SCOPE

A newsletter by and for the Palomar Amateur Radio Club of San Diego, California.

Palomar Amateur Radio Club will hold our annual AUCTION during the October 5, 2011 meeting.

The meeting has a NEW old location. Effective September 15, the regular location at the

Carlsbad Safety Center,
2650 Orion,
Carlsbad 92008

Yes, it is available and has been reserved for the AUCTION.

Hours are: Set up 5:30, Sellers register at 6:00, Buyers at 6:30, with the auction starting at 7:00PM with ART KC6UQH hosting. We would like to finish by 9:00 PM so we can empty the room by 10:00 PM.

Bring your gently used treasures for relocation to a new user. Buy a treasure or regain a memory of your past.

Dennis KD6TUJ

Do you have a mobile installation? Do you want to have a mobile installation, and need some motivation?

We're looking for a few good mobile installations - whether they're completed, on the drawing board, or half-way done and tripping you and your passengers every time you get in and out of the vehicle - to be featured in the Scope. We'd love to show your installation.

Tips, narratives, explanations, techniques, problems encountered and solved (or encountered and evaded) are what we're looking for. Send them in!

scope@palomararc.org

Save the Date

Club Meeting
5 October 2011

Come trade some treasures at the annual club auction! Details on page 7

Board Meeting
12 October 2011

Palomar Amateur Radio Club board meeting at 7:00pm at K2RP QTH.

ARRL Sweepstakes
November!

5-7 November CW
19-21 November Phone

Get ready!

Club Membership for October Edition

New Members Joining PARC:
KI6FCI, AG6CF, KE6JGJ, KC6M, and KJ6EDU.
Be sure to greet these new members when you see or hear them on the repeaters.

In addition, 2 reinstated their membership.
Thank you.

Here is the list of members receiving the SCOPE on the web, that have let their membership expire in the last month or so. Please check this list, and get your renewal checks in the mail! Please!!!

AD6Y, KJ6ACO, KC6UQH, KD6YJB, KC6YSO, N6TZQ, AND W6TRB.

Those that chose to receive the SCOPE on the WEB represent a nice cost saving per issue!! (And you see the photos in color, and receive the SCOPE the same day it goes to the printer). Why not check out the web site, and see if receiving the SCOPE there would work for you! Think - Palomar amateur radio club dot Org. (www.palomararc.org)

The problem for the club is to get membership renewals - especially from those that get the SCOPE on the WEB. (There isn't the monthly reminder on the label for your renewal date! See the above list!)

Al
W6GNI

October	Annual Auction
November	Go kit for emergency preparedness by Ken KI6HRH
December	Elections and Social
January	Lithium Ion! By Michelle W5NYV

September Issue Fold & Staple Crew KB6NMK Jo W6GNI Al & Kathy, KB6YHZ Art & Janet

Winlink Needs Coders!

by Tom KA6IQA

Check out our site: www.winlink.org

We have developed a world wide network that uses HF, VHF and UHF for remote and emergency communication. Also, see September 2011 issue of QST, "Optimizing Amateur Radio Resources for Major Disasters".

We now pass over 400k messages a month.

Winlink is used by MARS, TSA, RED Cross and almost ever EOC in the US at state and local level.

It is used by people on their boats at sea, in RV's, by missionary in remote parts of Africa.

We were cited in the congressional report on Katrina as being the ONLY reliable communication system for the first 3 weeks.

In the recent natural disaster in Japan, we were the only system providing health and welfare traffic for the first 30 days.

Our client program is programmed in VB.Net on the PC. I would like to see a MAC and Linux version.
One way to do this is a full re-write using a version of VB or C for the MAC or porting the code to use MONO runtime for .Net for the Mac and Linux

If you are a computer programmer and interested in helping code a Winlink client for Mac and Linux, then we would love to talk with you!

Tom ka6iqa
winlink development team

Write me at <lafleur@lafleur.us>

(tell him you read about it in the Scope!)

