



Cuba - 25th Anniversary of Rebel Radio Stamp



Cuban Clandestine antenna? You decide!



20th Anniversary of the ICRT or Cuban Institute of Radio and Television

Our theme this month is inspired by John WB6IQS. Read his article about his recent visit to Cuba inside this issue of the Palomar Amateur Radio Club Scope Newsletter.



Letter from NN3V

22 July 2016

I regret to inform you that due to personal exigencies, I am no longer able to serve as PARC President.

I hereby tender my resignation as PARC president immediately.

As stipulated in the PARC Bylaws, K6JPE (Joe) is fulfilling the role of PARC President in light of the vacancy on the Board.

73 de NN3V
Charlie



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Please help us test a potential upcoming feature for our repeater site. We have a Wires-X node on 147.555. It's KK6OOZ, and we would like to invite club members with C4FM capability to use it, upload text and pictures, and report if you are able to reach it in its current location.



The equipment is set to low power. Eventually, this node may be moved in frequency to link one of our digital repeaters to the Wires-X international network. We need a simplex mapping in order to best evaluate the correct power settings and decide whether or not the node's location will work out.

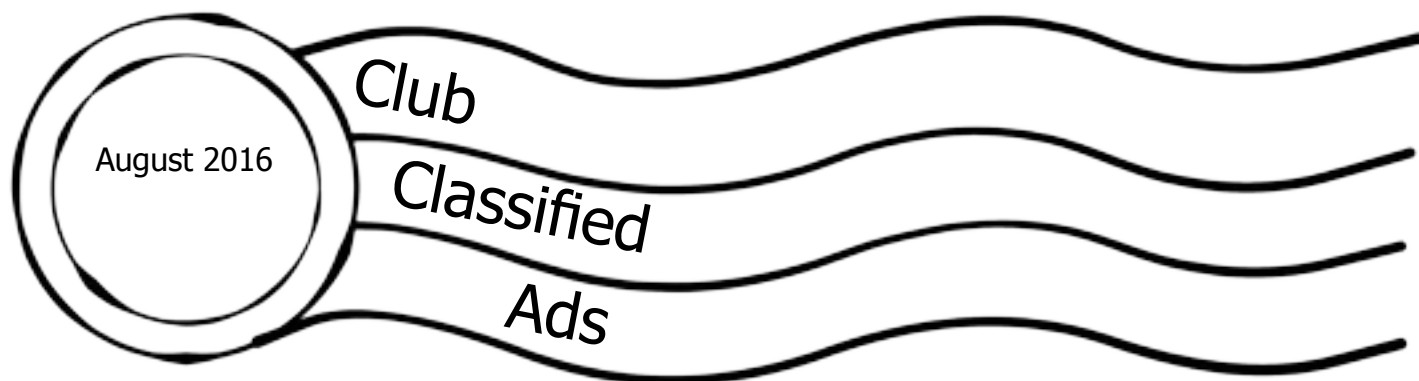
Attempt to check in and report your success to board@palomararc.org
Thank you!

The advertisement is for RF PARTS COMPANY. It features a black background with white and yellow text. At the top left is the RF PARTS logo. To the right, it says "Complete inventory for servicing amateur and commercial communications equipment". Below this, it lists "RF POWER TRANSISTORS — TUBES — POWER MODULES" and a variety of other components like diodes, relays, and capacitors. A list of specific part numbers follows. At the bottom, it lists several names and call signs, a large phone number "760-744-0700", and the website "www.rfparts.com".

Please support our advertisers. Their support of the club is vital.

[special]
THANKS
to our sponsors

PARC Field Day 2016: Lost and Found items! We have a few items picked up at cleanup after the club's FD event, including a lid to a "Rubbermaid" tote and an insulated "Camelback" water bottle. Are these yours? Come to the August meeting and pick them up!



FOR SALE!

Yaesu FT-270R -- Rugged 2m HT

5 watts RF, 800mW audio for noisy environments, submersible 30 min at 3 feet (IPX7). New condition, two months old, used once in the field. Includes packaging, documentation, etc. \$80. Email to KK6LWE@arrl.net

FOR SALE!

iCom AH4 Antenna Tuner.

Automatically tunes iCom radios HF and 50 MHz. Bought it in March at HRO for \$230 (after discount). Used very little. Yours for \$100 obo.

Bill at K6BLL@arrl.net or (619) 302-6576.

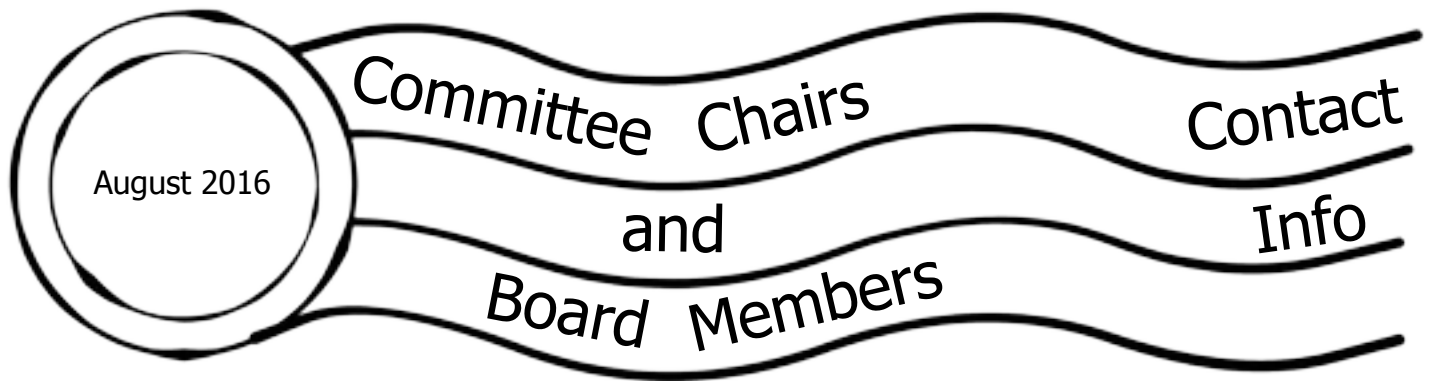
Advertisements are free for members

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

Club Members ONLY!

PARC has a tube bank that includes many 6 & 12 volt receiving tubes (and some transmitting types) for use by club members to repair their own personal equipment. Not for commercial use or resale. If we have your requests, we will pre-check the tubes and deliver them to you at the next club meeting.

Contact John WB6IQS WB6IQS@att.net



Current Board of Directors

President	Vacant	
Vice President	Joe Peterson K6JPE	(619) 630-8283
Treasurer	Tom Ellett W0NI	(858) 546-1148
Secretary	Sandy Pratt KK6EED	(858) 748-2611
Director #1	Kevin Walsh KK6FRK	(858) 722-5069 (text welcome)
Director #2	John Walker AC7GK	(949) 212-5533
Membership Chair	Glen Christensen KJ6ZQH	(858) 735-1144
Repeater Technical Chair	Mark Raptis KF6WTN	
Scope Editor	Michelle Thompson W5NYV	(858) 229-3399 (text welcome)

Not on the Board

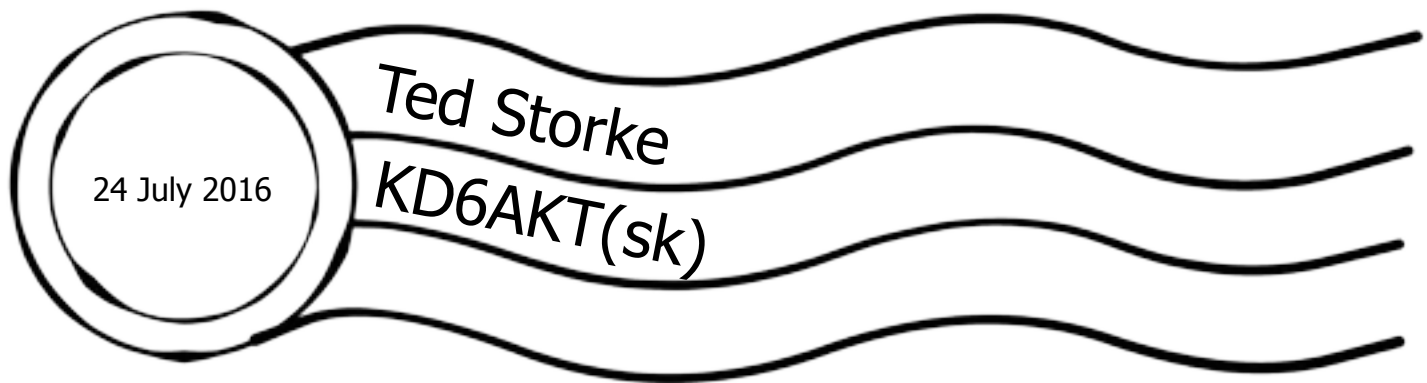
Repeater Site Chair Mark Raptis KF6WTN (acting)

The board members might have callsign@amsat.org mail aliases.

Committee Chairs

Digital ATV	open, group forming	atv@palomararc.org
EchoLink	Bernie Lafreniere N6FN	N6FN@niftyaccessories.com
HF Remote	HF Remote SIG	hfremito@palomararc.org
mesh networking	open, group forming	mesh@palomararc.org
Operating Day	Tom Martin K6RCW	k6rcw@amsat.org
SANDARC Representative	John Walker AC7GK	ac7gkjohn@gmail.com
SANDARC Representative	Paul Williamson KB5MU	kb5mu@amsat.org
SANDARC Alternate	Michelle Thompson W5NYV	w5nyv@amsat.org
SD Microwave Group Liaison	Kerry Banke N6IZW	kbanke@sbcglobal.net





Ted Storke KD6AKT suffered a stroke on Sunday 24 July 2016. He was rushed to the hospital and went into surgery a few hours later.

Damage to Ted's brain was extensive. His family and doctors made the very difficult decision to stop efforts to treat him.

I know we are all deeply saddened by the loss of Ted Storke KD6AKT. Ted was a wonderful friend to our amateur radio community and a long time PARC member. I first meet Ted almost 30 years ago via the 146.730 repeater. He was active on the repeater most of the day and serviced office buildings all over the La Jolla and Sorrento Mesa area. Since I lived in La Jolla it was always easy to connect with Ted for a lunch break. Using the repeater to connect with other hams, Ted and I soon had what has become the Friday Lunch Bunch with nearly 100 hams on the email list. Ted was all about helping new hams in any way he could. I watched him inspire and "Elmer" many many newbies. If they needed help he was always quick to lend a hand doing whatever the job required. Some of my best memories are when Ted, Harvey Hiller K6QK (sk) and other PARC members would spend a Saturday taking down a tower for the wife of a silent key. This is always a difficult and often dangerous task and Ted would work his entire day off just to help someone he hardly knew.

Ted Storke was a big hearted, generous man with a true zest for life and he lived each day to the max. He was totally selfless too. It was always about you and what's happening in your life whenever you were with Ted. I will conclude my remembrance by quoting Ted's email signature line. That was simply "Friendship through Amateur Radio" and to be sure, ham radio has lost a wonderful friend.

By: Tom Ellett – W0NI



TED AT LUNCH BUNCH, CHECKING MESSAGES.



TED AND TOM AT A PARC MEETING.



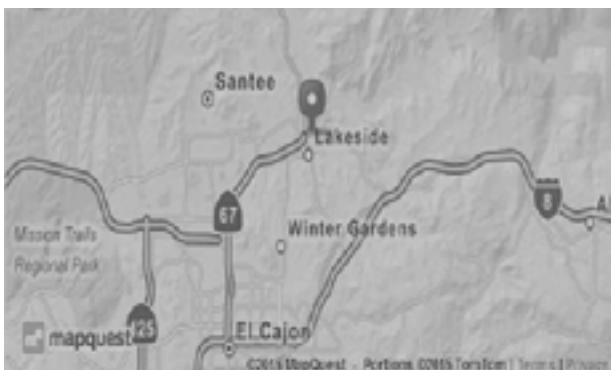


SAN DIEGO



HAMFEST 2016

DATE: OCTOBER 1, 2016



SPONSORED BY: LAKESIDE AMATEUR RADIO CLUB
VISIT US AT: WWW.LAKESIDEARC.ORG

**Like us on
Facebook!**



Time: 7AM—3PM

6AM “Old Radio Trade Show”

Old Radio Trade Show In parking lot !

Ham Fest Cost: \$5.00

Old Radio Trade Show “\$5.00 To Show”

Location:

Lakeside Rodeo Grounds

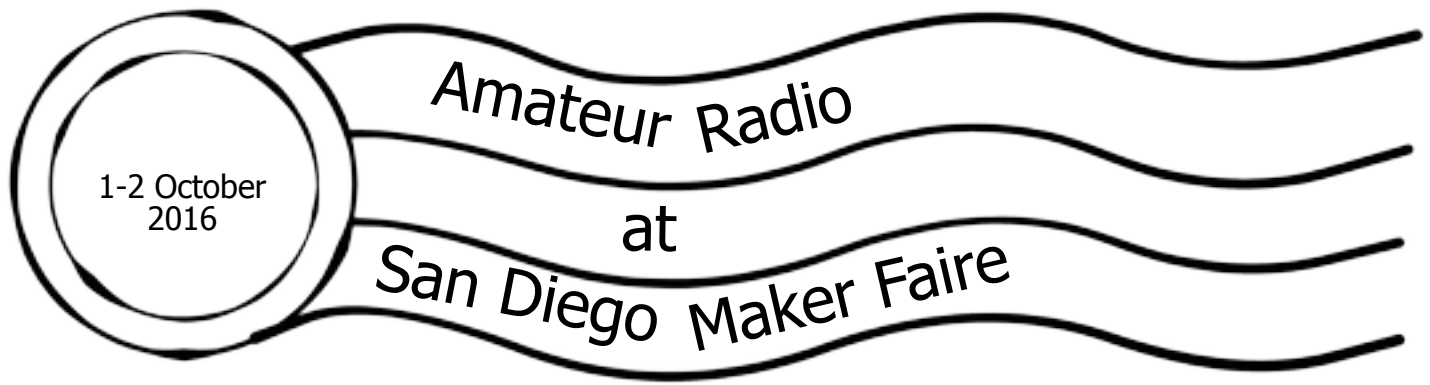
12584 Maplevue St. Lakeside CA.

Free Parking and Antenna Friendly.

***You are cordially invited to attend the
2nd Annual San Diego Hamfest 2016. We
plan on starting out the day with a Old
Radio Trade Show, Vendors,
Speaker Forums, and VE Testing.
So come on out and let's Ham it Up!***

**For the most up to date information
please visit: www.SDhamfest.org**

QLS/SDHAMFEST2016-ver1.0



Maker Faire San Diego, a celebration of the Maker Movement and the do-it-yourself culture, returns to Balboa Park October 1-2. With air rockets, robots, towering sculptures, and a world of virtual reality, San Diegans are invited to be creative, engage some amazing technology, and get their hands dirty.

Early bird tickets for Maker Faire San Diego are on-sale now! Adult prices start at \$15. Children prices start at \$10. Admission includes entry to participating venues. To purchase tickets on the newly redesigned website, visit www.sdmakerfaire.org.

The Balboa Park Cultural Partnership and San Diego Makers Guild will partner with the City of San Diego to put on the event showcasing innovators and creators. Part high-tech science fair, part-county fair, part something entirely new, Maker Faire is an all-ages gathering of tech enthusiasts, engineers, artists, scientists, cosplayers, and more. Makers will be sharing, showing, and making awe-inspiring creations that are practical, built for fun, or constructed just to push the limits of imagination and technology. All of these makers come to Maker Faire to show what they have created to a community that fearlessly celebrates innovation, creativity, and learning-through-doing.

Over 10 institutions in Balboa Park will be participating in this year's Maker Faire San Diego:

- Japanese Friendship Garden
- Museum of Photographic Arts
- Reuben H. Fleet Science Center
- San Diego Air & Space Museum
- San Diego Automotive Museum
- San Diego Hall of Champions
- San Diego History Center
- San Diego Model Railroad Museum
- San Diego Museum of Man
- San Diego Natural History Museum
- The Old Globe

WHAT IS MAKER FAIRE:

Maker Faire is an award winning, family friendly event celebrating technology, education, science, arts, crafts, engineering, food, sustainability, and more. Maker Faire has become part of pop-culture, a place for experiential marketing, debuting new technologies and inventions, and celebrating geekdom. Maker Media produces two annual flagship Maker Faires, partners with museums to produce Featured Maker Faires, and works with communities to license Mini Maker Faires around the world.

MAKER FAIRE SAN DIEGO:

Maker Faire San Diego is a festival of invention, creativity and resourcefulness, and a celebration of the Maker Movement and Do-It-Yourself Culture in the San Diego Region. Unique from other Maker Faires, MFSD will incorporate all of Balboa Park in what is being called an "outside-in" model to include Maker exhibitions within the museums as well as throughout the Balboa Park.

