



# SCOPE

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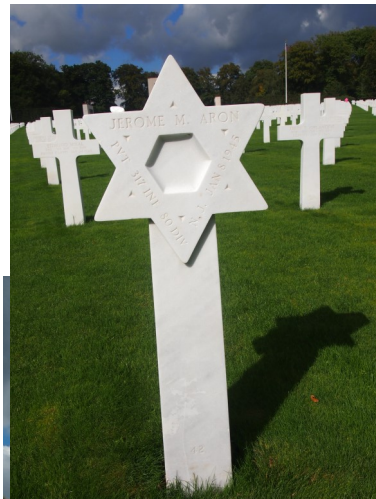
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## It Appears By Spears

It's May the month of the Mothers, BBQ' and of course the Dayton Hamvention. As you can see this is a very light issue. I received no articles or other information for this issue.

At the May meeting we will be presenting another Boy Scout with a radio to celebrate his new license. The troop will also be conducting the flag ceremony.

The cover photos were taken on a tour of the WW II battlefields I took a couple of years ago. Standing on that hallowed ground brings the enormity of that generation's sacrifice into focus. An interesting story is that originally General Patton following his wishes was buried among his soldiers. However, so many people visited his grave, they were destroying the grass. The family finally consented to having hm moved to a place of honor up front.

Wishing a happy Mothers and welcome to summer!

Keith Spears, KM6CXW  
Editor



My mom and I



## Board Members and Committee Chairs

### Board of Directors

President	Joe Peterson, K6JPE	(619) 630-8283
Vice President	Charlie Ristorcelli, NN3V	(619) 368-7617
Treasurer	Tom Ellett, W0NI	(858) 546-1148
Secretary		
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

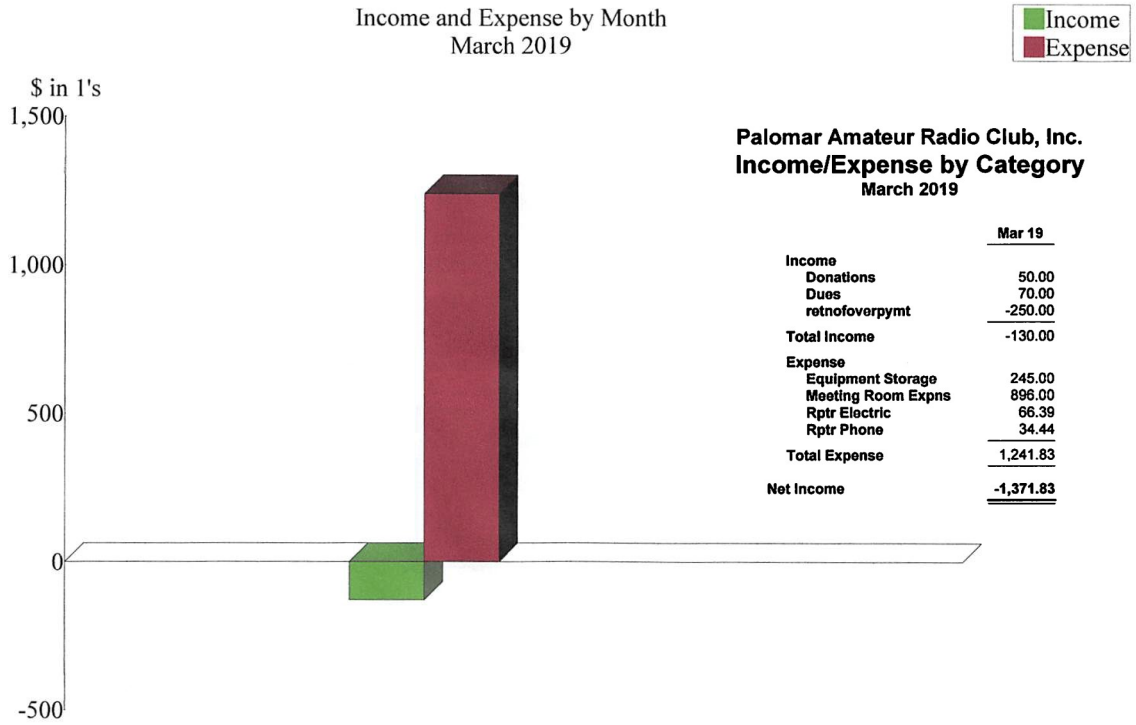
Repeater Site Chair	Mark Raptis, KF6WTN	(Acting)
Webmaster	Guido Sansonia, NO6I	(760)-224-6824
Trustee	Michelle Thompson, W5NYV	mountain.michelle@gmail.com

