



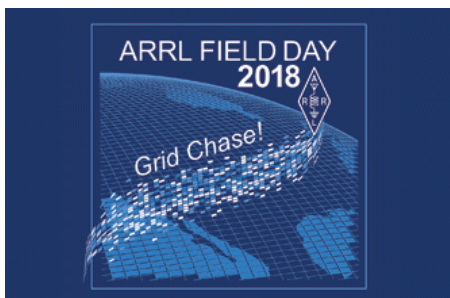
# SCOPE

Palomar Amateur Radio Club

June 2018

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**Please join us for  
Field Day  
June 23rd & 24th  
Valley Center**

## It Appears By Spears



Greetings!  
Summer is here and with it Baseball, the County Fair and Field Day. Dennis and crew are working very hard

to make it successful. See Page 14 & 15 for additional information. Also in this issue mountain top updates

and a special 6 Meter repeater update. Happy Fathers Day to all you fathers out there.  
73 de KM6CXW

## President's Report

Greetings PARC Members!  
We have a lot going on this month, first of all I need to point your attention to a change in venue for our general meeting. The Safety Center has told us that we are no longer allowed to use the facility for our general meetings! This news came out in the past week and was very short notice. I won't bore you with the reasons, rest assured we didn't do anything wrong and it's all red-tape reasons. We may be able to recover the use, but it will take some time to go through the process. In the meantime, for June 6th at least, we have secured permission from ViaSat to use their multipurpose room. Many thanks go out to the many individuals who made

this happen on such short notice, both within our club and at ViaSat. The address is **6155 El Camino Real**, just a mile from the Safety Center. I haven't been to the facility, so we'll all be learning as we go, but from what I understand we will be directed to the right place by the person at the guard desk. Field Day is just a few weeks away! Check out page 14 for the latest report from our FD Chair, Dennis KD6TUJ and be sure to join us in Valley Center on June 23-24. We especially need to be sure we have fresh rested people to help with tear down on Sunday, that's always the most difficult time as everyone who has been there all weekend is exhausted! Lastly, if we have your email address on file,

you should have gotten an invitation to join the "PARC-Announce" email list. This list is totally optional, but will be used to send out important and time sensitive announcements related to the club, and HAM Radio (Like the sudden change in meeting location!), so please join that list if you haven't already. You can find a form on the website at <https://palomararc.org/2-uncategorised/27-parc-announce-mailing-list-subscription> to join the list if you didn't get an invitation. Thanks to all of you for making the club what it is, keep an eye out for some exciting things coming in the near future, including Mini Maker Faire, Operating Day, and possibly a field trip to a Maker lab!  
73 de K6JPE



## Board Members and Committee Chairs

### Board of Directors

President	Joe Peterson, K6JPE	(619) 630-8283
Vice President	Charlie Riistorcelli, NN3V	619-368-7617
Treasurer	Tom Ellett, W0NI	(858) 546-1148
Secretary	Tony Zuppero, K5TZ	
Director 1	John Kuivinen, WB6IQS	(760) 727-3876
Director 2	Greg Gibbs, K16RXX	760-583-9668
Membership Chair	Glen Christensen, A16RR	(858) 735-1144
Repeater Technical Chair	Mark Raptis, KF6WTN	
Scope Editor	Keith Spears, KM6CXW	(858) 472-8442 Text Welcome

