

## March Club Reports

### Treasurer's Report for February 2005

Total cash and Bank Accounts - \$13,015.88  
Pre-paid dues \$6168.00, Prepaid Postage \$99.10, Equity \$6847.88,  
Total Liabilities \$6168.00. One CD comes due on January 12.

### Membership

Al Donlevy reports membership is down three to 388.

### February Meeting Goodie Givers

KG6RCW Tom, KE6ZLY Glenn, KG6JEI Conrad, W6ASP  
Preston, WB6BFG Bill, N6UWW Ellen, KF6WTN Mark

### February Meeting Program Review

Our February Meeting was a celebration of the 70<sup>th</sup> birthday of the Palomar Amateur Radio Club. Members gathered at the Carlsbad Safety Center at 7pm on February 1<sup>st</sup>, 2006, to hear Dennis Baca speak about the early history of PARC as described in original club documents and paperwork. Next, John Kuivinen gave a speech on the origin of the repeater site property as well as some of equipment at the site over the years. After the presentation, cake and other treats were enjoyed by all. An audio recording of the presentation along with photos can be found in the photos section at our club website <http://www.palomararc.org/>.

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## INSIDE THIS ISSUE

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## Echolink and PARC Repeaters

### Charlie Ristorcelli, NN3V

Over the past two years, PARC members expressed interest in getting Echolink implemented on a PARC repeater. This article will explain the rudiments of Echolink, and give a status of that effort.

Echolink is a web-based application that uses Voice Over Internet Protocol (VoIP). Using VoIP, Echolink extends the reach of amateur radio to any place on the planet where there is an IP address. Every computer on the Internet has an IP address. Think of your desktop or laptop as having a worldwide known (to the rest of the internet) "mailbox address". Echolink is the extension of your computer's address to VoIP services over the Internet.

VoIP is an increasingly popular communications capability that allows you to communicate by voice using your computer. Many of you have heard of the cable-based telephone service being offered by some cable providers (Time Warner for example). What they are doing is using the VoIP protocol to send digital voice packets around the Internet from properly configured IP address to properly configured IP address (or addresses since more than two people can communicate simultaneously in a single conversation). See page 5 for a technical brief on VOIP.

Echolink simply extends that service to licensed amateur radio operators.

Echolink software is available free on the Internet. For PCs, go to <http://www.echolink.org/>. If you have a Macintosh (OS X), go to <http://www.dogparksoftware.com/EchoMac.html>.

Those of you who download the software will find that it is totally self-installing. Developed, programmed, and perfected by ham radio operators, this software is built the way all of us wish the gurus in Redmond built software. Installation is flawless, and you have to try real hard to make it fail on the installation!

Just because you download the software and install it does not mean you get to use it. Through use of Public Key Cryptography, the hams who wrote Echolink devised a foolproof way of certifying that someone who is trying to use the software is indeed a licensed amateur radio operator. This is totally transparent to you when you decide to use the software, but is worth understanding and is the

*Continued on page 2, right-hand column*

## March Program Preview

"I Got My License... Now What?" Program Schedule

1. Palomar Amateur Radio Club, Steve Early AD6VI
2. ARRL San Diego Section, Pat Bunsold WA6MHZ
3. Amateur Radio Emergency Services, Tuck Miller NZ6
4. Races, Terry Runyon K3PXX
5. Public Service Events, David Doan KC6YSO
6. QRP, Jim Cooper NE6O
7. Home Brew, Pat Bunsold WA6MHZ
8. DX, IOTA, WAS, Harry Hodges W6YOO
9. ATV, Satellites, Art McBride KC6UQH
10. Digital Modes-PSK31, RTTY, Packet, Rod Dinkins AC6V
11. 6m and 6m DX, Rod Dinkins AC6V
12. Mobile Radios, Don Johnson WD6FWE
13. Programming a Radio (Generic), Bernie Lafreniere N6FN
14. How to use a Repeater Guide, Steve Early AD6VI
15. How to join a NORMAL conversation, David Doan KC6YSO
16. Red Cross and Amateur Radio, Ted Thompson
17. CERT and Amateur Radio, Mike Brown N6GEM
18. How to make an Emergency Communication, Gary Kent W6GDK
19. What to do in a Declared Emergency, Gary Kent W6GDK

## President's Report

Well, PARC is now 70 years young and still striving to serve that local amateur community.