HISTORY OF MAKER FAIRE:

The first Maker Faire launched in May 2006 in the San Francisco Bay Area and was quickly followed by Faires in Austin, Detroit and New York City, as well as others around the world. Technology has

lowered the barriers to becoming a Maker and this has launched the Maker Movement, which fuels Maker Faire. Maker Faire was designed to be forward-looking, showcasing Makers who are exploring new forms and new technologies. But it is not just for exhibiting what is new in technical fields - Maker Faire features innovation and experimentation across the spectrum of science, engineering, art, performance, and craft.

WEBSITE: <http://sdmakerfaire.org/>

FACEBOOK: <https://www.facebook.com/SDMakerFaire>

TWITTER: <https://twitter.com/SDMakerFaire>

INSTAGRAM: <https://instagram.com/sdmakerfaire/>

ABOUT SAN DIEGO MAKERS GUILD:

The San Diego Makers Guild is a nonprofit that is committed to fostering the maker community and to promoting, showcasing, and encouraging adoption of making by individuals and public and private institutions, with the goal of advancing education, innovation, commerce and lifelong learning. Our vision is to help develop San Diego into a nationally known maker city. Learn more at www.SDMakersGuild.org.



So where does amateur radio fit into to Maker Faire? Plenty of places! One of the most recognizable amateur radio installations has been Not Your Grandfather's Ham Radio. Members of the San Bernardino Microwave Society have anchored this interactive, engaging exhibit for the past several years.

San Diego Microwave Group fielded an excellent interactive demonstration with 10GHz transmitter hunting at the 2015 San Diego Maker Faire. Amateur radio demonstrations by PARC members were an appreciated attraction at the 2013 San Diego Mini Maker Faire.

For 2016, San Diego Microwave Group has applied for space at San Diego Maker Fair. Contact Kerry Banke N6IZW at kbanke@sbcglobal.net in order to help demonstrate amateur radio to as many of the the 15,000 people expected at Maker Faire this year!

Participants at Maker Faire are interested in building, learning, and doing things with technology. The spirit is positive and can-do. The crowd is young and dynamic. The event is a full two days. Setup and teardown times are more than generous for radio demonstrations. Amateur radio is a big part of the maker movement. Come help show it off this year!





Field Day 2016 is complete. The equipment has been taken down taken home or returned to storage. The hams have gone home, rested and cooled off. The field has been returned to the squirrels and mice. The QSOs have been counted, multipliers applied, bonuses added up and the final package submitted to the ARRL.

I will start with the numbers that matter most to the future of ham radio. There were 89 unique sign-ins during the weekend. There were 35 who signed in as a guest, and 10 of those did not have a call sign. We had 31 GOTA contacts between 5 different operators. Some were not licensed. Some were newly licensed. We had a young (under 18) operator at 20m SSB. We also had some newer or less active operators spend some time at the main stations.

We did well on bonus points. Our friends in Valley Center helped us to get some excellent coverage in their local papers, both before and after the event. The site was visited by both elected officials and served agency officials. We handled one NTS message. We made 6 natural power QSOs. We had one youth operator make QSOs. There were points for maintaining a social media presence. We also got the bonus points for the easy stuff: emergency power, public location, information table and for submitting the Field Day entry through the ARRL's web tool. Altogether, we got 1080 bonus points.

For this year's Field Day, we went with a 3A setup. We ran a 20m/80m SSB station, a 15m/40m SSB station, and a CW station that ran 20m/40m/80m. The sun was not very helpful this year. The propagation on 15m was terrible. As a result, the 15m/40m SSB station spent nearly all of its time on 40m. Because GOTA was also largely stuck on 40m, this required some cooperation to get the most out of what we had.

Of course, for many the meat of Field Day is the QSOs. Operating and making contacts is at the heart of Field Day. Our CW station did a great job, making 845 QSOs for 3380 points. The SSB stations combined for 947 QSOs (including GOTA and VHF+) for an additional 1898 points. There was also one digital/microwave QSO (AREDN) for 4 more points. That makes a total of 5278 points for QSOs. The end result, if I have this all right is 6358 points. Given the difficult band conditions this year, I expect we will place similarly in 3A this year to how we placed in 4A last year. Not a bad showing for all the fun we had.

There was much that went very well. Starting setup Thursday evening instead of waiting until Friday seemed to work out well. Volunteers did turn up to get the towers and antennas placed and ready for Friday assembly and setup. It helped spread the heavy lifting, so Friday was easier. It also made an extra day of camping for the most dedicated campers on the team. Running 3A seems to have been a good choice. The 15m band was nearly dead, so a 10m station would have been nearly useless. The single CW station was active for the full 24 hours, and ended up making contacts on 20m, 40m and 80m. In fact, the CW station accounted for nearly as many contacts as the 2 voice stations together.

There were things that could be improved, but nothing that went badly. We didn't try for any satellite contacts. Art McBride KC6UQH (SK) had a fantastic satellite setup that he brought out to many Field Days. It doesn't necessarily require that much of a station though. A satellite station does not count against the station class, so anyone trying anything for a satellite contact is worth the effort. If we try and fail, it counts exactly the same for points as if we don't try. The difference is, we tried.

We didn't take full advantage of the points for NTS traffic. We can get an extra 200 points for 10

NTS messages and an NTS message to the ARRL Section Manager. Being an "NTS captain" is a good opportunity for someone who wants to be a Field Day contributor, but maybe isn't ready to be a station captain. I also don't believe that we managed to copy the ARRL Field Day message. This shouldn't be too hard, but does require someone (or someones) to take responsibility. Since it's a listening operation, it doesn't necessarily require one of the main stations to take it. There are bonus points for having a safety officer and ticking off items on a safety checklist. While we didn't have any safety issues at Field Day this year, the checklist has a couple of requirements that are challenging to achieve. (I still haven't figured out the point of having an AED certified person on site for the full duration, when you aren't required to have an AED for them to use.) There is certainly no harm in improving upon our safety practices.

Giving thanks is difficult at best. I could do the Academy Awards thing, and just go on until the music drowns me out. Many, many people helped. A few were a huge help. Many others helped as they were able. I want to thank everybody who helped. All those little things are needed as much as a few big things. There WERE a few real stand-outs though, and I have to give mention to them. Mark Raptis KF6WTN and Glen Christensen KJ6ZQH worked hard to make Field Day a success. I'd say they worked tirelessly, but they were definitely tired. Joe Filice KQ6GL signed on to help me with my station, but went all the way with setup and teardown. He was with me as the last people to leave the site and close the gate. Still, Mark and Glen and Richard Thompson KJ6WUY were still fitting equipment into PARC storage while Joe and I were driving home.

Also thanks to the station captains. Charlie NN3V, Mike Binder NA6MB and I (Brian AG6CF) set up and managed the main stations. Jim Cooper NE6O did a fabulous job as GOTA captain. His hex beam and 40m magnetic loop made nice showpieces, besides helping GOTA to get out. Glen Christensen KJ6ZQH captained the information table, and several people took turns staffing the table. The ARTTT guys showed off their trailer, made a few VHF+ contacts and provided a misting station to help keep people cool. I also managed to keep our site marked on APRS from Thursday evening right through the end of operations on Sunday. If you go to aprs.fi and search for W6NWG-6 you will be directed to my final "Off Duty" beacon from 11:49 Sunday. Interestingly, it appears that the signal went through a digipeater on Keller Peak, to another in Tijuana and finally to an igate in Rancho Penasquitos.

I also have to give huge thanks to Gina Roberts N1OW for getting us the site, and for bringing out the Psycho Kitchen again. As an organizer, it is very nice to be able to send an email saying, "Are you totally self-sufficient, or is there anything else you need? My guess is you've got it covered. I just prefer not to guess." and getting a response saying, "Your guess is correct and confirmed!" That is one whole big piece of the event that could just be put in the "don't worry about it" bucket.

Field Day 2017 will be June 24-25!

A note on GOTA scoring – The scoring for the "Get On The Air" station is not complicated, but can be confusing. You may have noticed that there are no "bonus points" listed for the GOTA station, and wondered about it. To get bonus points for GOTA, and single operator has to make 20 QSOs. If they do, then we get a 20 point bonus. If we have a dedicated "GOTA coach", that is doubled to 40 points. Since no GOTA operator made the full 20 contacts, we don't get any bonus points for GOTA.

So, "What the ???," you may ask. (I did.) It turns out we do get credit for GOTA QSOs, as "just QSOs". That is, we get 1 point each for the GOTA SSB QSOs, multiplied by 2 for operating Field Day at 150 watts or less. That means that our 31 GOTA QSOs get us 62 points toward our total score.

DYLAN WITH GAYLE, K6GO. DYL'S MY 13 Y/O GRANDSON WHO RODE UP WHILE I DID SOME 20M CW RELIEF STINT.
PAUL WN6K



PUBLIC INFORMATION TABLE WITH HANDOUTS, CLUB PRESIDENT, CLUB MEMBERSHIP CHAIR, AND SIGN-IN SHEETS.



GEORGE R HXC KN6BNK
 MARIA LEPPER ABP FAMILY
 RD 1 BOX GEORGE CIRCLE
 VERMILION BEACH VA 23462
 157 462 2480 LEPPER@VAHOT.COM
 BT
 ARL FIFTY ONE PROPOSED ARC
 FIELD DAY 2016 X UPGRADED
 MEMBER BRED LICENSE TO EXTRA
 CLASS X TEST AND I
 ARE WELL X 73 99
 BT
 YOUR BROTHER BOB KN6BAX
 AR
 From D.A. Time (UTC)
 Paul KN6BNK 15:40:00 15:40:00 (By hand)
 Sent KD6YJB 15:40:00 15:40:00 (306 NTS Net)
 26 Jun 2016 0218

ABOVE, NATIONAL TRAFFIC SYSTEM MESSAGE FOR FIELD DAY.

LEFT, PAUL WN6K WORKS CW

BELOW, 40M STATION WORKING HARD!

PHOTOS BY SANDY KK6EED UNLESS OTHERWISE INDICATED. THANK YOU SANDY!





Psycho Kitchen
brought to you
by Gina



Brian Tagg receives Elmer
Award for Field Day efforts



Jo, Toby, and Mike at Field Day,
by Dave Hightower.



May 2016 PARC Meeting

May 2016
Photos by
Sandy KK6EED

Watch this and other recorded presentations on PARC's YouTube channel:
<http://palomararc.org/youtube>



For our May 2016 PARC membership meeting, Eric J. Goforth, N6GOF presented on APRS.

Developed in 1984 by Bob Bruninga, WB4APR, the Automatic Packet Reporting System (APRS) was designed to track Naval Ship movements over HF. Since then; it has developed into a comprehensive data network for Amateur Radio.

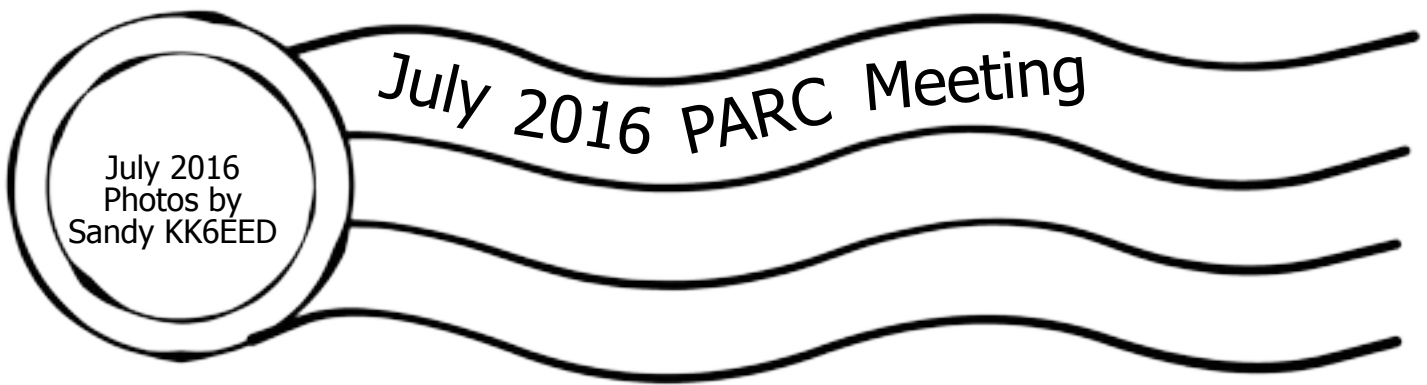


This presentation provided a wealth of information on:
 How the Network Operates.
 Types of information that you can disseminate.
 Equipment Types
 RF and IS relationship
 How you can participate
 The ARISS relationship
 Use Cases
 Special Event, Disaster and SAR Operations

Eric J. Goforth, N6GOF, was licensed in 1998 and holds a General Class license. He is the trustee of the N6GOF-5 iGate in Ramona, CA and deployed numerous digipeaters in the Southern California area. With over 25 years in the technology industry; he is the founder and lead developer of the APRS to Telegram gateway software, a Certified Bitcoin Specialist, Founder of Telebit.org and Chief Technology Officer of CityTwig.



Along with a brief presentation, Eric & Joseph Peterson, K6JPE, demonstrated APRS.



Watch this and other recorded presentations on PARC's YouTube channel:
<http://palomararc.org/youtube>



Our July PARC presenter was Joe Moell K0OV, who spoke about radio direction finding and transmitter hunting.

It began at ARRL conventions in the 1930s as hams used crystal diodes and headphones to detect and locate hidden radio transmitters. Now it's a regular ham radio activity that everyone in the family can enjoy either on foot in a neighborhood park or in the family car on the streets and highways. Learn about the many ways that you and your fellow hams can have fun with radio direction finding (RDF) in this presentation, and find out how transmitter hunting technology has progressed in the last 80 years. You may already have or can easily make all the equipment you need to join the fun. Keep at it and you might join the hams who have won medals at international championship hunts in recent years.

Joe Moell K0OV has written for almost every ham radio publication and designed many new devices for RDF. His book "Transmitter Hunting Radio Direction Finding Simplified" is the definitive text on RDF for hams, and he has written over 250 magazine articles on RDF topics. In addition to being a Technical Advisor to RDF to ARRL Headquarters, he serves as ARRL's ARDF Coordinator and oversees the yearly USA ARDF Championships. He also moderates the annual CQ Worldwide Foxhunting Weekend. For more information on transmitter hunting, visit Joe's "Homing In" site at <http://www.homingin.com>

Jim NE6O received an Elmer Award at the July PARC meeting for his efforts at Field Day GOTA



Boy Scouts present the colors at the July PARC meeting.





Kevin KK6FRK awards a radio to a newly licensed scout at the July PARC meeting.



What is Oceanside CERT?

Following a major disaster, first responders who provide fire and medical services will not be able to meet the demand for these services. Factors such as number of victims, communication failures, and road blockages will prevent people from accessing emergency services they have come to expect at a moment's notice through 911. People will have to rely on each other for help in order to meet their immediate lifesaving and life sustaining needs.

CERT is about readiness, people helping people, rescuer safety, and doing the greatest good for the greatest number. CERT is a positive and realistic approach to emergency and disaster situations where citizens will be initially on their own and their actions can make a difference. Through training, citizens can manage utilities and put out small fires; treat the three killers by opening airways, controlling bleeding, and treating for shock; provide basic medical aid; search for and rescue victims safely; and organize themselves and spontaneous volunteers to be effective.

In 2005, the Oceanside Fire Department started the community's CERT program. The program was initially funded by a County grant and supported with a small budget from the Fire Department. After much planning and work, the 1st class was delivered in the Fall of 2005 and it graduated about 25 citizens.

Since then, the program has grown to support a volunteer organization called Oceanside CERT which now has an elected board of directors to oversee and manage the group. Oceanside CERT recently obtained its 501.c3 non-profit tax status. The Fire Department serves as the program advisor to the group and as the sponsoring representative to the San Diego County CERT Council.

The program now has over 300 trained community members and City employees. About 125 of these dedicated volunteers are active members that continue to attend quarterly training sessions and participate in various community fairs and PR opportunities.

The Community of Oceanside has a population of about 180,000 and is approximately 42 square miles in size.

Oceanside CERT is authorized by the Oceanside Fire Department, the San Diego County Unified Disaster Council, and the San Diego County CERT Council.

