, NE6O
Director #1: Greg Gibbs, KI6RXX
Director #2: John Rotondi, WA2OOB
Repeater: Conrad Lara, KG6JEI
Membership: Al Donlevy, W6GNI
Repeater Site: Don Johnson, WD6FWE

TREASURER

- Conrad moved to accept the treasurer's report. Joe seconded. Motion passes

SECRETARY

- K6JPE, Joe moved to accept the April 2014 minutes. Seconded by W6GNI, Al. The motion passes unanimously and the April 2014 minutes are accepted.
- KD6TUI, Dennis submitted the missing November 2013 minutes and sent them to the board on April 9, 2014
- Conrad, KG6JEI moves to accept November 2013 minutes submitted by Dennis, KD6TUI. The motion is seconded by Joe, K6JPE. The motion passes unanimously and the submitted November 2013 minutes are accepted.

NEXT MEETING

- Greg, KI6RXX will present a program on the upcoming Field Day at the June meeting. This will be the last Field Day at the location near the sheriff's station.
- We still need programs for July, August, September.

MEMBERSHIP

- Al, W6GNI, reports that membership is at 263, down 9 from last month.
- There was a discussion of the need to remind repeater users that the repeaters are supported by membership dues.

SITE REPORT

- Don, WD6FWE took pictures at the repeater site this morning. One of control

receiver antennas appears to be touching one of our 2 meter antennas.

- Don, WD6FWE measured the battery voltages at the repeater site. The voltages he measured are OK, but it will be good to equalize cells better.
- Don, WD6FWE suggests that we add monitoring of all voltages and currents.
- There is a tentative plan to go up next Wednesday May 21, 2014 for a work party.

FIELD DAY

- Dennis, KD6TUJ has obtained insurance for out Field Day operation.
- Field Day planning going well. There are shelters for all stations. Still looking for power, but it should not be an issue. We need more flags. Make sure that the US flag is the highest on each structure. There is need for a work party to repair 20 meter antenna.

NEW BUSINESS

- On May 17, 2014 there will be a T-Hunt by the Joe and Joe Group.
- Dennis, KD6TUJ states there has been an offer by Greg Gibbs, KI6RXX to take over the vacant Director #1 position. President Dennis, KD6TUJ appoints him. The board approves unanimously.
- Dennis, KD6TUJ suggests that the picnic be held August 24 at the San Dieguito County Park. There is a need to check for reservations for Area 4.
- Joe, K6JPE moves to reserve San Dieguito County Park Area 4 for August 24, 2014, not to exceed \$150. Don, WD6FWE seconds the motion. The motion passes unanimously.
- Conrad, KG6JEI says that Salvation Army wants a MOU (Memo of Understanding) for use of 147.075 club repeater on Thursdays 8 to 8:30 PM.
- Conrad, KG6JEI reports that hiker's net dissolved for winter
- Conrad, KG6JEI reports that the Red Cross is not holding their net on the Palomar repeaters. Dennis, KD6TUJ says that he has had no response from the Red Cross. They have moved their net to another repeater, but want to keep their the net slot reserved. This is laid on the table until the next board meeting.
- Dennis, KD6TUJ asks for club representation at the Santee Street Fair on May 31 to June.
- Conrad, KG6JEI reports that no one has heard WinLINK for over 6 months. We don't have a contact.
- Conrad, KG6JEI gave a SANDARC meeting update.
- Moved by Conrad, KG6JEI to approve the May general meeting notes. The motion is

seconded by Joe, K6JPE. The motion passes unanimously.

- John, WA2OQB is learning Art's, KC6UQH information about the various club equipment. Art wants a cutoff switch so that batteries never go below a safe level.

Next month's board meeting will be the second Wednesday, June 11, 2014 at the house of Al Donlevy, W6GNI and will start at 7pm.

Unanimous motion to adjourn at 9:12 pm.

Respectfully submitted
Jim Cooper, NE6O
Secretary, Palomar Amateur Radio Club



Field Day
Photos
from John
WA2OQB

SCOPE
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Vista, CA 92085-0073

PERIODICALS

Return service requested

Scope Volume # 46, Issue # 6 (USPS #076530) is published monthly by the Palomar Amateur Radio Club 1651 Mesa Verde Drive, Vista, CA 92084.

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You can join or renew your membership on the club's web site <http://www.palomararc.org>

Editor: Michelle Thompson W5NYV

Submissions: scope@palomararc.org

Questions? Ideas? Comments? W6NWG@amsat.org

Featured Program:

At 7:30pm on 2 July 2014, Palomar Amateur Radio Club will present a program about Hidden Transmitter Hunting, given by Joe N6SZO and Joe KE6PHB.

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>

SCOPE

THE PALOMAR AMATEUR RADIO CLUB NEWSLETTER

Message from PARS A Call for Attendance at Poway City Council Meeting

Greetings to all PARC Club Members from the members of the Poway Amateur Radio Society (PARS).

We are writing to your Club newsletter ask all PARC Club members to support us in our hour of greatest need.

As you are all aware, the PARS members worked long and hard to bring the matter of an amateur radio ordinance to a head, in order to convince the Poway City Council to act so as to become compliant with Federal and State regulations.

The hour has arrived!

On Tuesday August 5th, the Poway City Council will consider two draft versions of what we have worked so long and hard to get approved.

One draft antenna ordinance version is likely to be exactly what Poway hams asked for. The second draft amateur radio ordinance will be somewhat similar but likely contain an onerous provision that one City Council member introduce at the eleventh hour, in response to pressure from the major special interest group that opposes amateur radio antennas in Poway.

The Poway City Council will vote for one or the other.

Poway hams are guardedly optimistic that 3 City Council members remain in full support of the

amateur radio ordinance desired by Poway hams.

In a City Council vote on the choice between the two draft ordinances, as the Council is composed of 5 voting members, the 3 who support the hams' recommendations will outweigh the other 2 votes.

However, this is not a solid position. As politicians, they will bend with the winds blowing at the Council meeting.

We have information that the opponents of amateur radio in Poway will mount a MAJOR PRESENCE at this City Council meeting.

So we beseech PARC Club members to come out in force to attend the Poway City Council meeting on August 5th.

As at the last meeting, PARS will provide at no cost hot dogs and refreshments to all hams and their guests who show up to support the Poway hams.

Meet at the Poway City Hall parking lot at 6:00 PM, Tuesday August 5th. Hot dogs and refreshments will be distributed (no cost), PARS ID badges will be distributed (no cost) to all so that the amateur presence can be clearly counted by the politicians.

The Poway City Hall parking lot is located at 13325 Civic Center Drive , Poway , CA 92064 .

If you have any questions please contact NN3V . He may be reached at NN3V@arrl.net

73 de NN3V
Charlie



Save the Date

Club Meeting

6 August 2014

Conrad Lara KG6JEI will present on BBHN (BroadBand HamNet)

Board Meeting

13 August 2014

Palomar Amateur Radio Club board meeting at 7:00pm at W6GNI QTH.

Club Events

24 August 2014

Palomar Amateur Radio Club Annual Picnic - see page 6 for details

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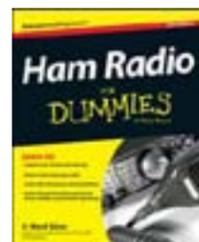
The Flex Radio booth at the 2014 ARRL National Centennial Convention was hopping. Held Thursday, July 17, 2014 through Saturday, July 19, 2014, the convention attracted thousands of people and provided plenty of opportunities for shopping, learning, and socializing. Photo by Bob N4HY.



ARRL Southwestern Division Convention 2014
September 12 - 14,
2014 Special Event Station Call "N6S"



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



Highlights

- Tech Forums
- Amateur Radio Testing
- Vendors
- Swap meet



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

Field Day Scores

Sheet1

Palomar Amateur Radio Club Field Day Scoring Sheet

Class: 4 A **Web Submission:** 50

Band / Mode QSO Breakdown:					
	CW	DIGITAL	PHONE	TOTAL QSO's	TOTAL PTS
160M	0	0	0	0	0
80M	22	0	27	49	71
40M	332	24	157	513	869
20M	473	0	306	779	1252
15M	626	0	231	857	1483
10M	45	0	0	45	90
6M	0	0	0	0	0
2M	0	0	0	0	0
1.5M	0	0	0	0	0
Other	0	0	0	0	0
Satellite	0	0	10	10	10
TOTAL:	1498	24	731	2253	3775

Bonus Points:			
Category:	PTS	Multiplier	Total PTS
100% Emergency Power	100	4	400
Media Publicity	100	1	100
Set-Up In Public Place	100	1	100
Information Booth	100	1	100
NTS To ARRL SM/SEC	100	0	0
W1AW Field Day Message	100	1	100
NTS Messages Handled	10	10	100
Natural Power QSOs	100	0	0
Site Visit Elected Official	100	0	0
Site Visit Served Agency	100	1	100
Youth Participation	20	0	0
Educational Activity	100	1	100
Satellite QSO	100	1	100
TOTAL BONUS POINTS:			1200

Power Multiplier: 2 **Total Band QSO Score:** 7550

Station Scores		
STATION	Total QSO's	Total Score
20/80 CW	495	1980
20/80 SSB	333	666
15/40 CW	958	3832
5/40 SSB	388	776
10M	45	180
6M	0	0
GOTA	43	86
Total QSO Score W/ GOTA:		7520

TOTAL FIELD DAY SCORE: 8886

LY Score	10370	
Difference	-1484	-16.70%
LY QSO's	2752	
Difference	-490	-21.66%

HAM RADIO OUTLET

Jose XE2SJB
 Jerry N5MCJ
 Joe N6SIX

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Annual Club Picnic

The Annual Picnic of Palomar Amateur Radio Club is scheduled for Sunday August 24th, 2014 at the San Dieguito County Park Area 4. The Picnic starts at 9 AM and will last through the late afternoon.

Each year the PARC hosts an annual picnic for its members and every year it is great fun. Throughout the year, club members earn participation points for signing in at various club activities like the regular monthly meetings, repeater mountain work parties, operating days, and Field Day. This is the time for club members to redeem those participation points for tickets in the annual picnic prize drawing. A maximum of 20 tickets for each club member is allowed. Club members even get a point for attending the picnic.

The club will provide the main course. Members and their guests are asked to bring an item from the following list and some drinks.

First names beginning with:

A-K: side dish or casserole

L-R: salad, vegetables, or fruit

S-Z: desert, and last names beginning with Lara: BROWNIES.

For those of you who attended the July club meeting, you got to see a great presentation from the Jo and Jo team on Hidden Transmitter (Fox) Hunting. Now is your chance to come out and try it for your self. Transmitter hunting (also known as T-hunting, fox hunting, bunny hunting, and bunny chasing), is an activity where participants use amateur radio direction finding techniques to locate one or more radio transmitters hidden within a designated search area. Think of it like hide and seek, only with ham radios. What could be more fun than that! There will be 2 or more radios hidden within the San Dieguito County Park for those who wish to try their attempt at finding them. One of the radios will be more challenging to find than the other. Who will be the first to find the radios?

Plans are to have an HF radio set up on 10, 15, and 20 meters for those that wish to play around on HF. In the past, at the PARC picnic, we have made contacts with places as far away as Russia. Come out and see what propagation on the ham bands brings us this year. If Ron K2RP is attending, there is sure to be something neat to see from his vintage collection. In addition

to the annual prize drawing, we will also have a drawing for a 2M radio if enough tickets are sold.

Come and share some good food and great stories, try and find our hidden transmitter, play on HF, and most importantly, come out and have a great time with other Hams from our club.

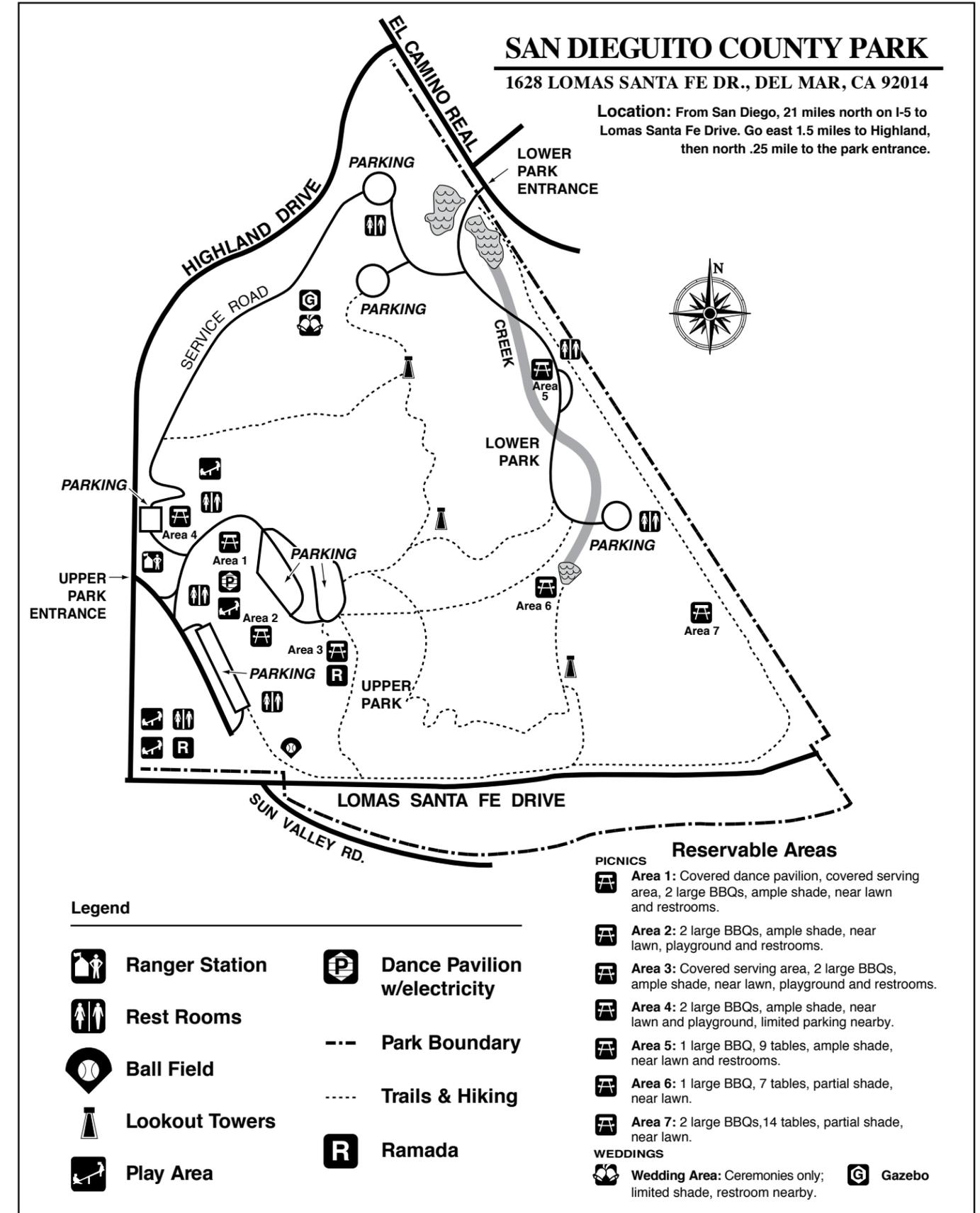
Greg Gibbs KI6RXX, Director #1 PARC

The San Diego County Park System has a free Senior/Disabled parking pass available to county residents. I was unable to find the criteria for being a senior, but when I got mine a few years back, I just asked for it and they didn't ask questions! Maybe I'm obviously old!