March is the month that we reach out to new Amateur Radio Operators. Typically, several Technician License classes are taught around the county in January and February. This year is no exception. As I write this, there is a class underway in Mira Mesa and one beginning in Alpine. There are often other classes through out the year, as well as individuals that self study for their license.

Missing from many of these classes is the big picture of the many facets of Amateur Radio.

To attempt to provide this picture last year, PARC provided a program titled: "I have my license...Now what??"

Those that attended last March, told us that we ought to do it again, so the March 1st, 2006 Program is:

"I have my license...Now what??"

We are covering subjects from Public Service, to DX, to how to join a "on the air" conversation.

*Continued on page 9, bottom right-hand column*

*Continued from page 1, "Echolink and PARC Repeaters"*

subject of a later discussion. If you are a licensed ham, read on.

To use Echolink, all you need is the soundcard on your computer, a microphone into the soundcard, speakers out of the soundcard, and in Internet connection (dial up or broadband) to communicate anywhere in the world with amateur radio operators who are also Echolink users. As I write these notes, my Echolink display tells me there are 2975 amateur radio stations logged on to Echolink at this moment. As a small example, there is one in Antigua-Barbuda, 12 in Saudi Arabia, 6 in China, 2 in Iraq, 1291 in the United States, 165 in Russia, etc. And all I have to do is hover my mouse cursor over their call sign, double click, and I am connected with him or her (or with the repeater for which they are a node), and I can chat to my heart's content. Sorry folks, Echolink contacts do not count for DX!

*(However, CQ Magazine sponsors the CQ iDX Award, which encourages the use of internet-linked repeater networks such as IRLP and Echolink. Note that computer-to-computer QSOs will not count for the award. For more information see the June CQ Magazine or their website at <http://www.cq-amateur-radio.com-W5NYV>)*

For some time, PARC members have been interested in establishing an Echolink node for PARC. The PARC Board decided last year to allow placing the PARC Echolink node on the 447 MHz repeater. So, you ask, what good would that be?

Well, imagine in your mind's eye that instead of a speaker and microphone going in and out of the soundcard in your computer, you connect the sound card of your computer to the microphone input and output audio of a radio. What happens then? Say the radio is tuned to our 447.000 MHz repeater. What happens?

Well, imagine that the radio in question above belongs to NN3V. If another ham radio operator out there in cyberspace "connects through the internet" with NN3V, when they speak, they will be transmitting on NN3V's radio that is set up on the 447.000 MHz repeater. Everyone within receive range of 447.000 MHz repeater will hear the ham (who may be calling through the internet while she is in Moscow)!

Isn't that neat! Wow!! But wait, what happens if you answer her call from Moscow, using your radio on the 447.000 MHZ repeater?

*Continued on page 3, right-hand column*

## SCOPE CHALLENGE

February Challenge Answer: Champagne is two and a half cents. Bottle is one dollar and two and a half cents (one dollar more than the champagne). Correct solution was calculated by Carl, W6VDC. Good work, Carl!

March's challenge is somewhere in the newsletter. Find it and answer it, and you will be credited in next month's SCOPE! Got a photo to submit for a Photo Challenge? Let us know! [scope@palomararc.org](mailto:scope@palomararc.org) •••••