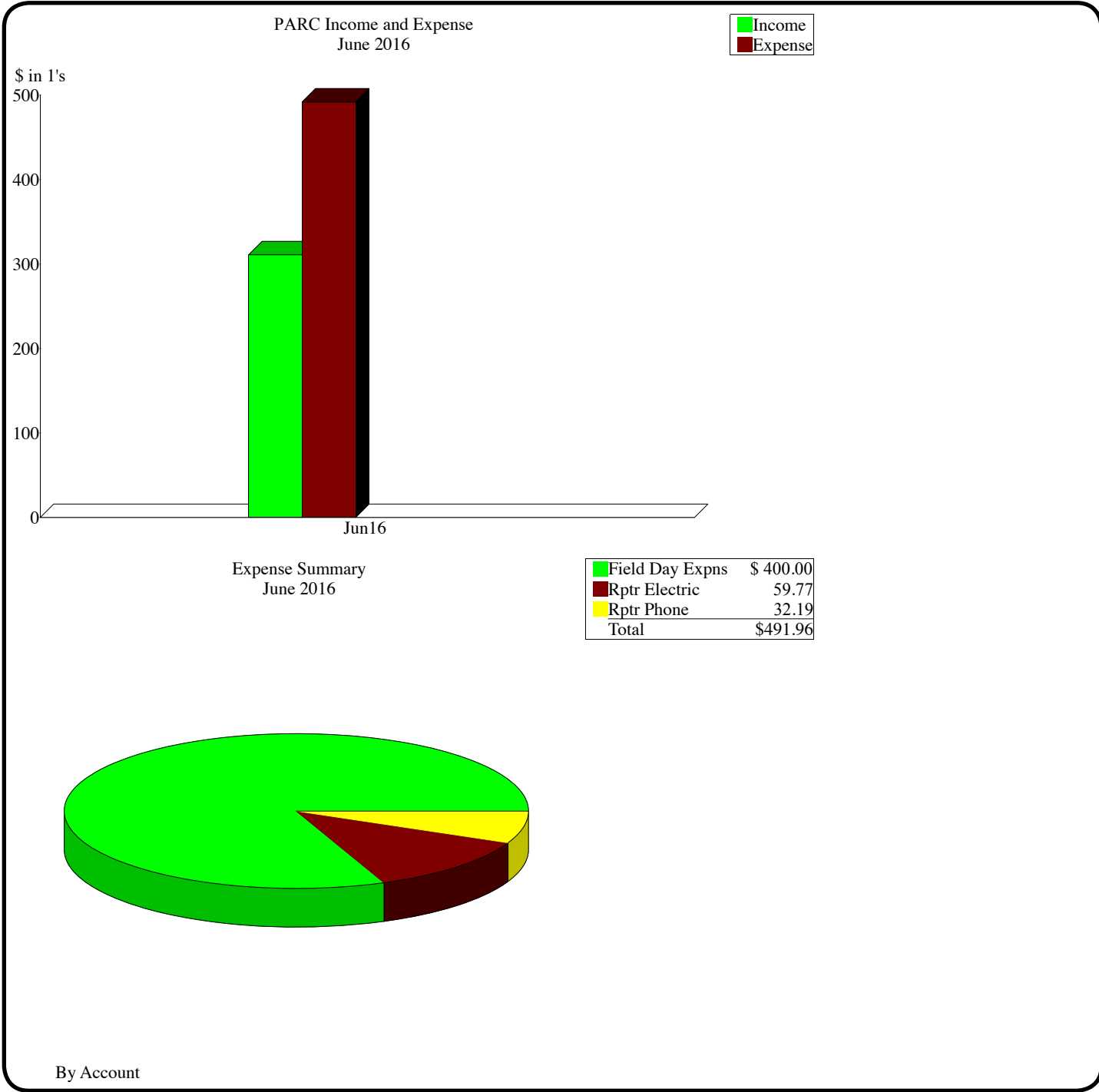


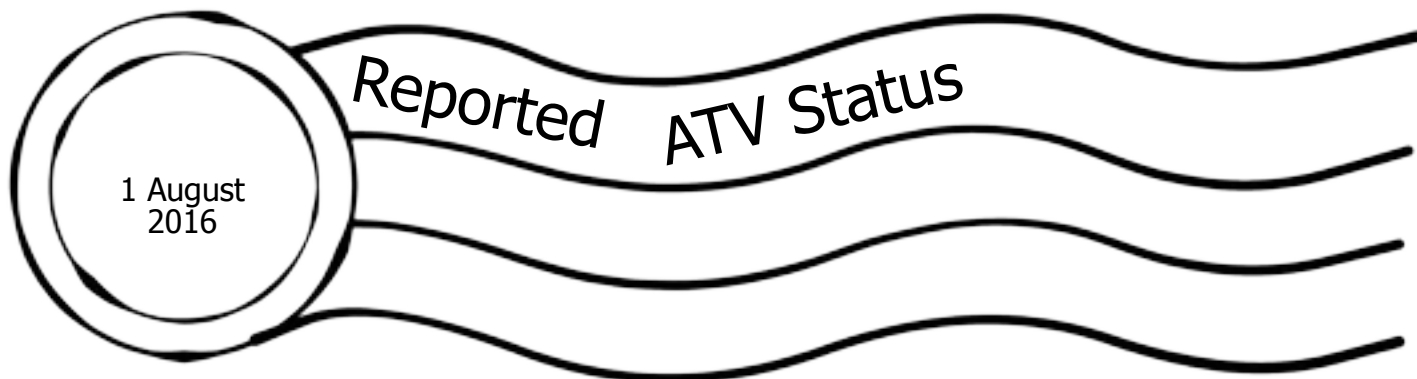
OCEANSIDE CERT'S NEXT ACADEMY IS OCTOBER 6TH, 8TH, 13TH, & 15TH (THURS & SAT). ATTENDANCE ALL 4 DAYS IS MANDATORY FOR GRADUATION.

<http://www.oceansideCERT.org>

15 June 2016

Club
Financial
Update





ATV system renovations have begun!
Contact board@palomararc.org if you
want to be involved.

At a minimum, upgrades to include
DVB-T transmission, ATN linking,
and substantially reduced cost and
complexity to enjoy this mode.



PARC
ATV
System

915 MHz WBFM in
5.8 MHz audio subcarrier

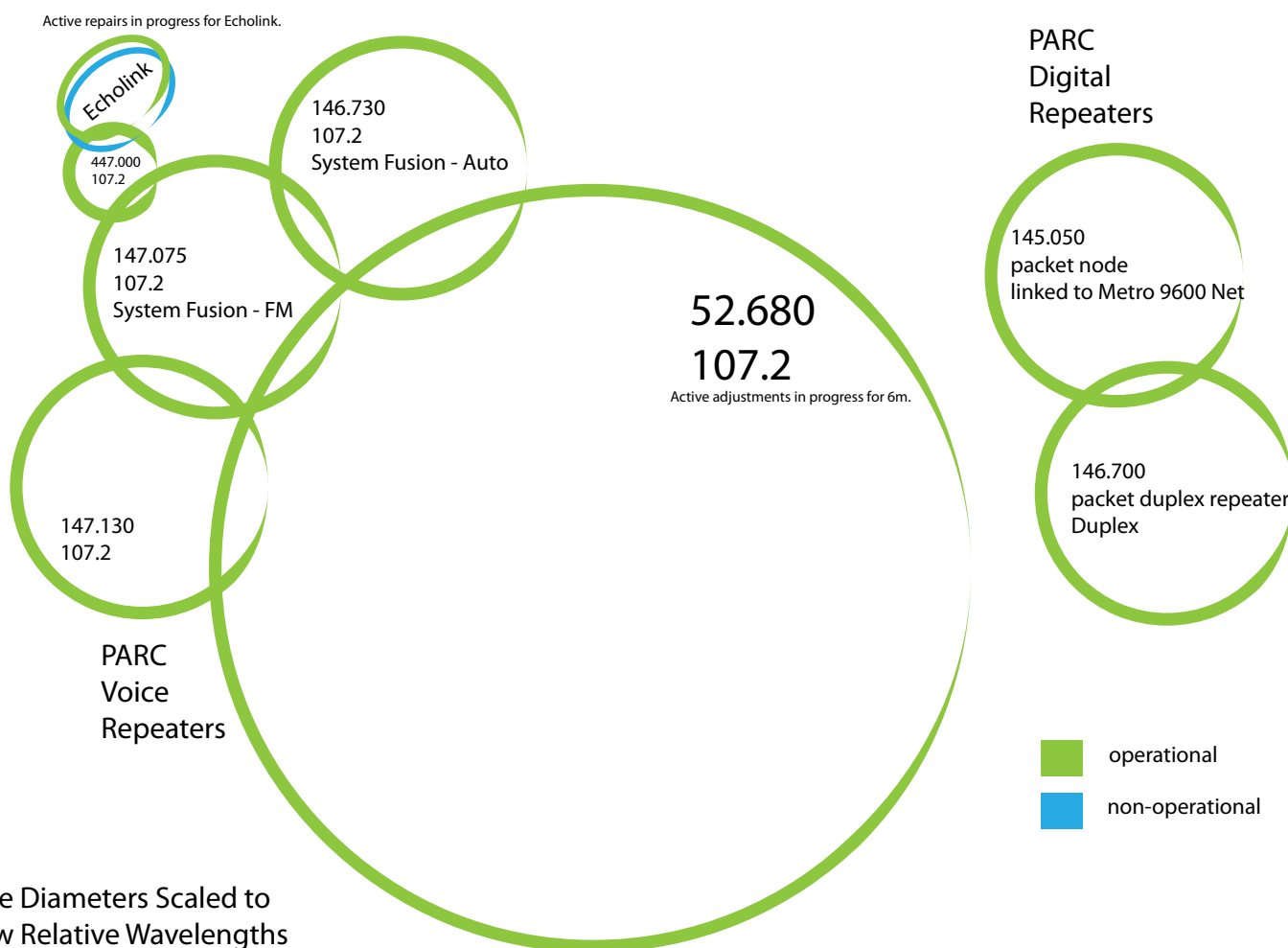
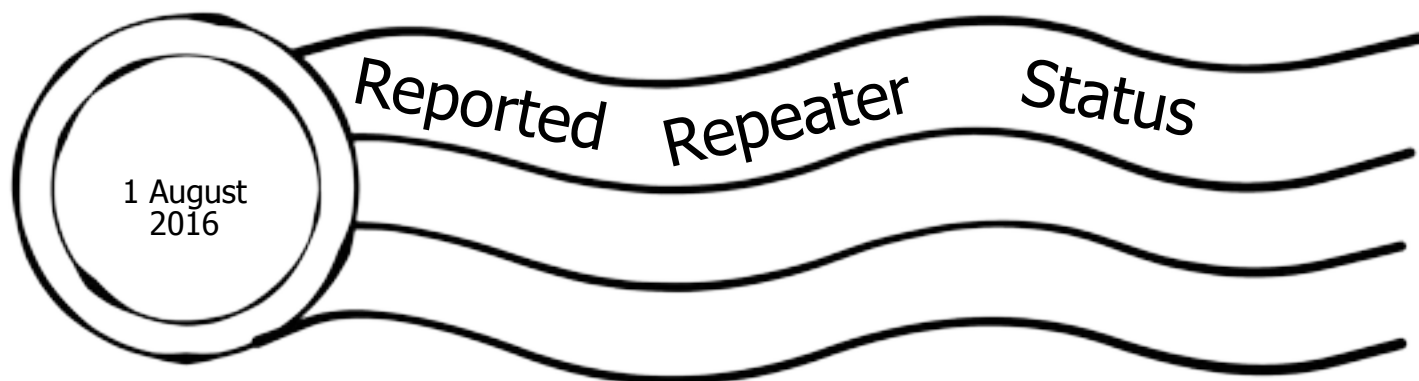
146.415
79.7
intercom

1241.25 MHz VSB out
NTSC standard

2441.5 MHz WBFM in
6.0 MHz audio subcarrier

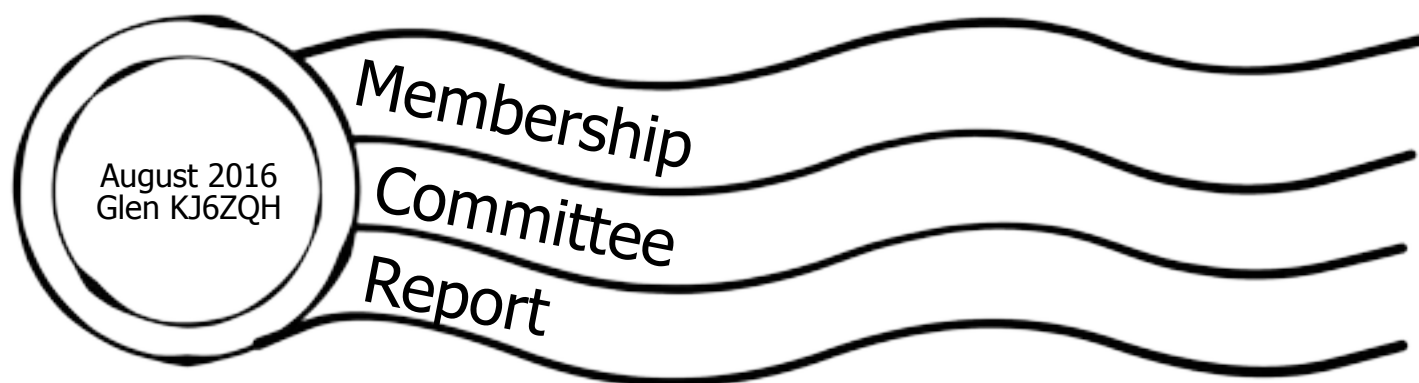
 operational
 non-operational

Circle Diameters Scaled to
Show Relative Wavelengths
Between Equipment



The 6m repeater has been repaired! Some additional work remains to fully tune the repeater, but essential functionality has been restored after a 3+ year hiatus. Thank you to Mark KF6WTN, John WB6IQS, the PARC board of directors, and our 6m cavity donor.

Try it out and send your reports to board@palomararc.org

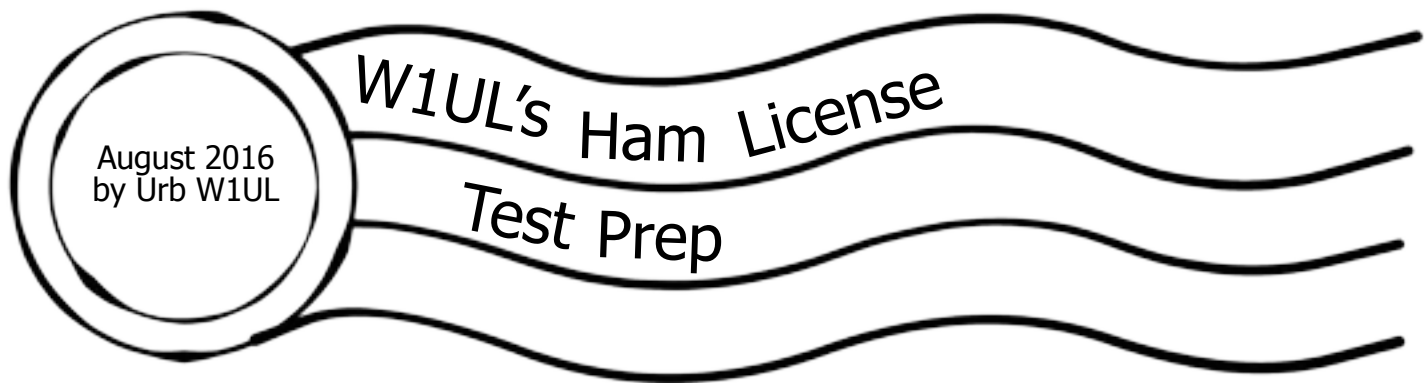


From the Membership Table

You can check the status of your membership 24/7 at [Member List](#) (or go to the club's website and navigate to Join and click on "here" at the top of the page. Enter your call sign into the box and click the "Look up my membership status now" button.

To renew your membership or extend your membership, fill in the form on the Join page. Make sure you select the correct value from each of the drop-down menus (Type of Membership, How many years, I'm an ARRL Member, Newsletter option and License Class). If you want to receive an email when your membership is coming due for renewal, please make sure that I have a valid email address for you. To do that, please send an email to Membership@palomararc.org.

