

SCOPE

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



November Program: Amateur Radio Astronomy for Hams

Amateur Radio Astronomy: is it "Amateur Radio" astronomy or amateur "Radio Astronomy?" It turns out to be a little of both. If you think picking up that DX signal from around the world is tough, in radio astronomy, a strong signal is equivalent to the signal you would pick up from a cell phone on the moon! As beautiful as the pictures from the Hubble telescope are, most of the current knowledge of the universe comes from radio, not optical, astronomy. A powerful radio telescope is well within the skill set (and budget) of a ham. This is the perfect area for those with an interest in both amateur radio and astronomy.

This presentation will discuss radio astronomy from an amateur radio perspective and will include a discussion and demonstration of a total-power radio telescope operating within television's so-called channel 37 band (608 – 614 MHz). By taking advantage of the efficiencies available by piggy-backing off of commercially available UHF television antennas and pre-amps, as well as common ham radio receivers, such a telescope can be built for about \$500. The telescope has reasonably good performance (~123 dBm of gain) and is very nearly a turn-key system that would work well for beginning as well as more sophisticated amateur radio astronomers. Details of the telescope, including a comparison of its stacked array antenna with other antenna types and a comparison of a standard ham receiver with a software defined receiver running on a laptop, practical challenges (many of which will be very familiar to hams!), data obtained by the telescope as well as

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Save the Date

Club Meeting

7 November 2012

Amateur Astronomy!
Meet and greet at
7:00pm, program at
7:30pm. Article above.

Board Meeting

14 November 2012

Palomar Amateur Radio
Club board meeting at
7:30pm at W6GNI QTH.

Club Event

18 November 2012

Operating Day at Fry's in
San Marcos

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further possible uses of the telescope (e.g., interferometry) will be presented.

Curt Kinghorn is a ham and a member of the Society of Amateur Radio Astronomers (SARA), an international society of dedicated enthusiasts who teach, learn, trade technical information and do their own observations of the radio sky. SARA is a scientific, non-profit group founded for the sole purpose of supporting amateur radio astronomy. Most of SARA's members are hams. Mr. Kinghorn, a patent attorney, holds a bachelor's degree in physics from the University of Utah. Mr. Kinghorn is also a former lecturer at the Hansen Planetarium in Salt Lake City, Utah and the Buehler Planetarium in Ft. Lauderdale, Florida.

Minutes

Palomar Amateur Radio Club Board of Directors Meeting August 8, 2012

(Minutes based on notes by K2RP.)

The meeting was called to order by President Dennis Baca KD6TUJ at 7:30pm at the home of Ron Pollack K2RP. In attendance were:

President Dennis Baca KD6TUJ
Vice President Ron Pollack K2RP Treasurer
David Ochs, KI6LKP
Director #1 Don Johnson, WD6FWE
Director #2 Eric Hutchins, K7ELH Membership
Chairman Al Donlevy W6GNI
Repeater Technical Chairman Conrad Lara,
KG6JEI

Treasurer's Report

KI6LKP distributed copies of the Treasurer's Report. Motion by K2RP to approve the Treasurer's Report as published. Seconded by WD6FWE. Motion passed unanimously.

Secretary's Report

No Secretary's report was available.

Membership

W6GNI reported that the membership is 279, up from 270.

Repeater Technical Report

KG6JEI reported that the 6m repeater antenna is still broken, but usable. Reports have been received of break-ins and thefts at other repeater sites. K2RP agreed to investigate equipment insurance through ARRL's new carrier.

PARC Operating Day

Operating Day at Fry's has been rescheduled for November 18.

MS Bike Ride

A bike ride October 20-21 to benefit Multiple Sclerosis will be using the repeaters.

Club Picnic

KD6TUJ reported that the picnic is August 19. Motion by K2RP to increase the picnic food budget to \$200. Seconded by WD6FWE. Motion passed.

Rotator Connectors

KD6TUJ reported that John Kuivinen is ordering about \$50 worth of connectors for Field Day antenna rotators.

