



# SCOPE

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## Palomar Amateur Radio Club

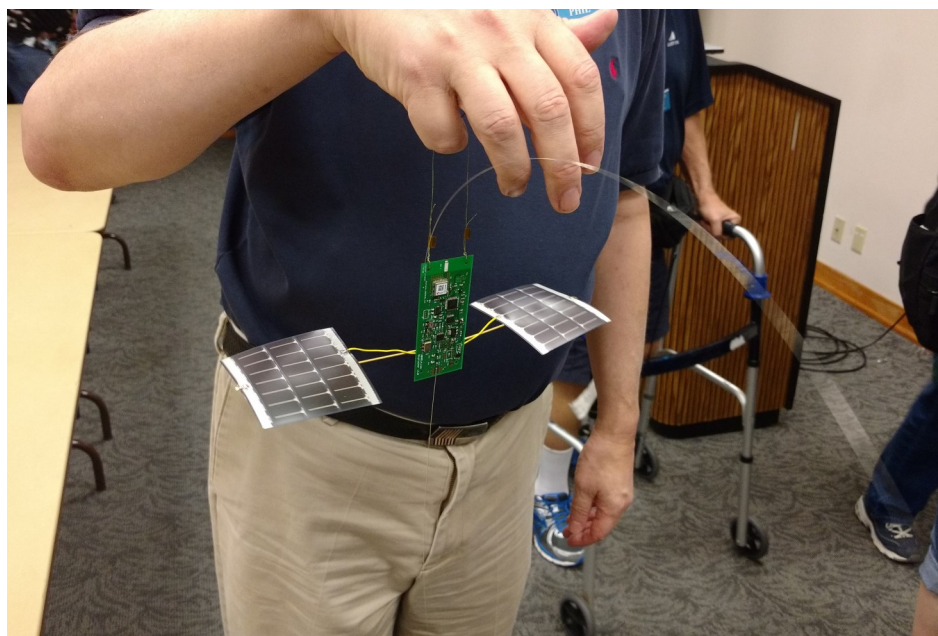
May 2017

### Highlights from Our March Meeting

(Right) PARC President Joe Peterson, K6JPE presents Boy Scout Everett Brooking, KM6HOU a brand new radio as a reward for earning his license



(Below) Phil Karn, KA9Q shows off one of the transmitters used on the weather balloons he builds with the kids of the Mt. Carmel High School Amateur Radio Club.



## It Appears By Spears



This month marks the one year anniversary of me becoming a Ham. To say the least it has been an entertaining and educational year. Googling any topic related to ham radio returns volumes of information and a wide variety of opinions on any topic. I can now impress people at parties by explaining Ohms law. This may

explain why I don't get invited to many parties. I want to thank Joe, K6JPE, Mark, KF6WTN, John WB6IQS and Michelle, W5NYV for answering all my questions and the advice they gave over the past year. I look forward to many more years of this great activity. In this issue we have some great information on our EchoLink

repeater by Bernie, N6FN and another installment of the early days of Ham Radio. We also have a feature story about harness safety.

Wishing all you mothers a very happy Mothers Day.

73 de KM6CXW  
Keith Spears  
Editor

***“Let's get some more activity on the repeaters! If!”***



## Presidents Corner

Greetings PARC Members and other HAMs!

It's been a busy Spring in the community and in the club, I'm excited for all the amazing projects we have in the works! Check out the repeater status (page7) and notice that we have the 6m repeater back online, and look for new updates in the coming months about Echolink, IRLP, Wires-X, and maybe even a surprise or two!

As announced at the club meeting last

month, please remember that dues will increase to \$35/person (\$50/family) effective July 1 in order to continue to provide smooth operation of the club. Again, this decision was not taken lightly, and has been thought through very carefully.

We have several events coming up that could use some manpower from the Club, including the Maker Faire that happens June 17-18 more info at <http://www.northcountymake>

[rfaire.org/](http://rfaire.org/). See the article on Page 29 for additional information.

Let's get some more activity on the repeaters! If you have a commute, consider turning on the radio and announcing yourself during the daily roll to and from your office.

I'm looking forward to seeing you all at the next club meeting to hear from Bob, AK6R, on the ABCs of RFI!

## Board Members and Committee Chairs

### Board of Directors

President	Joe Peterson, K6JPE	(619) 630-8283
Vice President	Michael Gottlieb, KB6D	(858) 212-4646 Text Welcome
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 Kuivinen, WB6IQS	(760) 727-3876
Membership Chair	Glen Christensen, AI6RR	(858) 735-1144
Repeater Technical Chair	Mark Raptis, KF6WTN	
Scope Editor	Keith Spears, KM6CXW	(858) 472-8442 Text Welcome

### Not on Board

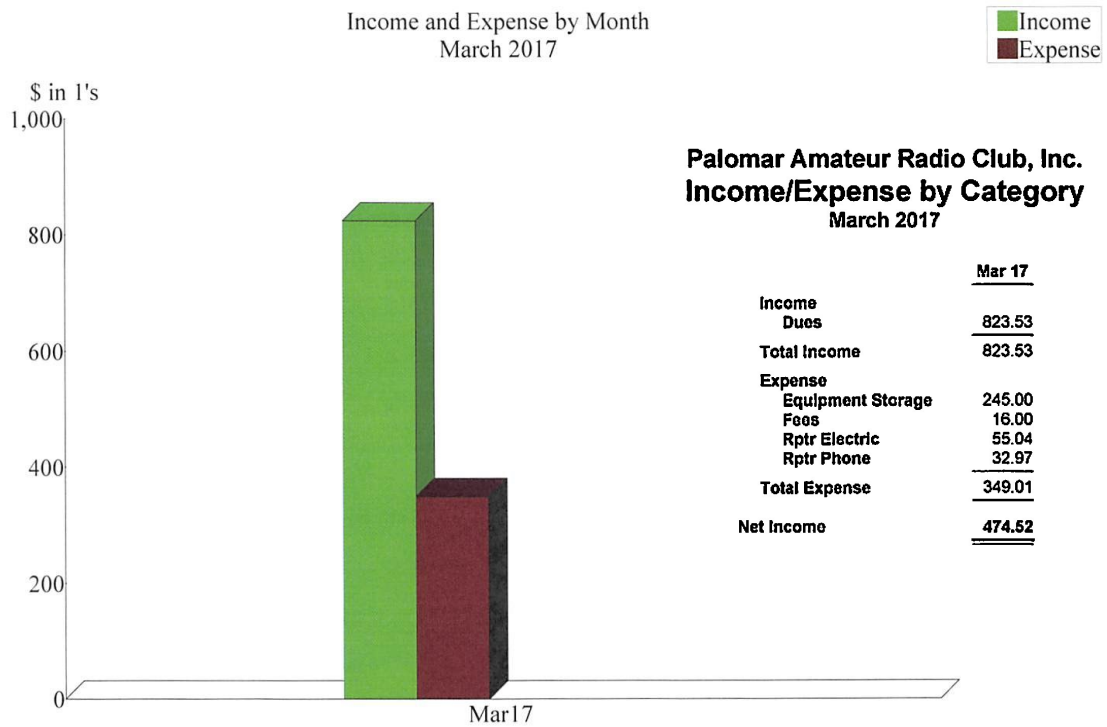
Repeater Site Chair	Mark Raptis, KF6WTN	(Acting)
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### Committee Chairs

Boy Scouts	Michael Palugod	mpalugod@yahoo.com
Digital ATV	Open Group Forming	atv@palomararc.org
Echo Link	Bernie Lafreniere N6FN	N6FN@niftyaccessories.com
HF Remote	HF Remote SIG	hfremote@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
SD Microwave Group Liaison	Kerry Banke N6IZW	kbanke@sbcglobal.net

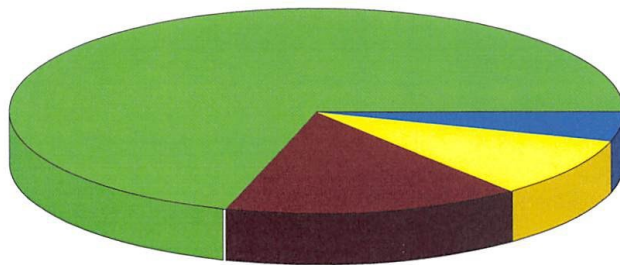


Income and Expense by Month  
March 2017



Expense Summary  
March 2017

Equipment Storage	\$245.00
Rptr Electric	55.04
Rptr Phone	32.97
Fees	16.00
<b>Total</b>	<u>\$ 349.01</u>



By Account



## May Program—May 3rd

Is your transmitter the SOURCE of RFI affecting electronic devices in your own house or your neighbor's house? Would you like to find a quick and easy solution so you can have more time to operate and enjoy ham radio rather than troubleshooting RFI issues?