Classified Advertisements are free for members

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

PACIFICON 2011 Coming Soon

Ham Radio Convention is Bigger & Better at New Santa Clara Venue

October 14-16, 2011, Santa Clara Marriott Hotel
Santa Clara, California

For Events, Latest Updates and Ticket Sales go to:
www.PACIFICON.org

Lessons Learned from September 8th (Part 1)
send in your observations to scope@palomararc.org

by Michelle W5NYV

Ted KD6AKT writes,

> "Thought you should read this one. John and Michelle did a great job as net control. But the people that were coming on with stupid comments sounded more like CBers. I was taught to stay off the frequency unless you needed help or could help with any of the emergency calls.
>
> Ted KD6AKT"

Ted is referring to a message he received from an area ham, quoted below.

> "Yesterday after the power failed in the county, I like most of you did was to go on our repeater only to find it was down as well. So, I went looking for a another repeater to monitor. I monitored the palomar 730 machine and listened to the various reports coming in throughout the county. 1/2 hour went by and it was getting a little congested so one of the hams, can't remember his call, stepped up to be net control. After a while, another ham (ki6something) came on and challenged "why do we need a net control, this is not a disaster". Before the ham who volunteered to be net control, the palomar system was starting to get very crowded and the net control took control and kept it organized. Kudos to that ham and maybe the ki6 station learned something about operating in a disaster/emergency and the importance of keeping the traffic organized and in control.
>
> Incidentally, the hospital was in full Triage activate until power was restored around 2 am."

During any unusual event, it's quite common for people to want or need to communicate. The repeater can get quite busy, with repetition, speculation, information, requests, opinions, and humor in abundance. Some people will express their frustration, or express their differences of opinion with others on the air.

There are many different ways of organizing communications. Some methods are more appropriate than others, depending on the circumstances. While a net control for a power outage (even a major one) may not be strictly necessary, it can help keep the repeater open for the possibility of emergency and health and welfare traffic.

In the case of the 730 machine on 8 September 2011, it was identified as one of a handful of repeaters in the area that was up and operational. RACES mad a request that the repeater operate in "minimum mode".

RACES stands for Radio Amateur Civil Emergency Service. From their website, RACES

"...mission is to operate and maintain Amateur, Public Safety, and other communications systems, and to perform unique, accurate, and efficient communication services to assist government officials in the protection of life and property. RACES personnel are citizen volunteer employees of the County of San Diego who donate their time, personal equipment, training and capabilities for public service. San Diego County RACES is an organization of the San Diego Operational Area, Unified Disaster Council, County Office of Emergency Services (UDC/OES) and is administered by the Wireless Services Division of the Sheriff's Department."

RACES may have a definition of what minimum mode means. There are varying definitions depending on the organization establishing communications. While there is no formal definition of minimum mode for the PARC repeater system, my definition is to conservatively transmit. Health and welfare traffic, emergency traffic, coordination messages, and major news updates transmitted under a controlled net is a workable compromise between those that want emergency transmissions only and those that want the repeater to be much more open during unusual situations.

A RACES operator attempted to restrict the repeater to "emergency traffic only" due to concerns about power consumption, but this request was politely declined. Since we had already complied with the request to control and (somewhat) limit the traffic by going to minimum mode, and since the estimates

for the outage did not in any way exceed our emergency power capabilities, reducing traffic to emergency only for the sake of the batteries was not necessary, and would have denied radio operators a useful channel for non-emergency traffic and very important football game updates.

Our repeater has a large battery plant, and the most conservative estimates place our emergency power capacity at three days. This is if all repeaters on the mountain are transmitting 100% of the time, and we don't allow the batteries to be depleted to the point of damaging them.

If the usage is less than 100%, and if we faced a need or made a decision to allow the batteries to run down, then we could get a week or two out of the plant. This is an extremely long time to be without power in a modern, functioning city. I believe that this long of an outage would happen in a situation where we would most likely be dealing with mass evacuations, and probably not primarily providing communications support for sheltering in place.