Repeater Events

KG6JEI requested use of the 146.73 MHz repeater with the 147.075 MHz repeater as backup for communications support for Cycle for Life on September 8 and a Cystic Fibrosis Foundation event on October 6. Motion by K7ELH to approved these events. Seconded by WD6FWE. Motion passed. KG6JEI suggested that the net preamble scripts for groups using the repeaters be rewritten.

Next Board Meeting Location

It was agreed that the next Board meeting would be held at the home of K2RP at 7:30pm on September 12, 2012.

Adjournment

The meeting was adjourned at 9:00 pm.

Respectfully submitted,
Paul Williamson KB5MU
Secretary

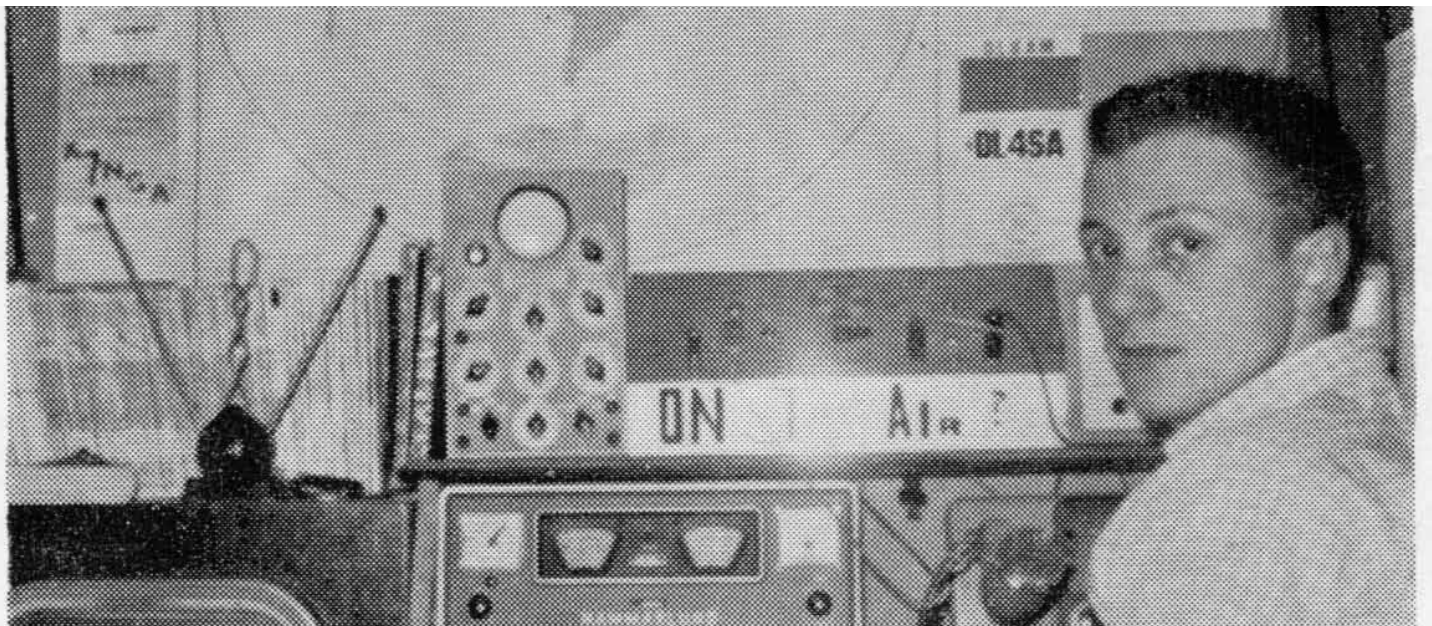
Minutes

Palomar Amateur Radio Club Board of Directors Meeting September 12, 2012

The meeting was called to order by President Dennis Baca KD6TUJ at 7:37pm at the home of Ron Pollack K2RP. In attendance were:

President Dennis Baca KD6TUJ
Vice President Ron Pollack K2RP
Secretary Paul Williamson, KB5MU
Treasurer David Ochs, KI6LKP
Director #1 Don Johnson, WD6FWE

Guess Who? (Photo circa 1963-4) N6KI!



Treasurer's Report

KI6LKP distributed copies of the Treasurer's Report. Motion by KB5MU to approve the Treasurer's Report as published. Seconded by WD6FWE. Motion passed unanimously.