Callsign	Membership Expires				
AB6O	04/04/16	KG6TFL	02/04/16	KK6UYP	07/01/16
AE6HF	06/27/16	KG6TTZ	11/20/15	N6ERD	03/04/16
AG6EK	03/04/16	KG6UTS	05/19/16	N6ISC	07/28/15
AI6KO	12/13/15	KG6VVN	01/07/16	N6IZW	08/23/16
K0CSD	09/02/16	KG6ZUW	06/28/15	N6MDU	07/18/16
K1NJH	06/03/16	KH6GK	03/23/16	N6MXD	05/26/16
K2RP	08/24/16	KI6AUP	06/29/16	N6NAU	07/28/15
K6DRH	09/30/15	KI6DBL	03/07/16	N6TBA	06/25/16
K6GOR	03/01/16	KI6KJG	04/01/16	N6XDX	08/01/16
K6ISS	10/03/15	KI6SBQ	01/08/16	NA6DC	04/04/16
K6JQE	08/04/16	KJ6KDM	09/03/15	NB0X	07/01/16
K6JXY	07/18/16	KJ6KGH	08/01/16	NE6AA	07/07/16
K6OT	02/04/16	KJ6KLJ	02/03/16	NE6O	09/01/16
K6RRP	08/28/16	KJ6QQD	05/05/16	NN6X	06/30/16
K6SC	02/13/16	KJ6YPR	08/06/15	NU6L	08/17/15
K6WJH	06/27/16	KJ6ZBQ	03/13/16	W6ACU	09/24/16
K7ELH	03/11/16	KK6CTF	07/31/15	W6ADF	03/18/16
KA6OYD	09/24/16	KK6DRA	05/16/16	W6HDG	08/07/16
KB6CPZ	07/28/15	KK6EED	09/05/16	W6JBR	07/05/16
KC6HUK	03/06/16	KK6GHF	03/04/16	W6KE	07/28/16
KC6UQH	07/28/16	KK6GO	06/04/16	W6OYJ	08/25/16
KC6YSO	11/05/15	KK6IJN	01/07/16	W6RLC	07/28/16
KD1BD	08/16/16	KK6JDM	02/09/16	W6XM	08/23/16
KD6AEB	09/25/15	KK6LJ	06/04/16	W6YOO	07/28/16
KD6YJB	07/28/16	KK6LNV	02/02/16	W9BOI	02/06/16
KE6NPL	06/11/16	KK6MTF	07/31/15	W9UVZ	08/07/16
KE6PHE	07/28/16	KK6MZF	06/28/15	WA6ALW	03/04/16
KE6ZLX	08/28/16	KK6NLS	08/16/16	WA6GYG	08/28/15
KF6SMB	08/28/16	KK6QOS	12/16/15	WB6UIR	11/05/15
KF7SJE	09/24/16	KK6RIP	02/09/16	WB8BHE	07/28/16
KG6MDQ	03/16/16	KK6RRW	03/21/16	WB9COY	07/03/15
KG6OMH	09/11/15	KK6RWK	02/14/16	WD6FZA	11/05/15
KG6QWR	05/09/16	KK6TNO	05/09/16	WN6K	09/04/16
KG6RLA	09/07/16	KK6TYQ	06/03/16	WQ6V	10/15/15
		KK6TYY	05/30/16	WX6AAA	08/07/16
		KK6UFP	05/24/16		



Introduction

My high school physics teacher, Fr. Laurence Grassman, Ph.D., OSB is still a force of nature in my life. I knew the first day of class that Fr. Larry's Physics class was going to change life as I knew it. In the front of the classroom was a giant picture of Albert Einstein emblazoned with "Problems cannot be solved with the same mindset that created them." Another Einstein poster simply stated, "Any non-trivial problem has multiple solutions, we are therefore looking for the best solution not simply 'a' solution." Fr. Laurence (Benedictines are called by their first name) – problem solving paradigm was simple.

- Clearly define the problem. A problem well defined was a problem half solved.
- Define the desired results when the problem is solved.
- Ignore "conventional wisdom" and be creative during the problem solution phase.

Ham Cram Phase One

Don't Waste Time Studying Incorrect Answers

About six years ago I became the VE Coordinator for the Old Barney Amateur Radio Club (OBARC) in Southern New Jersey. After completion of a testing session I invited successful candidates to stick around for the club meeting and the club offered them free membership for a year. This grew new membership than anything else the club was doing. In 2015 the club had 12 new members, 10 came from the VE test sessions.

During the period following the actual tests and the beginning of the meeting I would chat with candidates about their experience with the test. A surprisingly large number said something resembling, "I recognized an answer but couldn't remember if it was a correct or incorrect answer." Harkening back to Fr. Laurence's problem solving paradigm the problem was confusion between the correct answer and the distractors. The wrong answers on a multiple choice test are called distractors for a reason. The solution goal was to eliminate the confusion.

The conventional license preparation websites modality is to keep taking practice test composed of questions and all four possible answers from the entire question pool. Thinking "outside the box" on this one was easy. Don't waste time and risk confusion studying incorrect answers. The first version of the W1UL Ham Cram eliminated incorrect answers in study mode. A candidate selects one or more subelements and the system list them as:

Question one

Correct answer to question one.

Question two

Correct answer to question two, and so on.

My then 11 year old grandson Will W3WKV was my first beta tester and aced the technician test.

There is a very subtle but highly significant difference between the one answer method and the four

answer version. With four answers the student has to memorize the correct answer from a grouping of four answers. With the one answer version the student only has to establish an association between the question and the correct answer. Making associations is much easier and infinitely more effective than memorization.

By FCC decree the question pool for each class of test must contain at least two times as many questions as appear on the actual test. Each class of license has five different tests which the VE team selects at random during a VE session. The Technician and General test have 35 questions for a total of 175 questions. The Extra tests have 50 questions for a total of 250 questions. There are currently 412 questions in the Technician pool, 461 in the General pool and 705 in the extra pool.

There are at least 20 different website offering practice exams including, QRZ.com and ARRL.org to name a few. These practice tests are much the same with some occasional nice feature such as retesting on questions a candidate misses or skips. They all use the entire question pool. The next problem to be solved in the evolution of the W1UL Ham cram was could we come up with a way of NOT using the entire question pool?

Ham Cram Phase Two, Don't Waste Time Studying Questions Not Likely to be on the Test

I have a PhD in computer science and taught at Stockton State University for many years. One of my research areas of interest, in addition to creative problem solving, is Artificial Intelligence (AI). I have substantial experience writing Artificial Intelligence programs. Emulating human behavior is a relatively easy thing to accomplish in an AI program. The questions in the test pools are created by human beings as are the questions in the pool that make it to the various tests. Using these AI skills I developed a program which selects a group of questions likely to appear on the actual tests. The program typically selects about 150 questions from the Technician and General pools and about 200 questions from the Extra pool. The AI program is complemented by a panel of five experts, who collectively have over 150 years of ham radio experience and all possess Extra licenses. These experts manually select additional questions they deem likely to appear on the test. Expert Mode is the question pool used with for the W1UL ham cram. The results are shown in Figure One below. The first data row shows the number of questions in the pools. The second row is the number of question assuming there are no duplicates in the actual VE tests. The third row is the number of questions from the overall all pools that are used in the W1UL ham cram.

	Technician	General	Extra
Pool Questions	412	461	701
Questions On Tests	175	175	250
Expert Mode Questions	199	203	305

Figure One

My then 12 year old grandson Will W3WKV and my wife Pat W2PKV were the first beta testers they only studied correct answers and the reduced question poo and both aced the General test.

To the best of my knowledge all other practice test websites use the entire question pool. The difference in required study time between the W1UL Ham Cram website and other preparation sites is dramatic since the W1UL Ham Cram candidate studies less than 50 % of the questions in the pool and only 25 percent of the available answers. How much study time is required? Study times varies greatly depending upon such factors as background, study habits and test taking experience to name a few. The required study times reported by the highly rated Ham Test Online and the W1UL Ham Cram are shown in Figure Two below.

	Ham Test Online Hours	WIUL Ham Cram Hours
Technician	10	4 to 6
General	20	5 to 7
Extra	30	8 to 12

Figure Two

It should be noted that Ham Test Online charges \$24.95, \$29.95 and 34.95 for the Technician,

General and Extra study registrations.

Is the W1UL Ham Cram method for everyone? Absolutely not! If you really want to learn the material, get the ARRL Handbook and an appropriate license class manual and start studying. If you want to get your target license with the minimum amount of studying possible, the W1UL Ham Cram is the object of your search. After you get your license, get on the air, join a club and get a mentor and learn what aspects of ham radio interest you with "on the job training."

To date, the W1UL ham-cram.com has served up over 40K test preparation sessions and is increasing at a rate of over 1,000 prep sessions a week.



Standing left to right Norm W2NRS, Urb W1UL, Frank KA2UFP and Skip N1IBM. Seated Frank WA3FA on the night he passed the Technician, General and Extra licenses at the same VE session. Of course Frank prepped using ham-cram.com



My then 11 year old grandson Will W2WKV. He aced the Tech test at 11 and aced the General test at 12. Will used ham-cram.com to prep for both tests.

Ham Cram Phase Three W1UL Ham Cram Version 2.0

Ham Cram Version 2.0 will represent a substantial increase in user features and flexibility. The systems analysis and database structure are virtually finished. Programming will begin shortly.

The basic study sessions and practice tests, which are the lifeblood of the site, remain unchanged. A major enhancement give the candidates' the ability to track their results while they pursue their quest for a ham radio license or an upgrade to their current license. One of the major features of Version 2.0 upgrade is the ability to create a practice test containing only questions which were previously answered incorrectly or not answered at all.

Two historical reports to be added are the listing of all study sessions showing the date of the session, subelement(s) covered and elapsed time. The second progress report lists practice test taken, subelement(s) covered, length of time to take the test, score, questions correct, questions incorrect and questions skipped.

The new version also features a monthly newsletter and random drawings for free ham gear.

If you have any ideas for enhancements to the ham cram website please use the feedback form on the website. <http://ham-cram.com/contact/feedback.php>

Your suggestions are greatly appreciated.

I almost forgot, the W1UL ham cram system is FREE.

Good luck and I would appreciate your feedback.
Urb W1UL, urb@w1ul.com 609-937-5487

Links:

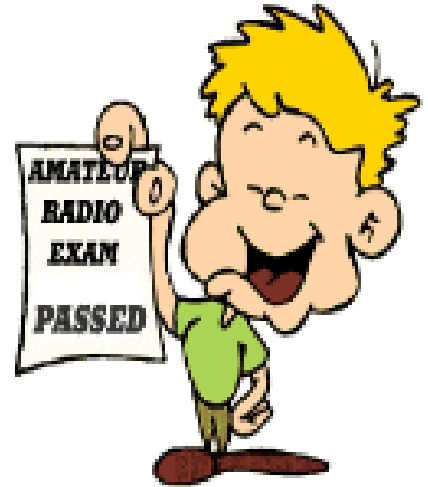
<http://ham-cram.com> The W1UL Ham Cram Website.
Screenshot below!

<http://hamradiolicenseexam.com> Ham Test Online

Epilogue

Despite many years of college level teaching, I recently committed a rookie educator's error. I assumed all people prefer learning the same way I do. I prefer my proffered information served in small doses with frequent practice test to reinforce my learning. Several experiences with candidates illustrated the fallacy of my educational assumption.

Next month there will be a shorter article about using alternative study methods to master ham test preparation. Some of the techniques may surprise you. Many of these techniques may be used for studying almost any topic. Next month I'll also include a few anecdotes about interesting candidates. Stay tuned.



A screenshot of the W1UL Ham Cram Website. The header features the text "CQ de W1UL" on the left and "Official W1UL FREE Ham Cram Website" on the right. Below the header is a navigation menu on the left with links: Home Page, Member Lounge, Ham Cram Tutorials, Becoming a Ham, Ham Radio Links, Contact Ham-Cram, FAQs, and Site Tools. The main content area is titled "The Official W1UL Ham Cram Website" and "Ham Cram Quick Start". It lists three categories of exam preparation: Technician Class Exam Preparation, General Class Exam Preparation, and Extra Class Exam Preparation, each with sub-links for study sessions and practice tests. On the right, there is a "Testimonials" section with a paragraph and a link to "Visit the Testimonial Page", and a "Ham Cram Version 2.0" section with a paragraph and a link to "Version 2.0 Detailed Description". The footer of the main content area says "Welcome to the W1UL Free Ham License Preparation Website".



PARC's representatives to the San Diego Amateur Radio Council (SANDARC), John Walker AC7GK and Paul Williamson KB5MU, attended the regular quarterly meeting on July 28, 2016. Fourteen of the fifteen clubs that make up SANDARC were represented. After introductions, Chairman Joe Acevedo N6SIX asked how many of the clubs had participated in Field Day. Many hands went up.

Secretary John Trites NO5X said that he had received some corrections to the draft minutes of the April meeting, but had yet to incorporate them. He will post corrected minutes to the SANDARC web site, and the council will vote on them at the next regular meeting. This is John's last SANDARC meeting, as he will be moving to Florida.

Treasurer Bill Honaker N9LZ passed out the quarterly balance sheet, showing a balance of \$44,178.47. He reported only three small transactions this quarter: a check written to renew a domain name registration, a check written to pay rent on the North Park volunteer exam site, and an interest deposit of \$4.30.

Vice Chairman Bill Metzger W6RGS re-read the proposed bylaws amendment that was presented at the last meeting. This amendment adjusts the detailed procedures for the annual election of SANDARC officers to make it compatible with the new quarterly meeting schedule. The amendment was passed on a rollcall vote, with fourteen clubs voting yes, one club not represented, and no clubs voting against the amendment.

Mark Williams KF6ZBF presented the results of a survey done through member clubs about the ARRL Southwestern Division Convention held in San Diego in 2014 and planned again for 2018. See pages following this report of this issue of Scope for the detailed results. Only 89 responses were received, but some conclusions could still be drawn.

He also presented a breakdown of convention expenses from 2014, based on a survey of the actual checks written made with the help of an outside accountant. 40% of expenses went to the venue; 22% was spent on prizes; 16% on printing (including rush jobs done locally at full retail prices); 12% on rental of tables, chairs, and so on; 6% on custom lapel pins given to each attendee; and less than 4% on miscellaneous administrative expenses. Only 0.3% of the budget was spent on advertising and promotion.

He said that he had tried to create a similar breakdown of income, but was unable to get reliable information from the records kept. He was unwilling to present any income numbers he couldn't be sure of.

He presented a list of recommendations, which had been drafted in consultation with people from outside the ham radio community.

- Find ways to involve the SANDARC member clubs more. (One unnamed club has said that they do not intend to participate in the 2018 convention.)
- The SANDARC Board should actively serve as steering and oversight committee, monitoring the convention committee's work and perhaps making changes if necessary.
- Create and track a set of "smart goals", including targets for attendance, profit, and cost containment. A major goal should be to get as many non-hams as possible interested in

attending.

- Use local San Diego resources as much as possible to create quality programs.
- Look for convention sponsors from outside the ham radio community. Businesses such as SDG&E, the Union Tribune, etc. might be willing to provide sponsorships.
- Advertise on social media and via the web, not just at Ham Radio Outlet and through the clubs.
- Obtain a wider variety of prizes, rather than just buying lots of stuff from Ham Radio Outlet.
- If the convention is the full three days, consider having the vendor area open only on Friday and Saturday, allowing vendors to take Sunday off. This may make it easier to attract vendors.
- Eliminate the giveaway of a custom lapel pin, since it is a significant expense and doesn't seem to be important to attendees. Perhaps replace it with something less expensive, like maybe a screen-printed USB memory stick, which could be preloaded with convention program information.
- Finalize printed materials in advance so the work can be sent out to cheaper online print shops.
- Consider a multi-tier entry fee, with early bird discounts. Try to hit the "sweet spot" price.
- Move the date to September, keeping the venue at a hotel and making sure the air conditioning is working.
- Establish and maintain a record of all attendees, with contact information, for use in promoting future conventions.
- Use simple computer tools like Excel to manage the convention business.
- Document convention procedures for future convention organizers.

Joe N6SIX thanked Mark for his work on the survey, and also thanked the survey respondents. He stated that SANDARC needs to pay close attention to convention planning, since the convention is practically SANDARC's only source of income. He intends to call a special meeting in August to concentrate on the convention.

Gayle Olson K6GO made a presentation about endowing scholarships for high school seniors through the ARRL Foundation, as a way for clubs, individuals, or families to "pay it forward", fulfill our responsibility as federal licensees to create public value, and give back to the community. Gayle has met with Tom Frenaye K1KI, President of the ARRL Foundation, and other League officials. The scholarships offered are usually \$1000 or less, and so are mostly motivational. The scholarships can impose any chosen selection criteria, as long as they are non-discriminatory. Many of them include geographic restrictions. She showed a list of current scholarships, and only two of them are aimed at California students. Last year only three of the non-geographic scholarships went to California students.

Gayle's goal is for every club in SANDARC to endow a scholarship. A scholarship could be administered locally, but the ARRL Foundation is willing to help. They will take care of investing and managing the funds, and they estimate that an endowment of \$20,000 to \$25,000 will ensure that the scholarship fund sustains itself indefinitely. The money does not need to be a single lump sum immediately, as long as there is a commitment to fundraise a suitable endowment. Gayle suggests that the next step for each club is to create a scholarship committee to create scholarship requirements, which can be based on a draft she has written. Be sure to set a date by which the committee is to report to the club board.

Gayle also asked that individuals and families consider endowing a scholarship, perhaps as a memorial. A scholarship could be endowed in a will or trust.

Gayle said that this is about the survival of amateur radio, in the face of aging club members. She offered to serve as a resource for any club interested in endowing a scholarship.

Joe N6SIX said at the SANDARC board sees that the scholarship program has merit, but that SANDARC cannot fund it without income. He will add an item to the October meeting agenda. Clubs may be interested in pooling resources through SANDARC to create a scholarship together. SANDARC might be able to provide matching funds. He urges clubs to invite Gayle to present.

Section Emergency Coordinator Bruce Krypton KG6IYN reported that in October ARES will participate in a simulated emergency drill held as a tabletop exercise.