## CONTEST CALENDAR

Mar 4	ARRL DX Contest, SSB
Mar 4	Wake-Up QRP Sprint
Mar 4	Ukraine RTTY Championship
Mar 5	DARC 10-Meter Digital Contest
Mar 6	RSGB 80m Championship
Mar 7	ARS Spartan Sprint
Mar 7	AGCW YL-CW Party
Mar 9	Pesky Texan Armadillo Chase
Mar 11	RSGB Commonwealth Contest
Mar 11	Idaho QSO Party
Mar 11	AGCW QRP Contest
Mar 11	Oklahoma QSO Party
Mar 12	NA Sprint, RTTY
Mar 12	UBA Spring Contest, CW
Mar 12	NSARA Contest
Mar 12	Wisconsin QSO Party
Mar 15	RSGB 80M Championship, CW
Mar 17	SARL VHF/UHF Contest
Mar 18	10-10 Int'l Mobile Contest
Mar 18	BARTG Spring RTTY Contest
Mar 18	Russian DX Contest
Mar 18	AGCW VHF/UHF Contest
Mar 18	CLARA and Family HF Contest
Mar 18	Virginia QSO Party
Mar 19	UBA Spring Contest, 6 Meter
Mar 19	9K 15 Meter Contest
Mar 20	Run for the Bacon QRP Contest
Mar 23	RSGB 80M Championship, SSB
Mar 25	CQ WW WPX Contest, SSB
Mar 26	UBA Spring Contest, 2 Meter
Mar 26	Spring QRP Homebrewer Sprint

CU in the Contests! Harry/W6YOO

*Continued from page 2, "Echolink and PARC Repeaters"*

Well, just what you would expect. Your transmission through the repeater will be received by NN3V's radio and relayed through the web to the station in Moscow. Isn't that sexy? DX without a tower!! (Well, sort of DX. But hey, it's the thrill of it all).

So how do you use this lash-up with your radio? That is, assuming you are walking along the beach in Carlsbad, with your handy talkie. What can you do on Echolink? Well, it is real easy.

If you know the "node number" of a ham who has Echolink on their computer, or know of a repeater that is linked through Echolink, you are ready to connect to that station over the PARC repeater!

The node number is the key!

To access any Echolink station over our 447.000 MHz repeater, all you have to do is enter the node number as a transmission on your DTMF keypad.

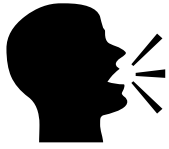
You enter the node number to access the other node. You transmit the pound sign # to knock the link down!

So, when you are done talking with the ham operator located in Rangun, remember to knock the link down.

Idiosyncrasies of Repeater Echolink Node Use

1. Your tones have to be loud and clear. If there is any RF path noise or distortion between your DTMF pad and the receiver input at NN3V's radio, you may not bring the link up.
2. When you connect, the Echolink system will tell you that you connected. For example, W8TVC-R is an Echolink repeater node in Traverse City Michigan. Some of you may have heard me talking with the IOOK gang in Traverse City. The node number for W8TVC-R is 56464. If you enter that node number on the system, and all goes well, you will hear "Connected to W8TVC".
3. When you are finished, remember to transmit #. The system will tell you when you succeed in bringing the link down by telling you "W8TVC disconnected". If you do not get that message, keep transmitting # until it knocks down. There is no danger, but there is no point in tying the node up for nothing.
4. **BY ALL MEANS BE PATIENT AND COURTEOUS!** You cannot just use the system like a single repeater contact. There is the W6NWG 447.000 MHz squelch tail, the time delay through the web, other squelch tails at the other end, and in some cases multiple node hops by distant repeaters. So if you start jabbering away the moment you connect, you can wind up talking to yourself without anyone being able to respond. **BE PATIENT. LISTEN BEFORE YOU TRANSMIT.**