While there are points of failure in the emergency battery backup system, we also have a generator on site, and have discussed whether and how to install a remote starter. At this time, the generator requires a human to visit the site in order to start it. Access during a fire or other disaster may or may not be possible, but if someone can get there, the generator can be started.

If you are a member of the Palomar Amateur Radio Club, you have directly contributed to the maintenance of a system that has been extremely reliable during power failures. Thank you so very much for your support.

If you are not a member of PARC, then you should join!

Members of emergency response organizations are under a large amount of pressure. While an able and willing amateur radio operator can offer to be a communications volunteer and provide expertise, working hardware, and working frequencies, people that have formal membership in an emergency organization are accountable from the get go. They also have specific training, in some cases quite extensive, and expectations upon them that the volunteer communicator may be completely unaware of. They may operate differently, and they may believe that their methods are vastly superior, and that their opinions, concerns, and requests should be followed without question.

In some cases, they're right. They may have information and insight and training that put them squarely in the lead during an emergency. Speaking as an informal volunteer communicator, it is our job to help in a considerate, flexible, and collegial way, even if we are not treated that way by the served agency or uniformed communications officer. It's extremely important to be unwaveringly gracious, especially when dealing with others on the air who may be under a great deal of stress, or whose assumptions are different than ours, or whose requests are not applicable on our repeater.

One of the very few contentious moments we experienced concerned the repeated assertion that talking on the repeater would wear down the battery and that "we", meaning non-RACES operators, should stop using the (our!) repeater. Repeated assurances that the battery life was not in danger of being exhausted were made.

A RACES operator referred to me on the air as "the YL who thinks she's net control". The operator then made a comment that "I know you all think you are helping" and "I guess you can keep doing that (operating on the repeater) if you want to". It was unclear exactly what the operator meant, but one can easily conclude that there was an expressed belief on the part of RACES that we should all simply go away. Misunderstandings on the part of guest operators need to be corrected in as courteous a manner as possible. This means we need to know our rights on the air, and what understandings we have with which groups. There will be an article about the formal agreements PARC has next month.

RACES has its own system of repeaters which are closed. Our system is open, and we welcome as many groups as can be accommodated. We are committed to providing communications resources for San Diego county that can be relied upon during an emergency. It's my hope that club members operating skills speak for themselves during emergencies. It's my opinion that repeater operations went very well. Several groups were able to communicate using our repeater, and we are very happy to have been able to provide a channel for health and welfare and informational traffic.

Join or Renew Online

by Paul KB5MU

You can now join the club or renew your membership online. Click on the "Join" link on any page of the club's web site

http://www.PalomarARC.org

and you'll see a simple form to fill out, much like the old paper membership application form. When you click the "Pay Now" button you'll be taken to Paypal, where you can pay with a credit card. You don't need to have a Paypal account.

You'll notice that the online form doesn't ask for your street address or your email address. That information is entered on the Paypal form, or taken from your Paypal account if you use it when you pay.

Paypal does take a small percentage of the money collected, just as with any other credit card transaction. Your Board has decided that the Club will absorb this expense, rather than charging members extra for the convenience of joining or renewing online. We hope to get at least a few more members, which would help offset the cost.

This newsletter is a benefit of membership. When you fill out the membership form, you can choose to receive the Scope in the mail printed on paper the old-fashioned way, or you can opt to receive it by email in PDF form, or you can just be notified when a new issue is posted on the web.

If you choose not to receive the paper copy, that saves the club a little bit of money each month. Plus, the online version is in full color. You can change your option at any time. See the Newsletter page on the web site for instructions.

Right now, the online system does not know whether you're already a member or when you're due to renew. It should.

We will be looking into ways to integrate the membership database with the online system, to make it more convenient for everybody.

In the meantime, you can check the mailing label on your paper Scope (if you get the Scope by mail) or ask at the membership desk at any club meeting to determine your status, or you can email membership@palomararc.org.

Annual Club Auction

by Michelle W5NYV

It's almost October, and that means it's auction time. Come to the General Meeting on October 5th and join the fun!

Where: The Safety Center

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

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

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

Art KC6UQH will be the auctioneer for the evening. Start planning now for the treasures you'll want to bring and the treasures you'll be sure to find.