KI6LKP reported that Paypal limits withdrawals from new accounts like ours to \$500 per month, and we currently have \$626.47 in that account. KB5MU stated that he is working on getting the limit removed.

Kudos to K2RP for disposing of donated equipment from the Warren Bailey estate and raising \$2662.49 for the club. K2RP spoke of an LDG automatic antenna tuner from the estate which turned up fried after visiting a local repair technician and being shipped to a buyer, then returned for a refund. LDG says this kind of circuit board damage is not worth repairing, but WD6FWE believes he might be able to repair it anyway. K2RP stated that he still has a 4BTV antenna from the estate, but all the rest of the salable items have been sold.

KI6LKP reported that Georgia Smith KI6LAV has agreed to help out with treasurer's duties at the October auction.

Secretary's Report

KB5MU distributed copies of the minutes of the July board meeting, previously sent by email. Motion by KI6LKP to approve the board meeting minutes as corrected. Seconded by WD6FWE. Motion passed unanimously. KD6TUJ and K2RP both agreed to send their notes from the August

meeting to the Secretary.

Upcoming General Meetings

K2RP reported that the October meeting will be the auction. For the November meeting, he has a lead on a program on amateur radio astronomy. The December meeting will be the usual holiday social and elections.

KD6TUJ reported that Art McBride KC6UQH has agreed to serve as auctioneer in October, and Jo Ashley KB6NMK has agreed to help at the back table. The usual schedule will apply: setup at 5:30pm, sellers at 6:00pm, buyers at 6:30pm, auction to begin at 7:00pm.

Membership

No membership report was available.

Repeater Technical Report

KD6TUJ reported that the stabilizers have been installed in the 6m cavities. The cavities will go to KC6UQH next for tuning.

WD6FWE reported a mention at the membership meeting that the repeater controller was heard to beep "P" for processor reset, and later the repeater IDs stopped coming out. He suggests changing the repeater control codes.

PARC Operating Day

KD6TUJ reported that he had all approvals to hold an Operating Day in the Fry's parking lot in San Marcos on November 18, the Sunday before

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PARC Members Visit San Diego Yacht Club

September 21, 2012

By: Tom Ellett – W0NI

PARC members and the Coronado Emergency Radio Operators (CERO) Board of Directors were guests at the San Diego Yacht Club (SDYC) last month. Our host was the SDYC Area Amateur Radio Group (ARG) and Mr. Bob Vincent N6EZV. Bob delivered an excellent presentation on the Communications Center he and his organization have assembled. The radio communications center was organized to:

- Encourage interest in amateur radio
- Serve the yacht club with communications for races and other activities
- Maintain a radio room and equipment
- Offer amateur radio classes and licensing
- Perform public service and support during any emergency

Following the presentation, we were given a tour of the radio room and antenna site. I'll let the photos taken by Jim Tomcik AG6EK tell the story.



Pictured above in the front row and left to right is Rod McLennan W6MWB, S/C Woody Hunt AE6ET, Ed Huggin KK6GO and Sue Huggin KO6DV. Our group filled the Jessop room at the SDYC.

As you enter the Comm Center radio room the first station on the right is an ICom IC-718 HF radio which hosts the W6IM Winlink Station is located. Winlink allows all Amateur Radio users the ability to send and receive email text messages, weather text messages and weather grib (graphic weather data images). The station's geographic location makes it the Southwestern most Winlink Station in the continental U.S. Users cruising Mexico, the Sea of Cortez and the South Pacific use the station's 24/7 capability.



The radio room was designed to be neat and efficient with HF, UHF/VHF and WinLink operating positions. Desks and paneling were selected to match and cable runs were concealed.



Under the North window, is a Marine Communication Station consisting of an ICom IC-M710 HF (1.8 MHz - 30 MHz) Marine Single Side Band (SSB) radio and an ICom IC-M59 Marine VHF (156.00 MHz - 163 MHz).