*Continued on page 9*



# NETS



## Regular On-the-Air Nets sponsored by the Palomar Amateur Radio Club.

DAY	TIME	FREQ.	NET NAME	NET MANAGER CONTACT INFORMATION
T/R/S	2000	146.730	NTS Traffic Net	Charles N6TEP <a href="mailto:cmiele@juno.com">cmiele@juno.com</a>
Sunday	0830	146.730	ARES Sunday Net	Dennis K7DCG
Sunday	2045	147.075	MARA ES	Glenn Jones <a href="mailto:KG6JDF@amsat.org">KG6JDF@amsat.org</a>
Monday	1915	146.730	RACES Sub-Net	
Monday	2100	146.730	Microwave Net	Kerry B.
Tuesday	1900	147.130	Red Cross Net	Ted <a href="mailto:tthompson@sdarc.org">tthompson@sdarc.org</a>
Tuesday	2100	146.730	Off-Road Net	Jerry A. K6PFP <a href="mailto:jwak6pfp@cts.com">jwak6pfp@cts.com</a> Dick W. KA7AYT <a href="mailto:rwillimek@home.com">rwillimek@home.com</a>
Wednesday	2000	146.730	Sailor's Net (stay tuned)	Mace
Thursday	1930	147.075	Young Hams Net (inactive)	
Thursday	2100	146.730	Ham Help (need ops)	David D <a href="mailto:KC6YSO@amsat.org">KC6YSO@amsat.org</a>
Friday	2100	146.730	Hiker's Net	Ed <a href="mailto:KF6DXX@juno.com">KF6DXX@juno.com</a> Glenn P. <a href="mailto:KE6ZLY@juno.com">KE6ZLY@juno.com</a>
Nightly	>2200	147.130	Facetious Group	
Saturday	2000	52.680	6Mtr Emergency Services Net (inactive)	

## Other nets that might be of interest to the membership

DAY	TIME	FREQ.	NET NAME	NET MANAGER CONTACT INFORMATION
Mon-Fri	2000	28.340	10 Meter Net	Dennie WA9MTP

## Net Participation Tracker – A convenient form for participating in PARC nets.

NET	DATE	NOTES

## Repeater Information

PARC Trustee: AB6QT

52.680 W6NWG -0.5 MHz

Autopatches: 146.730-, 147.075+, \*147.130+, \*447.000-

PKT: 145.050s (PALOMAR/W6NWG-1) 146.700-

(Duplex Pkt) PALBBS/EMG use 145.070/146.700-

(W6NWG-3/PALBBS)

ATV input: 915 wbfm, 2441.25 wbfm

ATV output: 1241.25 MHz am

Intercom: 146.415 PL 79.7 nbfm

Affiliated: 224.380-, 224.940 KK6KD (HARS) 447.050-

145.260 KK6KD (HARS)

146.175+ N6FQ (Fallbrook ARC)

Linked to: 445.600-, 224.900- WD6HFR (Corvair/220

ARC), 446.140- WB6FMT (123.0) Vista

**†under repair \* 107.2 Hz PL Tone**

## License & Class Information

Register 5-7 days in advance for the following test sessions.

- PARC Testing is in Carlsbad on the 2<sup>nd</sup> Saturday of the month at 9:30am at the Carlsbad Safety Center. Test sessions may be cancelled if no one pre-registers. Contact Rusty Massie AA6OM at (760) 747-5872 or dunedancer@cox.net.

- EARS Testing is in Escondido on the Last Saturday of the month at 9:00 am at Fire Station #1 Escondido Fire Department. The address is 310 North Quince Street, Escondido CA 92025. Contact Harry W6YOO (760) 743-4212 or W6YOO@amsat.org.

- "The ARRL Technician Class Course for Ham Radio Licensing" Course No. EC-010 \$99 ARRL members / \$139 non-members. Courses begin on the first and third Tuesday of each month. For more information, email cce@arrl.org or via regular mail to ARRL CCE, 225 Main Street, Newington, CT 06111. ....

## VOIP Basics

### Michelle W5NYV

Traditional Internet protocols were challenged when it came to transferring real-time application data such as voice or video. Jitter, delay, echo cancellation, quality of service and security were all big problems that made audio and video quality hard to ensure. While reliability is the most important aspect for transport of data (you want your electronically submitted tax return to be 100% accurate) retransmitting a lost or erroneous real-

time voice or video packet doesn't make any sense. Once the moment has passed, then it's too late to signal the server to send packet #85934 again. The voice conversation moves on and delivering correct information at a later time doesn't add anything to the intelligibility of the received audio.

Newer implementations of Internet Protocol (IP) and new protocol specifications such as H.323 or SIP were developed to bridge between IP and traditional telecom processes that were

designed for real-time audio. This process of developing IP-based protocol definitions for multimedia communications became known as Voice over IP (VOIP).