Are you the VICTIM of RFI from your own electronic devices or from devices in your neighborhood? Do you want to reduce your

receiver noise floor so you can hear local contacts and more DX? If you answered YES to either of these questions, then you should attend this presentation by Bob Brehm, AK6R where you will learn how to make ham radio more enjoyable by eliminating problems caused by RFI. During the presentation you will see many examples of feed line chokes, baluns, ununs, and



various practical applications of ferrites for AC/DC power lines, computer interconnect cables, transceivers, linear amplifiers, home theater systems, etc.

## Upcoming Events

Wednesday, May 3rd	7:30	PARC Meeting	Carlsbad Safety Center
Saturday, May 6th	10:00	On Foot T-Hund	Lindo Park, Lakeside
Sunday, May 7th	7-4	Operating Day	Fry's San Diego
Wednesday, May 10th	7:00	PARC Board Meeting	Poway Fire Station #3
Saturday, May 13th	9-1	Poway Emergency Fair	Old Poway Park
May 19th—21st	8-5	Dayton Hamvention	Dayton, OH
Wednesday, June 7th	7:30	PARC Meeting	Carlsbad Safety Center
June 2nd—4th	8-5	Sea Pac Convention	Seaside, OR
Wednesday, June 14th	7:00	PARC Board Meeting	Poway Fire Station #3
June 17th & 18th	TBA	Mini Maker Fair	AGSEM, Vista
June 24th-25th	All Day	ARRL Field Day	With EARS

## INTERNATIONAL STYLE ON-FOOT T-HUNT

Saturday May 6<sup>th</sup>, 2017

Lindo Lake County Park, 12660 Lindo Lane, Lakeside, CA 92040

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

Starting times will be 10:00 AM to 2:00 PM at 5 minute intervals. If you start at 2:00 you will have until 3:30 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". This will be a very flat and short course compared to past hunts! For information on "International Style Transmitter Hunting" you may go to Joe Moell, k0ov's excellent website..... [www.homingin.com/intlfox.html](http://www.homingin.com/intlfox.html) 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 3:00 PM for those interested. We will have burgers & hot dogs, buns, condiments, potato salad, drinks, chips & salsa. BBQ donations can be made on site. 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 8 take Hwy 67 North and from E/B 52 take Hwy 67 North to the Winter Gardens Blvd. exit staying to the right. Immediately after you turn onto Winter Gardens make a left on Woodside Ave. and go straight until you hit the Park, about 6-7 streets. The road curves to the right and then to the left, after the left curve turn into parking lot on your left by the VFW and Park entrance. Look for signs/banner for T-Hunting towards the back end of the parking lot. Coordinates are 32° 51' 24" N, 116° 55' 07" W.

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



## Repeater Status

This list includes W6NWG repeaters operated by PARC and other repeaters open to use by PARC members. All W6NWG repeaters are located on Palomar Mountain and are open to all amateurs.

Frequency	TX	Tone	Call sign	Remarks
52.680	-	107.2	W6NWG	Back on the air. Performance tweaking in progress
146.730	-	107.2	W6NWG	System Fusion enabled. See Note 1
147.075	+	107.2	W6NWG	System Fusion enabled. See Note 1
147.130	+	107.2	W6NWG	System Fusion enabled. See Note 1
447.000	-	107.2	W6NWG	System Fusion enabled. See Note 1
224.380	-	107.2	KK6KD	Americas Unidos. Down for repairs
224.900	-	107.2	WD6HFR	Convair/220 ARC
224.940	-	107.2	KK6KD	Sharp Hospital coverage
446.140	-	123.0	WB6FMT	Vista
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	W6NWG-1	Packet node; linked to metro 9600 net 1
146.700	-	N/A	W6NWG-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

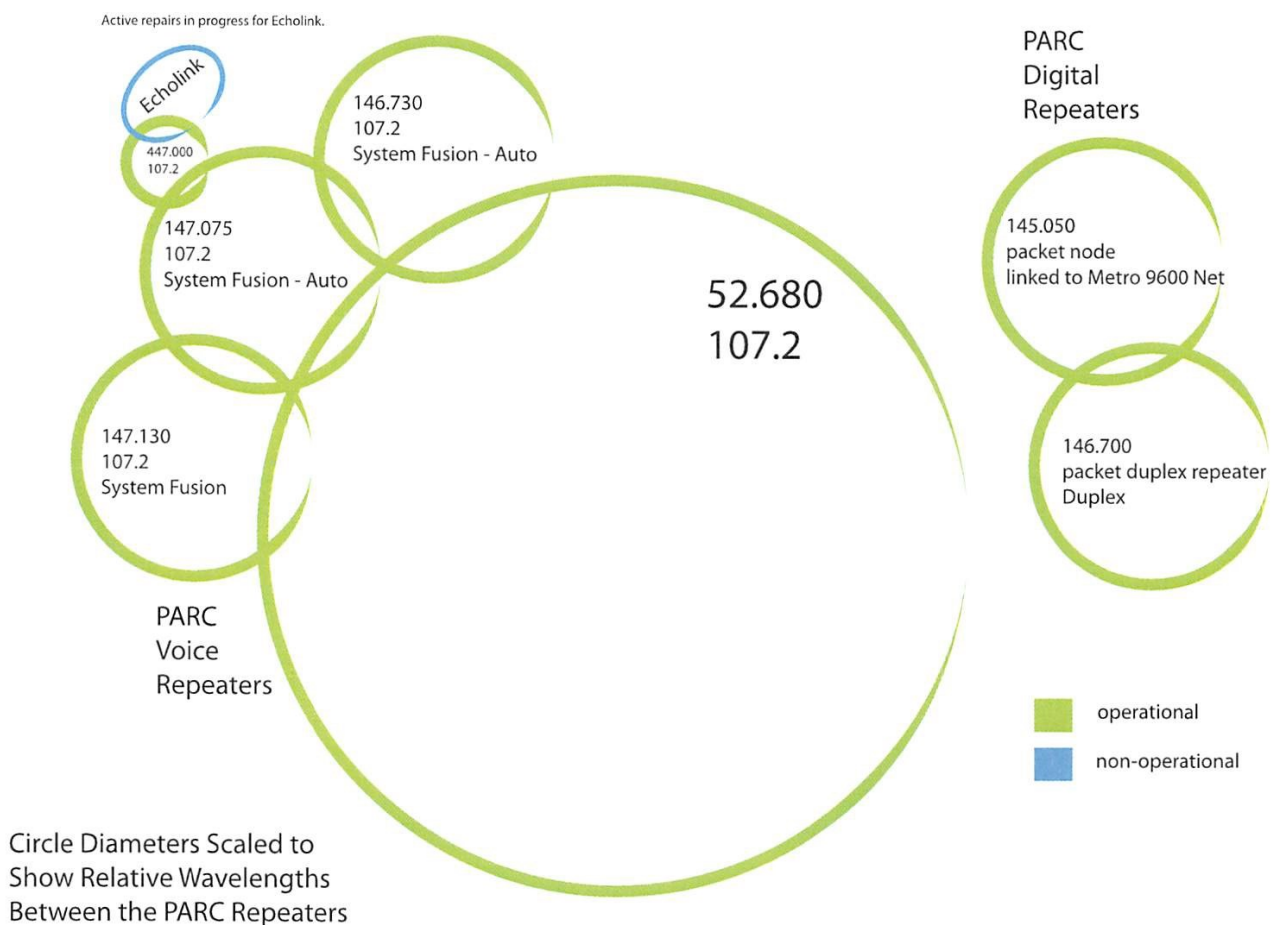
The PARC repeater site on Palomar Mountain is located at 5560 feet above mean sea level and 2132 above mean terrain. It covers most of San Diego County and beyond into Mexico and out to sea, and is shielded from the North.