### 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		

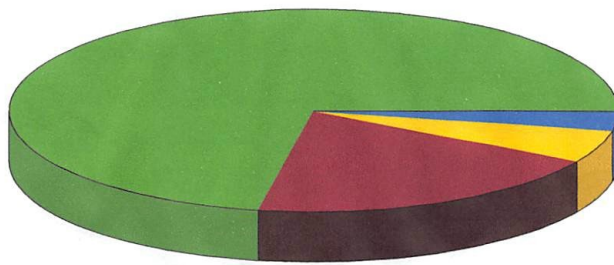
SD Microwave Group Liaison Kerry Banke N6IZW kbanke@sbcglobal.net

Income and Expense by Month  
March 2019



Expense Summary  
March 2019

Meeting Room Expns	\$896.00
Equipment Storage	245.00
Rptr Electric	66.39
Rptr Phone	34.44
<b>Total</b>	<b>\$1,241.83</b>



By Account

## May Program

The April meeting program will be Part II of a presentation by W8KFJ (Dave Kennett) on Software Designed Radio Technology. The history of SDR development, including a clear contrast of the stages of radio reception and transmission as it was performed in the "old" super het era, and how SDR revolutionizes the ability to communicate will be covered in detail.

This will not be an arm waving discussion. This will delve into the stages of communication processing in a friendly and understandable manner.

## For Sale

Andrews 7/8" 50 Ohm hard line coaxial cable. Shorter lengths suitable for magnetic loop antennas. No connectors. Different lengths from 10 - 15'. Club Donation. Contact [WB6IQS@cox.net](mailto:WB6IQS@cox.net)

## 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 2019!

## Upcoming Events

May 1st	7:30	PARC Meeting	Pine Ave. Community Center
May 8th	7:00	PARC Board Meeting	Poway Fire Station #3
May 17th to 19Th	All Day	Dayton Hamvention	Green County Fair Grounds
June 5th	7:30	PARC Meeting	Pine Ave. Community Center
June 12th	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

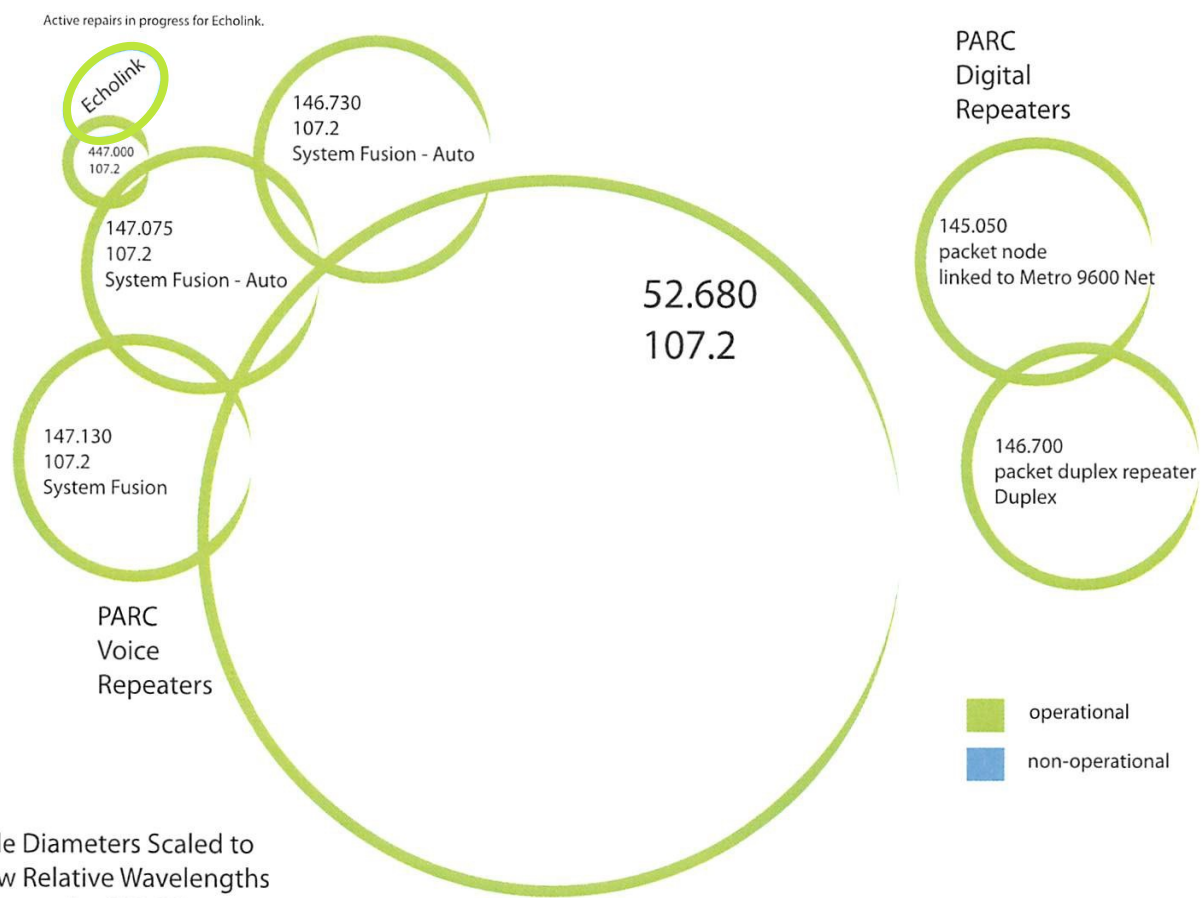
PARC operates an armature fast-scan television repeater. It's currently off the air. Currently there are not links to other ATV sites.