So, when you arrive at the park and are asked for the parking pass, even if you just look like a geezer, ask for your pass, which is permanent and valid throughout the county park system.

Ron K2RP

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.





Lunch Bunch Tour of RF2B

Hosted by Mats AG6CV, the Lunch Bunch dined at Karl Strauss Brewery and then toured the RF testing facilities at RF2B. See page 11 for how to join the Lunch Bunch.

The tour of RF2B started in the screen room (Faraday cage). At left, Howard KY6LA checks the signal strength on his cellular phone. Sure enough, it lost the signal when the screen room door was closed. Photos by Paul KB5MU.



Just a fraction of the equipment inside the screen room.



This is a dedicated 5/16" torque wrench specifically for tightening SMA connectors.



RF2B

This rack of equipment simulates a DirecTV satellite system for receiver testing.



Mats AG6CV explains the Smith Chart display mode of the network analyzer.



Mats AG6CV describes the CNC router (with automatic tool changer) for making prototype circuit boards.



On top, a box of coax loss. On the bottom, a communications analyzer (bit error rate tester and more).



Lunch bunchers touch the circuit under test and watch the Smith Chart shift around in real time.



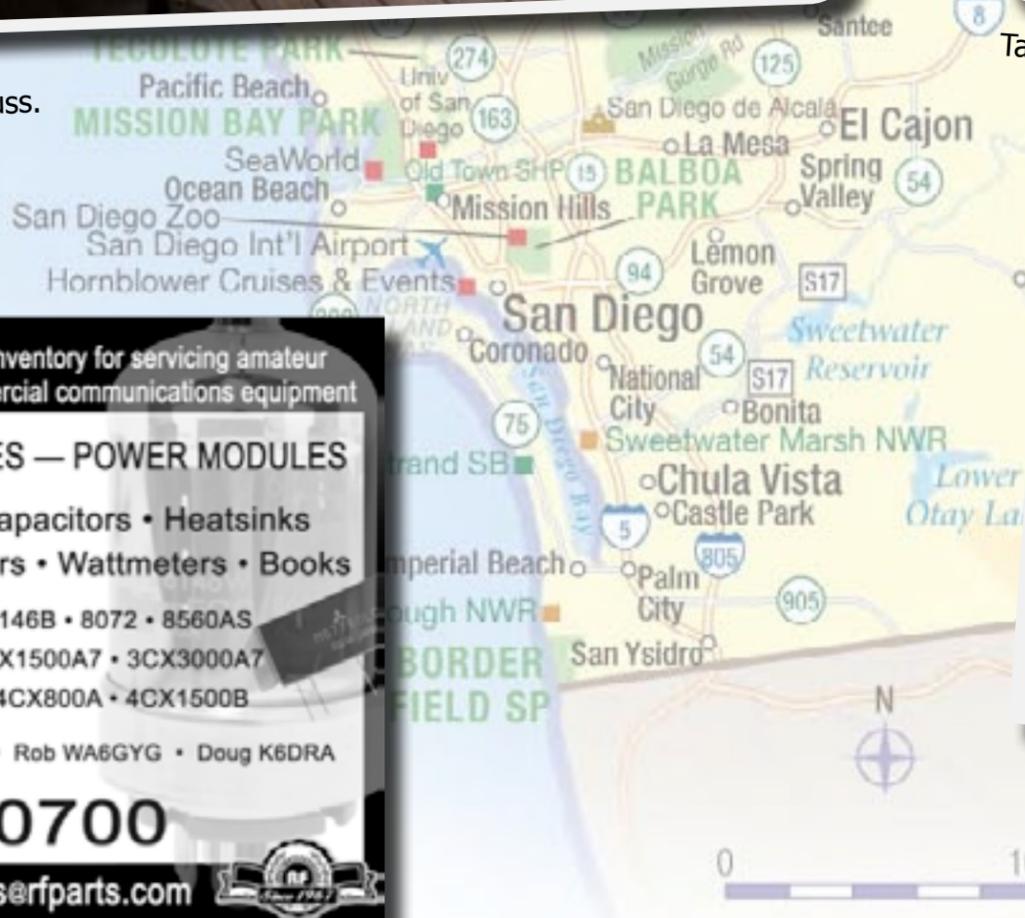
More of the equipment inside the screen room.



The lunch bunch gathered at Karl Strauss.



Table two at Karl Strauss. Photos by Paul KB5MU.



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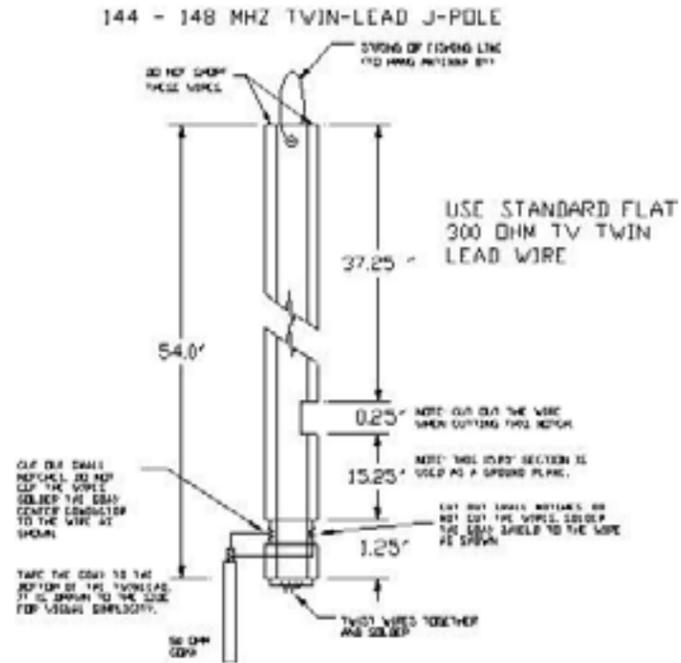
The Ham Radio Lunch Bunch meets Fridays for lunch and socializing at any one of a number of restaurants on a rotating schedule. The Lunch Bunch signup is <http://w0ni.com>. Reminders are sent out on Wednesdays. All are welcome for food and fun!

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.

Go Kit Advice

by Ron Wright

Here is a J-Pole for 2m made from 54 inches of 300 Ohm twin lead. Is good antenna for working inside a shelter. It can be rolled up into a 6" diameter package for storage and extended when needed and hung from a support, such as a ceiling. Simple and easy to get working. Good addition to your VHF go kit.



Bicycle Mobile

by Michelle W5NYV

Here's my bicycle mobile installation that I use at Burning Man. There's a 2m/70cm whip antenna attached to the pannier platform on the rear wheel. A feedline is attached to the main top tube. It's currently secured with caution tape. The feed line connects to the handheld through a converter cable. The handheld is in a velcro container up near the handlebars.

In previous installations, I have used earpiece vox to operate the radio, but this didn't give good results. The background noise never really falls below a reasonable set point for vox. Also, the audio environment at many places I ride is unpredictable, so using vox is really not the best idea.



BICYCLE MOBILE VIDEO TOUR (ONLINE VERSION)

Wartime Horseback Mobile Station



Bicycle Mobile Landmarks

At left, the transition from feedline to adapter cable for the handheld.

Below left, a substantial amount of feedline coiled up on the rear pannier deck, just in case! Diamond antenna with trunk-lid mount is installed.

Below right, the detail of the case that holds the handheld to the handlebars.



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/>



NOTICE OF PERMIT APPLICATION

REQUEST FOR: A SITE DEVELOPMENT PLAN (SDP)
FOR A 29,983 SQ FT. DEPARTMENT OF MOTOR VEHICLES FIELD OFFICE.

CASE NUMBER: P14-0005

APPLICANT: Rancheros Commercial Park

FOR FURTHER INFORMATION REGARDING THIS APPLICATION, CALL (760) 744-1050, EXTENSION 3204

DATE POSTED: JANUARY 31, 2014

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.

Check Out PLARC

Hello,

Just trying to get the word out about our club up on Pt. Loma in San Diego...

Here's our details:
PLARC (Point Loma Amateur Radio Club)

Public Facebook:
<https://www.facebook.com/pages/Point-Loma-Amateur-Radio-Club/1805469812927803>

W6RDF is the call sign of the Point Loma Amateur Radio Club's radio station in San Diego, California. This call sign is used for all radios/repeaters operated by the club and its members. The club maintains both a 2m repeater and Amateur TV.

2M Amateur Repeater:

Input Frequency 145.380 MHz
Output Frequency 144.780 MHz
Subaudible Tone (CTCSS) 107.2

Location:

Latitude 32.420035N
Longitude 117.145412W
Grid Square DM02pr

Amateur TV Repeater:

Input Frequency 434.0 MHz AM
Output Frequency 1277.5 MHz AM

Thank you,
Brian Jester
KB8UIP & VE3SPG

Test Session News

by Paul KB5MU

On Friday July 18, an ARRL Volunteer Exam team converged on a gymnasium building at Camp Margarita on Camp Pendleton to give a group of twelve U.S. Naval Sea Cadets a second chance to pass their amateur radio license exams.

Participating were Paul KB5MU, Jim NE6O, Rich NI6H, Dave KI6LKP, and Teri W6TRB. Five of the cadets and one of the adult leaders passed Element 2 and obtained their Technician class licenses, and two others passed Element 3 to upgrade from Technician to General class.

Unfortunately, the other cadets were still not well prepared to pass the exam. Their teacher, Rodger Morris AE6JC, was elated by every success and counseled perseverance for every failure. "If you're not dropping the balls, you're not learning to juggle."

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

SCOPE
P.O. Box 73
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PERIODICALS

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You can join or renew your membership on the club's web site <http://www.palomararc.org>

Editor: Michelle Thompson W5NYV

Submissions: scope@palomararc.org

Questions? Ideas? Comments? W6NWG@amsat.org

Featured Program:

At 7:30pm on 6 August 2014, Palomar Amateur Radio Club will present a program. Conrad Lara KG6JEI will present on BBHN (BroadBand HamNet). Topics to include what we have learned in the past year, what progress we have made, where we have deployments, where we are going and most importantly how you can start experimenting with this new mode of communication.

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>

SCOPE

THE PALOMAR AMATEUR RADIO CLUB NEWSLETTER

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, 760-333-5599 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.

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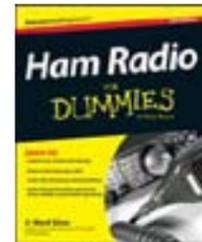
Directions: On 163, take **Clairemont Mesa Blvd.** off ramp to East. Stay in right-hand lane. Turn right at stoplight. As you are turning right you can see our beams in this shopping center. Travel 100 yds. On Kearny Villa Rd. and U-turn back to shopping area and HRO sign. Be sure to see our equipment in action on **real** antennas!



**ARRL Southwestern Division Convention 2014
September 12 - 14,
2014 Special Event Station Call "N6S"**



**Key Note Speaker 2014 Convention
Ward Silver, NDAX
Author of:**



Highlights

- Tech Forums
- Amateur Radio Testing
- Vendors
- Swap meet



**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

1	2	3	4	5		6	7	8	9	10	11	12
13									14			
15									16			
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41					42						43	
44											45	
46											47	

Across

- Rearrange races
- Lentinula edodes
- Eccentric
- seeing with sound
- Run off to the chapel
- not UTC
- Blemish
- What politicians do. After the mudslinging.
- diminutive of mother in Northumbrian dialect
- can't be satisfied
- Central points
- A highball drink made from gin or bourbon, half of a lime squeezed and dropped in the glass, and carbonated water.
- Call on
- A drying rack for laundry
- Mainly Ca2SiO4
- Tricky pitch
- Abutment of an arch. Carries the entablature
- Cavalry member
- Frightening, but a variant spelling.
- Anagram of a word for a clearing in a forest.
- Decayed wood
- Big mouths
- Not an elevation.
- "My man!"
- All the collections of all the organisms in a region.
- Halo, e.g.
- The TSA ruined it.
- Breathing problem
- Put down
- Started
- Acceptances
- Salad green

Down

- Fragrant resin
- Sage
- Opposite of heats.
- Keepin up _____
- "The Catcher in the ____"
- Largest island in the Mediterranean Sea
- Ancient
- "Cast Away" setting
- "Sesame Street" watcher
- Antipathy, hostility
- An alloy of iron and nickel, found only in meteorites on Earth.
- Recluse
- B-52
- Ellsberg, Snowden
- Pointless arguments. Like about code vs. no code.
- Teed off
- If you don't have this, coffee making is messy.
- Took evasive action
- Skin infection due to a fungus.
- Really old word for an inflammatory swelling or sore
- What some of us are making during the week.
- De facto
- Dance music from Pará, Brazil.
- Covered with ash.
- ___ of people at Dayton!
- Colossal
- Fencing action
- Bailiwicks
- Indian breads.
- Breakfast staple
- Athletic supporter?
- "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.