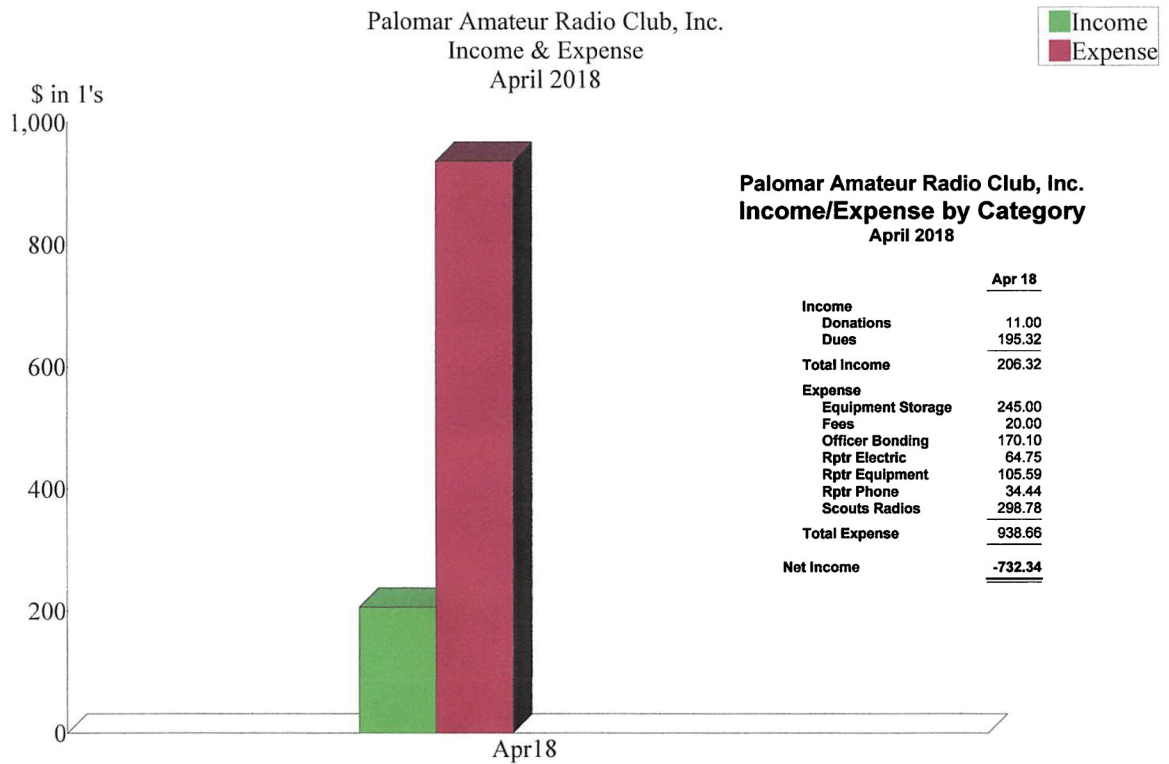
### Non Voting Members

Repeater Site Chair	Mark Raptis, KF6WTN	(Acting)
Webmaster	Guido Sansonia, NO6I	(760)-224-6824
Trustee	Michelle Thompson, W5NYV	mountain.michelle@gmail.com

### Committee Chairs

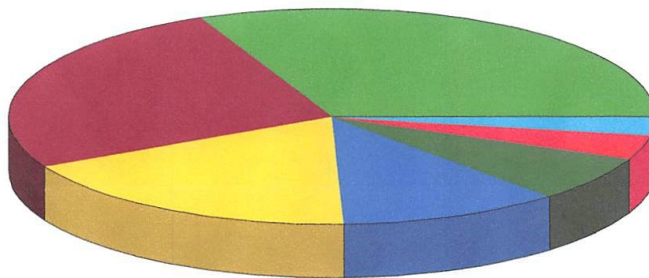
Boy Scouts	Michael Palugod	mpalugod@yahoo.com
Digital ATV	Michelle Thompson, W5NYV	mountain.michelle@gmail.com
Echo Link	Bernie Lafreniere N6FN	N6FN@niftyaccessories.com
HF Remote	HF Remote SIG	hfremote@palomararc.org
Mesh Networking	Michelle Thompson, W5NYV	mountain.michelle@gmail.com
Operating Day	Tom Martin K6RCW	k6rcw@amsat.org
SANDARC Representative	John Walker AC7GK	ac7gkjohn@gmail.com
SANDARC Representative	Paul Williamson KB5MU	kb5mu@amsat.org
SD Microwave Group Liaison	Kerry Banke N6IZW	kbanke@sbcglobal.net

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Expense Summary  
April 2018

Scouts Radios	\$298.78
Equipment Storage	245.00
Officer Bonding	170.10
Rptr Equipment	105.59
Rptr Electric	64.75
Rptr Phone	34.44
Fees	20.00
<b>Total</b>	<b>\$938.66</b>



Treasurer reports \$30K has been contributed to the Club's scholarship fund.

## June Program

In June we will change our traditional Club meeting format. Instead of the traditional program presentation, we will “mix it up”.

The Field Day coordinator (KD6TUJ, Dennis) and his FD team will expound on the preparations for our FD adventure, describing the excellent activities to enjoy at the PARC FD site on 23-24 June. The biggest, most important thing you can do to support the PARC FD is **“show up at the PARC FD site”**. Many PARC members are already operating during the FD effort. The nice way to support PARC by all is to just **come out and enjoy!** We will have traditional food enjoyment, and great opportunities to socialize with hams, and talk about ham radio.