- 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.

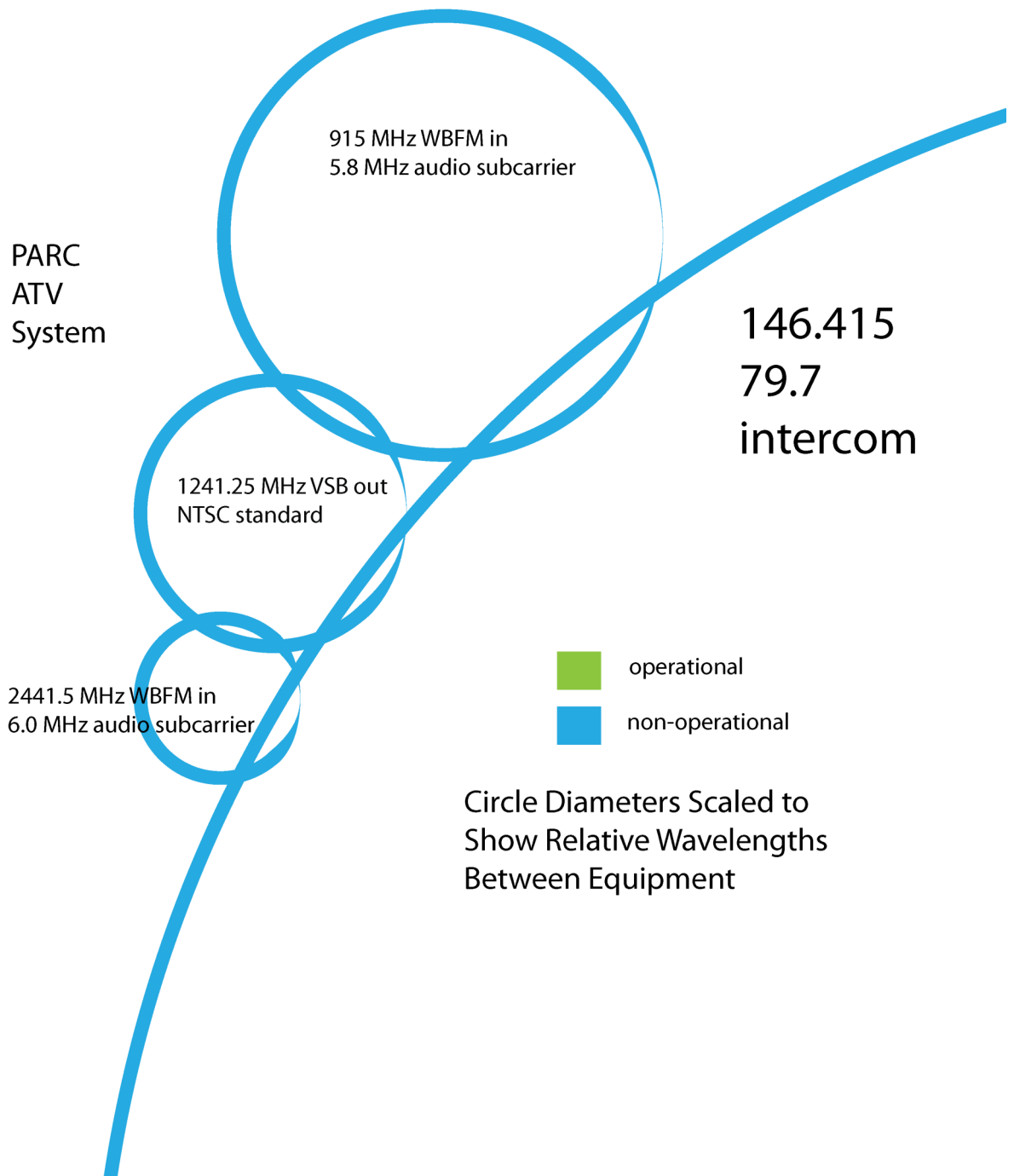
# Reported Repeater Status



Circle Diameters Scaled to Show Relative Wavelengths Between the PARC Repeaters

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

# Reported ATV Status





## 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 [MembershipChair@palomararc.org](mailto:MembershipChair@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 [MembershipChair@palomararc.org](mailto:MembershipChair@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



## Repairs on the 6 Meter Duplex Repeater

### John Kuivinen, WB6IQS

#### Background:

Some months ago the 6 meter repeater quit operating. Due to snow / cold and mud conditions it was not easy to get into the repeater site. I thought that it would be a simple fuse or bad connection to repair the repeater but it was not that easy.

The receiver was operating normally but the transmitter had zero output power. From some initial checks I could tell that the repair required the use of a full service bench and replacement components.

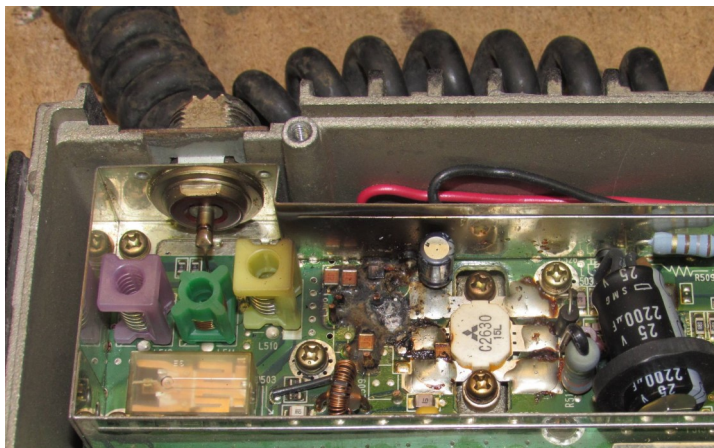