Minimizing one-way, end-to-end delay over the network is key. If there is too long a delay in voice packet delivery, speech will be unrecognizable. An acceptable delay is less than 200 milliseconds. Advancements in methods of encoding data have reduced much of the handling delay, leading to improved VOIP performance. ....

# HAM RADIO

Tom KM6K  
Ron N6OMW  
Jose XE2SJB  
Bob KA6EKT

H  
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And  
Others too  
Numerous to  
Mention!**

Drop in to see our display of working equipment. Find out about Pkt location determining equipment (APRS). Check our complete line of magazines, ARRL books, license manuals, and Bulletin Board with all sorts of Goodies listed.

**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!

## www.ac6v.com/

This wonderful ham radio website, run by Rod AC6V, is a fantastic online resource for amateur radio information. With 700 topics, 6,000 links, and 132 pages, it weighs in at the top of the scale as one of the best topical indices of ham radio webpages. The site gets well over 1,000 hits a day. Readers from 127 countries have visited www.ac6v.com.

[www.ac6v.com](http://www.ac6v.com) has been in operation since 1997 and is highly praised by visitors. Unlike many sites that post reams of links, only to let them rot over time, Rod sees that the links at his site are checked monthly. This removes one of the most irritating things about resource sites – the dreaded 404 Page Not Found.

Thanks to Rod, things are easier to find on the ever-growing and often chaotic Internet. Thanks Rod, for doing such a great job and providing such a wonderful service to the ham radio community!

## Current Needs

Volunteers are needed for the following club positions.

Del Mar Fair participation Chair.  
2006 Field Day Chair.  
Ham Help Net Operators.  
Assistant southwest division director.

We are actively seeking people for these positions. If you or someone you know has expressed interest in getting more active in amateur radio, these positions are excellent ways to fulfill that wish!

Training is provided for all these positions, and the time commitment ranges from low to medium.

Some of the positions are irregular or seasonal in schedule (Del Mar Fair), and some of them are consistent in schedule (newsletter, net operators). Regardless of the type of position and the time commitment required, each and every volunteer opportunity is greatly appreciated and makes our club more successful. ....

## PARC 2006 Board

President: Steve Early AD6VI  
(619) 461-2818 AD6VI@cox.net  
VP: Dennis Baca KD6TJ  
(760) 722-0251 KD6TJ@amsat.org  
Sec: Gary Kent W6GDK  
(858) 679-0578 W6GDK@arrl.net  
Treas: Bob Birch KG6RGI  
rrbirch@cox.net  
Dir: Tom Martin KG6RCW  
Dir: Mark Raptis KF6WTN  
(760) 749-4825 KF6WTN@amsat.org  
Site Management:  
Mike Pennington K6MRP  
K6MRP@amsat.org  
Membership: Al Donlevy W6GNI  
(760) 630-3096 W6GNI@amsat.org  
Site Tech: Mike Doyle AB6QT  
(760) 742-1573 AB6QT@amsat.org

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## FOR SALE

*Personal equipment ads are free to members and could be bumped after 3 months. Make up your ad like the ones on this page and send to*

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*Commercial ads in big boxes: \$2/col. inch/month. We will squash your ad copy to the number of inches bought.*

(2.2) Tempo S-2 (220 Mhz) Handheld with SS32 PL & DTMF built w/charger \$40.00, Galaxy Electronics Phone Patch PR-550 \$10.00, Avenger 4000 Commercial Alarm System, w/8 PIR's, keypad, 2 sirens, 1 sonic \$80.00 OBO, 13 Inch Sony Industrial Video Monitor Model PVM-1390 \$20.00 OBO, 54" Oak Roll Top Desk, excellent Condx \$350.00 OBO, Sentry Fireproof Combo Safe \$30.00 OBO, Heath SWR meter model HM-102 (needs meter cover) w/remote pickup \$10.00 OBO, IBM Clone Desktop 350 Mhz Pentium II computer 6 Ghz HD \$30.00 OBO, International Video/Audio signal processor/distribution Amp w/full studio controls \$40.00 OBO, VHF/UHF Conical Monopole Vertical \$10.00, Panasonic KX-F50 Phone answering machine/FAX \$10.00, Computer Desk w/wheels \$20.00 OBO, Kerosene Heater w/extra wicks \$30.00, Many Panasonic Video accessories, 200 Laser Movies Contact for List \$5.00 each, Some collector Directors cuts, Contact Dennis K7DCG 858-748-9046 or email K7DCG@aol.com

(12.6) Wanted: A 500 to 1KW amp for disabled ham. Please phone (760-724-0049) or e mail (sstires@cox.net) for details.