User's Perspective of the Baofeng UV-5R

By Assi Friedman KK7KX/4X1KX August 12, 2014

The US market has been flooded by very cheap radios starting with the \$100 class Wouxuns, and more recently, the \$40 Baofengs. Many how-to, performance review, and comparison articles have been written about them; this article attempts to evaluate the merits Baofeng UV-5R as a practical travel radio.

In June of 2014, my family embarked on a three-week vacation abroad. As a devout Ham, I wanted to take a handheld transceiver along in order to explore the airwaves as time allowed. Initially, I considered taking my very old Icom handheld transceiver, but I did not want to risk having it lost, stolen, or confiscated by customs or local officials along my journey. The Baofeng UV-5R, however, fit that bill perfectly. Coming in at less than \$40 – what can go wrong?

For the trip, I purchased a UV-5R, a USB cable programmer, and a 12V DC car charger from my favorite online retailer, named after a famous rain forest in South America. The radio comes with a drop-in charging tray and ear-piece style speakerphone. The radio, itself, is very small and feels surprisingly sturdy. It's obvious that Baofeng has been making commercial radios for a while. The belt clip is spring loaded and compared with some of my past radios – is very functional. I used it both on my belt (as intended) and on the strap of my backpack. In both cases, it held on securely.

The radio does not sport a direct DC power connection, and hence, it cannot charge the battery. The drop-in charger connects directly to the battery via three large, exposed tabs in the back of the battery. This poses two issues. First, you have to mind where you put the radio or risk shorting the tabs. If you're like me and like to toss the radio in the vehicle's cup holder, it may make contact with coins, keys, or anything else that may be there. One obvious solution is to cover the contacts with electrical tape, but that means they would need periodic cleaning to remove the adhesive residue. I did not notice any evidence of accidental shorting, but it's definitely something to keep in mind.

The second issue is that in order to charge the radio in a vehicle, you have to use the drop-in base with the 12V cigarette adapter. My experience was that this does not work from a practical perspective. It's impossible to both find a convenient location for it and keep the radio

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 "bling," it includes an alarm and a flashlight 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 handy 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 graphic 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 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 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 built in menu system. 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 programing memory

channels is to use the USB cable. I tried the Boafeng 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, use the version authored by the "Radio Documentation Project".
- 2) Only purchase USB programming cables with FTDI chipset, 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/>



The Baofeng UV-5R, photos courtesy of The Internet

Amateur Radio at DEFCON 22

By Michelle W5NYV. Amateur radio was prevalent at DEFCON 22, held in Las Vegas 7-10 August 2014. Two of the talks were about 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, intercepted, or tampered with by oppressive governments or other third parties. We will discuss the opportunities and challenges with steganography 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. 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 when you 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 AFCI'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>

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 the growing realization 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 (me!) 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 loudest noise, badges that measured radiation to provide truly random numbers 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 area with dozens of people 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 comraderie! It's not common that an annual event can evolve so dramatically yet still have 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.

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.



With a bit of assistance, Michael obtained his FRN, filled out his Form 605, paid his \$15 to the ARRL test team (<http://conham.org>) and joined the line at 11:45am. It took about 2 hours to get into the test room, with batches of people steadily going in to the exam room, and a good number of newly minted hams steadily coming out. Each successful examinee received a 3D printed ornament for their convention badge lanyard, and had their CSCE in hand. People in line enthusiastically congratulated the successful and commiserated with those that didn't quite make it. After a long 30 minutes, Michael emerged, crestfallen. He'd missed passing by two questions. He had one chance to retake it, and decided to go for it. After another long 30 minutes, at almost 3pm, he emerged triumphant, solidly passing his Element 2. His mom couldn't be prouder. After all, he's now a fourth-generation ham. At 205 candidates, he was also part of the largest test session to date, beating the rumored record of 202 set at Dayton Hamvention.

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/>



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APPLICANT: Rancheros Commercial Park

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DATE POSTED: JANUARY 31, 2014

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

SCOPE
P.O. Box 73
Vista, CA 92085-0073

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Scope Volume # 46, Issue # 6 (USPS #076530) is published monthly by the Palomar Amateur Radio Club 1651 Mesa Verde Drive, Vista, CA 92084.

POSTMASTER: Send address changes to SCOPE, P.O. Box 73, Vista, CA 92085. Periodicals postage paid at Vista, CA 92084 and at additional mailing offices. Dues are \$20 per year or \$35 per year for a family. Dues include a subscription to Scope.

You can join or renew your membership on the club's web site <http://www.palomararc.org>

Editor: Michelle Thompson W5NYV

Submissions: scope@palomararc.org

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>

SCOPE

THE PALOMAR AMATEUR RADIO CLUB NEWSLETTER

Annual Club Auction

by Michelle W5NYV

It's almost October, and that means it's auction time. Come to the General Meeting on October 1st and join the fun!

Where: The Safety Center

Any radio item new or used, working or not (boat-anchors included) will be tagged with the seller's information. Both buyers and sellers will register prior to the meeting. Please plan on arriving early to get a look at the auction items. Hams interested in bidding on items will be given a numbered card to hold up on items they would like to place a bid on. Any further questions can be directed to:
board@palomararc.org

A suggestion heard at the September 2005 meeting: put those address labels you get in the mail to good use by bringing them to the auction. Instead of writing your name over and over, use the stickers instead.

If you have a wagon or other wheeled cart, please consider bringing it in order to transport items more easily into the building. The club will provide one wheeled cart for transporting equipment in and out of the building.

Start planning now for the treasures you'll want to bring and the treasures you'll be sure to find.

Room set-up starts at 5:30pm. As soon as the room is set up, sellers sign in and tag equipment. Bring your stuff early! 6:30 to 7:00pm buyers are registered (required!) and may view the offered equipment.

If you have questions about an item, this is the time to ask it. Inspect equipment before the auction so you know what you are bidding on (write its auction number down!) Auction begins at 7:00pm.

PARC receives 10% of the sale price and there is no other fee for buyers and sellers. Donations to PARC are accepted. All monies are paid to PARC. Seller(s) may set a written minimum bid on their items. Seller is responsible for removing any item(s) not sold. PARC does not guarantee the condition of any item sold.

You don't have to be a PARC member to participate in the auction, so invite your friends to join in on the fun. Sellers will not be paid their money until all monies have been collected that evening, so bring a Self Addressed Stamped Envelope if you want the check mailed to you the next day, or pick it up at the next club meeting.

In previous years, the auction has been held outdoors (in a surprise move due to a conflict in room reservation), in the smaller EOC meeting room, and in the larger EOC meeting room, and offsite at other nearby locations.

Room Setup	5:30pm
Sellers Allowed In	6:00pm
Buyers Allowed In	6:30pm
Auction Starts	7:00pm
Auction Ends	9:00pm



Save the Date

Club Meeting

1 October 2014

Club Auction. See cover.

Board Meeting

8 October 2014

Palomar Amateur Radio
Club board meeting at
7:00pm at W6GNI QTH.

Club Events

12 October 2014

Repeater site work party.
See page 3 (right over
there!) for details

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, 760-333-5599
Gilbert Warila



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.

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.

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Amateur Radio Public Outreach by PARC

Palomar Amateur Radio Club had the opportunity to demonstrate and educate the public at Oceanside Harbor Days, September 27 and 28. This spot was secured by Oceanside CERT in conjunction with the public service display. The location was in the circle near the snack shop near the north end of the parking lots. See page 11 for photos.

On November 2 in Carlsbad, Palomar will be leading more demonstrating and educating during the Carlsbad Street Faire. The Club has been assigned space 1504 in a center row. This will change our setup slightly as the booth will have two open sides. Palomar will offer to SANDARC the chance to join us placing Amateur Radio before the public. In Carlsbad there will be 100,000 chances to become better understood.

If you can help, contact Dennis or Conrad.

Future events are December 6 at a maker faire type event, and December 13 for Operating Day.

Repeater Site Work Party

We are planning on a trip to the repeater site on the second Sunday of October, the 12th.

Meet at 10:00am at Mother's Kitchen. We need as many hands as possible as there are some heavy parts to be unloaded from a trailer.

Please let us know ahead of time if you can help. We would also like to do general cleanup for the winter.

Bring gloves! Hard hat not required.

Don WD6FWE

760 613 5154 and leave a message



The Club surprised Art KC6UQH with a presentation of a plaque to recognize his efforts of support to the Club. Art recently has had some health challenges, and members of the Club pressed to recognize him while we are thinking about all his service that he provides. We did seem to catch him unaware for this recognition.

The plaque is inscribed with the club logo and the following:

Art McBride KC6UQH

Thank you for all your support and dedication throughout the years to the Palomar Amateur Radio Club. You have been a great Elmer to many. The club, repeater site, and auctions would not be the same without your extensive knowledge of Ham Radio electronics.

73 DE,
Palomar Amateur Radio Club
Members and Board.

We all need to express our thoughts of gratitude to one another before the chance disappears.

Dennis



Just for Fun



Rare DX seeks him out.

RF gets exposed to him.

He's heard QRM...once.

He Elmered Tesla.

After he breaks through a pileup - the pileup follows him, not the DX.

He once lost power to his radio. So as to not lose contact, he held the power wire and dragged his feet on the carpet as he talked.

He operates CW with his voice.

Ferrite is made of his core.

He can be found on hf, vhf, uhf and ufc.

Antennas are always resonant around him ... always!

He doesn't need a grounding rod... because lightning knows better.

He once fined the FCC.

He only logs long path QSOs.

The DXCC committee is considering making a QSO with him a new country.

CAN YOU KEEP IT GOING?

[HTTPS://WWW.FACEBOOK.COM/GROUPS/HAMOPS/](https://www.facebook.com/groups/HAMOPS/)

		5		7	8			
	2					9	5	
	1	7			5	2		
		4						
					9	8		
				4	6			
5					3			6
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2		3	5					

Electronics Riddle:

Can you create a 4x4 multiplier with only 2x2 multipliers at hand?

W	I	F	I	P	P	E	R	L	P	A
W	E	M	A	I	L	H	C	O	V	U
W	S	B	I	N	G	I	P	A	S	H
C	G	I	D	G	E	T	J	L	M	I
G	B	S	T	A	G	T	R	F	T	P
L	I	N	K	E	D	U	I	S	P	A
W	N	F	P	O	S	T	H	Z	N	D
O	A	M	X	M	L	C	D	O	E	P
R	R	Q	D	M	S	M	H	N	S	N
M	Y	L	T	S	Q	L	C	A	S	T
N	T	H	R	E	A	D	P	G	T	R

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September's Puzzle Solution

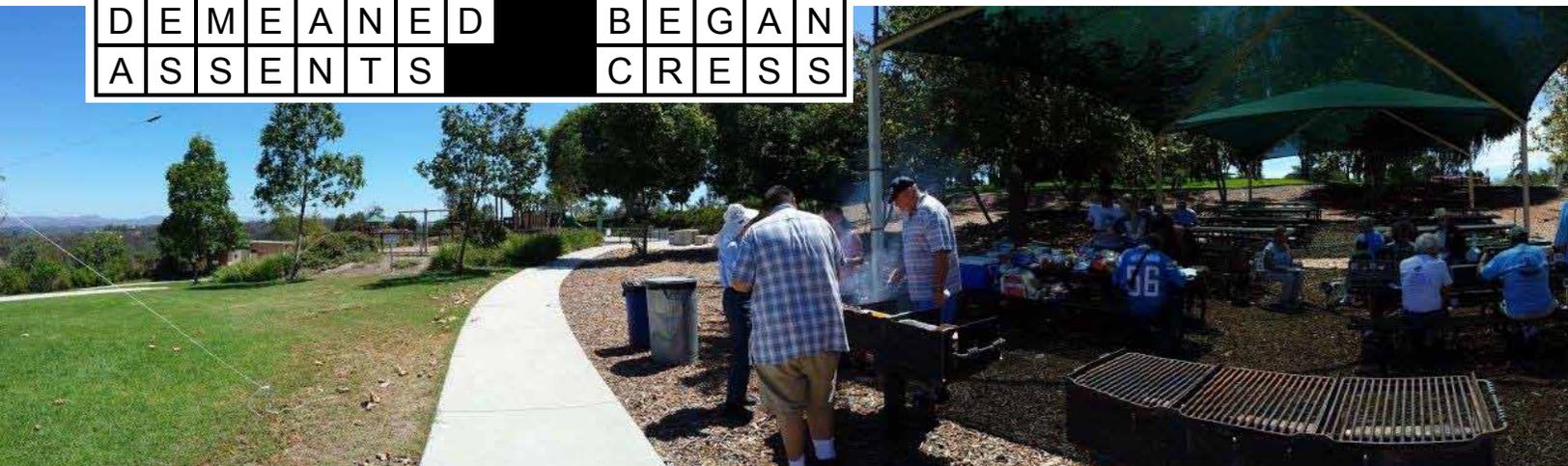
Repeater Event 18 October

Gary Bollschweiler writes, "On Saturday, 18 October, we will be holding our annual emergency communications exercise in conjunction with the California Great Shakeout. We plan on using the 075 repeater from about 8:30 - 11:30 AM to pass reports from the 14 main divisions of our Church which covers all of San Diego County plus El Centro, to the ERC radio station on Mercury Street in Kearny Mesa. The personnel taking part in this exercise are members of the ERC Tuesday night Net and the MARA Sunday night Net."