**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 seeing 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 repeater 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 packed BBS

Another project is underway to investigate installing remotely-operated HF station at the repeater site as discussed. Join the Remote mailing list to participate.

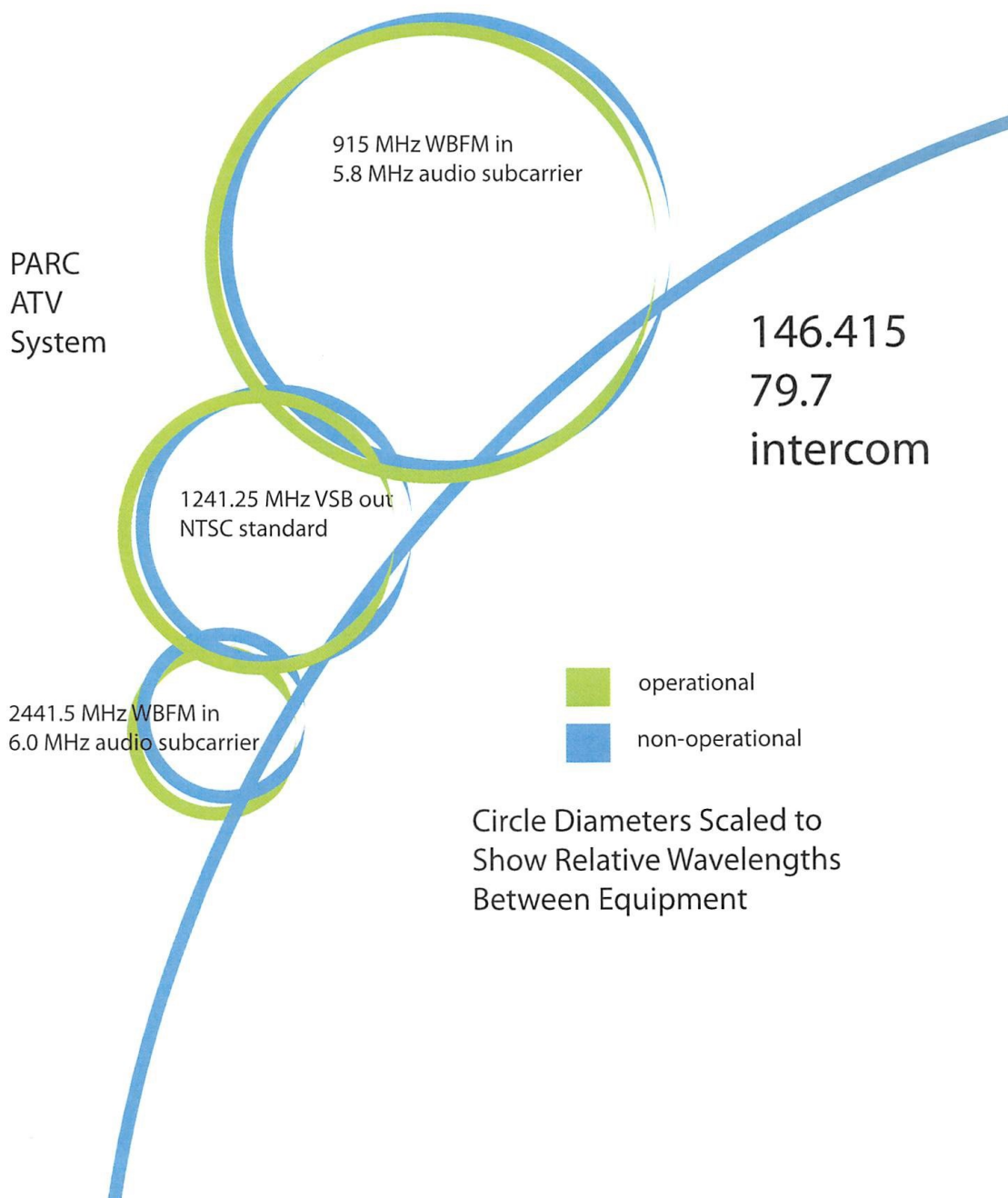
# Reported Repeater Status



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



# Reported ATV Status





*“Wide ranges of situations require safety harnesses of various types.”*



## Will Your Safety Harness Kill You?

**Workers and emergency response personnel must be trained to recognize the risks of suspension trauma. By Bill Weems and Phil Bishop**

I was surprisingly comfortable with my legs dangling relaxed beneath me, and my arms outstretched in a posture that must have resembled a crucifixion.. The next thing I knew, they were reviving me from unconsciousness. I had just experienced what could be deadly for your workers who use safety harnesses. Fortunately for me, my suspension trauma occurred in the safe environment of the research ward of University of Texas Medical Branch Hospital at Galveston, Texas, where I was the first subject in a NASA experiment studying orthostatic intolerance in astronauts. Your workers won't be so lucky.

Wide ranges of situations require safety harnesses of various types. Workers requiring fall protection, workers entering many confined spaces, mountain climbers, deer hunters in elevated stands, and cave explorers all try to protect themselves through the use of safety harnesses, belts, and seats. What is little known however, is that these harnesses can also kill. Harnesses can become deadly whenever a worker is suspended for durations over five minutes in an upright posture, with the legs relaxed straight beneath the body. This can occur in many different situations in industry. A carpenter working alone is caught in mid-fall by his safety harness, only to die 15 minutes later from suspension trauma. An electrical worker is lowered into a shaft after testing for toxic

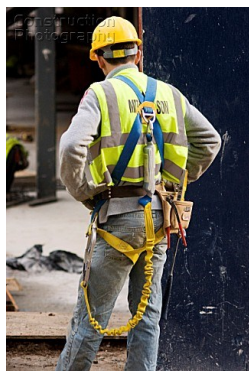
gases. He is lowered on a cable and is positioned at the right level to repair a junction box. After five minutes he is unconscious--but his buddies tending the line don't realize it, and 15 minutes later a dead body is hauled out. The cause of this problem is called "suspension trauma." Fall protection researchers have recognized this phenomenon for decades. Despite this, data have not been collected on the extent of the problem; most users of fall protection equipment, rescue personnel, and safety and health professionals remain unaware of the hazard.

Suspension trauma death is caused by orthostatic incompetence (also called orthostatic intolerance). Orthostatic incompetence can occur any time a person is required to



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*“Suspension trauma death is caused by orthostatic incompetence (also called orthostatic intolerance).”*



## Will Your Safety Harness Kill You? - Continued

stand quietly for prolonged periods and may be worsened by heat and dehydration. It is most commonly encountered in military parades where soldiers must stand at attention for prolonged periods. Supervisors can prevent it by training soldiers to keep their knees slightly bent so the leg muscles are engaged in maintaining posture. What happens in orthostatic incompetence is that the legs are immobile with a worker in an upright posture. Gravity pulls blood into the lower legs, which have a very large storage capacity. Enough blood eventually accumulates so that return blood flow to the right chamber of the heart is reduced. The heart can only pump the blood available, so the heart's output begins to fall. The heart speeds up to maintain sufficient blood flow to the brain, but if the blood supply

to the heart is restricted enough, beating faster is ineffective, and the body abruptly slows the heart. In most instances this solves the problem by causing the worker to faint, which typically results in slumping to the ground where the legs, the heart, and the brain are on the same level. Blood is now returned to the heart and the worker typically recovers quickly. In a harness, however, the worker can't fall into a horizontal posture, so the reduced heart rate causes the brain's blood supply to fall below the critical level. Orthostatic incompetence doesn't occur to us very often because it requires that the legs remain relaxed, straight, and below heart level. If the leg muscles are contracting in order to maintain balance and support the body, the muscles press against

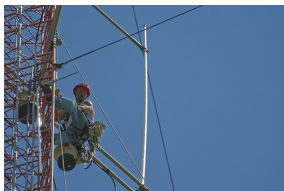
the leg veins. This compression, together with well-placed one-way valves, helps pump blood back to the heart. If the upper-legs are horizontal, as when we sit quietly, the vertical pumping distance is greatly reduced, so there are no problems. In suspension trauma, several unfortunate things occur that aggravate the problem. First, the worker is suspended in an upright posture with legs dangling. Second, the safety harness straps exert pressure on leg veins, compressing them and reducing blood flow back to the heart. Third, the harness keeps the worker in an upright position, regardless of loss of consciousness, which is what kills workers.