#### Testing the Repeater at the Site:

The 6 meter repeater is made up of two Midland LMR series 6 meter mobile transceivers. One transceiver is used for receiving and one for transmitting. The transmitter portion is rated for 40 Watts transmitting. I did a lot of bench testing at the house but never for longer than 10 minutes or so continuous transmitting. Evidently the transmitter got stuck on or there was a lot of activity with the cross linked 147.075 repeater and the 6 meter power amplifier was DOA (Dead on Arrival) when I arrived.



#### Bench Testing:

Taking the repeater apart I could smell the problem in the repeater's power amplifier. The "magic smoke" was let out of the transistor power amplifier stage and it was not longer operating. The receiver portion was still operational so I saved the Midland radio for use as a receiver for some future project.

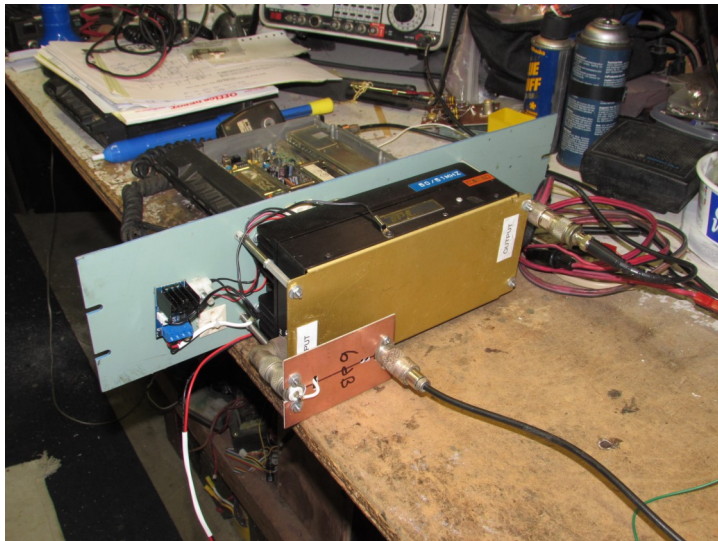


These radios are programmable for power output. They can run either 10 Watts or 40 Watts power output. I purchased an E-Bay "working" TPL 1006 80 Watt rated external RF power amplifier but still had to do some repairs and modifications. However, using external cooling fans and running it at half power

## Repairs on the 6 Meter Duplex Repeater-Continued John Kuivinen, WB6IQS

should make a very long lived system that operates well even into a bad antenna load.