After Dennis’ presentation, we are going to have a “show and tell” session. This will be a chance to spend an evening chatting and getting to know our fellow club members. **Please share your treasures with us!** We will have an area set aside for equipment brought by you to show and tell us about.

So, **come to the June club meeting** to familiarize yourself with our FD, and enjoy getting to know your fellow PARC members.

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## Scholarship Committee Report

Thanks to the incredible work by Gayle KG60, Michelle W5NYV, and Charlie NN3V we have funded a scholarship with ARRL Foundation under the Palomar Amateur Radio Club name! We will have further information on how your interested family and friends may apply, what the requirements are, and how the decision is made in the coming months. The first scholarship will be available for the 2018-2019 school year! We are still pushing for some additional funds to create a second scholarship, but that will be for the 2019-2020 school year. Keep an eye out for further information later in the year, and remember us when you're preparing your tax write-offs for 2018!




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## Upcoming Events

Wednesday, June 6th	7:30	PARC Meeting	VIASAT
Wednesday, June 13th	7:00	PARC Board Meeting	Poway Fire Station #3
Sat. & Sun. June 23rd & 24th	All Day	Field Day	Valley Center
Wednesday, June 11th	7:30	PARC Meeting	TBD
Wednesday, July 18th	7:00	PARC Board Meeting	Poway Fire Station #3

## Repeater Status

This list includes W6NWX repeaters operated by PARC and other repeaters open to use by PARC members. All W6NWX repeaters are located on Palomar Mountain and are open to all amateurs.

Frequency	TX	Tone	Call sign	Remarks
52.680	-	107.2	W6NWX	Back on the air
146.730	-	107.2	W6NWX	System Fusion enabled. See Note 1
147.075	+	107.2	W6NWX	System Fusion enabled. See Note 1
147.130	+	107.2	W6NWX	System Fusion enabled. See Note 1
447.000	-	107.2	W6NWX	FM only for EchoLink Call Sign W6NWX
224.900	-	107.2	WD6HFR	Convair/220 ARC
224.380	-	107.2	KK6KD	HARS Hispanic Amateur Radio Society Open
224.940	-	107.2	KK6KD	HARS: Sharp Chula Vista Hospital, Open
145.260	-	107.2	KK6KD	HARS: San Diego Open
147.945	-	107.2	KK6KD	HARS: System Fusion Mt. Miguel Open
448.460	-	151.4	KK6KD	HARS: Mt. Miguel, San Diego Open
145.460	-	110.9	XE2DXA	HARS: Tijuana, Mexico Open
146.970	-	107.2	KA3AJM	Vista-Sponsored by MetroNET
146.175	+	107.2	N6FQ	Fallbrook ARC; linked to 445.600
445.600	-	107.2	N6FQ	Fallbrook ARC; linked to 146.175
145.050	s	N/A	W6NWX-1	Packet node; linked to metro 9600 net 1
146.700	-	N/A	W6NWX-3	Packet duplex repeater; Duplex 3

PARC operates an armature fast-scan television repeater. It's currently off the air. Currently there are not links to other ATV sites.