There are four phases of fall protection: Before the fall, at fall arrest, suspension, and

*(Continued on page 12)*



*“The whole concept of fall protection is that workers who fall will be stopped by the tethering system.”*



## Will Your Safety Harness Kill You? - Continued

post-fall rescue. Each phase presents unique safety challenges. Suspension trauma can be influenced by all aspects of the fall, so they are all important. As with many aspects of safety, increasing the safety in one phase can compromise the safety of the others. Whatever training workers have received will determine how they respond to different phases. Here is a brief discussion of each aspect of fall protection.

The key issue of fall protection before the fall is compliance. If a harness is too uncomfortable, too inconvenient, or interferes too much with task completion, workers may not use the equipment or may modify it (illegally) to make it more tolerable. A second major point is the length of the attachment lanyard, or, how far can a worker fall before his fall is arrested? The longer

the fall, the greater the stress on the body will be when the fall is arrested. The shorter the lanyard, the more often it will have to be repositioned when workers are mobile. A moveable safe anchor is one solution, but this situation is only occasionally available.

The whole concept of fall protection is that workers who fall will be stopped by the tethering system. The longer the attachment lanyard, the greater the acceleration time during the fall and the greater the stress on the body at arrest. Unfortunately, the posture of the falling worker is unpredictable. Depending on the harness attachment point and the position of the worker's body at arrest, different harness attachments offer different advantages. An attachment near the shoulders means that any drag from the

lanyard will serve to position the worker's body in an upright position so the forces are distributed from head to foot. The head is somewhat protected if the legs and body precede it in the fall, but this offers some disadvantages after the fall arrest is completed.

Many safety professionals naturally assume that, once a fall has been arrested, the fall protection system has successfully completed its job. Unfortunately, this is not the case. A worker suspended in an upright position with the legs dangling in a harness of any type is subject to suspension trauma.

Fall victims can slow the onset of suspension trauma by pushing down vigorously with the legs, by positioning their body in a horizontal or slight leg-high position, or by standing up. Harness

*(Continued on page 13)*





*“Rescue must come rapidly to minimize the dangers of suspension trauma .”*

## Will Your Safety Harness Kill You? - Continued

design and fall injuries may prevent these actions, however.

Rescue must come rapidly to minimize the dangers of suspension trauma. The circumstances together with the lanyard attachment point will determine the possibilities of self-rescue. In situations where self-rescue is not likely to be possible, workers must be supervised at all times. Regardless of whether a worker can self-rescue or must rely upon others, time is of the essence because a worker may lose consciousness in only a few minutes. If a worker is suspended long enough to lose consciousness, rescue personnel must be careful in handling such a person or the rescued worker may die anyway. This post-rescue death is apparently caused by the heart's inability to tolerate the abrupt increase in blood flow

to the right heart after removal from the harness. Current recommended procedures are to take from 30 to 40 minutes to move the victim from kneeling to a sitting to a supine position.

An arrest harness attachment on the front of the body facilitates self-rescue after a fall. However, a front attachment means the arresting lanyard may be in the way for many work tasks. An attachment point near the center of gravity (CG) makes post-fall body positioning much easier and increases the likelihood that a fallen worker will not be suspended in an upright vertical position. Yet a front near-CG attachment point can greatly increase the bending stress on the spine at the instant of arrest, raising the possibility that the arrest itself results in serious injury.

The most protective harnesses for suspension can be the least comfortable.

Safety harnesses save many lives and injuries. However, continual vigilance is needed to train and supervise workers to ensure harnesses are used safely. All phases of fall protection need to be examined for each particular application. Workers and emergency response personnel must be trained to recognize the risks of suspension trauma.

Before the potential fall:

- 1) Workers should never be permitted to work alone in a harness.
- 2) Rope/cable tenders must make certain the harness user is conscious at all times.
- 3) Time in suspension should be limited to under five minutes. Longer suspensions must have

*(Continued on page 16)*

# 3rd ANNUAL POWAY EMERGENCY SURVIVAL FAIR

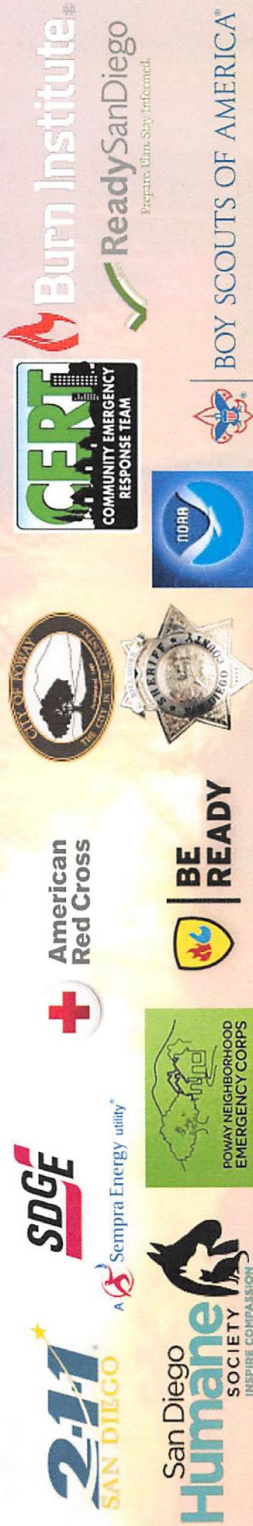
**SATURDAY MAY 13, 2017**

9 AM — 1 PM

OLD POWAY PARK — 14134 MIDLAND ROAD, POWAY



VISIT BOOTHS STAFFED BY ORGANIZATIONS THAT PROVIDE RESOURCES AND SERVICES BEFORE, DURING AND AFTER AN EMERGENCY. LEARN WHAT THEY DO, AND HOW THEY CAN HELP YOU AND YOUR FAMILY TO PREPARE FOR AND SURVIVE NATURAL OR MAN-MADE DISASTERS. REPRESENTED AT THIS EVENT WILL BE POWAY C.E.T., SAN DIEGO CRIME PREVENTION, SD SHERIFF SENIOR VOLUNTEER PATROL, POWAY CITY FIRE AND SAFETY SERVICES, BURN INSTITUTE, BOY SCOUTS OF AMERICA, READY SAN DIEGO, 211 SAN DIEGO, SDG&E, AMERICAN RED CROSS, POWAY NEIGHBORHOOD EMERGENCY CORPS, POWAY AMATEUR COMMUNICATIONS TEAM, BE READY STORE, CLEAN CLEAR WATER STORAGE AND OTHERS.



THE EMERGENCY SURVIVAL FAIR IS SPONSORED BY THE POWAY NEIGHBORHOOD EMERGENCY CORPS, A NONPROFIT ORGANIZATION THAT COMPLEMENTS THE CITY OF POWAY EMERGENCY OPERATIONS PLAN THROUGH A GRASS-ROOTS COMMUNICATION NETWORK OF NEIGHBORS HELPING NEIGHBORS.



## Membership Report

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](mailto:Membership@palomararc.org).