PARC board approved this request and asks PARC members who need a repeater during this time to use one of PARC's other 2 meter repeaters.

contact Gary at <wb6gsn@gmail.com>

E	S	C	A	R			S	H	I	T	A	K	E	
L	O	O	P	Y			B	I	O	S	O	N	A	R
E	L	O	P	E		L	O	C	A	L	T	I	M	E
M	O	L	E		B	E	M	I	R	E		M	A	M
I	N	S	A	T	I	A	B	L	Y		F	O	C	I
			R	I	C	K	E	Y		V	I	S	I	T
		R	A	C	K	E	R		B	E	L	I	T	E
	S	I	N	K	E	R		A	L	E	T	T	E	
L	A	N	C	E	R		S	C	A	R	E	Y		
A	L	G	E	D		D	O	T	I	E	R			
M	A	W	S		G	R	O	U	N	D	P	L	A	N
B	R	O		B	I	O	T	A	S		A	U	R	A
A	I	R	T	R	A	V	E	L		A	P	N	E	A
D	E	M	E	A	N	E	D			B	E	G	A	N
A	S	S	E	N	T	S				C	R	E	S	S





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Palomar Amateur annual picnic in

by Dennis KD6TUJ

The annual Palomar Amateur Radio San Dieguito County Park on August great! Don set out the fox hunt radi HF directional was set up on the KD with all the help. Danny came out to Brian and Andrew brought a out a d a Buddy Pole and a couple of radios "twins" to work 40m on a wire dipol turned on with the beam, a signal w from Oklahoma. We turned on the r another direction, and the controller wanted to work. Guess one direction Everyone who came had a good tim



photos by Don WD6FWE

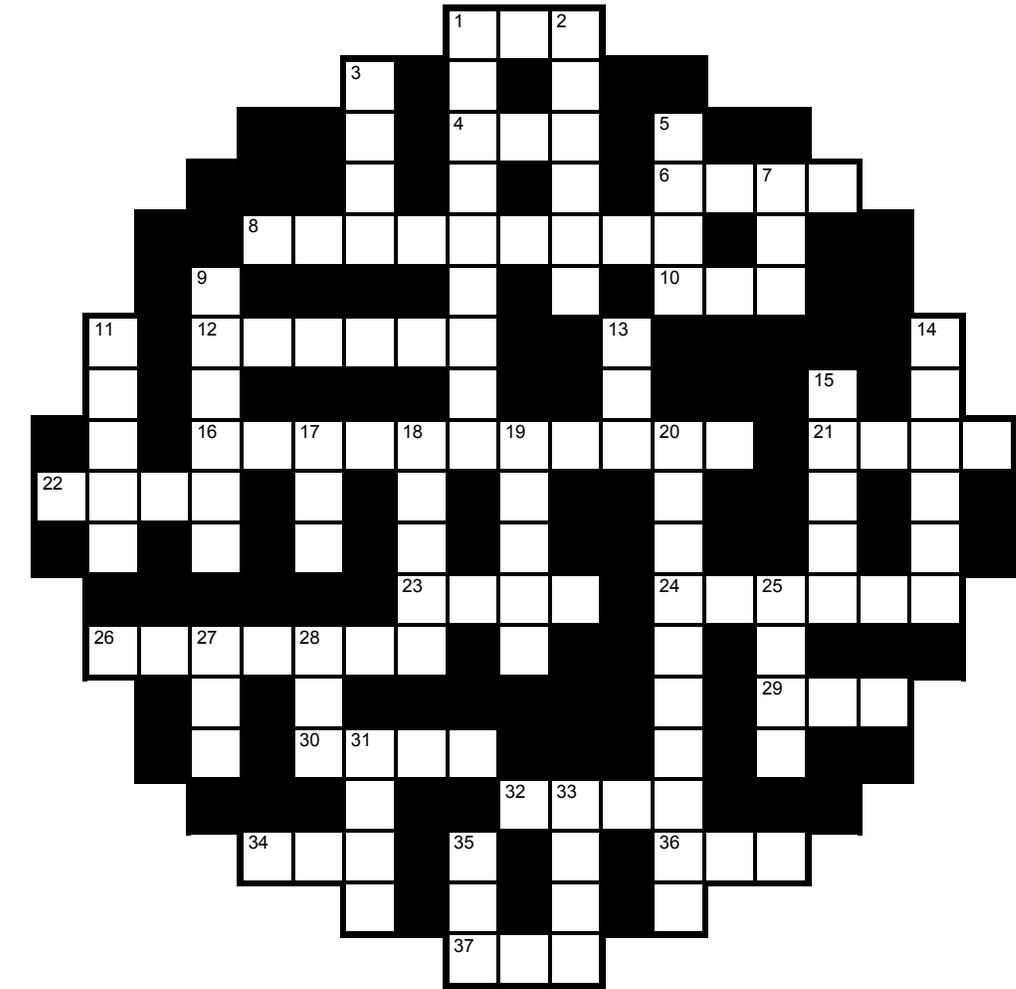
Radio Club at the park.

Club picnic was held at
 t 24, 2014. The day was
 o provided by Greg. The
 6TUJ trailer. It was easy
 o cook for the members.
 ipole setup similar to
 . Ron brought out the
 e. When the HF got
 as picked up right away
 otator control to sweep to
 r decided that it no longer
 n is enough for this picnic.
 e and good company.



Across

- 1 What search engines give you. (3)
- 4 _____ Hypertext Preprocessor (3)
- 6 A line of tablet computers designed and marketed by Apple Inc (4)
- 8 What you click on, when following a link. (9)
- 10 In Age of Empires, "Sir! Blame it on your _____" (3)
- 12 Are we spending too much time here? (6)
- 16 Something we all appreciate. Reduces spam. (2,9)
- 21 Asynchronous JavaScript and XML (4)
- 22 Not Hi-Fi, not Low-Fi, but _____ (2-2)
- 23 In Jurassic Park, "Hey, this is _____. I know _____." (4)
- 24 A line of mobile telephones designed and marketed by Apple Inc (6)
- 26 A browser named after a small carnivore. (7)
- 29 MPEG-1 or MPEG-2 Audio Layer III (3)
- 30 Network utility in UNIX that measures host reachability. (4)
- 32 Generic term for text communications. (4)
- 34 The domains at the highest level in the hierarchical Domain Name System of the Internet. Acronym. (3)
- 36 To add words that help search filters. (3)
- 37 Application-layer Internet standard protocol used by local e-mail clients to retrieve e-mail from a remote server. (3)



Down

- 1 It's not just ordinary text. It does something. (9)
- 2 Important internet protocol (6)
- 3 You have to have a way to dynamically distribute network configuration parameters. This is a widely used one. (4)
- 5 Specialized encyclopa that anyone can edit. (4)
- 7 What you put on your phone to make it more useful. (3)
- 9 A unique name that identifies an internet resource such as a website (6)
- 11 Credentials. (5)
- 13 A standard method used to generate dynamic content on Web pages and Web applications. And used in movies too. (3)
- 14 A Web server application notable for playing a key role in the initial growth of the World Wide Web. (6)
- 15 Crazypants! Also an internet corporation. (5)
- 17 Where you go to find answers to frequency asked questions. (3)
- 18 Open source UNIX. (5)
- 19 You probably have a lot of unopened _____. (1-4)
- 20 Guidelines to being a better person online. (10)
- 25 What many web pages have as their filename extension. (4)
- 27 A format for delivering regularly changing web content. (3)
- 28 A protocol for transporting files between computers. (3)
- 31 A set of communication standards for simultaneous digital transmission of voice, video, and data. (4)
- 33 At the beginning of many web addresses. Not the secure version. (4)
- 35 Microsoft's first server-side script engine for dynamically generated web pages. (3)

Dennis KD6TUJ hanging banner with assistance from KI6RXX's truck at Fire Days.



Photos by Greg Gibbs KI6RXX

Conrad KG6JEI hanging PARC Story Board at Oceanside Harbor Days.



Rich NI6H talking about the benefits of Amateur Radio to the public at Fire Days.

Congratulations Ron K2RP on a winning score in the Classic Exchange contest! Plus, did you notice he had an article in QST in September? Check out page 95. Snippet of article included below.



Vintage Radio

The Dawn of Single Sideband and the Story of the Drake 1-A

Amateurs embraced an exciting new voice transmission technology in the aftermath of World War II.

Ron Pollack, K2RP
k2rp@arrl.net

The decade between the mid 1950s to the mid 1960s was marked by great technological changes, especially in the Amateur Radio community. Among the most significant changes was the rise of SSB — single sideband. In a remarkably short time, SSB utterly eclipsed AM to become the most dominant form of voice communication on

ous sideband work required improvements in several areas. Remember that this was a time when most amateur stations were equipped with separate receivers and transmitters.

Stability and selectivity became more important than ever before. To demodulate the SSB signal, the receiver's Beat Frequency

Oscillator (BFO) needed to re-insert the “missing” carrier. In that environment, even a small amount of drift was enough to make the SSB signal unreadable. In addition, most of the existing receivers did not allow the Automatic Gain Control (AGC) to function when the BFO was enabled. This tended to cause reception problems as well.

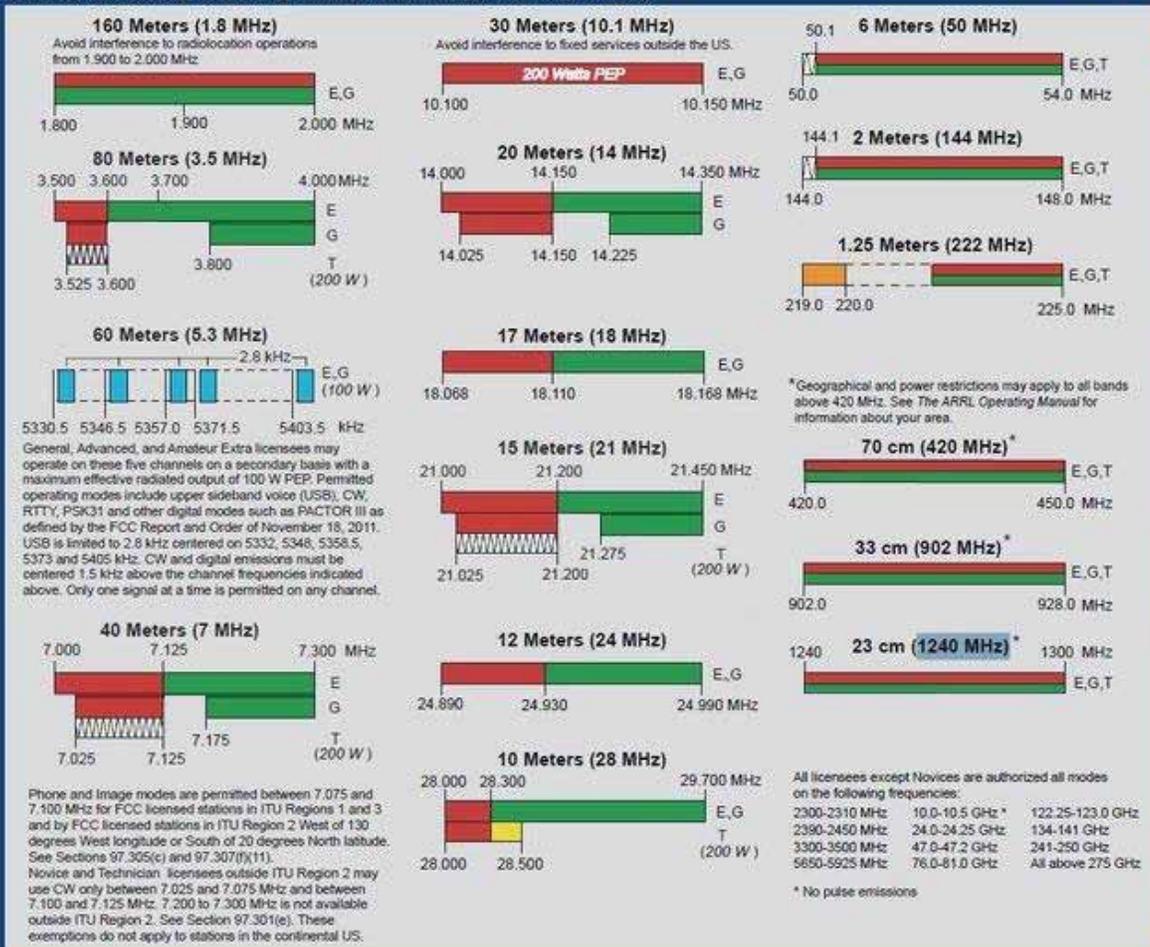
US Amateur Radio Bands

US AMATEUR POWER LIMITS

FCC 97.313 An amateur station must use the minimum transmitter power necessary to carry out the desired communications. (b) No station may transmit with a transmitter power exceeding 1.5 kW PEP.

Effective Date
March 5, 2012

Published by:
ARRL The national association for
AMATEUR RADIO
www.arrl.org
225 Main Street, Newington, CT USA 06111-1494



KEY

Note: CW operation is permitted throughout all amateur bands.
MCW is authorized above 50.1 MHz, except for 144.0-144.1 and 219-220 MHz.
Test transmissions are authorized above 51 MHz, except for 219-220 MHz.

- = RTTY and data
- = phone and image
- = CW only
- = SSB phone
- = USB phone, CW, RTTY, and data
- = Fixed digital message forwarding systems only

E = Amateur Extra
G = General
T = Technician

See ARRLWeb at www.arrl.org for detailed band plans.

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Exams: 860-594-0300 email: wec@arrl.org

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Ken Schenk writes in the Palomar Amateur Radio Club Facebook group, "I downloaded the band plan graphic a while ago & edited out the information for Novice & Advanced Classes, since they have not been given out for some time and will never directly affect me. Cleans it up a bit."