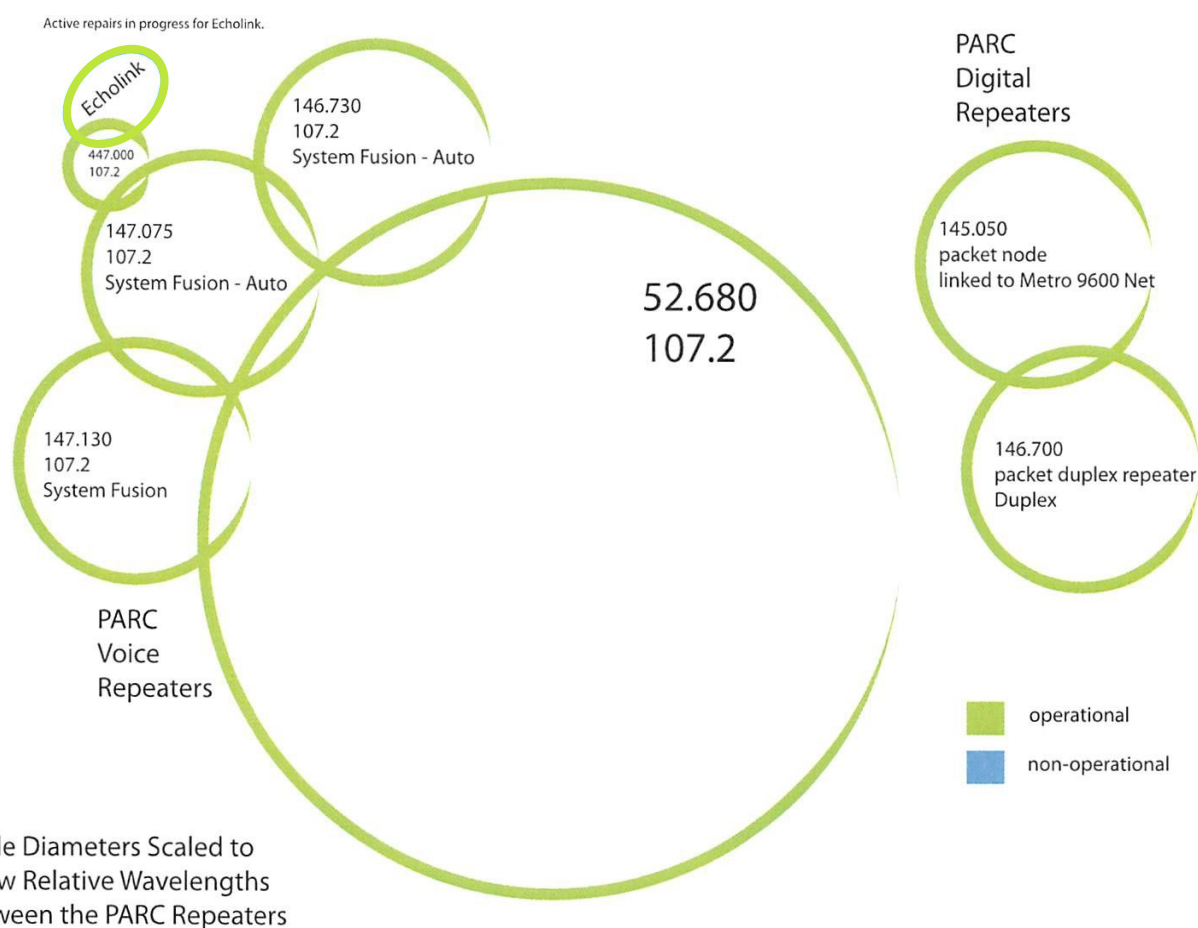
- ATV in: 915 MHz WBFM audio subcarrier 5.8 MHz
- ATV in 2441.5 MHz WBFM, audio subcarrier 6.0 MHz
- Intercom: 146.415 MHz NBFM simplex (tone 79.7). Currently not working.
- ATV out: 1241.25 MHz VSB, NTSC Standard

The PARC repeater site on Palomar Mountain is located at 5560 feet above mean sea level and 2132 above mean terrain. It covers most of San Diego County and beyond into Mexico and out to sea, and is shielded from the North.

**Note 1:** All Fusion enabled repeaters require a CTCSS tone of 107.2 Hz to access the repeater and also transmit a 107.2 Hz tone. Since the repeater output has a 107.2 tone you can enable CTCSS receive tone squelch on your transceiver which will eliminate interference from spurious noise and other repeaters. Control operators have the capability of setting the Fusion Repeaters to FM only operation. Consequently if you can't bring up the repeater in C4FM digital mode, try using normal FM mode. When in FM mode all Fusion repeaters have a 3 minute maximum transmit time, after which the repeater will cut off transmission until after the received signal drops. To prevent timing out the repeater after someone finishes talking, wait until you hear the courtesy beep which indicates that the 3 minute time has been reset. If a transmit timeout happens the repeater will provide a voice message indicating that the maximum transmit time has been exceeded.