“

Callsigns for already expired memberships or those that will be expired before the April 5th General Membership meeting. (click on your call to check your status)

[AA6BP](#) [AB6O](#) [AC8Q](#) [AD6LP](#) [AE6HF](#) [AE6O](#) [AF6UA](#) [AG6MQ](#) [AI6KO](#) [AI6NY](#) [AI6QA](#) [AK4XK](#) [AK6AK](#) [K0CSD](#) [K6BLI](#) [K6DRH](#) [K6EQ](#) [K6GOR](#) [K6ISS](#) [K6JQE](#) [K6OT](#) [K6SC](#) [K7WYV](#) [K7YMG](#) [KA6AAG](#) [KA6KIW](#) [KA6OYD](#) [KB6CPZ](#) [KB6CUT](#) [KB6NXC](#) [KB6PCF](#) [KC6HUK](#) [KC6YSO](#) [KC9IYR](#) [KD1BD](#) [KD6AEB](#) [KD6EKQ](#) [KD6YJB](#) [KE6AFH](#) [KE6GNH](#) [KE6LGY](#) [KE6MYA](#) [KE6NPL](#) [KE6PHE](#) [KE6UYI](#) [KF4LL](#) [KF6C](#) [KF6MPI](#) [KF6SMB](#) [KF6UPP](#) [KF6XA](#) [KF6YWE](#) [KF7SJE](#) [KG6MDQ](#) [KG6OMH](#) [KG6QWR](#) [KG6RCW](#) [KG6RLA](#) [KG6TTZ](#) [KG6TUL](#) [KG6UTS](#) [KG6VVN](#) [KG6WJD](#) [KG6WWY](#) [KH6GK](#) [KI6AUP](#) [KI6AZO](#) [KI6DBL](#) [KI6IET](#) [KI6JMH](#) [KI6LEX](#) [KI6NCA](#) [KI6SYM](#) [KI6YEW](#) [KJ6DPE](#) [KJ6EDU](#) [KJ6KDM](#) [KJ6KLJ](#) [KJ6QQD](#) [KJ6TIM](#) [KJ6WUY](#) [KJ6YPR](#) [KJ6ZBQ](#) [KK6BHA](#) [KK6CTF](#) [KK6DRA](#) [KK6EME](#) [KK6GHE](#) [KK6GO](#) [KK6IJN](#) [KK6IRZ](#) [KK6JDM](#) [KK6LBO](#) [KK6LJ](#) [KK6LNV](#) [KK6MBQ](#) [KK6MTF](#) [KK6MZP](#) [KK6NLS](#) [KK6NLV](#) [KK6NLW](#) [KK6NLZ](#) [KK6NMY](#) [KK6NON](#) [KK6OOS](#) [KK6RIP](#) [KK6RRW](#) [KK6RWK](#) [KK6SIA](#) [KK6TNO](#) [KK6TYQ](#) [KK6TYY](#) [KK6UFP](#) [KK6UYP](#) [KK6WOF](#) [KK6WPC](#) [KK6YAU](#) [KK6YLO](#) [KM6ARO](#) [KM6CXW](#) [KM6DLC](#) [KR6FU](#) [KW6Q](#) [N1BL](#) [N6APA](#) [N6ERD](#) [N6ISC](#) [N6IZW](#) [N6KI](#) [N6MDU](#) [N6NAU](#) [N6NCP](#) [N6RY](#) [N6TBA](#) [N6TWO](#) [N6UWW](#) [N6XLZ](#) [N6XT](#) [N9JZ](#) [NA6DC](#) [NC7V](#) [NE6AA](#) [NE6O](#) [NN6X](#) [NU6L](#) [W6ADF](#) [W6AOZ](#) [W6BQZ](#) [W6DTO](#) [W6GDK](#) [W6GNI](#) [W6OYJ](#) [W6XM](#) [W9BOI](#) [WB6LMD](#) [WB6UIR](#) [WB6ZBP](#) [WB9COY](#) [WD6FZA](#) [WN6K](#) [WQ6V](#) [WX6AAA](#) [ZZ9CR](#) [ZZ9DM](#) [ZZ9DR](#) [ZZ9JJ](#) [ZZ9MJM](#)

## 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  
Joseph Peterson





*“Workers should never be permitted to work alone in a harness”*



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## Will Your Safety Harness Kill You? - Continued

foothold straps or means for putting weight on the legs. 4) Harnesses should be selected for specific applications and must consider: compliance (convenience), potential arrest injury, and suspension trauma. 5) Tie-off lanyards should be anchored as high and tight as work permits.

After a fall: 1) Workers should be trained to try to move their legs in the harness and try to push against any footholds. 2) Workers hanging in a harness should be trained to try to get their legs as high as possible and their heads as close to horizontal as possible (this is nearly impossible with many commercial harnesses in use today). 3) If the worker is suspended upright, emergency measures must be taken to remove the worker from suspension or move the fallen worker into a horizontal posture, or

at least to a sitting position. 4) All personnel should be trained that suspension in an upright condition for longer than five minutes can be fatal.

For harness rescues: 1) The victim should not be suspended in a vertical (upright) posture with the legs dangling straight. Victims should be kept as nearly horizontal as possible, or at least in a sitting position. 2) Rescuers should be trained that victims who are suspended vertically before rescue are in a potentially fatal situation. 3) Rescuers must be aware that post-rescue death may occur if victims are moved to a horizontal position too rapidly.

Recommendations on harnesses: 1) It may be advantageous in some circumstances to locate the lanyard or tie-off attachment of the harness as near to the body's center of gravity as possible to reduce

the whiplash and other trauma when a fall is arrested. This also facilitates moving legs upward and head downward while suspended.

2) Front (stomach or chest) rather than rear (back) harness lanyard attachment points will aid uninjured workers in self-rescue. This is crucial if workers are not closely supervised. 3) Any time a worker must spend time hanging in a harness, a harness with a seat rather than straps alone should be used to help position the upper legs horizontally. 4) A gradual arrest device should be employed to lessen deceleration injuries. 5) Workers should get supervised (because this is dangerous) experience at hanging in the harness they will be using.



## EchoLink by Bernie Lafreniere, N6FN

EchoLink capability is once again available on the PARC 447.000 repeater. Over the last several months the Yaesu DR-1X repeaters have been converted for operation via an on-site external controller. Once that had been accomplished we were able to reactivate the link transceiver and computer system that provides the repeater with connectivity to the worldwide EchoLink network. While the 447 repeater is still located on Mt. Palomar, the link transceiver and computer are located in Escondido, where it is connected to a COX-Cable Internet connection.

PARC members can now use their DTMF equipped mobile and HT transceivers to access EchoLink, providing the ability to make QSO's to distant EchoLink equipped repeaters and computer users. It also provides the ability for distant stations located anywhere in the world

to make contacts with stations within range of our 447 repeater. In addition to casual QSOs, EchoLink is a valuable resource for emergency communications.

Think about it, say you would like to have a QSO with a friend that does not live within range of our repeater system, if that friend has installed EchoLink on his PC, tablet or smart phone he can access our 447 repeater, enabling you and your friend to have a QSO. A number of people could all conference in, for round-robin style QSO's. This could also be handy for logging into 447 repeater based nets when not within RF range of the repeater.

**Here is the frequency and node information required for using EchoLink on our 447.000 repeater. For accessing the repeater using an FM transceiver use these**

**settings, which is our normal setup:**

Repeater Frequency  
447.000 output,  
442.000 input  
CTCSS access tone  
107.2

To use EchoLink to access the repeater when not within RF range, connect to N6FN-R, which is the link transceiver to our 447 repeater.

**Making use of the external controller, the Yaesu DR-1X 447.00 repeater has been optimized for EchoLink node operation. One of these changes modifies the CTCSS tone output of the repeater so that it only outputs the squelch tone while a signal is being received by the repeater. It no longer outputs the tone for repeater generated ID's or courtesy tones. This is to satisfy an EchoLink requirement for preventing repeater ID and courtesy tones from being transmitted over**



*"A number of people could all conference in, for round-robin style QSO's."*



(Continued on page 18)



*"All PARC members are encouraged to make use of our EchoLink capability."*



## EchoLink by Bernie Lafreniere, N6FN– Continued

(Continued from page 17)

the VoIP network.

Consequently, if CTCSS (tone squelch) has been enabled on your receiver you will not hear the repeater ID's and other announcements. However, depending upon how fast your transceiver reacts to the removal of the CTCSS at the end of the transmission, you may or may not hear the courtesy tone. A couple of my radios respond a bit slowly to the loss of the CTCSS signal and when using them I hear the courtesy tones. On my other radios, I don't

hear them.

**Important:** Since you should refrain from transmitting while the courtesy tone and repeater ID are being transmitted locally by the repeater, to be able to hear them you need to make sure your transceiver does not have CTCSS squelch enabled on receive. This may be different than how your radio is currently programmed. Most modern transceivers have the capability of separately enabling CTCSS on transmission (which you want) and for enabling CTCSS squelch on receive (which you don't want).

All PARC members are encouraged to make use of our EchoLink capability.

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## 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), specify Palomar Amateur Radio Club as your charity of choice for donation.