HAM RADIO OUTLET

H
R
O

Jose XE2SJB
Jerry N5MCJ
Joe N6SIX

KENWOOD
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<http://www.palomararc.org/mailman/listinfo>

SCOPE

THE PALOMAR AMATEUR RADIO CLUB NEWSLETTER

YOUR NOMINATING COMMITTEE FOR 2015 INCLUDES

JO KB6NMK
RICHARD KJ6WUY
DANNY W6AOZ

ELECTION OF CLUB OFFICERS FOR 2015 WILL BE HELD AT THE
DECEMBER MEMBERSHIP MEETING



Save the Date

Club Meeting

5 November 2014

Club Meeting. Travis Good speaks about Ham Radio and the Maker Movement. See back pg.

Board Meeting

12 November 2014

Palomar Amateur Radio Club board meeting at 7:00pm at W6GNI QTH.

Club Events

2 November 2014

PARC at Carlsbad Street Faire. We need volunteers!

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FOR SALE

Free. Telescoping Antenna Mast, 3 section @ about 10'. Escondido, 760-333-5599
Gilbert Warila

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.

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.

Repeater Site Visit for November

I am planning a trip to the repeater. I will need a minimum crew of 6 to do some unloading of a tower from a trailer. General cleanup and winterizing will also be in the works.

Saturday November 8 or 15 would be best so as to not interfere with Sunday services however other days are open if all who wish to go are willing. I will accept calls of volunteers at any time on my cell. If I do not answer then leave a message.

On another note I am trying to form a semi-permanent crew of those who are capable and willing to go to the mountain on short notice. If you are willing then call me and leave a message informing me of your availability and your best days of the week for this. Repeater problems do not schedule themselves so we need to be prepared!

Don
760 613 5154

PARC Auction Report

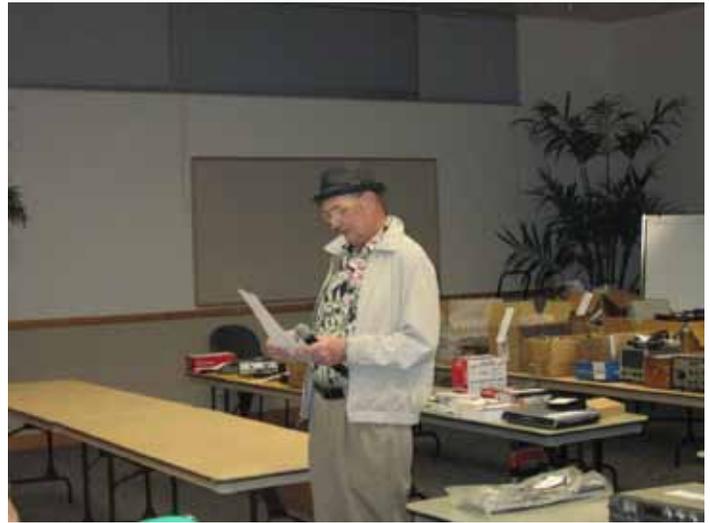
The annual Auction was held this past meeting October 2, 2014. Several members were very helpful in setting up and tearing down the room. John W6JBR, Jo KB6NMK, Joe K6JPE and others helped at the check in/check out table. John WB6IQS, Greg KI6RXX, Richard W6JUY, and Dennis KD6TUJ acted as runners/shufflers. Art KC6UQH, with the assistance of Bob AK6R, did the Auctioneering.

The big ticket was a \$350 bid for a HF rig. Many lots went for under \$10.00. A great time was had by all! Some smiled more than others at the great deals/finds they won.

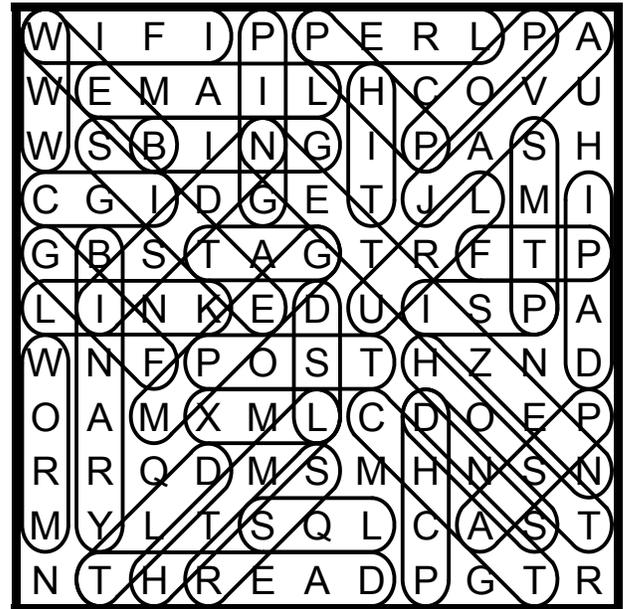
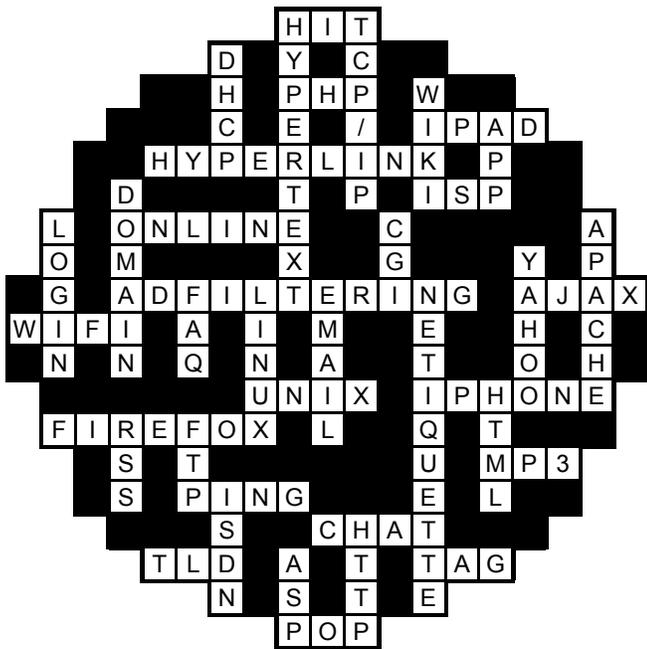
Dennis KD6TUJ



Annual auction photos



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Public Outreach by PARC at Oceanside Fire Days

by Dennis KD6TUJ

Palomar Amateur Radio Club, in association with Oceanside CERT, participated in public education and demonstration at the Oceanside Fire Day. The set up was inside the garage bay of Station 7 on Mission Avenue. California Highway Patrol, Los Angeles Fire Search and Rescue handlers with dogs, Oceanside Lifeguards, Oceanside Police, Red Cross and others joined with displays.

We were surprised by the arrival of the REACH air ambulance transport service landing less than 200 feet from the garage and R8 verticle. As the airship came into the lot, the R8 was noticed to flex from vertical to a point of concern of having a R 1.5. The tripod base was reworked with new material and anchored with 3 60 pound bags of concrete. The antenna survived almost to amazement. Throughout the event we had many contacts with the public about communications after an emergency. Many came up showing an interest in ham radio from past attempts and stale use. We suggested they come back to radio with information on the Club and email contact for follow up questions.

An applicant for the Oceanside Emergency Coordinator stopped by. A nice young lady who is one of two finalists.

When the airship was ready to leave, we took time to video the flexing of the R8 to show what we saw earlier. As usual, this did not occur. The airship left with the antenna barely moving.

Greg's KI6RXX truck was the gracious provider of transportation to and from the event. Additional supplies not used included a canopy, multiple green poles, flags and banner. The table skirt looks good.

Our next education and demonstration event is the Carlsbad Street Faire on November 2, 2014 in downtown Carlsbad. Additional events scheduled are December 6 for a maker type event and December 13 for Operating Day.

We need volunteers!

Photos by KD6TUJ



Oceanside Fire Dept. 7



CERT and PARC Setup. (KI6RXX: Sit up straight Greg. Quit slouching!)



Thank goodness for cement. Antenna survived the copter.



R5 vertical tucked in corner near BBQ.



Proper way to transport an antenna.



KI6RXX staring at wall? Slouching again!



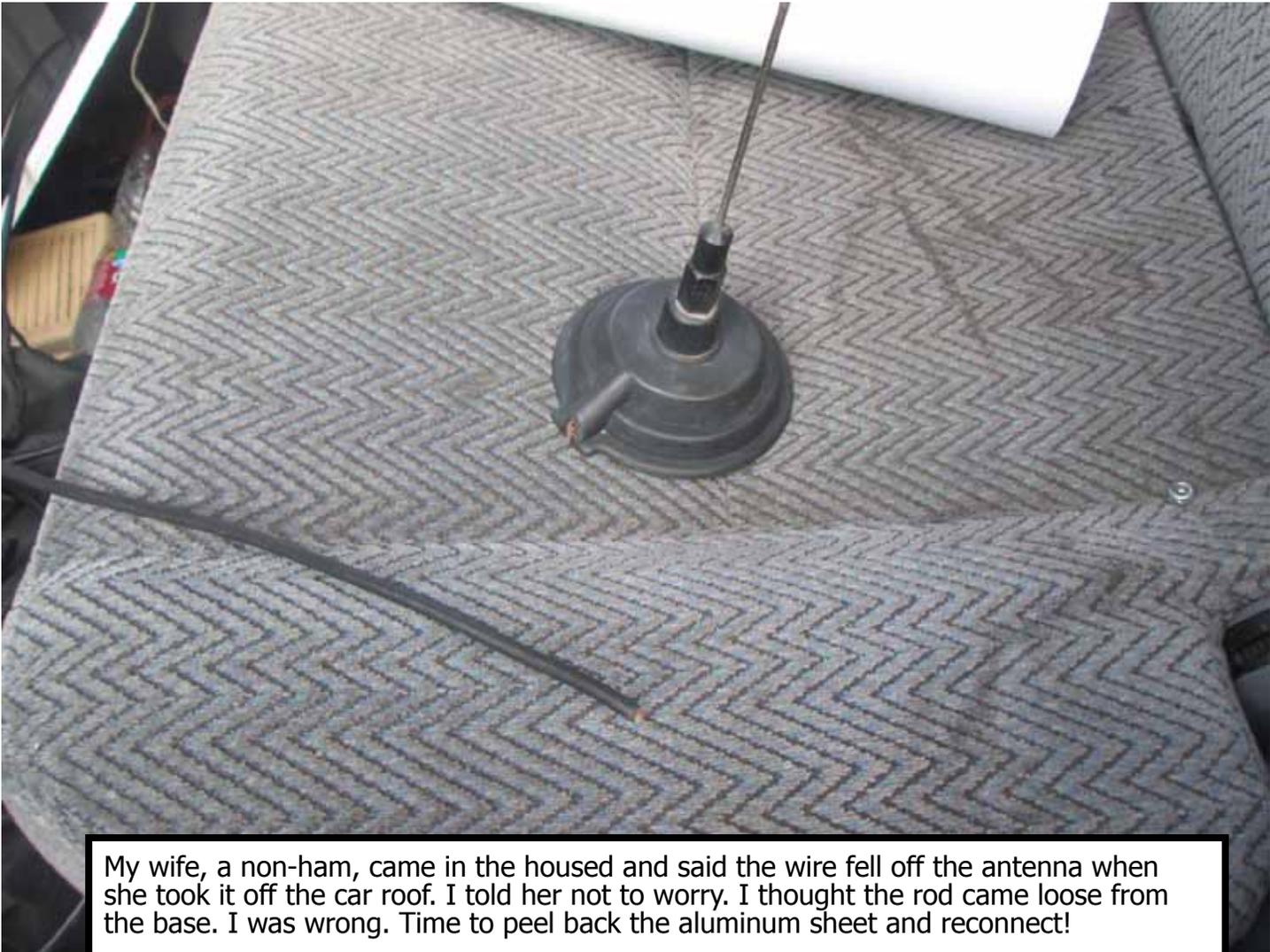
Backseat of new KI6RXX truck sure comes in handy.



New fold over antenna base.



Closeup of new fold over antenna base.



My wife, a non-ham, came in the house and said the wire fell off the antenna when she took it off the car roof. I told her not to worry. I thought the rod came loose from the base. I was wrong. Time to peel back the aluminum sheet and reconnect!