**Note 2:** PARC no longer operates an autopatch or packet BBS

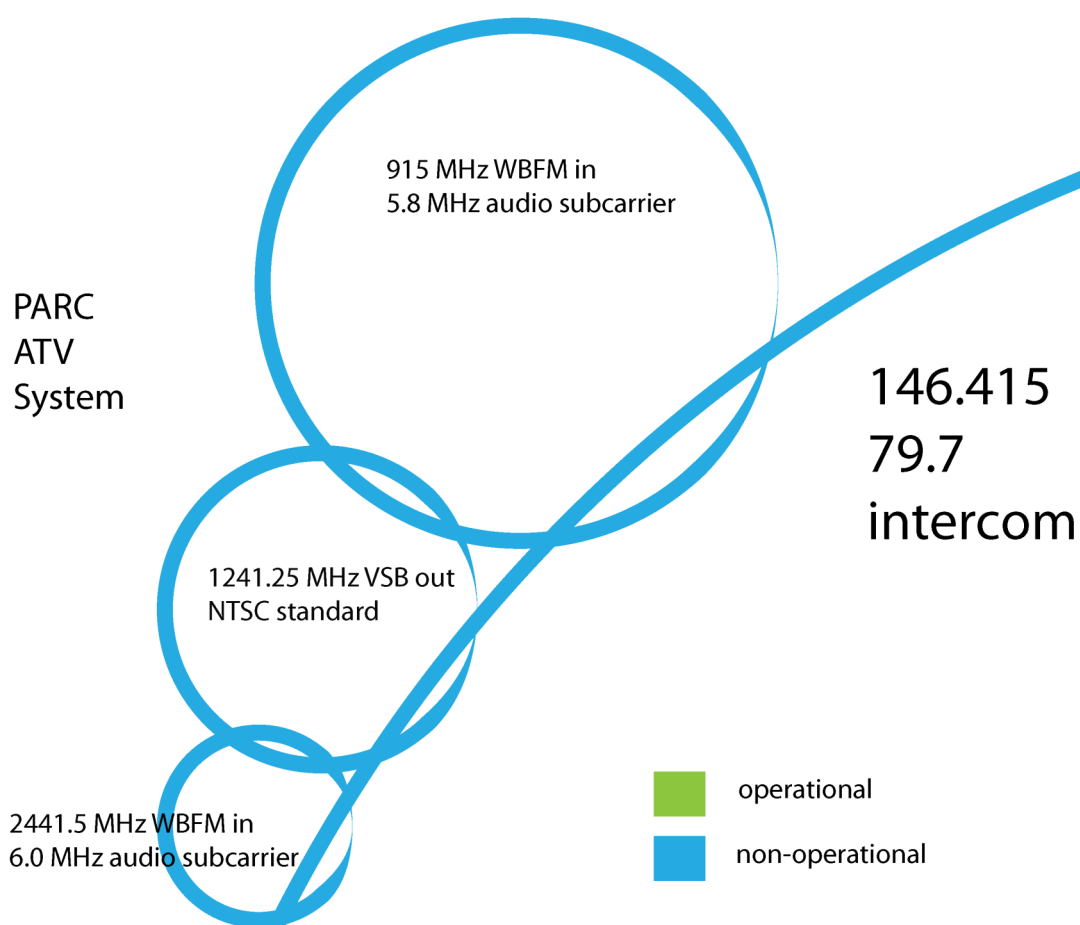
# Reported Repeater Status



Thanks to Michelle Thompson, W5NYV for the repeater status graphics.



# Reported ATV Status



Circle Diameters Scaled to  
Show Relative Wavelengths  
Between Equipment



## Membership Report

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](mailto:Membership@palomararc.org).



Check the status of your membership 24/7 at [Member List](#). If you don't find your name and callsign on that page, then your dues have lapsed. If you have questions, send email to [Membership@palomararc.org](mailto:Membership@palomararc.org).

## Donate to PARC by Shopping at Amazon

As publicized earlier this year, PARC is now a not-for-profit charity, and funds donated to PARC are deductible for income tax purpose if you itemize. 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](http://www.smile.Amazon.com). If you choose to avail yourself of this opportunity, when shopping on [www.smile.amazon.com](http://www.smile.amazon.com),



## Polo Shirts

We're ordering Polo shirts! Some of you already have orders in with me from the last meeting, please be ready to pre-pay for them so we can get the order placed ASAP! We need

20 shirts to get the price I've been quoted. If we end up with 30+ then the price goes down and I'll have a little change for those who have pre-paid once your shirts come in! Base price: \$21.00 includes printing on the front, PARC logo on one

side and your name/ callsign over the pocket. Add \$2.00 for 2XL, \$3.50 for 3XL, or \$5.00 for 4XL. Add \$5.00 if you also want the logo printed large on the back.