Bruce also reported that the Miramar Air Show has asked ARES to do more this year. Instead of just

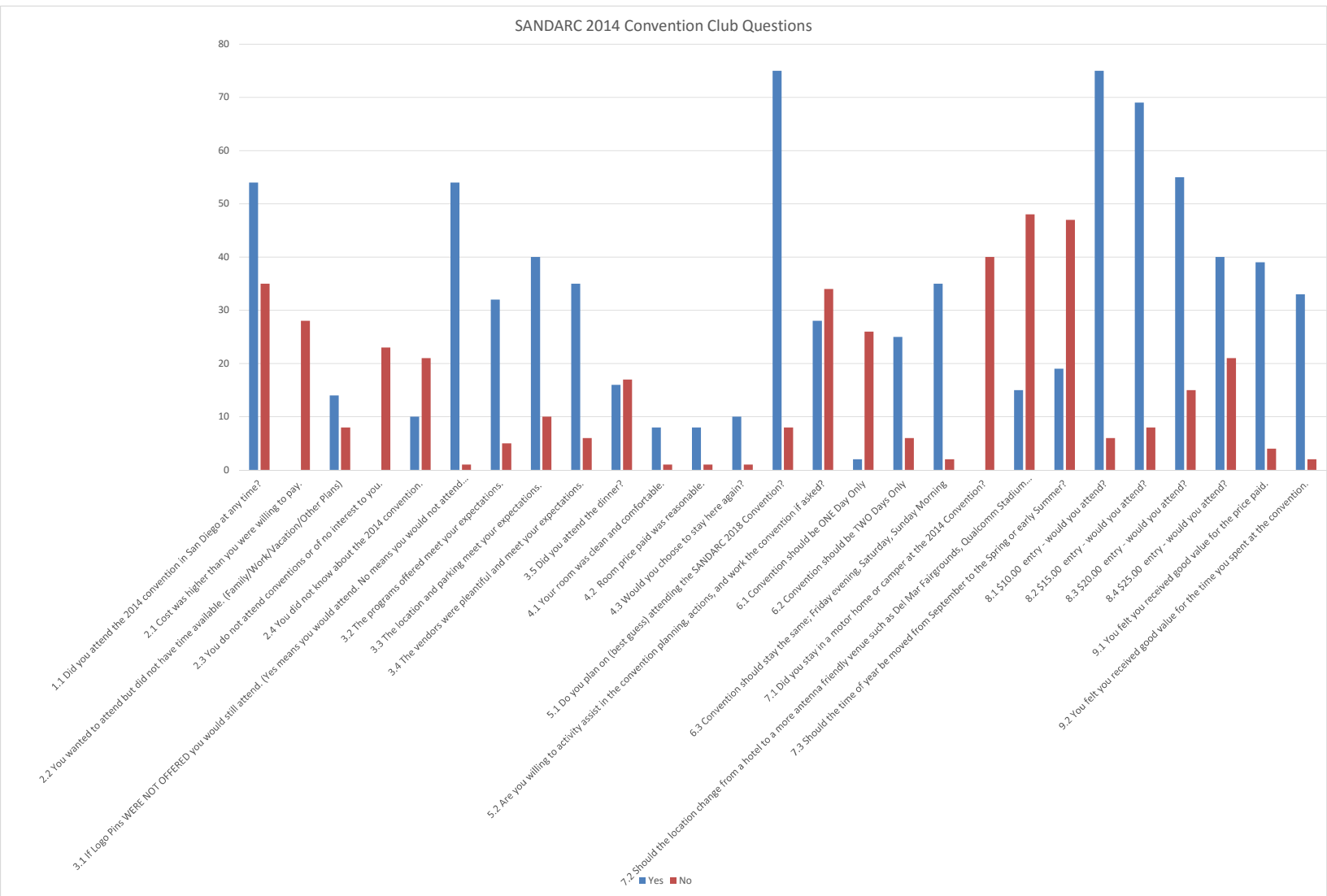
handling lost parents, ARES will have a role in public safety and observation of the event and crowds. This means more volunteers will be needed. The September ARES meeting will be about the Miramar Air Show, and the show is scheduled for September 23-25 this year.

Bruce encouraged clubs to participate in the National Parks On The Air program sponsored by ARRL. Get on the air and work NPOTA stations.

Joe N6SIX reminded delegates of the "hamboree" event to be held at Ham Radio Outlet on August 6. Representatives from Icom, Kenwood, Yaesu, Powerwerx, etc. will be there. The swap meet starts at 8am. The cutoff date for spaces is August 1, and only a few are left. A flyer about the event was sent to delegates about a month ago.

Section Public Info Coordinator John Wright K6CPO said that he has created a Facebook page for the section, and will soon be creating Twitter accounts. Clubs are invited to send him any announcement of interest to the section.

There being no other business, the meeting was adjourned.



	Yes	No
1.1 Did you attend the 2014 convention in San Diego at any time?	54	35
2.1 Cost was higher than you were willing to pay.	0	28
2.2 You wanted to attend but did not have time available. (Family/Work/Vacation/Other Plans)	14	8
2.3 You do not attend conventions or of no interest to you.	0	23
2.4 You did not know about the 2014 convention.	10	21
3.1 If Logo Pins WERE NOT OFFERED you would still attend. (Yes means you would attend. No means you would not attend because Logo Pins were not offered.)	54	1
3.2 The programs offered meet your expectations.	32	5
3.3 The location and parking meet your expectations.	40	10
3.4 The vendors were plentiful and meet your expectations.	35	6
3.5 Did you attend the dinner?	16	17
4.1 Your room was clean and comfortable.	8	1
4.2 Room price paid was reasonable.	8	1
4.3 Would you choose to stay here again?	10	1
5.1 Do you plan on (best guess) attending the SANDARC 2018 Convention?	75	8
5.2 Are you willing to activity assist in the convention planning, actions, and work the convention if asked?	28	34
6.1 Convention should be ONE Day Only	2	26
6.2 Convention should be TWO Days Only	25	6
6.3 Convention should stay the same; Friday evening, Saturday, Sunday Morning	35	2
7.1 Did you stay in a motor home or camper at the 2014 Convention?	0	40
7.2 Should the location change from a hotel to a more antenna friendly venue such as Del Mar Fairgrounds, Qualcomm Stadium or Petco Park or collage campus?	15	48
7.3 Should the time of year be moved from September to the Spring or early Summer?	19	47
8.1 \$10.00 entry - would you attend?	75	6
8.2 \$15.00 entry - would you attend?	69	8
8.3 \$20.00 entry - would you attend?	55	15
8.4 \$25.00 entry - would you attend?	40	21
9.1 You felt you received good value for the price paid.	39	4
9.2 You felt you received good value for the time you spent at the convention.	33	2

ATV System Past... and Future!

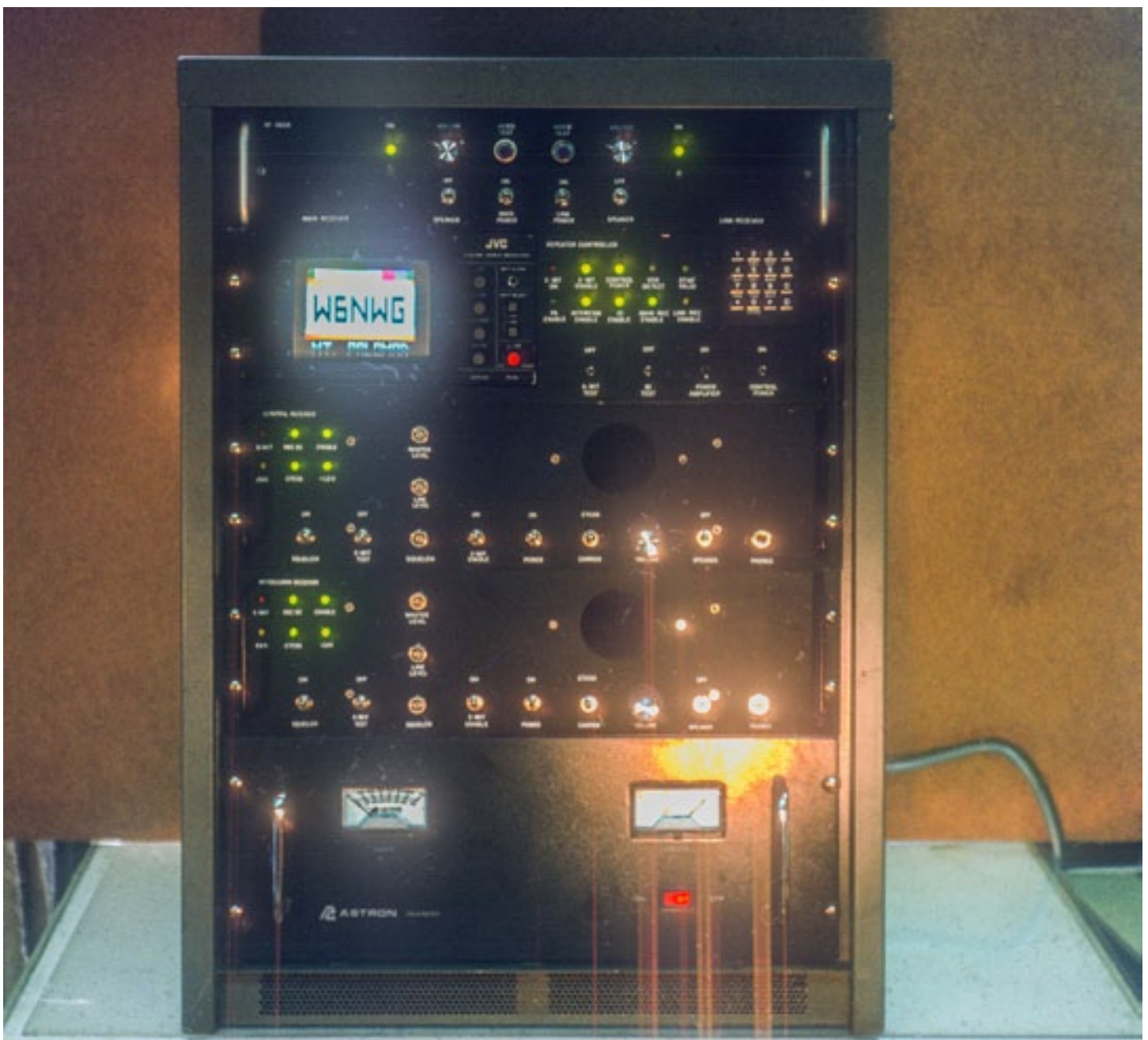
April 1994
photos by Sybil
Allbright W6GIC
[SK]

The club recently received a small batch of old 35mm slides dating from early 1994, when Bill Smith ex-KB6MCU was originally building the ATV repeater. In this article we see Bill at the workbench, the completed ATV repeater rack, and three close-ups of the monitor screen.



Photo credit is probably due to Sybil Allbright, ex-W6GIC.

Write the board if you are interested in being part of the ATV renovation team:
board@palomararc.org



EchoLink Node & Repeater Controller Project Status

20 July 2016
Bernie N6FN

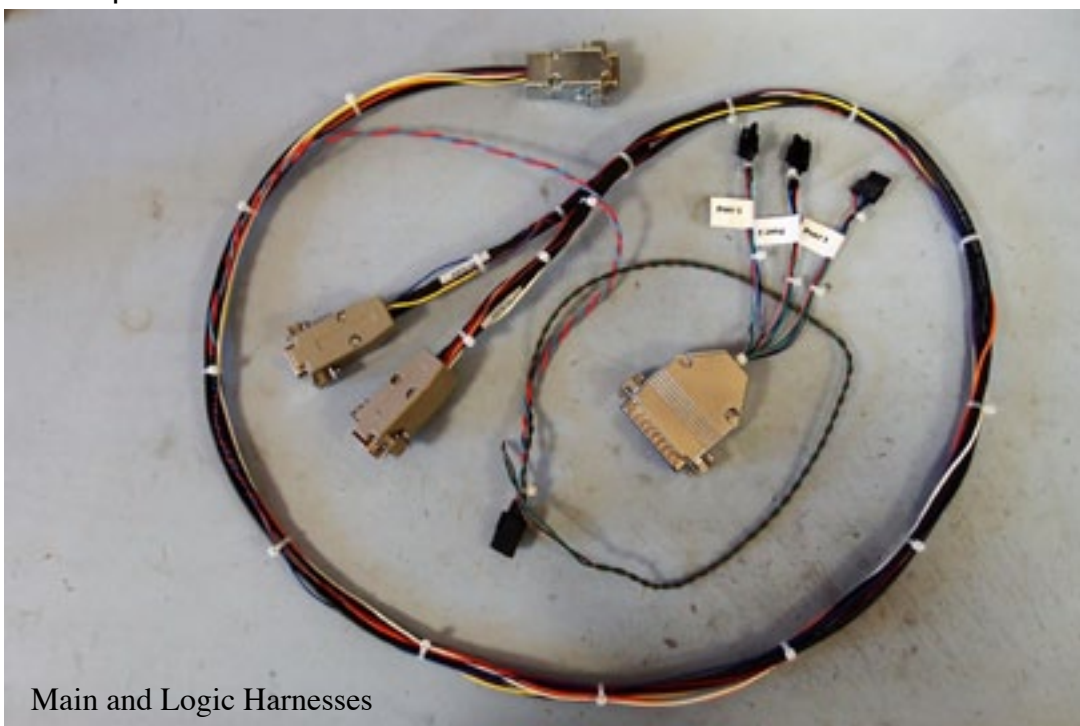
As you may recall from prior reports, a commercial controller was purchased, interfaced and programmed to control our Yaesu DR-1X repeaters. In addition to writing and testing the program, that work involved designing and building 3 different cable assemblies and a DC power relay box. The relay box is also controlled by the controller and can be used to remotely power down and re-power the Yaesu DR-1X repeaters. Each connected repeater will have its own relay box.

All of that development work and testing took a couple of months and in June the board approved the purchase of a controller and necessary accessory items to upgrade our three DR-1X repeaters on the mountain. All of the necessary material has been received, the controller programmed and tested.

A second set of cable harnesses and relay control box are in the process of being built so we can outfit the first repeater to be installed on the mountain. As of this writing in mid-July two of the required three harnesses have been built and tested. One more harness and the relay box are next to be built. An add-on, aftermarket Squelch and CTCSS board also needs to be mounted into the repeater and aligned. After that, more testing to verify performance and adjust repeater output FM deviation for voice, messages and CTCSS signals out of the controller.

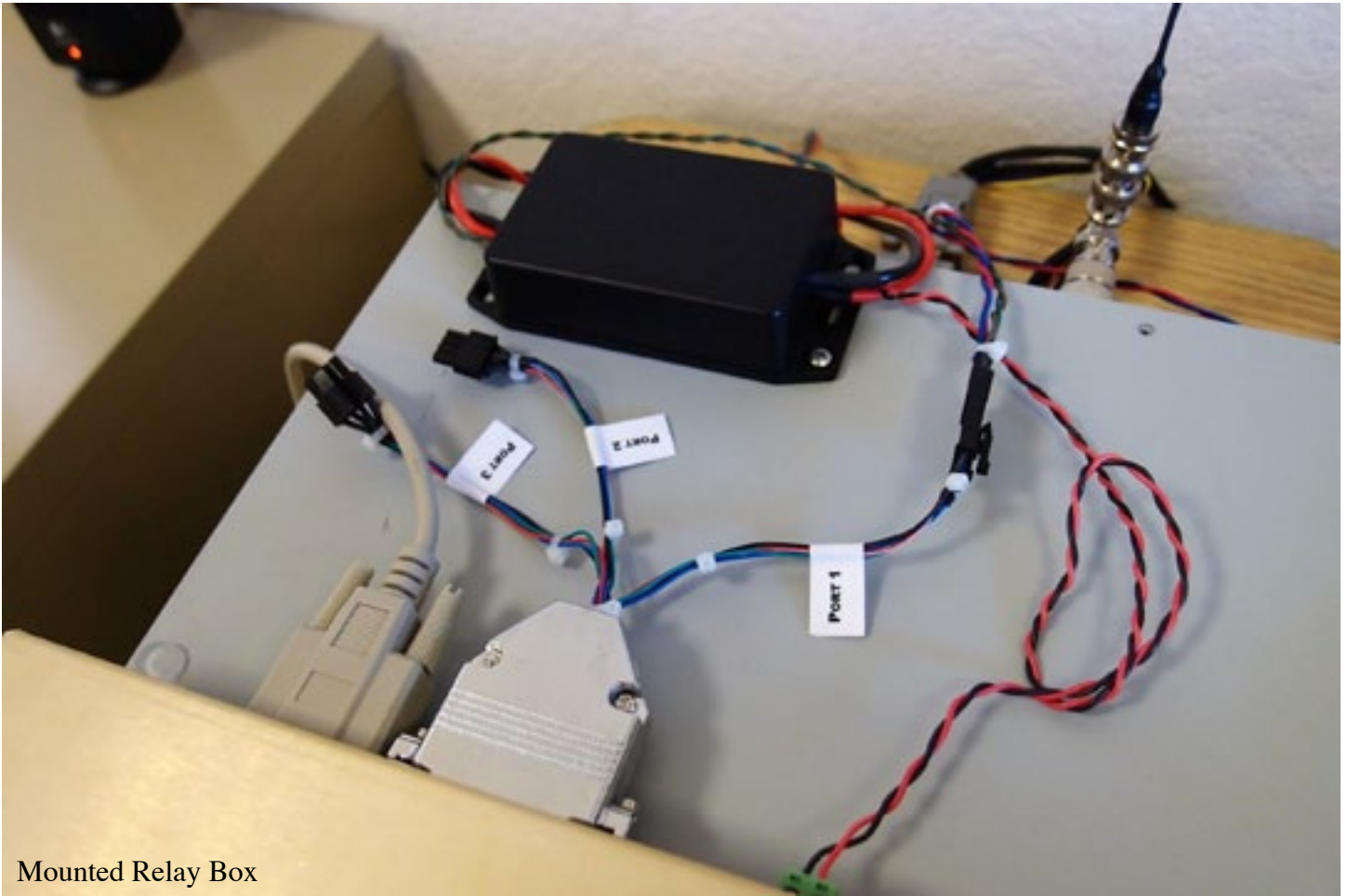
Here are some pictures of two of the cable assemblies and the relay box.