Below a 24 hour clock, is an ICom IC-756 HF/VHF (1.8 MHz - 30 MHz, 50 - 54 MHz)radio and an Alinco DR-112 VHF (144 - 148 MHz) 2 Meter “packet” radio. The station also includes an ICom IC-706MKIIG HF/VHF/UHF (1.8 MHz - 29.7 MHz, 50 - 54 MHz, 144 - 148 MHz and 420 MHz - 450 MHz) radio.



The VHF/UHF station includes a Kenwood TM-221A (144 MHz - 148 MHz) 2 Meter VHF radio. In the center is an Alinco DR-235 (222 MHz - 225 MHz) 1.25 Meter VHF radio. Also included is a Yaesu FT-7900R multi-band VHF/UHF radio for 2 meters and 70 centimeters.



N6EZV thanks J Goldberg AF6GM for his ongoing San Diego Ham Class training and licensing program that has been responsible for getting several hundred Amateur Radio operators licensed over the past 2 years in the San Diego area including several SDYC adult and junior members.



A test complete test bench is also maintained where a radio brought in by a sailor can be checked out.

Finally, I want to say a word about our long running Friday lunch group. The “Lunch Bunch” started over 25 years ago as a small group of PARC members who meet on the 146.730 repeater and decided on a place to meet for lunch on Fridays. As time passed and the internet became widely used, I decided to create a web site where hams could add there call to a lunch list. On Wednesdays, I send out invitations to about 80 hams and the group assembles at one of eight restaurants. Attendance varies with an average of 10-15. However, groups can be as large as 25 depending on the occasion. Many of our regular lunch goers have been hams for 30 years or more. The lunches offer a great opportunity to get some good advise on ham gear and enjoy the company of others who share a passion for amateur radio. You can sign up for the Friday lunch email at <http://www.w0ni.com/>

More Information Links:

SDYC Amateur Radio Group - http://www.sdyc.org/fleets/arg_about

Coronado Emergency Radio Operators - <http://www.arrrl.org/Groups/view/coronado-emergency-radio-operators/type:club>

W0NI's Friday Lunch Bunch – <http://www.w0ni.com/>

HAM RADIO OUTLET

Jose XE2SJB
Jerry N5MCJ
Joe N6SIX

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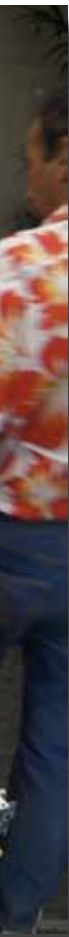
Directions: On 163, take **Clairemont Mesa Blvd.** off ramp to East. Stay in right-hand lane. Turn right at stoplight. As you are turning right you can see our beams in this shopping center. Travel 100 yds. On Kearny Villa Rd. and U-turn back to shopping area and HRO sign. Be sure to see our equipment in action on **real** antennas!



Annual Auction Photos

Photos by Don WD6FWE







From N6KI:

Great job!

See above certificate

First Place ARRL Sweepstakes SSB SW Division - Plaque to arrive soon !

Lets do it again this year - 3rd weekend in November
and see if we can also improve our national standing
from 6th place overall for Multi-Single Low Power Category
(SS CW crew took First Place SW Division 2nd place overall just behind Puerto Rico Section)

73, Dennis N6KI

CONTACT DENNIS TO OPERATE SSB SWEEPSTAKES!
Dennis Vernacchia <n6ki73@gmail.com>

**HAMRADIONOW EPISODE 28 and 29:
The Transformer Guy;
The Huntsville Hamfest Guy
are Online Now**

28: Peter Eggiman builds transformers. Little ones, big ones, and really big ones, for business and for hams. Jeff AC4ZO talks to Peter about the technology, after Gary does a "pledge drive" and a short visit from The Bear.

29: Charlie Emerson N4OKL is the benevolent dictator of the Huntsville Hamfest. Charlie's now saying, "Wait... is THAT what they got out of the interview?" Not really. But Huntsville isn't like most hamfests, and Charlie explains why. Then he confuses HamRadioNow with Ham Nation. And finally, the Mouse visits Gary as he wraps up the episode. So don't tune out early.

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Thanks and 73,
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Thanksgiving.

MS Bike Ride

KD6TUJ noted that the organizers of the MS bike ride were at the membership meeting looking for operators to work the ride on October 20-21.