73 de K6JPE



## 6 Meter Update

### Packet Duplexer:

Rich NI6H and I went to the mountain today and found that the deviation was way down on the 146.700 duplex packet repeater's TX. Nothing obvious was found and after some connector wiggling the problem disappeared. Suspected just a bad connection in the Molex or backplane connectors. I used Kroil on the connectors and tightened up the Molex sockets using a dental tool. All measures out well now and the deviation is good.

VSWR on the antenna is nearly perfect with about 12 Watts out of the cavities and almost nothing returned.

### 6 Meter Repeater:

I removed the GASFET RF pre-amplifier from the 6 meter repeater this morning. Reset the squelch pot for threshold plus about 10 degrees. No RF background noise present when the PL decoder was disabled.

Will get out the 20 dB power and step attenuators here in the near future. Will see if we still have the same sensitivity and repeater decode levels.

Glued a thermistor onto the heat sink using JB Weld. The epoxy glue requires about 12 hours to cure so I carefully tied the thermistor in place so it would not move and left it to set up. I will use some Velcro tape to mount the fan controller PCB to the chassis. Then the fan will only come on when the transmitter's heat sink is warm.

I wanted to change out the power supply back to the original 48 VDC supply but messed up and did not bring the 48 VDC wiring harness with me. Will get this next time. Would like to find an alternate P.S. vendor since these supplies seem to be "flakey", however they never failed when I was bench testing them here. Very strange. Mark suggested that if they self-protected themselves then we have to let them sit for a minute or more before they would recover. We never did this when we were testing them on the mountain.

### 447 MHz Repeater:

The 447.000 MHz repeater's signal is way down again. Needs an antenna and/or cable replacement. Perhaps we can coordinate with the volunteer tower climber and/or Alex's 220 club (KK6BAD).

### Collinear Antennas:

Brought some LDF4-50A Heliac hardline home from the cargo container. Will use this to try and rebuild a new antenna for the 146 MHz frequency range. Have several fiberglass sheaths available now that I have tried (and failed!!!) to convert the 150 - 159 MHz business band antennas into 146 MHz ham antennas.

Measured several other UHF antennas and they will work fine into the ham frequencies. Just the 150 - 159 MHz Phelps Dodge Station Masters seem to be so critical for VSWR bandwidth.

John Kuivinen, WB6IQS  
Vista, CA

## Friday Lunch Bunch

The Friday Lunch Bunch recently dined at the newly remodeled Natsumi Buffet on Miramar Road and by all accounts, it is worthy of becoming a regular stop for our group. Our table took up almost the entire length of the room!



Left Front to Back:

Tom/W0NI, Mark/KI6IO, Mitch/K6BK, Michael/KB6D, Mark/N6NNI, Mike/NA6MB, Mona/KM6GTO

Right Front to Back:

Joe/K6JPE, Howard/KY6LA, Phil/AF6AV, John/N6WST, Randy/KQ6RS, Walt/N6STM, Gayle/K6GO, Bob/W6ACU

The lunch bunch started in the late 1980's with a hand full of hams that monitored the PARC repeaters on a daily basis. The group established the habit of meeting for an eye ball QSO over a taco or burger each Friday. At the time, many hams monitored the repeaters on Palomar mtn. during long commutes. Everyone looked forward to meeting up for a needed Friday break. When the internet caught on, I decided to collect an email list so that everyone could be informed as to where the lunch group would meet. Eventually, a website was established along with a simple sign up form requiring just an email address and a call sign.

Today the Friday lunch group is often 10 – 15 hams and we meet at any one of 10 restaurants to satisfy everyone's taste. The group has celebrated many birthdays and recognized some who have become a silent key. The maximum attendance ever recorded for a lunch was over 70 hams for a celebration of life for Ted Storke – KD6AKT a long time PARC member.

The lunch bunch is open to all who have an interest in amateur radio. You can sign up for the weekly invitations, view a photo gallery from past lunches at [www.W0NI.com](http://www.W0NI.com) and you need not RSVP. Join us for lively conversation, good food and fun!

73 de W0NI/Tom.

## Proposed Bylaws Amendment 2018-A

**Purpose:**

To bring the bylaws into alignment with current practice, and clarify what is required.