Dennis KD6TUJ

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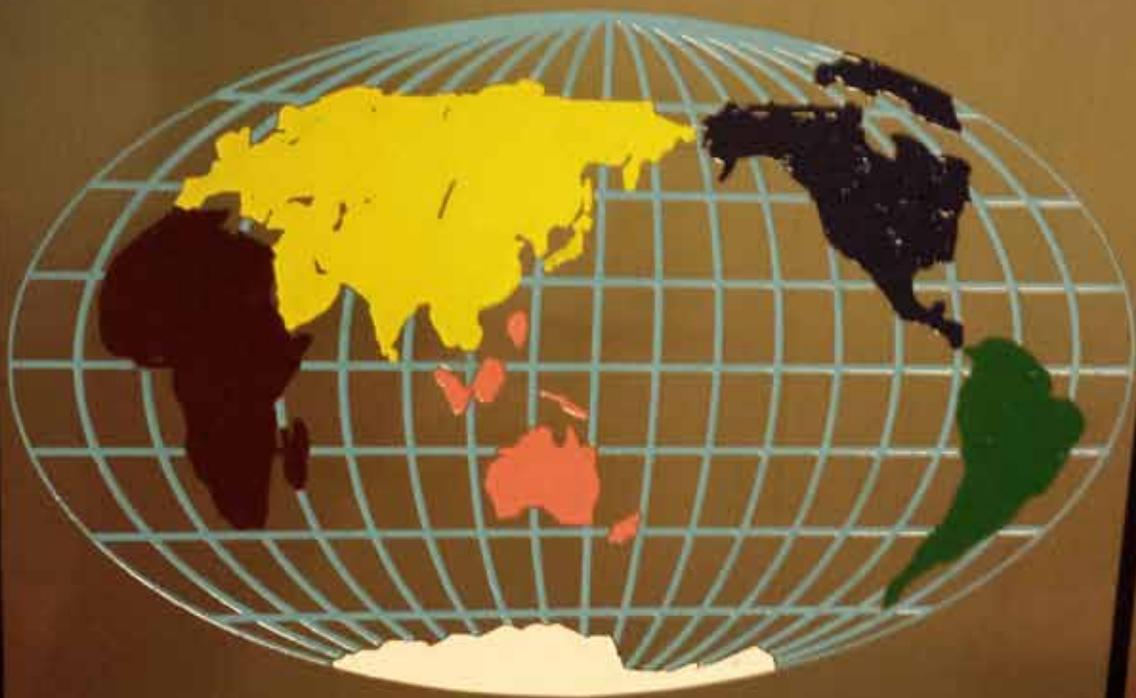
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JAPAN INTERNATIONAL DX CONTEST



W6V
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About a month after Nash passed away, we honored Nash and his work at JPL. Nash was involved with the Voyager and Viking spacecraft which successfully traveled to Mars. To honor him we used W6V as a commemorative call sign (OPs - N6KI N6CY WB6NBU N6EEG). Today I received this beautiful plaque from JIDX contest sponsor in Japan which we will proudly display at SDCC Nash-Ville station. By the way, we came in 2nd place worldwide !

Dennis N6KI

Oceanside Harbor Days Amateur Radio Outreach

by Dennis KD6TUJ

On September 27th and 28th, at the invitation of Oceanside CERT, the Palomar Amateur Radio Club participated in the Oceanside Harbor Days.

The setup this year was one of the best I have seen. We started with being sure our presentation was as clean as possible. While the booth was at the far end of the craft/sellers the Oceanside CERT and Palomar Amateur Radio Club booths were the first two booths one would see when heading to the Public Services demo and Food Court areas giving a prime location to grab attention of visitors.

Unlike last year where we were in the middle of sellers and to the side where attention was harder to grab, this year we were able to have visitors walk straight up to us. In addition, being with CERT, we were able to use the partnership between our two organizations to help both groups get their messages across to the community. This was a very positive development for this year to help get the message out to the community.

I am happy to report that those that worked

the PARC booth had contact with many in the public ranging from those looking to become involved in Amateur Radio to people that had no knowledge of what Amateur Radio was about. In addition, we met and revitalized the spark in several Amateur operators whom had not been active in years after they saw the public display.

I am happy to also report that several visitors stopped by already knew about amateur radio. They were suggested by a friend in the past, but had not yet taken the step to become licensed. They were inspired by this outreach and planned to pursue their license.

By the end of the weekend we spoke to many people, passed out details on how to get licensed, provided advice on where other clubs meet in the County for those whom are not local to the Oceanside area, and presented Amateur Radio in a positive light to the general public. Educational information also included what we do, how we link into the community, the need for Amateur Radio operators, and the future.

I look forward to seeing visitors at the club meetings, and eventually to see new licensed hams from his event.

<p>HAM RADIO OUTLET</p> <p><i>H R O</i></p> <p>Jose XE2SJB Jerry N5MCJ Joe N6SIX</p>	<p>KENWOOD rf CONCEPTS DIAMOND US TOWERS KANTRONICS YAESU, MFJ, ICOM BENCHER, Inc. HUSTLER COMET AMERITRON</p>	<p>Astron, AEA, OUTBACKER Larsen Antennas TEN-TEC Hy-gain, Tri-EX, Cushcraft And Others too Numerous to Mention!</p>	<p>Drop in to see our display of working equipment. Find out about Pkt location determining equipment (APRS). Check our complete line of magazines, ARRL books, license manuals, and Bulletin Board with all sorts of Goodies listed.</p>
<p>Open: 10a.m. – 5:30p.m. Monday thru Saturday <i>Ask about our great prices</i> 858 560-4900 or toll free 1-800-854-6046</p>	<p>Directions: On 163, take Clairemont Mesa Blvd. off ramp to East. Stay in right-hand lane. Turn right at stoplight. As you are turning right you can see our beams in this shopping center. Travel 100 yds. On Kearny Villa Rd. and U-turn back to shopping area and HRO sign. Be sure to see our equipment in action on real antennas!</p>		

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Why is Conrad KG6JEI not in the police car?

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You can join or renew your membership on the club's web site <http://www.palomararc.org>

Editor: Michelle Thompson W5NYV

Submissions: scope@palomararc.org

Questions? Ideas? Comments? W6NWG@amsat.org

Featured Program:

At 7:30pm on 5 November 2014, Palomar Amateur Radio Club will present a program by Travis Good about Ham Radio and the Maker Movement. **“We hams are the original electronics hackers. Now a Maker Movement is being fueled by cheap, powerful electronics for smart tools, hardware prototyping and just plain messing around.”** Travis will talk to us about what's going on and how it manifests itself in the form of Maker Faire, an event he produces here in San Diego. We look forward to seeing you at the Carlsbad Safety Center, 2560 Orion Way, Carlsbad, CA. Arrive at 7:00 for socializing!

Sign up for the PARC Email Lists:

<http://www.palomararc.org/mailman/listinfo>

SCOPE

THE PALOMAR AMATEUR RADIO CLUB NEWSLETTER

NOMINATING COMMITTEE

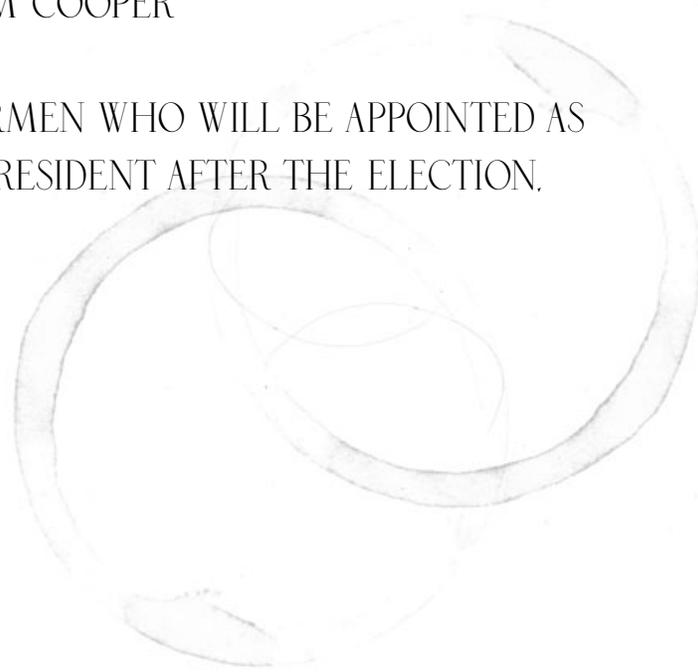
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ALONG WITH THREE DEPARTMENT CHAIRMEN WHO WILL BE APPOINTED AS BOARD VOTING MEMBERS BY THE NEW PRESIDENT AFTER THE ELECTION, CHOSEN FROM THESE FOUR

MEMBERSHIP
NEWSLETTER EDITOR
REPEATER SITE CHAIR
REPEATER TECHNICAL CHAIR



Save the Date

Club Meeting

3 December 2014

Annual social and election. Bring food and games to share with friends!

Board Meeting

10 December 2014

Palomar Amateur Radio Club board meeting at 7:00pm at W6GNI QTH.

Club Events

6 December 2014

STEAM Maker Faire at Del Mar Fairgrounds
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Dec 13, 2014 Operating Day at Fry's

All Day

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Reminders are sent out on Wednesdays.

All are welcome for food and fun!

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

STEAM Maker Fest - PARC Booth



Join us!

The STEAM Maker Fest event coming December 6, 2014 at the Del Mar Fairgrounds is a great fit for amateur radio. This is a chance to demonstrate how YOUR projects related to amateur radio can interest others into our hobby. Any project is worth bringing out for display to start a conversation of how amateur radio can help another field of use. APRS brings telemetry. Radio across light beams brings physics. Video can be deployed on drones. One of the main experimenting areas is antennas. Flower pot antennas will be there for 2m/70cm and 6m. Both complete and partial. Hex antennas are still strange to me and others. Any examples of "maker" items are welcomed and asked for. We will bring out the HF rig and r8 along with a 2m/70cm mobile radio and antenna. A couple of HTs will add to this.

Help demonstrate how amateur radio can help other hobbies and grow ours!

Contact Dennis KD6TUJ at 760-672-0223 or kd6tuj-3@hotmail.com to help or ask more info.

Lets show what Amateur Radio is about.



Braydon Moreno - Robo3D

10 days 2014 · 4 photos

It was Fall 2012. Coby, a Senior at SDSU, was working on his final project which happened to be printing 3D. Printed parts for prosthetics...

[Read More](#)



To make a great event you need a great team.

01 Nov 2014 · 1 photo

Today was a great day at a private home in Cardiff a volunteer team of makers from the STEAM Maker Festival came together to build lights...

[Read More](#)



Physics Girl - Dianna Cowern

03 Nov 2014 · 4 photos

Physics Girl is a resource for fun physics videos and other material about physics and topics related to physics. It really started as a post-baccalaureate 'Yes...'

[Read More](#)



Close Up on San Diego Business

04 Sept 2014 · 1 photo

Victor Occoripon Close Up on San Diego Business BARRY WALKER and his Co-hosts Andrea Kaye and Urbani Nayares http://www.closeupsandiego.com/ CLOSE UP is a uniquely styled...

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Science Day at WWS Point Loma was a blast!

04 Sept 2014 · 1 photo

Items from 3D Robotics, the US Navy and STEAM Maker Festival came together today as the students of West Point Loma Warren/Walker School visited six...

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#1 Civic High School - Kim Morris

07 Aug 2014 · 1 photo

Video #1 Civic High will engage, educate, and empower their students, teachers, and parents in a community of passionate, life-long learners who value excellence in...

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Science	how do radios work
Technology	make radios better
Engineering	make your add-on smaller and work the way you want
Art	design, pc board layout
Mathematics	distances to contacts, lengths for antennas

PARC will be one of many exhibits. A small selection can be seen above! Join us at this festival!

Dennis KD6TUJ

The Great Shoot-Out of 2014

Part 1

Howard White KY6LA

Albert Einstein said that the definition of insanity is to repeat the same experiment and expect different results.

I have participated in a number of Shootouts with Dennis N6KI including SteppIR, Honda vs Yamaha Generators and a number of different Legacy vs Modern Radio Shootouts.

All these shootouts invariably start the same way. Those of us with scientific backgrounds try to set up the experiments with detailed documentation processes, normalization of as many variables as possible so we are comparing apples to apples and a detailed WRITTEN Plan of Experimentation so that we can have Reproducible Results.

Enter Dennis, N6KI, the King of Irreproducible Results, who demands total control of the observations.

He immediately throws out all the carefully and exacting setups that had normalized the variables to a single consistent set. He then continues to fiddle with parameters throughout the experimental time so that there is absolutely no documentation and no way to produce objective reproducible results. We invariably end up with a mish mash of subjective observations colored by the personal biases of the various different observers and absolutely no way to reproduce anything.

The last two days were no different than every other previous N6KI Shootout.

No written plan of Action, no experimental procedure established. No coordination of Normalization of Parameters! No objective observers and no way to produce reproducible results. Everyone frustrated with Dennis.

John W6JBR the audio engineer and I spent a few hours on Friday normalizing audio between receivers.

On Saturday Dave N6EEG and I tried to do the same.

Invariable N6KI started to do the comparative testing by immediately grabbing the tuning knob on his K3 to continually change frequencies and adjust parameters throughout the experiment. After trying and failing to get N6KI to follow any

reproducible protocol, I gave up in frustration. I spent most of my time trying to manually track N6KI's random frequency gyrations so that we could all be on the same frequency for tests. Ultimately I suggested that we connect the CI-V ports on the radios so that they would all track together. But N6KI would not accept that - rather he said we should just manually tune so that they all sound "ABOUT" the same! which of course was impossible because N6KI continued to fiddle with the tuning knob.

My FIRST CONCLUSION

I will NEVER participate in another "Shootout" UNLESS N6KI is totally banned from the proceedings.

Results:

1. Surprisingly the Flex with its visual interface was by far the easiest/quickest radio to set up and the least likely to screw up during a contest
Albeit I had accidentally turned on the NR on the 6700 for much of the experiment and did not notice that until the end because NR was one of the few parameter on a hidden drop down menu on the 6700
2. The IC-7800 was so outperformed by the K3, KX3, and 6700 that we quickly dropped it from the testing rotation
3. All radios hear the very weakest signals - as you would expect since the atmospheric noise floor on 20M is about -115dBm and the radios can hear down to -130 dBm or better
4. The Notch filter on the IC-7800 and the 6700 were better than the K3/KX3 at removing a CW Signal in the SSB Bandpass
5. ONLY the 6700 could produce more than one notch filter so it was the only radio to be able to remove more than 1 CW signal from a SSB Bandpass- the 6700 had the most powerful and flexible filters and filtering
6. The 6700 had the lowest Phase Noise (the background static you hear) followed by the KX3, K3 and finally the IC-7800
This is consistent with the expectations of the different technologies - lower phase noise = lower operator fatigue
7. We ultimately came down to comparing received audio, but that is highly subjective as different people hear very differently. For example I had my 6700's equalizer peaked for my hearing. So, while I could hear well on it, I had trouble hearing on the K3 as it was

not peaked for my hearing. Dennis had his K3 peaked for his hearing so I could not hear well on his K3 but he said my 6700 sound lacked "Brilliance" - albeit that might have been due to the fact that the NR was on...