## In the Beginning-Early Memories of Ham Radio Part IV

*(Editor's Note: Al Martin, W6SE provided this memoir from his father John Martin, W6SE about the early days of Ham Radio in North San Diego County. We will be publishing excerpts from it over the next several months.)*

It was in 1939 that I enrolled in law school, so my Ham activities were entirely curtailed. Oh, I had a little transmitter using three type 117L7 tubes, but it was QRP and was seldom used. Law school kept me so busy that I had no time for radio. Then in 1940 I took unto myself a bride, one of Helen Shanks' sorority sisters. Now there was utterly no time to devote to the hobby, but my interest did not abate. Next, came World War II. It soon developed that the local Draft Board had me in its sights and to avoid its clutches I dodged the draft by joining the Naval Reserve. My reasoning was that in the Naval Service one could usually keep clean and the quarters and food are normally better.

As the result the Navy ill-advisedly commissioned me an Ensign in 1942. Thereafter I was ordered to the Naval Training Center at Harvard University where I expected to be converted from civilian status into an officer and a gentleman, more likely a civilian in uniform - a "Ninety Day Wonder." To my surprise this was not the progression of events, for after about thirty days of squads east and west as well as measured doses of the Watch Officer's Guide, I was ordered to the Naval Research Laboratory at Anacostia, D. C., there to learn all about Radar and Radio Countermeasures. I believe that subject is now called Electronic Warfare. And so it came to pass that I became a Thirty Day Wonder! After schooling at NRL for a few months I was sent back to Cambridge for some more training in radar systems at MIT, and from thence to San Francisco for transportation to

Commander, 7th Fleet. Following thirty days of luxurious (?) cruising aboard a Liberty Ship, the SS Simon Bolivar, I was introduced to our remotely related cousins at Brisbane, Queensland, Australia. There, as fate would have it, I was assigned to GHQ, Southwest Pacific Area. So here I was, in the Army! Well, General MacArthur (more than likely a remote subaltern) assigned me to a confused international and interservice group called Section 22, composed of civilians and service men and women from the several Allies involved in the war effort. The duty of Section 22, as I understood it, was to devise ways and means of destroying the usefulness of the enemy radar systems. I might say parenthetically that we knew he had one, for I had seen an air search radar produced by the Japanese exhibited at NRL's facility out on Chesapeake Bay. It was very crude device and,



John Martin in his Shack

***"I was ordered to the Naval Research Laboratory at Anacostia, D. C., there to learn all about Radar and Radio Countermeasures."***



*(Continued on page 20)*



**“To keep anything working for very long on those rough-riding craft was an accomplishment.”**



## In the Beginning-Early Memories of Ham Radio-Continued

*(Continued from page 19)*

like lots of enemy equipment, actually worked surprisingly well. It had been captured in the Solomon Islands at some earlier date. The biggest problem facing the administration of Section 22 was in devising ways and means to keep its numerous personnel busy, or at least to produce a suitable paper trail to justify the large number of people assigned thereto. The commanding officer was an ambitious Royal Australian Naval Reserve Commander who deemed that the importance of his command was to be judged by the number of personnel involved in it. To make a long story short, after a beautiful month of inaction at Brisbane I was sent, together with one technician, a radar search receiver and pulse analyzer, to a PT Boat squadron in New Guinea waters, there to look for enemy radar installations. We found only one between Cape Gloucester and Madang

and, after using up some three months on this assignment, were returned to the safe haven of Brisbane. On this venture I came very close to becoming a casualty, certainly not from enemy action, but in an instance when a bored B-24 pilot made a bombing run on my PT boat at an inopportune time when we were about a quarter mile off the enemy held beach at Madang, New Guinea. I am very happy to report we successfully avoided his salvo of bombs, and doubtlessly provided considerable amusement to the enemy troops ashore. No matter how well you see to it that intelligence reports are properly routed and distributed, there's always somebody down the line who doesn't get the word! (Out of a misplaced sense of delicacy, I do not here include the colorful epithets the crew used to describe the unfortunate incident!) By the way, the PT Boats carried radar (the SO something, if I remember) as well as

the very rugged and competent Collins TCS transmitter and receiver combination. To keep anything working for very long on those rough-riding craft was an accomplishment. Thereafter I spent some more heavenly months in Brisbane, my very light duty consisting in supervising (read watching) the installation of radar search receivers on submarines. Then came an opening out at the submarine base at Perth, Western Australia. Unfortunately the job went to another chap, for that was a much desired spot. Shortly after that disappointment I was ordered to Sydney to join the USS Nashville, a light cruiser. While aboard this ship I installed a radar search receiver, pulse analyzer and some radar jamming gear. Also I was aboard for the Morotai and Leyte operations, on which the Nashville was flagship. Again we were the flagship on

*(Continued on page 21)*



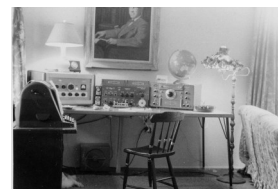
## In the Beginning-Early Memories of Ham Radio-Continued

(Continued from page 20)

the Mindoro operation when we took an enemy Kamakaze aircraft on the port side amidships. This occurred when we were at the juncture of the Mindanao and Sulu seas. The ship was seriously damaged, and as the result of the unfortunate event it was ordered to return to Leyte Gulf, where we unloaded the casualties which were frightful in number, and awaited orders. It was a certainty that the enemy found this "suicide mission" profitable for he put a major warship out of commission at the cost of one aircraft together with its pilot, obviously a brave man filled with grim determination. Hoping we would be left aboard on the ship's return to the States for repairs, my dream was dashed when I happened to read a shoreside blinker message ordering me and my crew ashore at Leyte, there to report to good old section 22. That was a blow, but fortunately I was then

ordered back to Brisbane, which by this time had become a back-water port, and from whence I came home in May of 1945. It was rough to get out of Australia in the latter days of the war, for few transports or other ships seemed to call there anymore. My crew was sent home, but the transportation officer told a group of us who were ready to go home that he simply had no quarters available on homeward bound ships for commissioned officers. Tiring of this seemingly permanent bind several of us, under the sponsorship of a Navy Commander agreed to a passage home with the troops. While it seemed as if it took an act of Congress to get approval for this plan, we finally got the go-ahead. When a partially loaded transport coming from Colombo, Ceylon, put in at Brisbane, we got aboard and were homeward bound. Installed in a tier of bunks in troops' quarters - yes, they tolerated us - we all

managed very well for the two weeks it took to take us back to San Pedro, where an Army band welcomed us by valiantly playing Auld Lang Syne from the dock. From this bundle of experience I learned a few things: First, the war wasn't won because of my efforts, and secondly, the best a service man can hope to gain from a war is to come out of it with a whole skin, and lastly General of the Armies Douglas MacArthur, who, with his numerous staff, was aboard USS Nashville for the Morotai and Leyte operations, was even then madly running for President of the United States. His press secretary, a Colonel Lehrbas, was busily singing the General's praises to all who would listen, or who couldn't escape tactfully. And the good General, in his evening strolls around the deck, would stop at the gun-tubs to give autographs to the crew members. Oh, there were other things that occurred, such as the battle of



John Martin's Shack, 1957

"the best a service man can hope to gain from a war is to come out of it with a whole skin"



(Continued on page 22)



*...I was privileged to see my first computer in the basement of the physics building at Harvard University. It was a block long device in relay racks requiring a special cooling system to carry away the heat “*



## In the Beginning-Early Memories of Ham Radio-Continued

Surigao Strait, Kamikazes and Halsey's blunder, over which I'd have considered going over the side had I known why we left Leyte Gulf at flank speed early one morning, but I'll not go into that one. Perhaps the reader might think I'm being unfair to General MacArthur who, unquestionably, was a remarkable man. In all fairness, his refusal to release the battleships used in the pre-invasion bombardment of enemy installations on Leyte turned out to be an act of wisdom, whether or not he intended it that way, particularly when the enemy task force appeared at Surigao Strait early on in the Philippine operation. Thus it was fortunate for the allied cause that he had his way in the dispute over the disposition of those ships. On returning Stateside, after some 30 days of leave and reunion with my family, and learning to drive on the right hand side of the street again, I reported to Naval