**Discussion:**

Back in 2001, the board decided that the expense of maintaining a “retail” insurance policy on the club-owned equipment was not financially responsible, due to multiple reasons; Most of the equipment was donated, cobbled together from pieces and parts, upgraded, repaired, modified, etc. so replacement cost justification to insurance companies might be problematic at best. The largest danger we have on the mountain is fire, and many insurance policies allow the underwriter to claim fire as an “Act of God” and deny coverage. The decision was made to start a self-insurance fund, a CD that gains interest over the years and we continue to fund that with the money that we would have spent on a retail policy. In 2013, the same discussion came up again, and again it was determined that self-insurance was sufficient for our needs. The current board agrees that self-insurance is still the best course of action for our insurance needs, but will continue to re-evaluate the situation in future years – so the option to have either a retail policy OR self-insurance gives future boards the ability to make that determination as it sees fit. An informational point, we have had only one equipment loss due to theft, which happened in the mid-1980s, and that loss was not claimed to insurance, but was replaced by the membership. For further information, please see page 4 of the June 2013 SCOPE.

**Text of Amendment:**

In Section 10(e), add the words “or self-insurance fund” as highlighted below :

(e) The corporation shall obtain and maintain a general liability insurance policy from a national coverage insurance company to cover liability of the corporation and its officers, directors, employees, and agents in the amount of at least \$1000.00, or such greater amount as the board may determine. The corporation shall also obtain and maintain a policy or self-insurance fund to cover Theft or Fire loss of corporation property in such amount as the board shall determine.

**Authored by:**

Joseph Peterson K6JPE  
President, Palomar Amateur Radio Club



## Repeater Update

Mark Raptis KF6WTN and myself went to the mountain on Saturday 5/26 to use some sophisticated instruments (digital network analyzer, swept VSWR, TDR (Time Domain Reflectometer), etc.) on the 447 MHz antenna feedline and antenna.

Our conclusion is similar to what I found a few months ago with my less sophisticated MFJ analyzer and Bird Wattmeter. We need a new tower feedline and/or a new 447 MHz antenna. There is a small chance that there is a unused existing spare feedline that would be useable on the tower but we would still need someone aloft to verify its' performance and measure the VSWR at the base of the current or replacement 447 MHz antenna.

The club has about 100' of 1/2" hard line with N-male type connectors spare in the cargo container. If we have to do a new run of cable we could.

I have a replacement UHF Station Master type antenna at my home with mounting hardware that has been checked out and it suitable for the 447 MHz frequency.

It was very cold up there that day. Not good climbing weather.

### WORK PARTY ON MOUNTAIN:

I would like to see a work party scheduled with a tower climber before mid-June or starting in July so as to not interfere with any Field Day activities.

The tower climber or climbers will have to have their own safety equipment and be capable of working at 60' height for extended sessions.

During that trip (I assume a weekend) any other club's activities can be included with maintenance for the 220 repeaters, repair of the 2 meter antenna that is hanging loose, other antenna issues and inspection of weather seals on the connectors on the tower.

We have not had to do a lot of antenna maintenance since the system was originally put together some 7 or 8 years ago. It's time that we got back up there and verified water tight connectors and replace any damaged RF fittings.

John Kuivinen, WB6IQS  
Vista, CA

## Field Day Work Party—Greg Gibbs K1RXX

A work party was conducted last Tuesday 05/23. In attendance were John WB6IQS, Glen AI6RR, James NE6O and Greg K1RXX. The purpose of the work party was to organize the station boxes and assess the status of other equipment and the beam antennas in preparation for field day. During the work party the boxes were organized, however it was reminded by Dennis after the party concluded that we should check for pulleys and the accompanying rope for the wire antennas. Those items were not on my list but should have been. This will need to be rechecked before we load up for field day. Another plan for the future will be to get ropes properly wound on winders to keep them organized and untangled in the future. All band pass and band reject filters were present and recently labeled. They also have accompanying pig tails with them. During the party it was noted that the matching system on the 15SSB antenna was damaged. Glen has been nice enough to offer to fabricate the needed parts for that. A work party will be needed (hopefully before FD) to sweep the antenna with an analyzer to make sure we have it working. The plan would be to take the antenna to a nearby park, assemble it, stand it on its end with someone holding it and people with ropes to stabilize it while it is tested. Make any needed adjustments, test again and then put it away. This would take about 6 to 8 volunteers to accomplish. Anyone is welcome to help. No experience needed and a great opportunity to see an antenna in person, learn how they go together and how they work. Stay tuned for that announcement.