One picture shows the two cable assemblies that have been completed. The larger harness assembly interconnects a single DR-1X repeater to the controller and the aftermarket Squelch / CTCSS board. The smaller cable assembly with the three small black connectors connects to the controller's logic in and output connector.



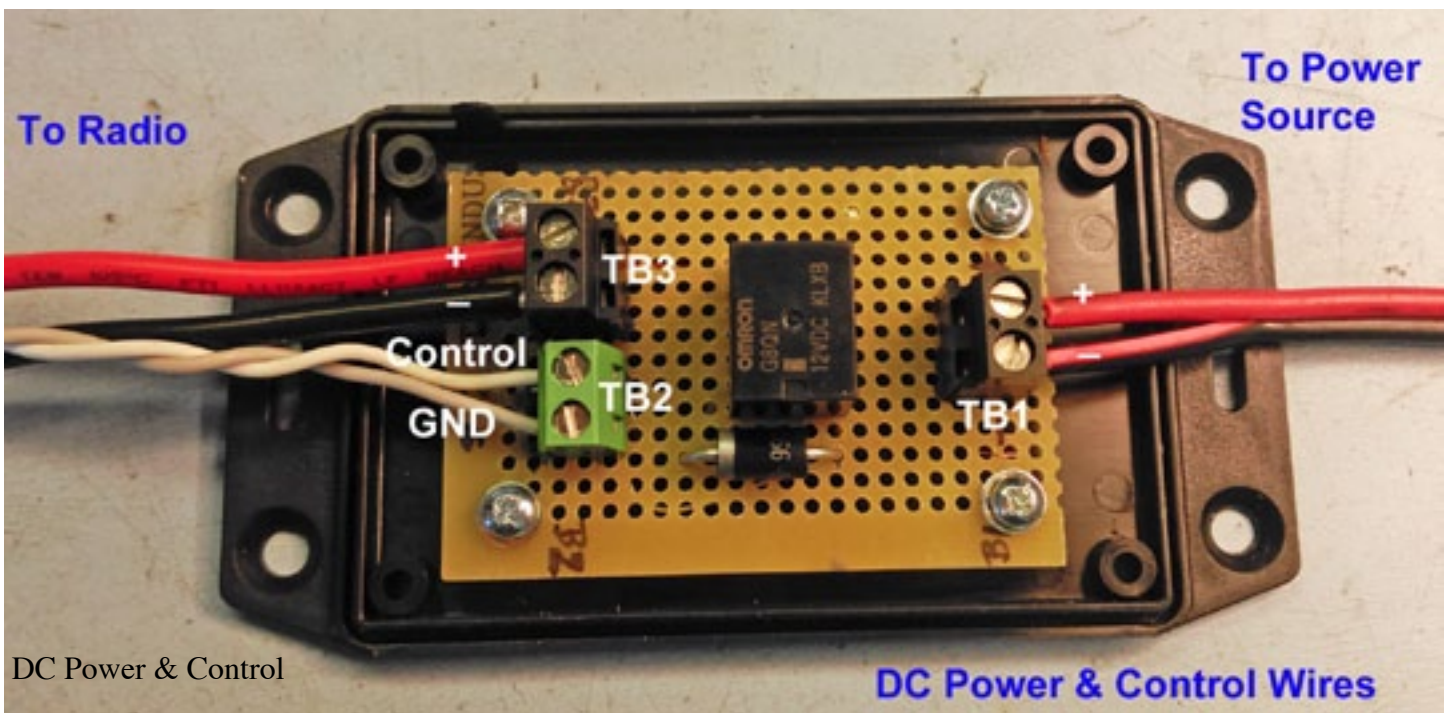
Main and Logic Harnesses

Another picture shows the DC power interrupt relay mounted to the top of the test DR-1X repeater. Also shown are three black connectors that fan out logic I/O to the three different repeaters that a single controller can support. In this picture, Port 1 is connected to the repeater under test.



Mounted Relay Box

Another picture shows the internal components of the relay control box. For ease of retrofit into the existing DR-1X power cables, the relay box makes use of screw-down terminal blocks.



DC Power & Control

For those that might be wondering how the test repeater is being tested, it is now monitoring and repeating into a dummy load everything that comes out of our 146.730 repeater on the mountain. Since I don't have cavities for receiving and transmitting on the same band, for testing purposes the DR-1X repeater is being operated as a cross-band repeater. The input being 146.730, with the output being a 440 band simplex frequency. Even though the output is going into a dummy load, there is enough signal "leakage" that I can monitor the output with a receiver set to the 440 band frequency.

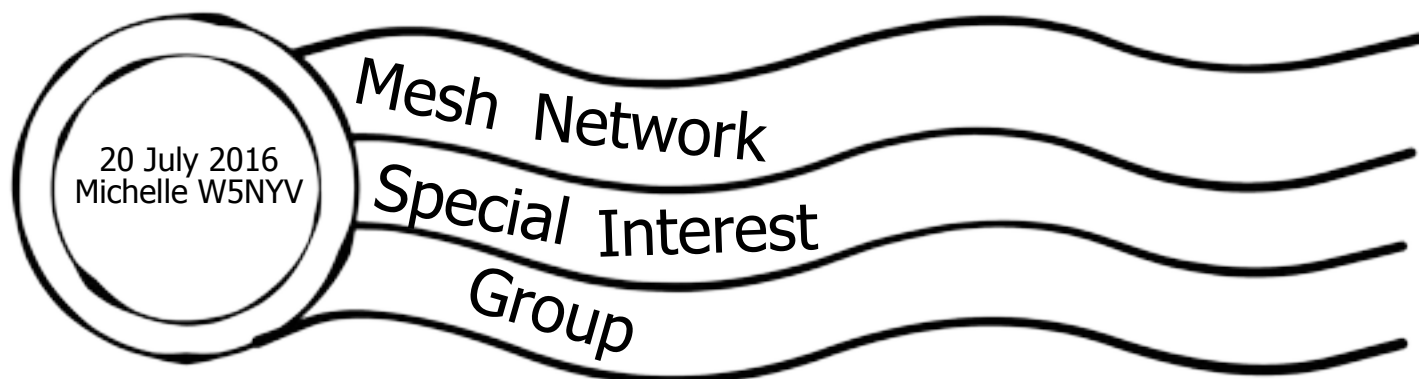


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RF Industries Coax Adapters



(866) 747-5277



Want to work on mesh networks? Want to learn more, but don't know where to start?

Well, we have a proposal for you! We would like a mesh network to connect Field Day computers for next year, in order to demonstrate mesh networking. If you have been looking for a simple way to get involved with mesh networking, this just might be it!

There is a small amount of funding available for the equipment required. Funding is made available through a targeted donation from a club member that would love to see "more mesh!"

While there is a mesh chair position opening up in August, you do not have to commit to being this chair. If you want to be, then the only additional duty is to recruit, support, and enable interested club members to get up to speed in mesh networking for amateur radio, and write a brief report each month for the newsletter on progress made in this area.

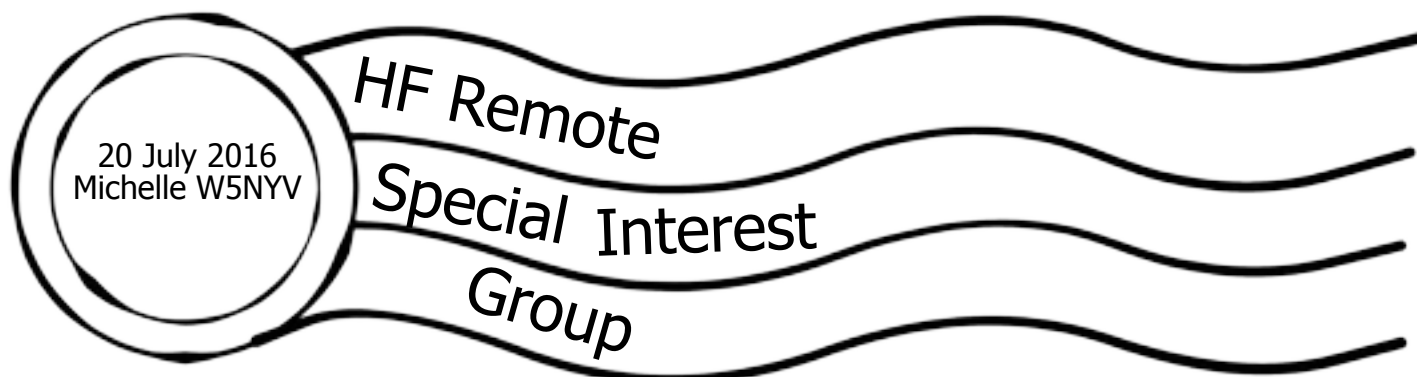
A mailing list has been created. There's seven or so people on it so far, and we invite additional club members to sign up. We anticipate meeting up immediately before PARC club meetings to touch base, ask questions, and do a quick show and tell. The first meetup is anticipated at the September PARC meeting.

The goal of the group is to enable experimentation and learning in a friendly and supportive environment. Mesh is an active area of research and development. There are well-known theoretical limits and functions that govern networked nodes in a mesh. The goal is to learn about them, and talk about how to address them. There are several well-known codebases and projects. We will learn about them too.

The first technical project is to demonstrate mesh at PARC 2017 Field Day by connecting up all the logging computers. This is an achievable and functional project that actually helps Field Day. If we decide that mesh is not the best solution for this problem, then we pick another goal. More ambitious projects will undoubtedly arise. The opportunity to do some coding definitely exists here, but if you are not confident at computer programming, this should not dissuade you from joining at all. There is much more to mesh than coding. Ideally, we leverage what linux has to offer already and focus on successfully integrating different components in ways that solve our problems or show off unexpected functionality.

Can we come up with a mesh game or contest, for instance? Can we come up with the definition of a needed tool or metric? Are there improvements that can be made to visualizations of mesh networks? Are there clever solutions to some of the current malfunctions in mesh networking? There's plenty to work on here, and lots of opportunities to try out new ideas!

If you are interested in signing up please write w5nyv@yahoo.com



Maestro Control Console for the FLEX-6000

The FlexRadio Maestro™ is an intuitive, plug-and-play control console that directs the operation of any FLEX-6000 Signature Series transceiver without needing a traditional PC. Whether you are the most serious contest operator, DX chaser, rag chewer, or you just love to "play radio," Maestro is fun and easy to operate. Maestro harmoniously combines a high definition 8-inch touch display in concert with ergonomically designed controls to enhance ease of use and maximize workflow efficiency in virtually any SmartSDR™ application.

Maestro places the most frequently used radio controls directly at your fingertips. Controls are labeled for intuitive operation and designed to minimize hand motion for the most common operations. Occasionally used controls are easily accessible on the large touch screen display bypassing the complexity of multi-function buttons and multi-level menus found on most transceivers. FlexRadio continues to set the standard for high resolution, real-time spectral display in amateur radio transceivers with Maestro, extending that same "HD visual radio" capability from the PC based SmartSDR for Windows™ to the 8-inch touch screen format. Like modern phones and tablets, capacitive touch control is provided on the large LCD display for intuitive pan, zoom, tune, and menu operation.

Ever wish you could monitor the bands or work DX from the comfort of your living room or out on the patio? Its sleek, lightweight design makes it easy to carry, pack or go mobile. Off the shelf VESA and VESA to RAM® adapters provide a wealth of mounting options. An optional battery pack with WiFi connectivity even lets you operate completely untethered. Just connect Maestro using WiFi, through your local area network (LAN) or directly to any FLEX-6300, FLEX-6500 or FLEX-6700 transceiver and you are ready to operate.

Features

Specs Documentation FAQ Warranty Buy Now

- Controls any FLEX-6000 Signature Series SDR - no PC needed!
- Familiar and intuitive interface for most operating styles
- Optimal workflow for contest/DX operation
- Integrated Wifi for portable operation within the LAN
- 8-inch HD touch screen display
- Full SmartSDR Compatibility
- Real-time spectrum display and waterfall
- Up to 2 simultaneous band displays
- Large ergonomic slice (VFO) A/B tuning controls
- Integrated Winkeyer 3
- Quick touch for critical tuning operations
- Independent A/B Pass Band Tuning, AGC-T, and audio controls
- Easy access to secondary on-screen touch menus
- Includes a standard 30 degree viewing angle fixed angle stand
- Ready for remote operation with SmartSDR v2.0

Big News

A Maestro Control Console has been purchased for PARC HF remote!

The intent of the purchase is to enable experiments and deployment of our HF remote operations. Read about the Maestro at left.

All we need now is a Flex 6000 series radio!

Join PARC's HF remote mailing list by writing board@palomararc.org.

Have a Flex 6000 you are willing to donate to PARC? Want to buy us one? Want to make a donation towards the purchase price? No sum too small!

We offer 501(c)(3) documentation and a commitment to getting HF remote on the air and in your toolbox.

A Cuban Person to Person Visit for Ham Radio

6 June 2016
by John Kuivinen
WB6IQS

In January I was looking to do some international traveling. Barbara Rohrer (KA6FPS) suggested Cuba as a location that was not often traveled, interesting and definitely new for average Americans to visit. She had been there a number of years earlier with a group of education specialists. She had very interesting pictures and stories of her visit to the Cuban Amateur Radio Federation in Havana (CO2FRC).

I purchased a package tour with COSMOS for mid-May and began to try and contact some Cuban ham radio operators before my departure. The English language CO2FRC E-Mail address was always bounced back, but I was finally able to contact Roberto (CM2KL) in Havana. He had Internet access and we were able to converse in English.

In Cuba it is impossible to get certain parts that we would easily find. We just look up SO-239 or SMA fitting on E-Bay and order whatever was necessary. In Cuba these components are rare or impossible to find. I was able to go to RF Parts in San Marcos to secure some special 10 Watt zener diodes for the Kenwood TL-922 amplifier. I also went through my "junk" box for RF fittings, power transistors, power diodes and CR2032 lithium memory batteries / battery holders. I placed them in a clear Tupperware container and labeled them CO2FRC donations. I did not have any problems with U.S. or Cuban customs when I brought them into the country.

We met in Havana at the Memories / Miramar Hotel and Roberto (CM2KL) and Amed (CO2AME) took me to a wonderful Chinese restaurant in Chinatown in old Havana. This was something that I never would have found for myself and food for 3 people was only about \$30 U.S. The food was excellent and they had some good stories about the CO2FRC radio station. As I knew the economic situation in Cuba I paid for the meals and the tip.



Later we walked to Roberto's home and I saw his radio station and met his wife. His station was simple but functional with a 40 meter dipole antenna and a marine antenna tuner to make it operate on other bands.

I got to ride back to the hotel in a 1954 English Ford sedan. It was not going to win any beauty contests but ran well and

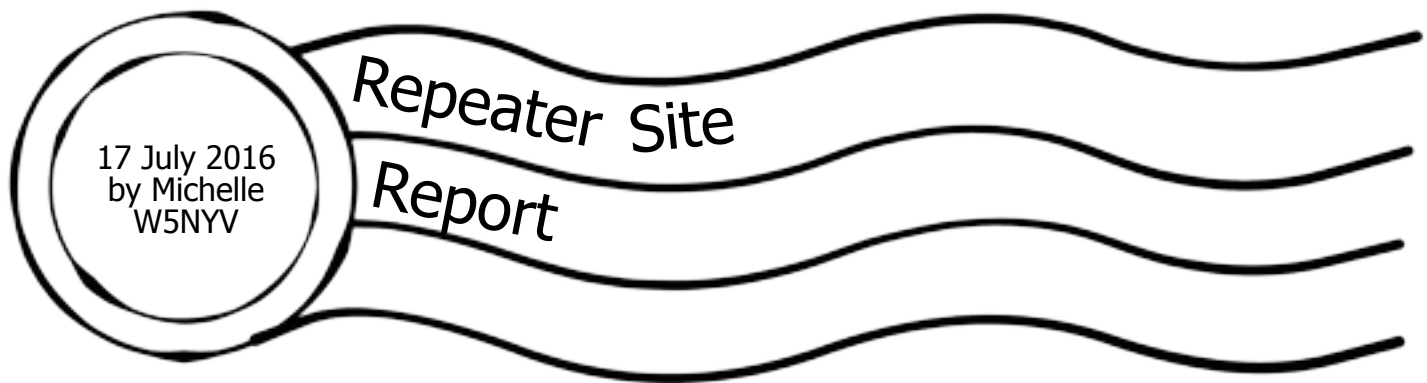
still had the original engine under the "bonnet".