8. With these subjective hearing tests, the K3, KX3 and 6700 could all hear the very weakest ones and could find them inside a splatter zone.

9. the background noise was easily the lowest on the 6700 and for my hearing was the easiest to discern the content of the weakest signals

10. We really did not do a consistent IMD3 test with a strong signal beside a very weak signal as that was impossible to do with N6KI continually changing frequencies.

Dennis did record audio albeit with a hand held recorder so you can see hear the audio and judge for yourselves

BY CONTRAST

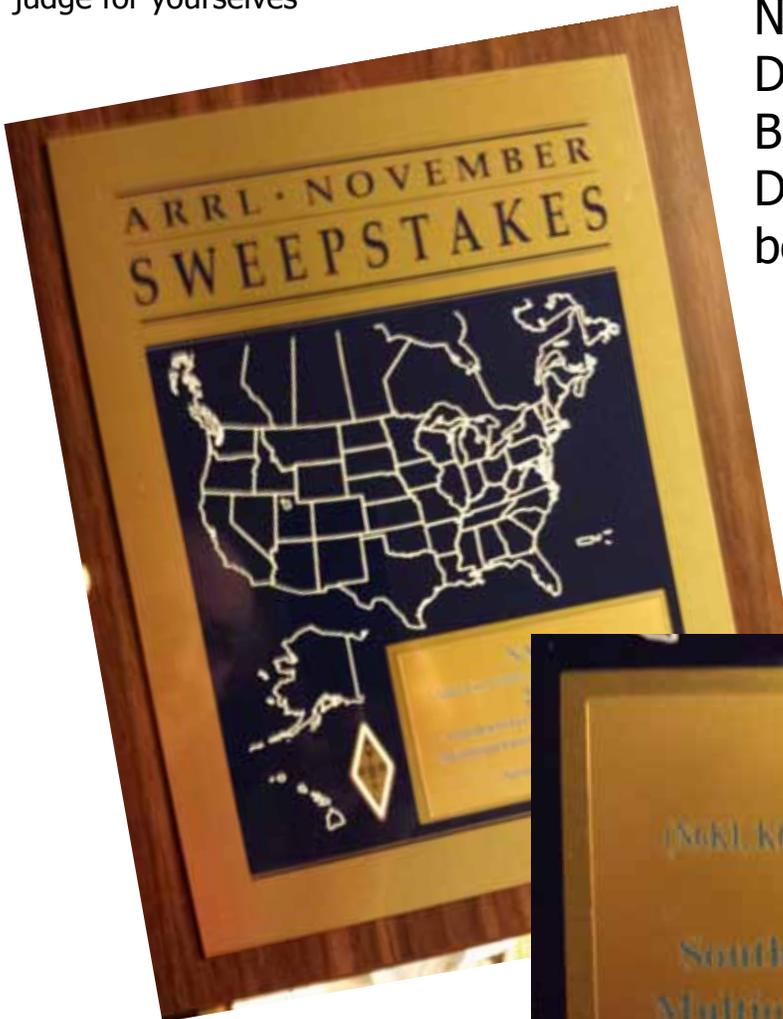
We did a shoot out at WA3IHV between has IC-7700 (Better receiver than the IC-7800) and his Flex 6700. We normalized for all parameters and just tested a single parameter - Reception of JT-65

Results	Weakest Signal Received
IC-7000	-19 dB S/N
FLEX 6700	-26 dB S/N

Next month:

Dennis responds in Part 2.

But while you wait, check out Dennis' division winning awards below!



San Diego Microwave Group Update

Many, if not most, of the members of the San Diego Microwave Group are also members of PARC. SDMG meets on the third Monday of the month in the evening at Kerry Banke's QTH. All those interested in microwave are welcome to attend.

by Kerry N6IZW

Here are a few items happening with the San Diego Microwave Group in the last couple of months.

Greg Bailey, K6QPV transmitted and then received his first CW echoes off the moon on 10 GHz a couple weeks ago using a 6'+ dish antenna. He's in the process of improving his rotator system so it will be capable of automatically tracking the Sun for Sun noise measurements and tracking the Moon for operating EME QSOs.

Brian KF6C has designed and is assembling the PCB for a very compact 2 meter SSB transceiver for use with microwave transverters and therefore has low power output and is USB/CW only. It should be ready for a demo soon.

Along the same line I built and demoed a 2 meter DSB direct conversion radio breadboard also for use with microwave transverters.

At the October meeting it was connected to a 10 GHz transverter and used to receive the 10 GHz beacon located on Miguel.

The receiver was set up for "Binaural I-Q" reception which is interesting in that as you tune to the lower side of the CW beacon the tone appears to come from one headphone and then moves to the other headphone as you tune to the upper side.

No circuit board has been made for this project.

Both of the 2 meter radios are based on the Si570 synthesizer kit from K5BCQ for about \$45 and cover 3.5 to 160 MHz with LCD display and variable tuning speed down to 1Hz steps I believe. A very simple kit and worth while project.

<http://www.qsl.net/k5bcq/Kits/Kits.html>

At least 4 or 5 kits have been assembled in our SDMG.

That's about it for now.

73 - Kerry N6IZW

Kerry Banke <kbanke@sbcglobal.net>



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From the Repeater - by W5NYV

Machine Learning

Inspired by N6KI

Machine learning is a problem solving method in computer science. Given a particular type of data, a computer is programmed to figure out the best way to solve problems related to that data **by looking at the data**, instead of being programmed solely in advance.

In traditional programming, the solution is prepared before-hand and written into the software. For example, a software program may monitor several sensors and sound an alarm when any of the sensors exceeds a setpoint. The software is sampling, comparing, waiting, and if certain conditions are met, then acting. If the number, type, or behavior of the setpoints needs to be changed, then the program may need to be re-written or re-configured.

In a machine learning solution, the program analyzes the data in order to produce the desired end result. In the sensor monitoring example, the program is "trained" by being exposed to large amounts of historical data linked with correct results. By looking for and taking advantage of patterns in the historical data, the program can partition the training data set, develop a rules set, and then make decisions when new inputs are received. Over time, failures are used to fine-tune or retrain a system that is dealing with shifting or changing inputs. Say our sensors are water levels at a dam, and over the course of three seasons of increasingly severe drought, the spillway behavior needs to be modified. A well-designed machine learning system adapts to this and gives correct output without requiring reprogramming.

Machine learning techniques extend to amateur radio. It's entirely possible to feed signals from all amateur bands for the duration of an entire contest. After analyzing the behavior of all participants over several contests, it may be possible to predict when certain stations appear, how well and where they are heard, and what strategies they use.

Another type of analysis would be of ionospheric conditions, where a machine learning algorithm would be trained on previous openings in order to predict future ones, based on observable phenomena.

An amateur radio related project going on right now is a machine learning challenge to write a morse decoder.

See below for a link to the home page and a screenshot of the contest information. Got an article request and haven't caught me on the repeater lately?

Let scope@palomararc.org know!

Machine Learning Challenge Morse Code Competition

<https://inclass.kaggle.com/c/morse-challenge>

The screenshot shows the Kaggle competition page for "Morse Learning Machine - v1". At the top, it says "Knowledge + 4 teams" and "Morse Learning Machine - v1". Below that, it indicates the start date "Wed 3 Sep 2014" and the end date "Sat 27 Dec 2014 (93 days to go)". The main heading is "Build a learning machine to decode audio files containing Morse code." The description states: "The goal of this competition is to build a machine that learns how to decode audio files containing Morse code. For humans it takes many months effort to learn Morse code and after years of practice the most proficient operators can decode Morse code up to 60 words per minute or even beyond. Humans have also extraordinary ability to quickly adapt to varying conditions, speed and rhythm. We want to find out: if it is possible to create a machine learning algorithm that exceeds human performance and adaptability in Morse decoding." It also mentions that the data is computer-generated Morse code with varying noise levels and SNR. A "Competition Timeline" section notes that the competition ends on Dec 27, 2014 at 11:59 UTC. An "Acknowledgements" section credits Mauri Niininen, M.Sc. for providing the dataset. At the bottom, it lists the start and end times: "Started: 11:21 pm, Wednesday 3 September 2014 UTC" and "Ends: 11:59 pm, Saturday 27 December 2014 UTC (115 total days)". It also notes that "Points: this competition does not award ranking points".



Dennis at booth

Carlsbad Village Fair Amateur Radio Outre

by Dennis KD6TUJ

We had a great time! "We" included KG6JEI, Dennis KD6TUJ, and R... came up and want to know how... had past family members, some... but did not know where to go. Goldberg's website that include... had been licensed and had not... their license lapse for several y... come to a meeting and gave th... great opportunities came as I c... and made a strong contact. Th... College, about 3 miles away. N... He was talking to Washington... All done with a interested party... amazement at how easy conta... K2RP made contacts than inclu...



Club literature

A gift of FREE publicity to all S... offered, in the form of a new fl... Amateur Radio. A request was... and known non-members to br... at the Faire. The opportunity w... 100,000 visitors. This was don... Three (3) other clubs took the... flyers for this event.

It is really hard to quantify the... think we made a great present... were not there!

There are a few pictures on Pa... facebook page that were poste...

Dennis



Photo by WD6FWE





ir
each

cludes Don WD6FWE, Conrad
Ron K2RP. Several individuals
w to get licensed. Some
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I made a flyer based on J.
ed his web address. Others
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Palomar Amateur Radio Club's
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The Booth



Photo by WD6FWE

5GHz Mesh Node Installation Work Party Report

by Dennis KD6TUJ

A work party was conducted on Palomar to install a 5GHz mesh node for testing. Plans were conferenced at ground level to ensure the project would go off as planned. Or, kind of.

Joe K6JPE met Conrad KG6JEI, Greg KI6RXX and Dennis KD6TUJ at Mother's Kitchen, which is closed on weekdays. From there we traveled to the repeater site. Arriving, we opened up the needed buildings and prepped. After airing out the battery room, Joe got to check out the generator building where the voice machines are kept. Inside temperature was 65 degrees. Then we went to the sunken building where the packet machines are. All looked good.

OK, start the project by trenching a line from the base of the 6m tubular pole to the packet building. Hey, look at the 4-inch ground strapping and roots in the path. Got to work over, under and around to get the path needed. We found trace of power to the storage shed, power to the radio rooms, and a 6m coax run. The hole cutter used to gain entry to the packet shed was the right size for the PVC as it needed to be gently forced in. Then came the feeding of the cat5 through the PVC along the trench, again working the pieces through the root/conduit mazes. Not bad. Let's get the panel set while the software specialist puts RJ45s on the ends. Great, what parts are missing? In true amateur fashion we overcame the missing pieces and actually used less to mount the panel.

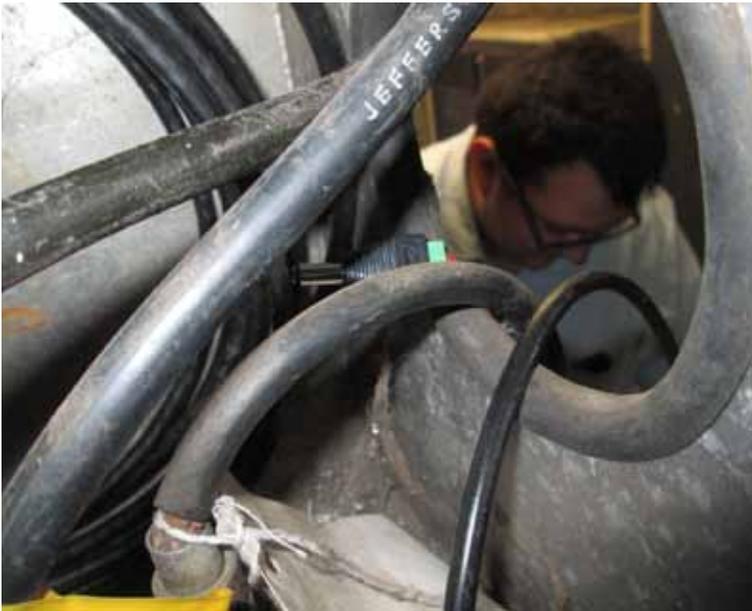
Once placed, you should have seen the high tech directional devices used to orientate the panel to a direction of 215 degrees. (I-phone floating compass vertical at the end of the pole to eyeball 215.) Not to be outdone, duct tape was found to use as a moisture preventive above the panel feeds from the radio. The radio mounts to the back of the panel and receives power from the cat5 plugged into a power cube. Back to the cat5 entry, a lightning protection block was placed before final entry into the building and power source.

Software leader had problems connecting power to the 48 VDC supply. A converter block was arranged for this unit to follow the rest of the site plan. Software leader claimed a tingle while connecting to the supply. AC tingle on a DC line? Oh well, take him out and throw someone else in. Look, no problem, just finish the connection. Black to ground already so red to positive CRACK! Who has the party popper? Oh, the supply block tested the inrush limiter, AND the magic smoke holder. The magic smoke appeared above the power block and could not be contained. What happened? Software lead brought out a SD50 cube. OOOps, it's a 12 to 12 block, NOT a 48 to 12. Another trial by error. We still believe in our Dear Software Leader, I think. Back to the ship with unit power block.

What a great day.