I only need about 2.5 Watts to drive the power amplifier. A 6 dB Pi type power attenuator was constructed to reduce the 10 Watts of power down to a more acceptable drive level. The TPL amplifier also has a further 3 dB attenuator in line with the input circuit so the driver radio now has a 9 dB antenna load at all times and is better protected against lightning surges.



**Conclusion:**  
I am guessing that the 6 meter antenna got loaded up with ice / snow and folded over on the mount. I have a cooling fan on the exciter radio but with the high VSWR the mobile radio at maximum rated power quit operating and smoked the transistors.

Replacement parts have been tested and the repeater is being re-assembled. The external power amplifier will be added to the repeater rack and plumbed into the system. All things considered, it was an easy repair and not too expensive.

Many thanks to RF Parts in San Marcos CA for some up-graded RF power transistors used to repair the TPL amplifier. I used E-Bay for the Midland LMR mobile radios.

# INTERNATIONAL STYLE ON-FOOT T-HUNT

## Saturday May 18<sup>th</sup>, 2019

Guajome Regional Park, Oceanside, CA 92057

Sponsored by the San Diego T-Hunt Group & CQ Magazine World Wide Fox Hunting Weekend

Starting times will be 10:30 AM to 1:30 PM at 5 minute intervals. If you start at 1:30 you will have until 3:00 to complete the course. **NO REGISTRATION FEES!** There will be 5 hidden T's using the MOE-MOI-MOS-MOH-MO5 format. You will be issued a "Punch card" and there will be orange & white flagging tape at each punch located close to the T's which will be concealed. Antennas will all be vertically polarized with approximately the same radiated power from each "T". For information on "International Style Transmitter Hunting" you may go to Joe Moell, k0ov's excellent website..... [www.homingin.com/#toc](http://www.homingin.com/#toc) . We will have limited equipment for loan for those that do not have small 2-M beams. Bring a connector to go from your HT antenna connector to a BNC cable ( Chinese HT's not recommended). There will be experienced Hams present to demonstrate techniques for those that want to learn about "On-Foot" Amateur Radio Direction Finding (ADRF) and a "Practice T" to experiment with before you start the course. You do not need a Ham Radio License to participate! You will be issued a map of the area with major features delineated. A compass, clipboard and pencil may be handy to plot bearings with. Dress appropriately and plan on taking water with you while hunting. There are several restrooms in the Park.

A BBQ is planned for about 2:00 PM for those interested. We will have burgers & hot dogs, buns, condiments, potato salad, drinks, chips & salsa. BBQ donations can be made on site. If you are staying for BBQ you might want to bring a folding chair. For information contact :

Joe Corones, N6SZO @ H-858.484.3582, C-858.603.5545, [jcorones@gmail.com](mailto:jcorones@gmail.com) OR... ..  
Joe Loughlin, KE6PHB @ H-619.461.7845, C-619.403.3149, [ke6phb@cox.net](mailto:ke6phb@cox.net)

Directions: From Interstate 5 in Oceanside take Hwy 76 east about 6 ½ miles to Guajome Lake Rd., turn right onto Guajome Lake Rd. and Park entrance will be first turn on your right. There is a \$3.00 day use parking charge. If you would like to walk into the Park you will have to pass the Park entrance and go about 300 yards further south for free street parking. We will be located by the restrooms on the right as you enter the Park. Look for signs/banner for T-Hunting. Coordinates are 33 14' 45.71" N, 117 16' 21.03" W.

**COME OUT AND EXPERIENCE A DIFFERENT ASPECT OF HAM RADIO**





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 this is a family newsletter:)**

### BBQ Humor

Q. What is a BBQ Master favorite massage?

A. A dry rub

Q. You know Murphy's law, but what is Coles Law?

A. It's a cabbage salad served at a BBQ

Q. What do you call an Ape cooking on a BBQ?

A. A Gorilla

Q. Two vegans bump into each other at a BBQ

A. One says to the other "We have to stop meating like this"

Q. Why don't you BBQ on your roof?

A. The steaks are too high

Q. What is a social gathering where everyone has a beef with everyone?

A. A BBQ



*"The wheel was last week. Now's he's started a new project called a grill."*