501(c)(3) Status

K2RP reported that he had identified the CPA in the Escondido Amateur Radio Society who prepared their filing for 501(c)(3) status, and hopes to get a copy of their filing.

SANDARC

KD6TUJ reported a new omnibus amendment to the San Diego Amateur Radio Council (SANDARC) bylaws is being proposed. Some unspecified subset of these changes are said be required to comply with current state guidelines. KD6TUJ was heard to remark, "Those guys are being stupid again."

New Repeater on 147.12 MHz

KD6TUJ reported that TASMA has apparently coordinated a new repeater on Contractor's Point on 147.12 MHz. Unsurprisingly, this is causing substantial interference to our 147.13 MHz repeater near the coast.

Nominating Committee

KD6TUJ reported that he is working on appointing a nominating committee, to be announced at the October meeting as required by the Bylaws.

Next Board Meeting Location

It was agreed that the next Board meeting would be held at the home of KB5MU at 7:30pm on October 10, 2012.

Adjournment

The meeting was adjourned at 8:38 pm.

Respectfully submitted,
Paul Williamson KB5MU
Secretary

County Hunting it will pull you in!

Ron Pollack K2RP

CAUTION: The activities described in the following article have been known to become addicting and all consuming! Proceed with caution!

In 1961, CQ Magazine introduced the USA-CA program, with the "CA" designating "County Award." Many states offered "Worked All" awards for working and confirming certain numbers, or all, of the counties in that state. CQ built on that premise, and launched an award program for working counties in all the states, with 500 counties as the entry level award. Endorsements are offered for each additional 500 counties worked, until all the counties in the US are completed. Currently, there are 3077 counties required for the USA-CA All Counties award. (There have been several new counties formed, and some combined over the years, with the latest being a newly created county in Colorado a few years ago.) It would seem to be easy to determine where a station is located, but there is some ambiguity that is covered in the rules. For example, only 48 of the 50 states have county designations. Louisiana calls its counties "parishes," and those are counted as if they were counties. Alaska lacks counties, so the four "Judicial Districts" are used instead. Of course, the number of counties in each state varies, from a high of 254 in Texas, to a low of 3 in Delaware. (Or as some say, 3 at low tide, 2 at high tide!) Virginia and Nevada have a number of independent cities that are not in any county. There is a list of what counties can be claimed for a contact from those cities. The details can become intricate, but not overwhelming!

So, how does one go about working all those stations? First of all, the rules are quite liberal. Any contact, made on any date, from any location, any band or mode, using any call are all eligible. The award is to the person, not the call sign.

The vast majority of the contacts made now are with mobiles. Many counties have few or no resident active hams, so mobiles are the easiest, and often the only way to confirm those contacts. The mobile operators range from truck drivers to full time RV-ers to a cadre of hams who make trips specifically to "put out counties." Another source is the many state and regional QSO parties, with many mobiles travelling from county to county during the event. There is even a live website, www.w6rk.com/ch where mobiles are posted as they are running. There's even a way for the system to send you a message when a needed county is posted.

For the initial award from CQ, confirmations are required. To make it easy, there is a QSL bureau, with special cards with room to list several contacts with the same mobile in different counties.

This "subculture" of our hobby has developed great resources in addition to the QSL bureau. An organization, Mobile Amateur Radio Award Club (MARAC) was formed years ago to facilitate county hunting. There are nets every day to facilitate these contacts. The most popular are on 14336 and 14056.5. Spend a few minutes listening to the net and you'll quickly get the protocol. I suggest you listen carefully, as some of the net controls get "cranky" when people don't follow the system!

After the CQ award is earned for all counties, MARAC sponsors various specialty awards, such as second, third, or more times,

all CW, all SSB, all one band, and literally dozens more. Most of these are quite difficult to obtain.

Even the basic award is an achievement. In the over 50 years that the program has run, the latest number is only 1232. My award was issued about 5 years ago, and is number 1159, so only about 15 a year are currently being earned. The last one for all CW was only number 130! Incidentally, that one went to K1TKL, who lives in Escondido. I'm about 400 away from the all CW "whole ball of wax," as it's called.