The components were appreciated and are being spread around the Havana ham radio club. Roberto has a Kenwood power supply that needed new 2N3055 power transistors. He had been unable to repair it for several years but now he should have the necessary parts.

I had a good time and met some very agreeable fellow amateurs. Loved the touring but hated the airline traveling.

John Kuivinen, WB6IQS





Mark Raptis KF6WTN
Michelle Thompson W5NYV
Michael Easton KK6OOZ

Mark KF6WTN and I met over a leisurely breakfast at Mother's Kitchen restaurant at the Palomar summit where we Solved All Problems and Made Great Jokes.

After proper fortification, we drove over to the PARC repeater site, and

- 1) Adjusted the squelch level of 146.730 up a tick as discussed at the previous board meeting.
- 2) Removed the digital code from 146.730.
- 3) Re-established the missing squelch tail on 146.730 and set it to 2 seconds.

The 146.730 System Fusion repeater had been previously swapped out for a different PARC System Fusion repeater with updated firmware. In this updated version of the Yaesu System Fusion firmware, the squelch tail is adjustable in length from 0 seconds to 2.5 seconds in 10mS increments. However, the default is "off".

Another setting that needed to be changed was the existence of a digital code. This was probably also a default setting when the firmware was updated. PARC doesn't use a digital code for digital modes, so we turned the code off.

The squelch level adjust was made in order to attempt to reduce the warbling sound that has been heard on the repeater for months. The sound remained despite the hardware swap. Mark had proposed a theory that the sensitivity of the System Fusion repeaters was high enough that perhaps the cavities were incapable of fully filtering out the repeater from hearing itself, and some constructive interference was developing as a result. Brief tests confirmed that the changes had been successfully made.

We were reasonably sure that the System Fusion hardware was not the source of the noise and a reported lack of sensitivity. We believed this because the reported problems remained despite swapping out the repeater. We decided to sweep the 2m cavities on 146.730, and anything else connected to the repeater.

In order to do that, we first had to completely understand how everything was connected, in order to properly insert the network analyzer. Figure 1 shows how the repeater was connected when we arrived.

We then announced that the repeater would be down during testing, shut off the repeater, removed the antenna feed, and inserted the network analyzer between the cavity inputs and the antenna port.

Tx side, pretty good! When the cavities were measured with respect to the transmitter, we saw -3dB loss at 146.730 and -90dB at 146.130.

Rx side cavities were functional, but performance could be better. When the cavities were measured

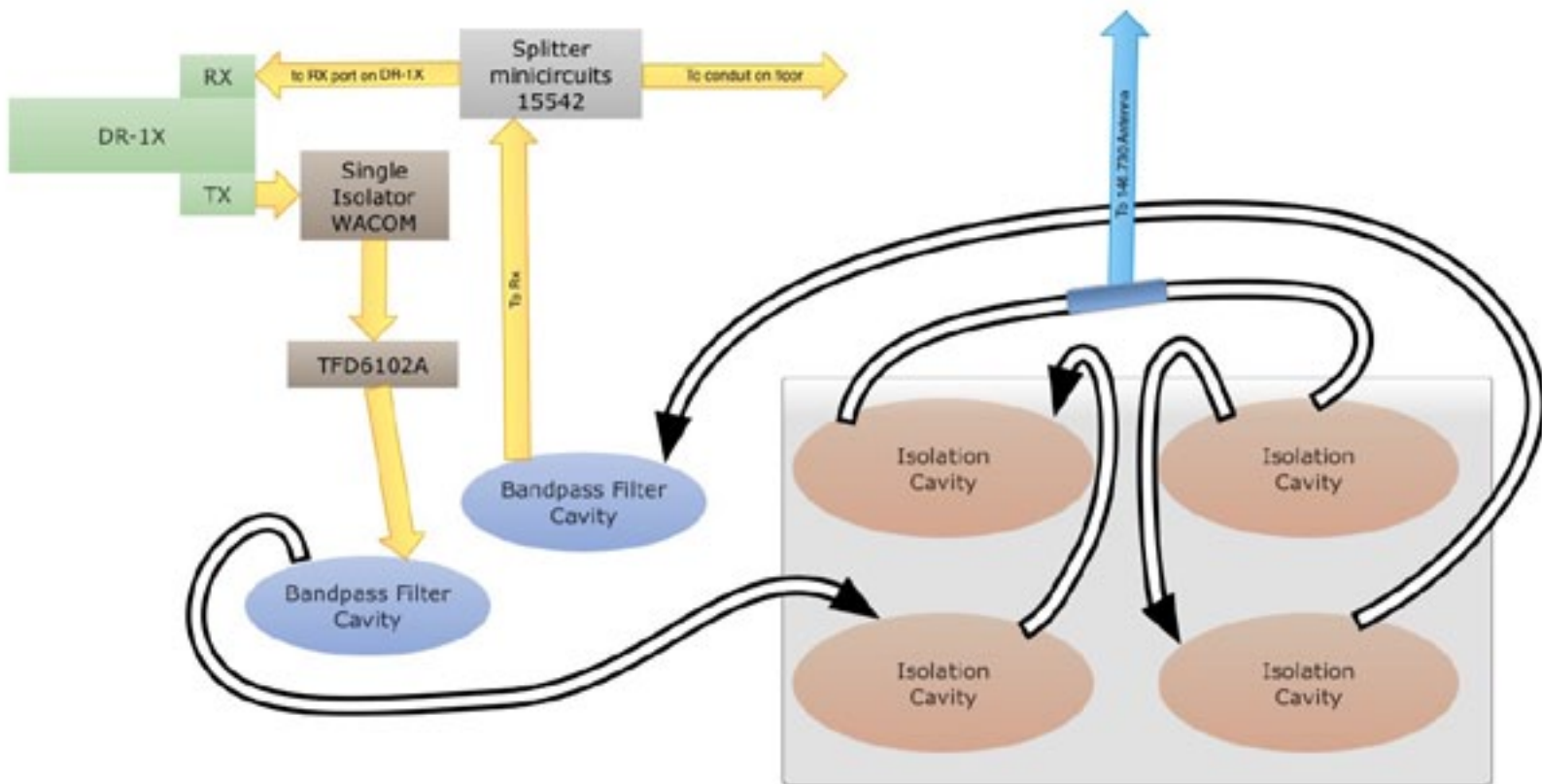


FIGURE 2 - 146.730 DIAGRAM AFTER REMOVAL OF FILTER AND AMPLIFIER

no, it wasn't. It clocked in at -27dB for our frequency, and -38dB everywhere else. We surmised that the output lead might have broken.

We took out the pre-amp and the filter and connected everything back up. See Figure 2. We turned the repeater back on, eventually remembered to re-connect the antenna, and called for some signal reports. Within a few minutes we had people getting back into the repeater with 50mA from locations that were previously inaccessible.

We noticed that the lower 12-volt outlet didn't work. The pre-amplifier was plugged into the top of the two outlets. When we plugged it into the lower of the two outlets, we got no power at all. We plugged it into the upper of the two outlets, and it seemed to power up. This became important later!

We decided to take the pre-amplifier and filter with us for further investigations. The splitter remained in the system because we could not determine where the other cable went. This cable disappeared down a conduit that went into the ground underneath the repeater building. It may go on to another repeater. We think this because of our understanding of how the antennas on the tower are wired.

We declared victory! We closed up shop, cleaned up, locked up, and left. Mark headed down the mountain, and I drove a whole mile to my place.

An hour later, I get a call from Mark. The repeater is down! Ohnoooooes! I tell Mark that I would be happy to go back over the site and call him from the landline in the repeater building and work through whatever problem we have.

I drove back over to the repeater site with Michael KK6OOZ, opened up the building, and saw that the repeater was still powered up. I saw people getting in on the RX, and I heard them on the repeater's speaker, but no TX on the output. I used the landline phone to call Mark and it went straight to voicemail. I tried a few more times with no luck.

I sent Michael back to the house to get my cell phone, which does work from the repeater site but had been left on the charger. My thought was to send a text message or try to call from a different

phone, in case the repeater site phone had some sort of peculiarity, and in case I couldn't get Mark on the radio. It turned out that the landline at the repeater site does indeed have a peculiarity that was at fault, and we are going to fix it.

I then called Mark on the output of the repeater frequency from my car, and he responded. I told him I would power cycle the repeater.

The repeater came back up and started working again. John WB6IQS, Mark KF6WTN, another volunteer operator Pat, and I tested all the modes. Everything seemed to be working as expected. Right as we're declaring victory, KK6OOZ returned on foot with my phone! He was sorry to have missed all the action, but I was happy that simply power cycling the repeater returned it to service.

The landline phone at the repeater site is set to suppress caller ID. Some phone customers filter out anyone that suppresses caller ID. Mark is one of those phone customers. That is why I was unable to get through to him on the landline phone from the site.

Another thing that needs to be updated is the phone number on the landline phone case. I don't think it's accurate.

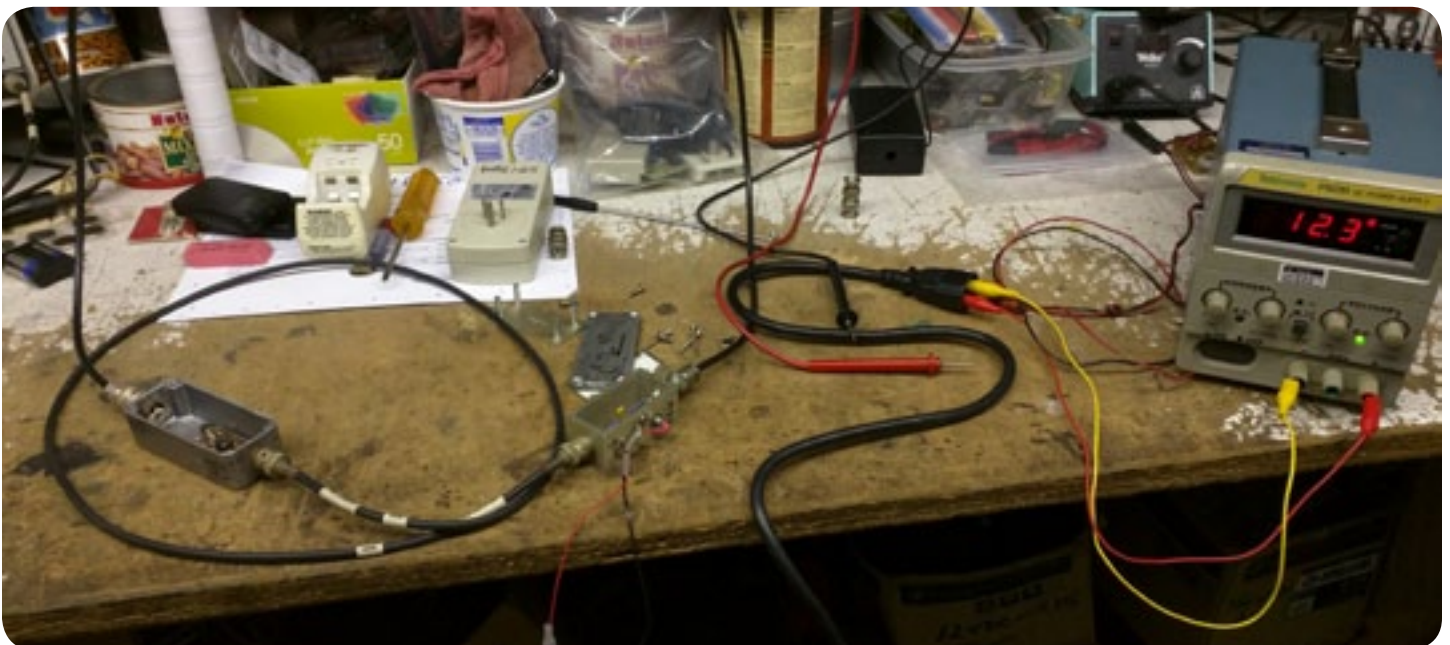
There was another action item generated from our site visit. There's a large tree that could potentially be blocking RF towards Oceanside. We're beginning the process of finding a tree service to either top it or cut it down. We observed that it appeared to have been previously topped. If it's topped again, then RF performance in that direction may be improved.

The following Wednesday, John Kuivinen WB6IQS repeated the tests on his Electronics Mad Scientist bench at his QTH in Vista. We opened up the two silver boxes, and found out that our assumptions on what was in each box were wrong!

Instead of a filter and a pre-amp, we had a pre-amp and a power supply. The box with the 12-volt wiring was a power supply, and the actual pre-amp was in the box that we thought was a filter.

When powered up on the bench, the pre-amplifier provided 18dB of gain and appeared to be working well.

We decided that we would re-install the pre-amplifier in an upcoming work party, but only after carefully examining and repairing the 12-volt supply in the repeater building, and only after making sure that pre-amplification is necessary with the new repeaters.



THE PRE-AMPLIFIER AND POWER SUPPLY ON JOHN WB6IQS'S BENCH.

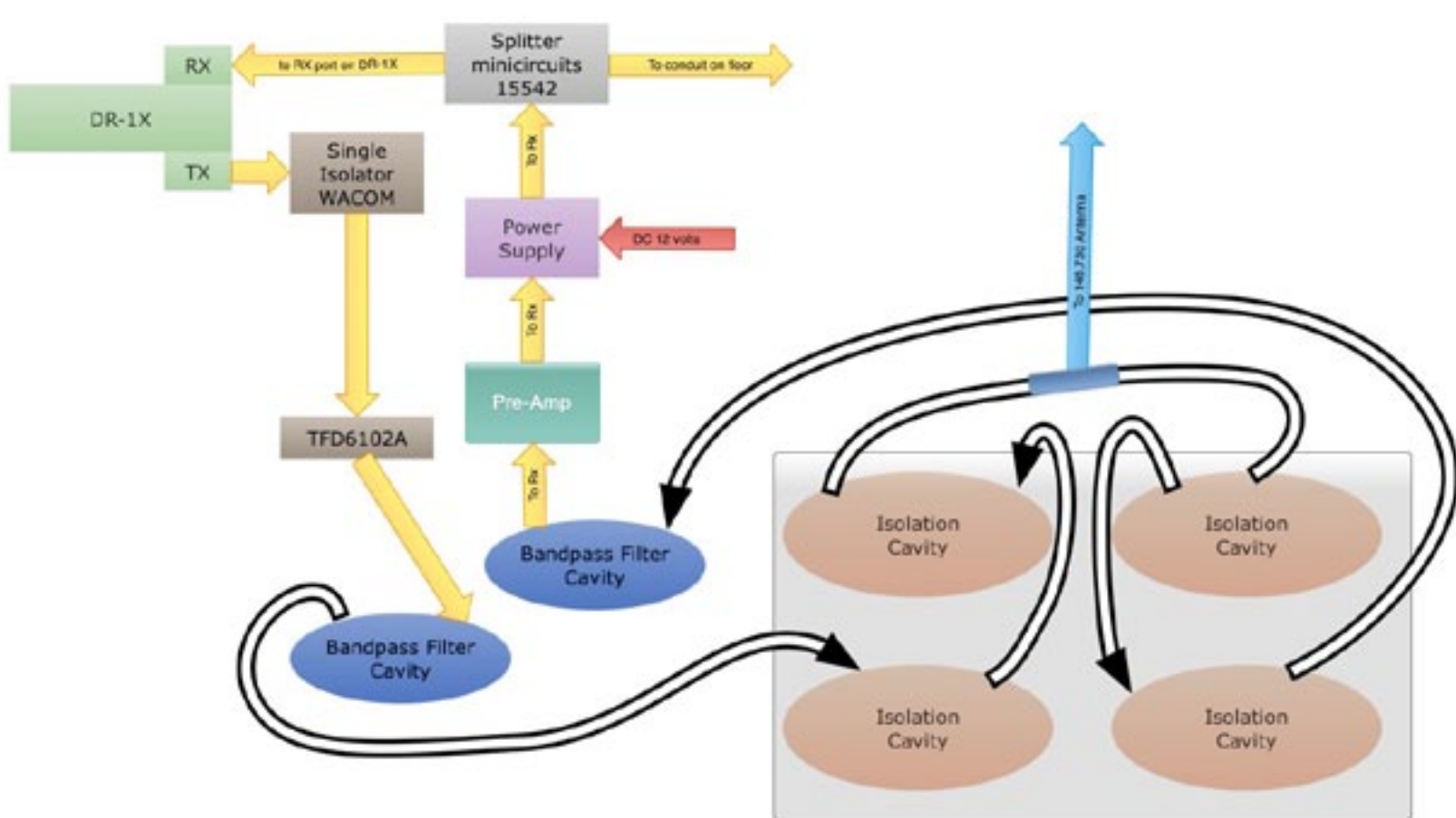


FIGURE 3 - 146.730 PLANNED CONNECTIONS AFTER NEXT WORK PARTY

We do think it will further improve performance. At the very least, it will improve the pass-band cavity results!