Research Laboratory and from thence to the Navy PG School at Annapolis, and from there to the Naval Training Center, Communications, at Harvard University, where the students were Communications Officers from the fleet, for the most part reserves. The school's mission was to educate these folks in elementary Electronics and I was supposed to instruct them in the arcane subject of Radar Countermeasures. Happily for me, and perhaps for my students, the war ended and I was cast loose into the maw of civilian society where indeed I belonged. My military career was not a particularly happy one, but as long as it is a part of the narrative, I thought it better to bore the gentle reader with it at this time. On the bright side, it awakened me to something of what the future held for the electronics industry. For instance, with what we had learned from the development of radar systems it was

easy to envisage the coming of television as a popular vehicle for public information and entertainment. And I was privileged to see my first computer in the basement of the physics building at Harvard University. It was a block long device in relay racks requiring a special cooling system to carry away the heat generated by multitudinous vacuum tubes. It wouldn't compare to a modern laptop job! However, the war years were considered by me to be almost a waste of time, for I contributed so little to the outcome, and inasmuch as they kept me from entering the practice of law until 1946. Now to continue with the purpose of this tome, which, after all, is about my experiences with Ham Radio, soon after returning home I purchased a Hammarlund HQ-129X receiver and an old Navy GO-9 transmitter was found in a surplus store. Of course the low frequency part of it was of no use, as was

*(Continued on page 23)*

## In the Beginning-Early Memories of Ham Radio-Continued

*(Continued from page 22)*

the power supply, but it was an easy job to adapt a power supply fashioned out of surplus bits and pieces. It was a fine piece of gear, but its high frequency coverage was limited. A few years later I happened to see one of the little Johnson Ranger transmitters displayed at Western Radio in San Diego. It intrigued me so much that I bought it on the spot, and being thus weakened I purchased an HRO-60 receiver. Being equipped with "modern" gear, I gave the venerable old GO-9 that had served me well to a struggling young Ham. Well, wanting to get into the stream of things, I built my first big amplifier around an 833A triode. It worked great, although it was all my poor little Ranger could do to drive it adequately. Further, the problem of neutralizing the amplifier when operating above 14 MHz was always challenging. The 833-A seemed not to care

much for the higher frequency Ham bands. It was along about this time that the specter of SSB was starting to emerge. While not being much interested in 'phone work, I noticed that these SSB rigs made excellent CW transmitters, this because of the heterodyne VFO mentioned earlier herein. So I purchased a Central Electronics 20-A exciter and a bulky linear made by Gonsett. It had four 807s in it, operating at a plate voltage of 800. Its plate tank circuit was interesting and the thing worked like a charm. Then a 20 meter beam and its associated tower were acquired. A product detector and a full lattice crystal filter were added to the HRO-60 and I was in business, this time on 'phone. Well, I can remember hanging out around the high end of 20 meters, then 14.3 MHz, hunting for DX. After engaging in this activity for a while, another repressed urge took hold - for during the war I had become

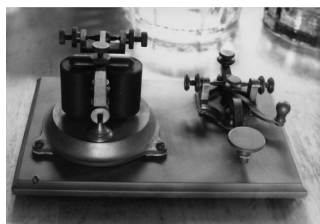
interested in radio Teletype. After acquiring a surplus model 26 Teletype machine from the Telephone Company, I built a terminal unit, or Teletype converter, and got into that phase of our hobby. And it didn't take long to learn that my prized HRO-60 was not sufficiently stable for serious RTTY work. This was in 1956, I believe, and Art Collins had his 75A-4 receiver on the market. I purchased one of them at Western Radio, and it worked great. As a matter of fact, I still have it together with a KWS-I transmitter purchased a year or two later. Let me explain that in those days we didn't have PK-232 terminals and computers, so the Teletype converter I built fully furnished the necessary intelligence and power to run a noisy Teletype machine. Of course 110 volts AC was used to power the machine's motor. Later I came by a model 19 Teletype machine with tape



*"It was along about this time that the specter of SSB was starting to emerge."*



*(Continued on page 24)*



*“in 1967 when my daughter was a student at the University of Bordeaux. For that school year I kept a weekly schedule with a French amateur, F9YZ, Jacques Cartier, who lived near the University. “*



## In the Beginning-Early Memories of Ham Radio-Continued

perforator and tape reader. Now I was really in business! But then a strange thing happened, for after successfully making the noisy contraption work there was no challenge remaining, so I gave away of all the raucously loud machinery, much to my wife's joy and relief. It was at about this time that I grew weary of the practice of law, so I sought, and obtained a position on the Bench at the Courthouse in downtown San Diego. This occurred in 1959, if my memory serves me correctly. My Ham activity lagged from there on until retirement in 1974. Howard Shepherd and I conspired to run for Director and Vice Director respectively for the Southwestern Division of ARRL in 1964. Due mostly to Howard's determined campaign we were elected. During my two-year term I did as little as possible while Howard, bless his heart, took all of the responsibilities. At the end of our term, in 1966, it was agreed

between us that Howard had had enough, so we didn't run for re-election. So time rolled on with minimal activity on my part, except in 1967 when my daughter was a student at the University of Bordeaux. For that school year I kept a weekly schedule with a French amateur, F9YZ, Jacques Cartier, who lived near the University. We kept it mostly on CW as the French counterpart of our FCC frowned deeply on third party traffic being handled on 'phone, or CW, for that matter, except for the fact they didn't worry much about the latter. Actually all they seemed to worry about was 'phone patches. On a few Sundays, when we figured that the monitoring officials were goofing off, we resorted to SSB at 21,251 KHz, so that Mama could talk to her Chick. Happily we got away with it. One other item should be added. An informal schedule was maintained between Arthur Scotten, W6ZMZ, and myself

from 1947 until the late seventies. We met once or twice a week, on 3523 KHz, to discuss almost everything imaginable. He is now a silent key, but in his heyday was a marvelous conversationalist. He lived in a rather run-down three story mansion on Orange Grove Avenue in Pasadena. Obviously his family had been wealthy at one time. Unfortunately the good times had long since departed. It seems that he had graduated Magna cum laude from Stanford University after only three years of undergraduate work and had been the 1929 Rhodes Scholar from that institution. His field of education was in the classics. Our conversation lasted for some thirty years. We had a lot left to discuss when he left us behind. Atque in perpetuum, frater, ave atque vale.

***TUNE IN NEXT MONTH FOR ANOTHER EXCITING CHAPTER OF THE EARLY DAYS OF HAM RADIO.***



## Things Every New Ham Should Know-South Baldwin ARC

1. Be sure the frequency (or "channel") is "clear" before you transmit. Think how **you** would like it if someone interrupted your conversation.
2. Using Q-signals **too often** is bad form. Although Q-signals have a very valuable place in Amateur Radio, they are not universally accepted on F.M. voice channels. Using them during EVERY TRANSMISSION is really annoying.
3. Keep in mind that when you are operating in a noisy environment, you do **not** have to be able to hear yourself talking. If you shout into the microphone loud enough to hear yourself, you are distorting the signal so badly that the person on the other end may not be able to hear or understand you
4. Be sure to learn the usage, protocol and/or policies of repeaters you are using. Just because a repeater is "there" does not mean that you are welcome to switch to it and use it for long, extended rag-chews. Listen to a repeater for a while before you make a decision to use it. You might even ask someone on the repeater if you are welcome to use it for occasional conversations.
5. One of the most important things for new hams to learn is to "K-H-T." That is "key, hesitate, talk." You must consciously learn to push the microphone button, pause slightly, and then begin speaking. If you push the button and speak simultaneously, the first word or the first part of a word may be cut off. This does not facilitate effective communications.
6. Using the term "for I.D." is not necessary. There should be no reason to transmit your call sign **other than** to identify your station. Identification is required every 10 minutes during a conversation and at the end of a conversation or series of communications. Conversations need not come to a halt while you identify. ("Stand by, everyone, while I say my call sign.") Simply say your call sign once within 10 minutes
7. Long ago, F.C.C. rules required mobile hams to not only say their call sign, but to say where they were operating, giving both the city and the call sign area. You may hear some hams saying, "...mobile 6" or "...mobile 3" after their call sign. This means that they are operating "mobile, in call sign area 6" or "mobile, in call sign area 3." This is no longer required but it is sometimes good to know. When leaving their home state, some hams will keep track of what call sign area they are in, and say, "...mobile 7," or "...mobile 1," or whatever.
8. Certain types of jargon are easily recognizable as being "CB" terms. "What is your personal?" when you mean "what is your name?" "I'm on the side," when you mean you are "listening" or "monitoring." Although there is nothing "wrong" with CB, these terms are neither generally used nor appreciated on Amateur Radio frequencies. Avoid CB-style jargon and terms. Generally speaking, plain English is better: "my name is xxxx, what is yours?"
9. There is no specific requirement for keeping logs of the use of your amateur radio station except for International Third-party Traffic. However, a good way to keep track of your communications is to use a Log Book, available at some amateur radio dealers.
10. Try to keep your language polite. Profanity and discussions of bodily functions should be off limits - not because of government rules, but because it's the right thing to do. Generally, other hams and their family members do not want to hear conversations that are not of the "G-rated" variety.