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

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

PARC Auction Schedule

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

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

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

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

California QSO Party Coming Up!

by Stu K6TU

This year is the 45th running of CQP and we are shooting for a record number of California operators to put the state on the air!

This is a great contest even for the casual contester as California is THE DX everyone else wants to work!

It's a great opportunity to capture Worked All States or dig out new countries for the DX'er. See full details on page 10.

The Northern California Contest Club sponsors CQP and we have developed a number of awards to encourage folks to join the contest.

These include awards for the top operator in the YL, Youth and New Contester categories.

The contest runs the weekend of October 1st and 2nd. The full rules can be found at: www.cqp.org/Rules.htm

Statement of Ownership, Management, and Circulation (From PS Form 3526)

1. SCOPE 2. 0765-30 3. 09/28/11
4. Monthly 5. 12 6. $3
7. Palomar Amateur Radio Club
1651 Mesa Verde Dr. Vista, CA.
San Diego County, 92084-5324
8. A. L. Donlevy 1651 Mesa Verde Dr.
Vista, CA 92084-5324
9. A. L. Donlevy
P.O. Box 73 Vista CA 92085
Editor Michelle Thompson
5379 Carmel Knolls Drive
San Diego, CA 92130
10. Palomar Amateur Radio Club
P.O. Box 73 Vista, CA 92085-0073
11. None 12. No Change
13. SCOPE 14. 09/11

15. Copies	Average	09/11	Notes
a.	185.	191	Printed
b1.	2	2	PD out of Co.
b2.	165	176	Pd in Co
b3	0	0	
b4.	2	2	Other mailed
c.	169	180	
d1.	0	0	Free out Co (3541)
d2.	5	4	Free in Co
d3.	0	0	Other Class Mailed
d4	7	8	1st Class Paid
e.	16	12	Sum 15d 1 - 4
f.	185	192	Total Free/Dist.
g.	2	2	Publisher Copies
h.	187	194	Sum 15f + g
i.%	91.35	93.75	15c / 15f x 100

Printed October 2011 issue of SCOPE
(Mailed Sept. 2011)
Signed: A.L. Donlevy Publisher
09/28/2011

Picnic Drawing Winners

by Dennis KD6TUJ

Winners of the participation point gift certificates at the annual PARC Picnic were as follows: $100 WD6FWE, $50 KG6RCW, KD6TUJ, $25 W6GDK, K6GO, WD6FZA, KC6UQH.

Winning a raffle WOUXUN dual band dual watch pre-programmed radio is KB6NMK.

Repeater Site Report

by Dennis KD6TUJ

Conrad and Dennis went to the repeater site on Sunday September 11, 2011 to check the status of the power supplies and batteries. After a 12+ hour outage the equipment is working fine. All repeaters were working as before the power loss. The TNC for the 146.700 packet repeater does show a malfunction. This may be due to age of the memory chip. No breakers were tripped. Checked with 220/Convair and they reported no problems, all worked well during the outage.

Mobile Installation

by Brian AG6CF

Nearly all hams have a "first radio". For me, to start out, VHF/UHF capability was more important than HF capability. I also wanted the flexibility and ease of use that only an HT can provide. An HT may not be the greatest mobile or base station, but a mobile or base station can't substitute as an HT at all.

After a bit of research, including some quality time reading reviews on eham, I selected the Kenwood TH-F6A. This radio transmits 2M/220/440, has dual receive, and the secondary receiver covers 100 kHz to 1.3 GHz (less the illegal frequencies) with the right antennas.

Operating a radio inside a 1996 Faraday Regal does hurt the signal, and the rubber ducky doesn't give the greatest performance. An upgrade to a Diamond SRH320A antenna provided a noticeable improvement to performance under weak signal conditions. An MFJ-332S magnet mount (with 12 feet of RG-58AU, and SMA connectors on either end) allowed me to get the antenna out of the cage and onto a ground plane. I simply run the cable through the weather stripping of the rear door. This setup performs amazingly well for an HT. I have made a clear QSO from a good location on Balboa Avenue in Kearney Mesa (a mile south of HRO) through the 2M repeater on Keller Peak, 95 miles to the north, on 2 watts output.