Until the last couple of years, I had never operated HF mobile, but that bug has really bitten. After a few short trips, during which I ran some counties, we took a bit longer trip a year ago, visiting and running counties in Arizona, Utah, New Mexico and Colorado. I was hooked!

This spring, my XYL Rinkie and I took an 8 week road trip, culminating in a visit to the Dayton Hamvention. We ran counties all the way. The statistics were:

8700 Miles, 21 States, 2492 Contacts (50% CW, 50% SSB), 156 Counties Run

We used an old Yaesu FT100 and hamsticks, mostly on 20 meters. (Rinkie would not let me run CW while driving. Luckily, she likes to drive!)

This part of our hobby has developed a culture and language all its own, far too detailed for this article. I commend you to www.MARAC.ORG and www.countyhunter.com for more details, or I'd be happy to help you get started.

Attached is a photo of us operating on a "county line," which counts for both counties.





Point-Tilt-Zoom (PTZ) Camera
Photos by KB5MU.
Yes, a PTZ camera project is in
the works!



Shown here is the Aegis Mechtronics color security camera we're working on installing at the repeater site. The camera is equipped to pan, tilt, and zoom. As you can see, it's in a very robust metal housing. The controller shown is the standard console for local control. For the repeater site, we are planning to control the camera remotely over the air with DTMF tones. The video will be transmitted over the ATV repeater output.

See the article on page 14 of the November 2011 Scope for more details on this project.

Paul KB5MU

Club Membership for August Edition

New Members joining PARK.. KJ6VXW, KF7LPJ, KJ6WKB, KG6SXU, and Sherry Hughes, (No call yet)
And, 5 reinstatements, one all the way back to 1997!

All are welcome!!

AI
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AI Donlevy W6GNI Kathy Donlevy
Jo Ashley KB6NMK Sonny Stires WA5ACE
Art Nye KB6THZ Janet Meyer

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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

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For Sale

Icom IC-2820H with the UT123 DSTAR/GPS module installed. Includes Nifty Guide to Dstar and the Nifty manual for the IC-2820H. Missing the mobile mount. Includes original box. For PARC members \$650.00 including local San Diego County shipping. Contact Gary Kent W6GDK at W6GDK@arrl.net or 858-679-0578. Prefer cash, postal money order, or personal check (but delivery withheld until check clears).

73 de W6GDK
Gary Kent

For Sale

Hallicrafter SX11 with matching speaker, good condition, works great. \$150 KK6GO@cox.net or 619-224-8948

For Sale

Hammarlund HQ 129X receiver (vintage 1946) in great working condition (New Filter Caps) and above average appearance. \$150. K2RP@ARRL.NET or 760-436 -8109

For Sale

Hello:

My 93 year old neighbor (Richard Krist) has requested my assistance with re-listing his radio gear (as he is going deaf).

For Sale (BEST OFFER)

Cushcraft Ringo Ranger, Model ARX1, Vertical 2M	\$30.00
YAESU FT-1000D Transceiver	\$2,000.00
Kenwood TS-950SD, 10-160 M Transceiver	CALL
Heathkit Phone Patch, Model HD 15	\$30.00
Remote Motor driven, 6 Pos Coax SW with Control Box	\$100.00
YAESU FT 2500 M, with Astro PS 12 A	\$300.00
Kenwood TR-7330 2 M, with Astro PS7A	\$150.00
Ten-Tec Titan amp 1kw, 10 to 160 M	\$2,000.00

Contact: R. F. Krist, W6KTE, (760) 724-2786

Buyers are welcome to contact me with their offers via email or on my cell phone so that I can present them to Richard. I can send photos if that will help. Thanks for your assistance in this matter.

Regards, A good neighbor

Dennis S. Stizza
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You can join or renew your membership on the club's web site <http://www.palomararc.org>

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Questions? Ideas? Comments? W6NWG@amsat.org

Featured Program:

At 7:30pm on the 7th of November 2012, Palomar Amateur Radio Club presents Curt Kinghorn's talk on Amateur (Radio) Astronomy. Come at 7:00 for meet and greet and catch up with your radio friends.

We look forward to seeing you at the Carlsbad Safety Center, 2560 Orion Way, Carlsbad, CA.