*“The EchoLink system is interesting in that users can link to remote nodes either by using EchoLink software on their computer or by keying DTMF commands directly from their transceiver.”*



## Rediscovering EchoLink—Bernie Lafrenniere, N6FN

Several years ago while monitoring some Las Vegas repeaters on our way to Utah, my wife and I found ourselves eavesdropping on an interesting QSO between several hams. Proceeding round-table wise in the usual fashion the conversation was entertaining and fun to listen to. All the stations were coming in Q5 copy and initially we assumed them to be local stations.

Eventually, though, it became apparent that one of the hams was in Ireland, another somewhere in the US and a third in Australia. We were amazed at the clarity of the conversation. After awhile, one of the hams asked a question which the station in Ireland could not directly answer, but he knew someone that could and placed a phone call to bring him on-line. A little later the fourth person came on, explaining that he had no repeater access and was talking to the

group via his computer. (The other station in Ireland was apparently operating locally on an EchoLink equipped repeater.)

Knowing that VHF communications is generally limited to within range of a repeater, my wife, Cheryl was perplexed as to how this conversation was taking place, especially the guy using the computer. I knew that it had to be either *IRLP* or *EchoLink*, but didn't know much about either mode of communication at the time except that they used the VoIP, (Voice Over Internet Protocol), method of communication.

Being sufficiently impressed by the QSO and the long-range capabilities of this mode of communication, I resolved to learn more about it. Some months later I finally got around to it, and what I learned was fascinating. I was impressed by the

number of users all over the world and the extensive capabilities built into the system.

While the system was initially designed fifteen or more years ago, the popularity for this method of long-distance communication remains undiminished. The EchoLink network of simplex links, repeaters, conference servers and individual computer users has continued to grow. Today there are hundreds-of-thousands of registered users in more than 162 different countries. At any given time there may be several thousand repeaters and users on line.

The EchoLink system is interesting in that users can link to **remote nodes either** by using EchoLink software on their computer or by keying DTMF commands directly from their transceiver. Using DTMF commands from a transceiver requires being within

(Continued on page 28)



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## Rediscovering EchoLink—Continued

RF communication range of either an EchoLink equipped repeater or simplex link.

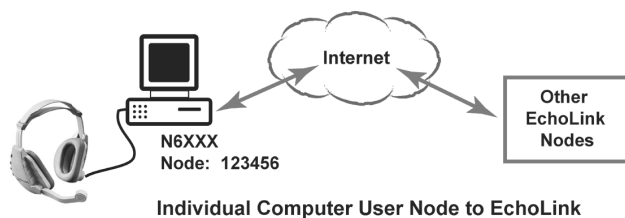
By making use of a PC, tablet or smart phone connected to the Internet, the EchoLink software converts audio input into a stream of digital

transceivers without Internet connections.

When using an HT or mobile rig, a transceiver “listening” to the frequency you are transmitting on intercepts your RF transmission and routes it over the Internet, thus freeing mobile stations from

the transceiver, it follows that the sound card’s Speaker Out jack is connected to the MIC input of the transceiver. Likewise the transceiver’s Speaker Output is connected to the sound card’s Microphone Input so that received signals can be transported over the Internet.

*“Using VoIP sound information can be transmitted to similar equipped PC’s anywhere in the world.”*

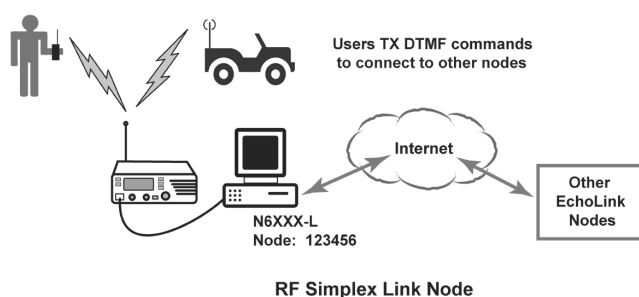
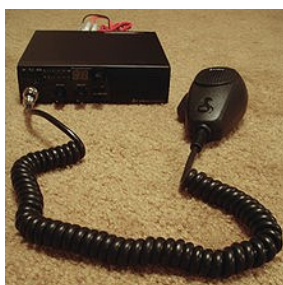


numbers, which when sent over the Internet can be received by similarly equipped computers and converted back into a good approximation of the original audio. Using VoIP sound information can be transmitted to similar equipped PC’s anywhere in the world. This computer-to-Internet capability forms the basis of all EchoLink communication, be it from a computer or from HT or mobile

the necessity of having a direct Internet connection.

In concept the required transceiver-to-PC interface is quite simple. Since the computer’s sound card provides the audio signal that modulates

**Next month we will explore different types of EchoLink nodes and how they are accessed for making various types of QSOs. For those who can’t wait to learn more, visit <http://www.echolink.org/>**



# North County Mini Maker Faire®

***Saturday & Sunday June 17th & 18th  
Antique Gas and Steam Engine Museum  
Vista, CA***

Maker Faire is a gathering of fascinating, curious people who enjoy learning and who love sharing what they can do. From engineers to artists to scientists to crafters, Maker Faire is a venue for these

"makers" to show hobbies, experiments and projects. We call it the greatest Show and Tell on earth.— a family friendly showcase of invention, creativity and resourcefulness.

PARC will have a booth at the Maker Faire so please come out and help us. Contact Michelle Thompson, W5NYV if you want to help. Feel free to bring any interesting projects you want to show off.

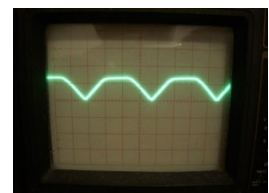
*"Glimpse the  
future and get  
inspired!"*

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## For Sale

Donations Received for PARC at May Meeting:

The PARC has received several working Heathkit laboratory oscilloscopes, RF sweep generators, digital VOMs and assorted RF/speaker cables. Will be available at the May "goodie" table. First come first served. Contact WB6IQS @ att.net for details.



John Kuivinen, WB6IQS  
Vista, CA



SCOPE  
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PALOMAR AMATEUR RADIO  
CLUB

EDITOR  
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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 Armature 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 ham radio humor. If you have a joke, cartoon or just a fun story about ham radio, please share it with me.**

## Technology Laws

### **Poulsen's Prophecy:**

If anything is used to it's full potential, it will break.

### **Bitton's postulate on State-of-the-art Electronics:**

If you understand it, it's obsolete.

**Farrell's law of Newfangled Gadgetry:** The most expensive component is the one that breaks.

### **Keyur's law:**

In future Murphy's law will vanish Ohm's law.

### **Keyur's second law:**

Protecting device will work in such way that it can have maximum damage to the original circuitry.

### **Beach's Law:**

No two identical parts are alike.

### **Watson's Law:**

The reliability of machinery is inversely proportional to the number and significance of any persons watching it.

### **Keyur's shy circuit law:**

Exactly at the time of demonstration circuit will malfunction.

### **Horner's five-thumb postulate:**

Experience varies directly with equipment ruined.

### **The Principle Concerning Multifunctional Devices:**

The fewer functions any device is required to perform, the more perfectly it can perform those functions.

### **Law of selective gravitation**

A dropped tool will land where it can do the most damage.

### **Law of circuit marriage( Sanjiv Gupta):**

Each individual circuit will work perfectly but after combining them to create a system there starts "Marriage Effect"

### **Pattison's Law of Electronics:**

If wires can be connected in two different ways, the first way blows the fuse