When the pre-amplifier and power supply are re-installed, here's how it will be connected back together. It should look almost identical to Figure 1, except that now the boxes have the correct labels, and the pre-amplifier will be operating as intended!

Another action item is to confirm the destination of the cable that comes off the splitter. On one side of the splitter, the received signal goes to the DR-1X. The other side of the splitter has a cable that disappears into a conduit on the floor. We assume that this goes on to the receivers of other repeaters, since our understanding is that the repeaters share a receive antenna. John WB6IQS suggested that it might go to the packet system. In any case, we are going to find out and report back very soon!

Better documenting the site has been a request on the table for a long time. It's very gratifying and enjoyable to make progress in this direction. Publishing drawings and explaining upgrades, features, fixes, modifications, and new projects for the club about the repeater site serves the members. The process of explaining improves membership understanding and appreciation of the equipment that the club owns and operates.





PUBLIC NOTICE

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DA 16-676

Released: June 15, 2016

OFFICE OF ENGINEERING AND TECHNOLOGY ANNOUNCES TECHNOLOGICAL ADVISORY COUNCIL (TAC) NOISE FLOOR TECHNICAL INQUIRY

ET Docket No. 16-191

Comment Deadline: August 11, 2016

The FCC's Technological Advisory Council (TAC), an advisory group to the FCC operating under the Federal Advisory Committee Act, is investigating changes and trends to the radio spectrum noise floor to determine if there is an increasing noise problem, and if so, the scope and quantitative evidence of such problem(s), and how a noise study should be performed. In this public notice, the Office of Engineering and Technology (OET) announces the TAC's public inquiry, seeking comments and answers to questions below for the TAC about radio spectrum noise.¹

TAC Noise Floor Technical Inquiry

The TAC is requesting input to help answer questions about the study of changes to the spectrum noise floor over the past 20 years. Noise in this context denotes unwanted radio frequency (RF) energy from man-made sources. Like many spectrum users, TAC members expect that the noise floor in the radio spectrum is rising as the number of devices in use that emit radio energy grows. However, in search for concrete evidence of increased noise floors, we have found limited available quantitative data to support this presumption. We are looking to find ways to add to the available data in order to answer important questions for the FCC regarding this topic.

Radio spectrum noise is generated by many different types of devices. Devices that are not designed to generate or emit RF energy but do so as a result of their operation are called *Incidental Radiators*. Most electric motors, light dimmers, switching power supplies, utility transformers and power lines are included in this category. There is little regulation governing the noise generated by these devices. Noise from such sources is expected to be minimized with "Good Engineering Practices."

Devices that are designed to generate RF energy for internal use, or send RF signals by conduction to associated equipment via connected wiring, but are not intended to emit RF energy, are called *Unintentional Radiators*. Computers and many portable electronic devices in use today, as well as many new high efficiency lights, are included in this category. Current regulations limit the levels of emitted RF energy from these devices.

Unlicensed Intentional Radiators, Industrial, Scientific, and Medical (ISM) Radiators, and Licensed Radiators are devices that are designed to generate and emit RF energy by radiation or induction. Cellular

¹ <https://transition.fcc.gov/bureaus/oet/tac/tacdocs/meeting6916/TAC-Noise-Floor-Technical-Inquiry.pdf>

phones and base stations, unlicensed wireless routers, Bluetooth devices, broadcast TV and radio stations, and radars of many types, are all examples of licensed / unlicensed intentional radiators, and microwave ovens, arc welders, and fluorescent lighting are examples of ISM equipment. Such emitters contribute to the noise floor with emissions outside of their assigned frequencies. These are sometimes generated as spurious emissions, including, but not limited to, harmonics of desired frequencies and intermodulation products. Regulations that permit the operation of these devices also specify the limits of emissions outside of licensed or allowed (in the case of unlicensed devices) frequencies of operation.

We are looking for responses to the following questions to help us identify aspects of a study to determine trends in the radio spectrum noise floor.

1. Is there a noise problem?
 - a. If so, what are the expected major sources of noise that are of concern?
 - b. What services are being most impacted by a rising spectrum noise floor?
 - c. If incidental radiators are a concern, what sorts of government, industry, and civil society efforts might be appropriate to ameliorate the noise they produce?
2. Where does the problem exist?
 - a. Spectrally
 - i. What frequency bands are of the most interest?
 - b. Spatially
 - i. Indoors vs outdoors?
 - ii. Cities vs rural settings?
 - iii. How close in proximity to incidental radiators or other noise sources?
 - iv. How can natural propagation effects be accounted for in a noise study?
 - c. Temporally
 - i. Night versus day?
 - ii. Seasonally?
3. Is there quantitative evidence of the overall increase in the total integrated noise floor across various segments of the radio frequency spectrum?
 - a. At what levels does the noise floor cause harmful interference to particular radio services?
 - b. What RF environment data from the past 20 years is available, showing the contribution of the major sources of noise?
 - c. Please provide references to scholarly articles or other sources of spectrum noise measurements.
4. How should a noise study be performed?
 - a. What should be the focus of the noise study?
 - b. How should it be funded?
 - c. What methods should be used?
 - d. How should noise be measured?
 - i. What is the optimal instrumentation that should be used?
 - ii. What measurement parameters should be used for that instrumentation?
 - iii. At what spatial and temporal scales should noise be measured?
 - iv. Should the monitoring instrumentation be capable of determining the directions of the noise sources? If so, how would those data be used?
 - v. Is there an optimal height above ground for measurements?
 - e. What measurement accuracy is needed?

- i. What are the statistical requirements for sufficient data? Would these requirements vary based on spectral, spatial and temporal factors?
 - ii. Can measurements from uncalibrated, or minimally calibrated, devices be combined?
 - iii. Is it possible to “crowd source” a noise study?
- f. Would receiver noise measurements commonly logged by certain users (e.g. radio astronomers, cellular, and broadcast auxiliary licensees) be available and useful for noise floor studies?
- g. How much data must be collected to reach a conclusion?
- h. How can noise be distinguished from signals?
 - i. Can noise be characterized and its source identified?
 - ii. Is there a threshold level, below which measurements should be ignored?

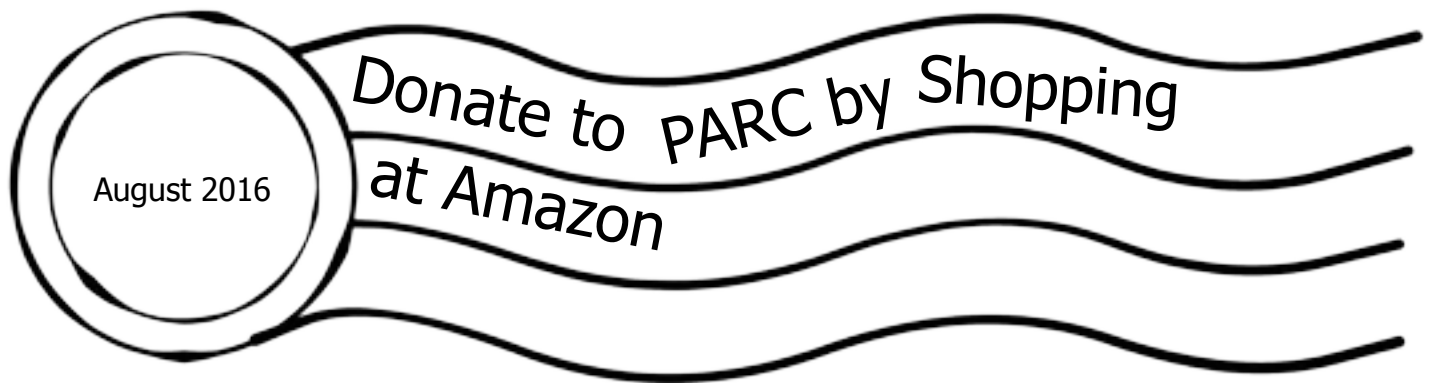
Procedures

Interested parties may file comments up until the comment deadline indicated on the first page of this document. Comments may be filed using the Commission’s Electronic Comment Filing System (ECFS). *See Electronic Filing of Documents in Rulemaking Proceedings*, 63 FR 24121 (1998).

- **Electronic Filers:** Comments may be filed electronically using the Internet by accessing the ECFS: <http://fjallfoss.fcc.gov/ecfs2/>.
- **Paper Filers:** Parties that choose to file by paper must file an original and one copy of each filing. If more than one docket or rulemaking number appears in the caption of this proceeding, filers must submit two additional copies for each additional docket or rulemaking number. Filings can be sent by hand or messenger delivery, by commercial overnight courier, or by first-class or overnight U.S. Postal Service mail. All filings must be addressed to the Commission’s Secretary, Office of the Secretary, Federal Communications Commission.
 - All hand-delivered or messenger-delivered paper filings for the Commission’s Secretary must be delivered to FCC Headquarters at 445 12th St., SW, Room TW-A325, Washington, DC 20554. The filing hours are 8:00 a.m. to 7:00 p.m. All hand deliveries must be held together with rubber bands or fasteners. Any envelopes must be disposed of before entering the building.
 - Commercial overnight mail (other than U.S. Postal Service Express Mail and Priority Mail) must be sent to 9300 East Hampton Drive, Capitol Heights, MD 20743.
 - U.S. Postal Service first-class, Express, and Priority mail must be addressed to 445 12th Street, SW, Washington DC 20554.

People with Disabilities: To request materials in accessible formats for people with disabilities (braille, large print, electronic files, audio format), send an e-mail to fcc504@fcc.gov or call the Consumer & Governmental Affairs Bureau at 202-418-0530 (voice), 202-418-0432 (tty).

For further information, please contact TAC Spectrum and Receiver Performance working group co-chairs Greg Lapin, ARRL (GLapin@arrl.org) and Lynn Claudy, NAB (LClaudy@nab.org), or TAC working group FCC liaison Robert Pavlak, FCC Office of Engineering & Technology (Robert.Pavlak@fcc.gov)



As publicized earlier this year, PARC is now a not-for-profit charity, and fund donations to PARC are eligible for tax deduction itemization for those who are eligible for such a tax itemization.

PARC also announced that in cooperation with Amazon, it is now possible to shop on Amazon at NO cost increase, and have Amazon distribute a percentage donation to PARC.

This is done by shopping on www.smile.amazon.com.

If you choose to avail yourself of this opportunity, when shopping on www.smile.amazon.com, specify Palomar Amateur Radio Club as your charity of choice for donation.

For more information:

http://smile.amazon.com/gp/chpf/about/ref=smi_aas_redirect?ie=UTF8&ref_=smi_se_ft_abt_saas

amazonsmile
You shop. Amazon gives.

Shop Now



Want to help PARC earn more awards?

Contact board@palomamarc.org about using the club call sign in upcoming contests or operations!

We aren't that far from getting several more shiny stickers!

At right is the overall picture of our club call sign's Logbook of the World WAS record.

Notice that 20m Phone and 20m CW are pretty close to having all 50 states.

Which states are missing? See the image at the bottom of this page. We need Hawaii for 20m Phone and Nevada for 20m CW.

Think you can bag these states to give us two more awards?

The cost of the award will be covered by a donor. Want to help?

- 1) arrange for permission to use W6NWX by writing the board about your plans.
- 2) submit a log of the contacts to the board. Uploading to LoTW and application for awards will then occur.
- 3) get accolades from the club!

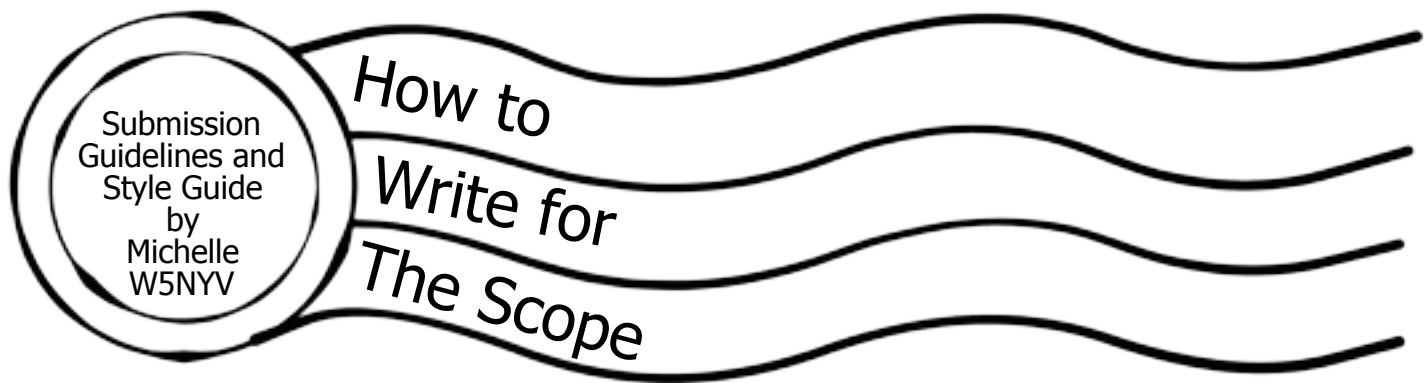
Your Logbook WAS Account (W6NWX WAS)

Account Status

WAS Award	New LoTW QSLs	LoTW QSLs in Process	WAS Credits Awarded	Total
Mixed *	0	0	50	50
80M	22	0	0	22
40M	39	0	0	39
20M *	0	0	50	50
15M	40	0	0	40
10M	6	0	0	6
CW *	0	0	50	50
Phone *	0	0	50	50
80M Phone	15	0	0	15
80M CW	13	0	0	13
40M Phone	19	0	0	19
40M CW	38	0	0	38
20M Phone	49	0	0	49
20M CW	49	0	0	49
15M Phone	23	0	0	23
15M CW	37	0	0	37
10M Phone	5	0	0	5
10M CW	1	0	0	1
Triple Play	100	0	0	100
5-Band	157	0	0	157

* = Award has been issued

20M Phone	49	<input type="checkbox"/>	The 20M endorsement sticker to be affixed to your Phone WAS certificate. Missing: HI
20M CW	49	<input type="checkbox"/>	The 20M endorsement sticker to be affixed to your CW WAS certificate. Missing: NV



Submission Guidelines

Article submissions in most modern file formats are accepted. Plain text in the body of an email, with attached full resolution photographs, is most preferred. Dropbox and several other file transfer services are supported.

Sending a fully-formatted PDF, so that the author can control formatting and exact wording, is also accepted. We use Tahoma font for body text, but will accept PDFs with other fonts. If any editing is necessary, then it will be negotiated with the author, and will then be the responsibility of the author.

For 2016, the Scope theme is postal marks and radio-related stamps. Postal theme artwork is welcome! Scans of amateur radio stamps, stories about stamps in general, interesting or quirky postal marks, fun things to do with the mail, puzzles about stamps, interesting stamp-related narratives, stories about current mail technology, QSL cards, QSL bureaus, and QSL collections are all very highly desired throughout 2016.

We want to publish articles about amateur radio and amateur radio related events and interests. Amateur radio covers a very broad swath of subjects. Contesting, technical experiments, narratives about the hobby, stories about how you became a ham, suggestions for an interview, ideas for more puzzles and games, experiences in community service, emergency communications, tours and travelogues of places of interest to amateur radio operators, mobile installation articles, ham shack articles, good operational practices, ideas for what PARC should be doing in 2016, and many other subjects are what we want to print in the Scope every month.

Articles that misrepresent a person, subject, or event will not be printed. Articles that are attack pieces, demean groups or individuals, or ridicule others will not be printed. The editorial staff

of the Scope, in coordination with the Palomar Amateur Radio Club Board of Directors, has the final say on what is published in the club newsletter. Being a member of the club does not guarantee that a submitted article will be published. No payment is given in exchange for any article. Copyright remains entirely with the original author.

Style Guide

Time: Use 24-hour time in the following format.

"We started the event at 9:00 and began tear down at 16:00."

Name and Call Sign: Name is followed by call sign with no commas.

"Michelle Thompson W5NYV began writing the article."

After the first name and call sign is listed in an article, the style is to shorten it to first name and call sign with no commas.

"Michelle W5NYV was writing all day."

Do not use ellipses unless you know exactly how to use ellipses.

Ellipses... are not... the same thing... as a comma... or a pause...

Capitalization should be used for proper nouns. Proper nouns are the names used for an individual person, place, or organization. They are spelled with initial capital letters. For example, Michelle, New Mexico, and Boston Red Sox.

"And... that's it! That's All there is To It!"

What's the next step? Write an article, or propose one. If you need help, just ask! Mail to: scope@palomararc.org

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

PERIODICALS

Return service requested

Scope Volume #48 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, find a repeater listing, find contact information for the board all 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 August 2016, Palomar Amateur Radio Club will present Summits On the Air. Drew KB9FKO will give an overview of the Summits on the Air program which combines mountaintopping and amateur radio. He'll bring a backpack with his portable gear setup for show and tell. Additionally, some of the web resources for the program will be discussed. This international program, launched in England in 2002, is the basis for the ARRL's current NPOTA program.

Come at 7pm to socialize. 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>