To position the HT in the car, I got a Lido LM-801EXP cup holder mount. The base slips into a cup holder in the car and expands to fit snugly. A flexible arm holds the HT up and allows it to be positioned so the display can be read. On the end of the arm is a small plate that can slide on and off. The HT can be attached to this plate using the same screws that hold the belt hook, but I just slip the belt hook over this plate and it all stays together just fine. Add a Kenwood PG-3J cigarette lighter power adapter, and I never have to worry about a dead battery in the HT. The final touch, to show that I am a serious mobile ham, is an empty soft drink cup on the passenger floorboard. White Castle wrappers to be added later.

This may not be anyone's dream rig, but it gets the job done. It can also be moved to another vehicle in minutes, or even brought on trips and used in rental cars. With the Diamond X3200 on a 20 foot pole next to the house, I have 2M/220/440 capabilities in HT, mobile, and base configurations, all for under $800. For a beginner on a budget, that's not a bad deal at all.

73 DE AG6CF - Brian

AG6CF Rig in carry mode

AG6CF Radio installation

AG6CF Cable routing

The first radio on Palomar and other tales.

by Ken Easton

Ben Traxler served as the first night assistant for the 200-inch Hale Telescope on Palomar, working with Edwin Hubble and Fritz Zwicky. He later served as the observatory's chief electrician. He could thank amateur radio in part for giving him a break in finding work on Palomar.

In 1935, in the depths of the depression, the work of building the observatory had only just started. Conditions on the mountain were primitive, and the only link with the outside world was by mail, by way of the rugged Nate Harrison Grade (WPA crews were just starting on the Highway to the Stars).

As described in The Perfect Machine: Building the Palomar Telescope by Ronald Florence,

"... an unconfirmed rumor of work was enough to prompt men eager for jobs, or with goods to sell, to hitch a ride up to the old Nate Harrison Grade to the peak ... A young man named Ben Traxler, whose radio repair shop had failed in the depression, got a ride up the mountain with a hardware merchant eager for a new account. When Traxler mentioned his radio experience, Brett [Col. Brett, the site superintendent] suggested the possibility of opening an amateur radio station on the mountain for regular communication with Pasadena. Traxler knew that an amateur license couldn't be used for regular traffic, but he needed a job enough to agree with the colonel's ideas. Two weeks later he was told to report to the mountain with long underwear, warm bedding and any tools he would need..."

"...To supplement the weekly mailbags from Pasadena, McDowell [the project lead] authorized a radiotelephone. Ben Traxler got a Class I license to operate the unit. A red button on the transmitter at Palomar would bring up the carrier and ring a bell in Pasadena, letting Hill [Brett's successor] make his reports and requests. McDowell took the calls himself in Pasadena. He liked to acknowledge each statement to show he was on top of every matter. His barked 'Yup' woud trigger the voice operated transmitter in Pasadena, cutting off Hill in mid-sentence. The interruptions, together with the ignition noise on California Street in Pasadena, ensured that Pasadena heard little what was reported from Palomar. Hill, content to carry on with as little interference as possible, welcomed the arrangement. He could later claim that he had reported his plans before they went ahead...

"Gus Weber, one of the workmen on the mountain, had gotten into the habit of parking his pickup truck inside the dome. Hill didn't like that, so he taught Weber a lesson by waiting until Weber wasn't around and using the overhead hoist to suspend the truck high over the two-hundred-inch telescope. Weber, suspecting a practical joke, searched the mountain before he came into the dome and saw the visitors staring up above the telescope. His barrage of swearing was another treat for the visitors."

Traxler later built one-hundred-watt amplifiers for both ends of the link that made radio communications reliable. But by then Hill had already implemented many of his own ideas regarding the site work...