Dennis



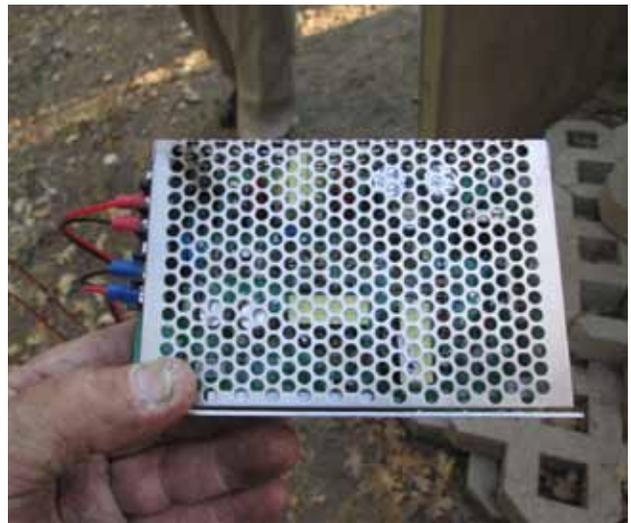


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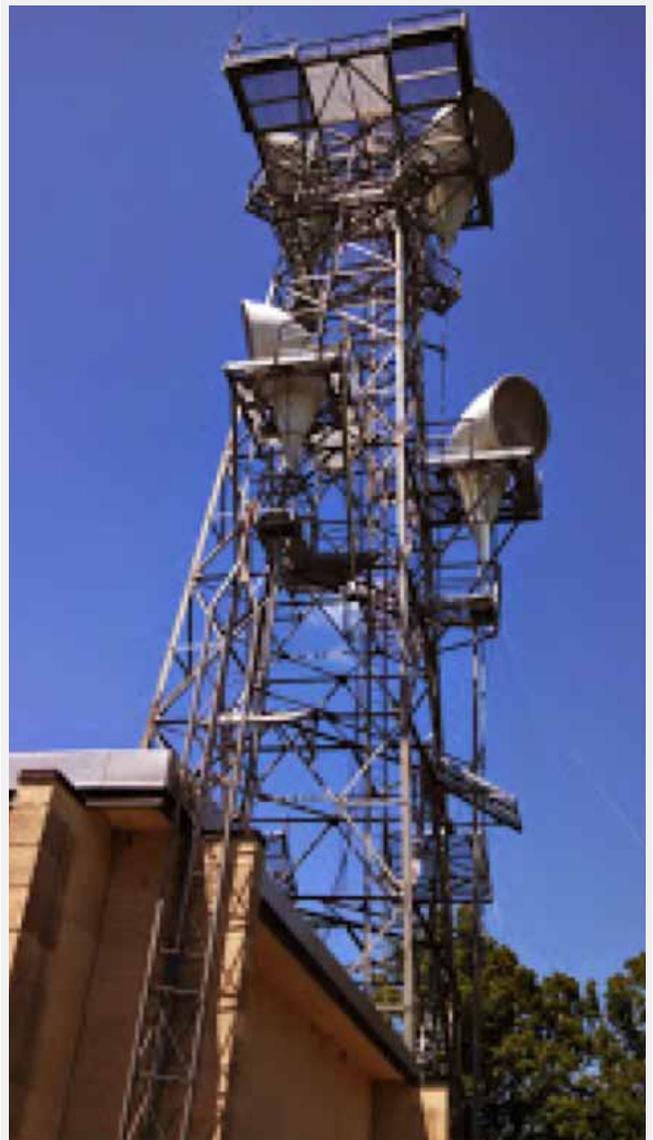
5GHz Mesh Node Installation Work Party Photos

W1AW/5 Centennial Operation from the Big Arkansas Tower

by Bill N6PIG

Recently I was invited to participate in the W1AW/5 centennial operation just north of Dover, Arkansas. In 2001, Dennis Schaefer W5RD and five of his friends purchased a 113-foot-tall tower. The tower was built in the 60's as AT&T built microwave towers across the country to serve as phone lines over vast stretches of land. They also sent television pictures for major events like the Moon landings. This tower was placed near Dover, AR, where it was the link between Petit Jean and Clarksville. It has a Force 12 Beam antenna and a 40 meter rotating dipole at the top of the tower. It also has some VHF and UHF antennas. Ironically, it is not a repeater site. The site sits on a 1300-foot-tall "Mountain" that is considered fairly tall since 2400 feet is as tall as it gets in Arkansas and 500 miles in any direction. The original microwave dishes have been left in place as it makes it look so official.

On Thursday November 19 I met Jonathan Setcer N5QJ at the Dover grocery store and followed him to the BAT. This included a long stretch of dirt road and a 1 lane bridge crossing the Illinois bayou. Though there are dedicated operating positions the radios and equipment is stored on shelving. We used Jonathan's 756 pro III and the BAT's Ameritron AL-80b linear amplifier. The Force 12 antenna has no elements for 17 Meters but provided a 1.3:1 VSWR, Because of this we were not sure if the

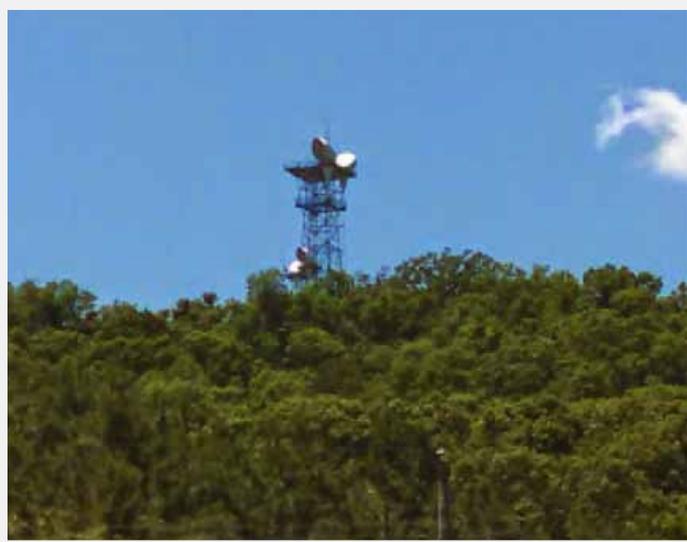


The "BAT" Tower base. Photo by J. Lewter

antenna was directional or just a large horizontal polarized antenna as rotating it only showed nulls but no peaks.

We began operation at 8:00pm UTC and had a scheduled 4-hour window for operations as there is a website where time and bands are scheduled such that only one station is on a band at any time. The operation was a little hectic as there was so many stations calling that at some times we not only had to limit to 6 or 2 call's but to W, K or N2's. We also opened opportunities for DX calls, and I was surprised to find someone who thought Alaska was DX. We were running a rate of 125/hour for the duration. I have never experienced his kind of activity and QRM radio overload being the only station on the band. Even the mid 1990 effort's by W6NWX when we were 1st place 5A in Field Day did not come close to this.

Fun was had by all!



The "BAT" Tower on approach. Photo by J. Lewter

HF Remote on Palomar

by Michelle W5NYV

Back in 2011, Howard White calculated MicroDem Terrain Models for three sites on Palomar Mountain for me. The goal was to determine which one of the sites was the best HF radio location. They turned out to be all pretty good. During the process of looking at various locations and talking about installing an HF remote location on the mountain, it occurred to me that this might be something the club should consider providing as a service for members.

Here's the locations of the sites modeled:

W5NYV1 33.30901, -116.84868 red home (my house on Palomar)
W5NYV2 33.31029, -116.84381 immediately east of red home
W5NYV3 33.30545, -116.84481 immediately south of red home

Howard ran HFTA models for the 3 sites simultaneously @ 14.2 MHz using 80' tower with 4 elements. To Europe (35 degrees azimuth) Africa (90 degrees Azimuth) Asia (305 degrees Azimuth) and South America (135 degrees Azimuth). Results are summarized below in an HFTA chart. The bars in the chart show the statistical elevation-angle percentages versus elevation angle. The lines are elevation responses. On Palomar, the takeoff angles that are most useful are the ones that have the largest bars. The bars differ based on terrain, as different locations in the world require a different set of takeoff angles for optimum results.

The antenna needs to have the best response for those angles represented by the largest bars. One can see that they are all pretty good, with the second location, east of my house, being a bit better when compared to the others.

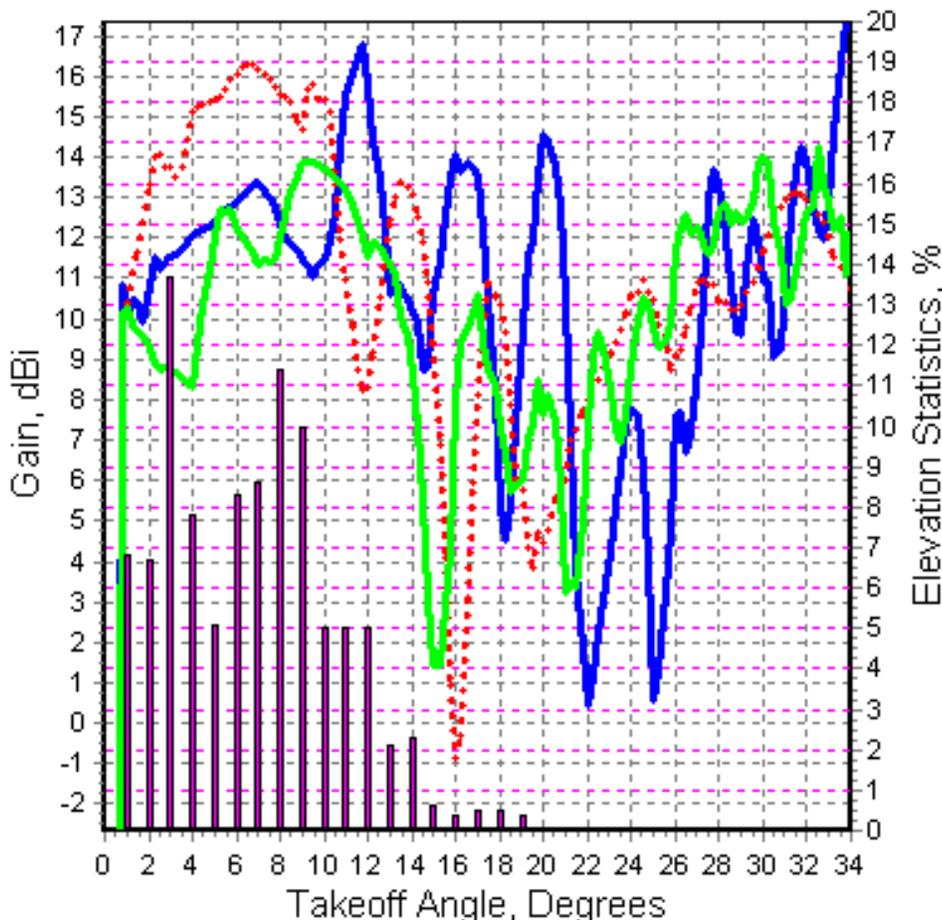
The repeater site will have very similar properties to the measurements made for the locations I was looking at. The repeater site is west of my house.

<p>HAM RADIO OUTLET</p> <p>Jose XE2SJB Jerry N5MCJ Joe N6SIX</p> <p>H R O</p>	<p>KENWOOD rf CONCEPTS DIAMOND US TOWERS KANTRONICS YAESU, MFJ, ICOM BENCHER, Inc. HUSTLER COMET AMERITRON</p>	<p>Astron, AEA, OUTBACKER Larsen Antennas TEN-TEC Hy-gain, Tri-EX, Cushcraft And Others too Numerous to Mention!</p>	<p>Drop in to see our display of working equipment. Find out about Pkt location determining equipment (APRS). Check our complete line of magazines, ARRL books, license manuals, and Bulletin Board with all sorts of Goodies listed.</p>
<p>Open: 10a.m. – 5:30p.m. Monday thru Saturday <i>Ask about our great prices</i> 858 560-4900 or toll free 1-800-854-6046</p>	<p>Directions: On 163, take Clairemont Mesa Blvd. off ramp to East. Stay in right-hand lane. Turn right at stoplight. As you are turning right you can see our beams in this shopping center. Travel 100 yds. On Kearny Villa Rd. and U-turn back to shopping area and HRO sign. Be sure to see our equipment in action on real antennas!</p>		

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Freq. = 14.2 MHz
Max. Gain: 17.3 dBi

W5NYV1-35.00.PRO

80 ft
4-Ele.
Fig. of Merit: 12.5

W5NYV2-35.00.PRO

80 ft dots
4-Ele.
Fig. of Merit: 14.4

W5NYV3-35.00.PRO

80 ft
4-Ele.
Fig. of Merit: 11.5

Elev. Statistic

W6-LA-EU.PRN

Print

Out File

Close

Club HF Remote Station? Let's Install One!

There are at least three reasons for the club to get involved in the HF remote movement. The first one is technical. The challenge of making a quality remote installation is fun and rewarding. The project involves backhaul establishment, HF equipment selection, remote access protocol development, command channel identification and establishment, testing and tuning, documentation, and training, among other things.

Secondly, autopatch and casual repeater usage has declined due to the increase of cellular coverage. Exploring new services that can be offered from club equipment on the Palomar Mountain property is an important responsibility. A new broadband repeater has been installed, and fresh hardware for the voice repeaters is under active investigation. Adding an HF remote station would expand the services provided by the club. This is an exciting time to get involved with renovating equipment on the site.

Third, many members are negatively affected by CC&Rs and other limitations on putting up HF antennas on their San Diego properties. We live in an urbanized area where antennas may or may not be allowed. Plenty of us live in valleys or in places that are not good for radio. Having a remote station that members can reserve and use would go a long way towards making the hobby possible for people that live in places where radio is limited.

If you would be interested in helping explore a club remote HF station on Palomar Mountain, then please join up by writing me at scope@palomararc.org.

This special interest group for HF remote will write a proposal for the Palomar Amateur Radio Club board of directors to vote on. If the vote is successful, then fundraising will begin immediately.

SCOPE
P.O. Box 73
Vista, CA 92085-0073

PERIODICALS

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Editor: Michelle Thompson W5NYV

Submissions: scope@palomararc.org

Questions? Ideas? Comments? W6NWG@amsat.org

Featured Program:

At 7:30pm on 3 December 2014, Palomar Amateur Radio Club will have our annual social and election of officers. We look forward to seeing you at the Carlsbad Safety Center, 2560 Orion Way, Carlsbad, CA. Arrive at 7:00 for socializing!

Sign up for the PARC Email Lists:

<http://www.palomararc.org/mailman/listinfo>