Many thanks to all that helped this last work party. Our club is nothing without all our great volunteers. Also much thanks to Dennis for leading us to what I am sure will be a great Field Day this year.

---

## Field Day Work Report—Dennis KD6TUJ

Planning has progressed well.

Our big need is one more shelter. An RV, travel trailer or toybox would be useful.

All stations for a 5A operation are Captained and resources found with the above exception. Filters have been checked earlier for another event. And they have been labeled. Funding has been approved for food-stuffs (viddles). The food delicacies are a well kept secret that will require your presence to fully determine their culinary delights.

The next items to secure are transportation to in from storages to the site and manpower to support the move/setup.

My personal opinion about Field Day's purpose is:

The emergency demonstration, I understand, is the ability of amateurs to come to a location that has no communication ability, and create that ability by bringing in the necessary equipment, constructing it, and successfully operating to a location that can relay the needs to authorities to provide appropriate relief. PARC, like many clubs, is fortunate to have dedicated resources should the need arise. These are used for PARC's field day.

Field Day to me is a day to teach newcomers and the public different aspects of communications including band conditions so they may learn and become better informed.

Publicity to show dedication to practice and training is always hard. I would suggest that the media, who trails the amateur responder, knows where to go and what problems to report for public consumption as direct results of this demonstrated ability.



**PUBLIC INVITED YOUR INVITED AMATEURS INVITED EVERYONE IS INVITED**



EMAIL: PARCFIELDDAY2018@HOTMAIL.COM

**PALOMAR AMATEUR RADIO CLUB**

**FIELD DAY 2018**

**JUNE 23 AND 24**

**LOCATION: Corner of Lilac Road and  
Valley Center Road in Valley Center**

**CATEGORY**

**5A**

5 HF stations  
operating using a  
non commercial...  
power source

PHONE 760-672-0223



MORE INFO AT: <http://www.arrl.org/files/File/Field-Day/2018/2018%20FD%20Flier.pdf>

**ALL ARE WELCOME INCLUDING THE**

**GENERAL PUBLIC**

**COME OPERATE.**

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**VALLEY CENTER CERT**

**PAPA**

**LINKED REPEATER SYSTEM**

**AREDN**

**AMATEUR RADIO EMERGENCY**

**DATA NETWORK**

**VIDDLES BY**

**MARK OF THE**

**ROAD KILL CAFE**

**WORKING OUT OF**

**PSYCHO KITCHEN**

**NOT A MEMBER – COME ON OVER**

**NO LICENSE – COME VISIT US**

**DON'T KNOW CW/CODE – COME JOIN**

**COME LEARN ABOUT AMATEUR RADIO**

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**PAST FIELD DAYS**

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[Palomararc.org/photos](http://Palomararc.org/photos)



SCOPE  
PUBLISHED BY THE  
PALOMAR AMATEUR RADIO  
CLUB

EDITOR  
KEITH SPEARS  
KM6CXW

## Editorial Policy

The Scope welcomes and encourages members to submit articles, photos, stories, equipment reviews and any other items of interest to ham radio.

The Palomar Amateur Radio Club reserves the right to edit all submissions for content and length.

Please submit documents in MS Word format and photos as JPEG or GIF. Flyers may be submitted in PDF.

**All submissions need to be received by the 20th of the month.**

Send submissions to:

[scope@palomararc.org](mailto:scope@palomararc.org)



## Palomar Amateur Radio Club

**The Back page is a place for humor. If you have a joke, cartoon or just a fun story about ham radio, please share it with me. Please remember**

NA6MB (Mike) reports an important development of a new ham radio pro-sign.

You are familiar with the many pro-signs (ham speak abbreviations) already used on the bands. Things like QSL, QRZ, etc.

The new pro-sign is especially suited to report on the highly advanced capabilities built into all new ham radio transceivers.

The pro-sign is: Q M B, and its use is very simple. Here is an example.

Say during a QSO, one of the stations wants to know the level of technology built into the other station's transceiver.

The questioning station should ask the other: What is your QMB? In CW, send QMB?

Responses will vary depending on the technology in use at the other end.

A reply might be the numerical 99/5, or 87/3. These will depend on the knowledge of the other user of the advanced transceiver.

In the above examples, the QMB response in the first example means "My radio has 99 knobs, and I know how to use 5 of them", or in the second example "My radio has 87 knob, and I know how to use 3 of them"

So if you are queried about your QMB, you now can reply with confidence to the question.