"...All power, telephone, and propane lines at Palomar were to be installed underground. The original specifications didn't take the highly acidic soil into account. Within weeks of installation, the outer coverings of the lines rotted and the wires reacted electrolytically with one another and with the DC phone lines... Hill

would rant about the 'fool engineers' as he led another party to dig up the ground searching for the new break. Hill replaced the cables with heavy-duty neoprene-sheathed cable, but the gophers liked the shield. He ultimately switched to lead-covered cables, installed with a Hill-designed machine that extruded concrete around the cable..."

In later stages of the project Traxler would show his wry sense of humor. Chagrined at the thousands of tourists gawking and interrupting workers in and around the telescope dome, one day he put up a sign: 'DON'T TALK TO PRISONERS, ASK THE GUARD'.

"...It took a few days for Hill to figure out why the tourists had quieted down. Hill was capable of laughing at a dry joke but he could imagine the reaction when rumors reached Pasadena that the telescope was being built by chain gangs. He tore the sign down..."

Later, Traxler crafted

"... a sign that they put on the old concrete mock mirror disk which had been relegated to a spot alongside the walk outside the dome: 'THIS FLYING SAUCER, DRAWN HERE BY THE GREAT LIGHT GATHERING POWER OF THE TWO-HUNDRED INCH TELESCOPE, HAS BROUGHT VISITORS FROM OTHER WORLDS WHO ARE CURRENTLY GUESTS OF THE GOVERNMENT' After a woman visitor fled to the Forest Service office down the mountain, demanding to be protected by the spacemen, Hill took the sign down..."

Stolen Radio

Be on the lookout. During the blackout, I was monitoring the information on the blackout while at work at the Water Depot in Ramona.

I had my radio on and sitting on the counter. Suddenly, I realized that I did not hear the radio anymore, someone had taken off with it.

The radio is a Kenwood TH-F6A tri-bander. If you hear of someone trying to sell one of these radios, please contact me for the serial number at my email (chazasmith@gmail.com) or cell phone (760) 213-7450. Thanks, Chuck Smith, KI6LKV

First FM 2m Frequency Pair

by Roger AD5T

Around 1960, the FCC ordered commercial FM mobile equipment using 60 kHz channel spacing to be removed from service to allow splitting the commercial channels for more capacity.

Over the several years of this conversion, many thousands of the newly "obsolete by regulation" commercial radios were moved into amateur radio service, where the initial use was mostly simplex operation.

Because the Technician Class License privileges on 2m then were only for 145 to 147 MHz, and because the surplus equipment was originally used above the 2m band, the first logical channel that Technicians could operate was 146.94 MHz. This channel became the national 2m FM calling frequency from roughly the early 1960's through the early 1970's.

Early frequency plans set up channels from 146.04 Mc to 146.94 Mc, and tests found that the most common types of surplus equipment, those made by Motorola and General Electric, could operate over a range of about 600 KHz without significant retuning.

This was the main driver for today's 600 KHz offset on 2m, but there were also competing plans that generated repeaters on other offsets, and 146.34/146.76 was the most common, with repeaters on this pair operating until 1972 and later.

Most of the surplus transceivers were one or two channel radios, so a typical first step conversion was to make a fully simplex radio on 146.94, and, if a second transmit channel was available or could be added, then a 146.34 crystal made an economical choice for both simplex and repeater operation.

This is why 34/94 became the most popular repeater pair. The 2m channels we use today were pretty well set by the early 1970's, and multichannel crystal controlled and synthesized transceivers made use of any of the available repeater channels easy.

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

Return service requested

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POSTAGE PAID
AT VISTA CA
92085-9998

Scope (USPS #076530) is published monthly by the Palomar Amateur Radio Club 1651 Mesa Verde Drive, Vista, CA 92084. POSTMASTER: Send address changes to SCOPE, P.O. Box 73, Vista, CA 92085. Periodicals postage paid at Vista, CA 92084. Dues are $20 per year or $35 per year for a family. Dues include a subscription to Scope.

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Featured Program:

At 7:30pm on the 5th of October 2011, Palomar Amateur Radio Club will have our annual auction.