Thank you...WA5ACE

(9.13) Ham-friendly property FOR SALE. www.pettus.us

(2.19) Coronado Hills Property for Sale see <http://www.kf6c.com/SanMarcosProperty.htm>

### **PALOMAR ENGINEERS** **Box 462222, Escondido, CA 92046** **TOROID CORES**

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#### **BALUN KITS**

Ferrites slip over coax. Shrink tubing holds them in place. Works from 3.5-60 MHz (Use two kits for 160m).

**Model BA-58** (for RG58, RG8X & similar cables up to 1/4" dia. \$7.50+tax+\$6 S&H/order

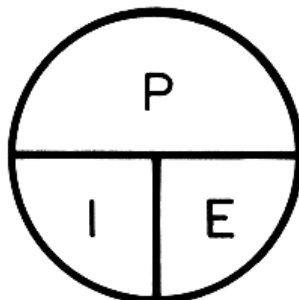
**Model BA-8** (for RG-8, RG-213, 9913 and similar cables up to 1/2" dia. \$15+tax+\$6 S&H/order.

#### **TUNER-TUNER**

Tune your tuner without transmitting. Save that rig! Just listen to the Tuner-Tuner's noise with your receiver. Adjust your tuner for a null and presto! You have a 1:1 SWR.

**Model PT-340 \$99.95+tax+\$6 S&H**

See catalog at [www.Palomar-Engineers.com](http://www.Palomar-Engineers.com)  
Please check our complete ads in **QST**, **73**, **CQ**, and **World Radio** magazines.



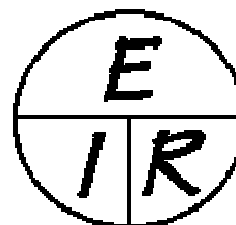
**FOR SALE:** Hy Gain - Hy Tower 5 band (80 thru 10) vertical antenna. This is a freestanding antenna that requires a 3-foot square cement base. It has S.S. hardware. I'm asking \$300.00 and you pick up in Fallbrook. The first two sections break down into 10-foot sections and the rest is tubular. **Call Dale (W6IWO) at (760) 728-6800**

## City Council Update

As reported in the February 2006 SCOPE, the San Diego City Manager's Report on Amateur Radio Antenna Regulations mentions a need for developing guidelines and regulations for amateur radio antennas that may impact how easily we can participate on the air.

The Land Use and Housing Committee does not have the issue docketed in the near future. However, according to Jaymie Bradford, a consultant for the Land Use and Housing Committee, Development Services is trying to include it in their Overall Work Program (OWP) which is tentatively scheduled to be heard before committee on March 29, 2006.

The issue will be continuously monitored by PARC board members. Legislative action will be taken when necessary by the SANDARC Legislative Oversight Committee.



March Newsletter Challenge: What do the round symbols above and to the left mean?

## Committee Chairpersons

ARES Info	Tony	KC6YSP
ARES Net	Dennis S.	K7DCC@amsat.org
Attendance	Al	W6GNI@amsat.org
ATV	Art	KC6UQH@amsat.org
Auction	Tom M.	KG6RCW@amsat.org
Badges New	Al	W6GNI@amsat.org
Batteries	David	
	BK6EBYDAT@Gerry.Palomar.caltech.edu	
BBS Monitor	Bill B.	N6FMK@amsat.org
Billing Ads/etc	Jo A.	KB6NMK@amsat.org
Contest Info	Dennis V.	N6KI@amsat.org
Control Ops	Filled	W6NWG@amsat.org
Del Mar Fair	needed!	
EmComm	Harry	W6YOO@amsat.org
	Dennis V.	N6KI@amsat.org
Field Day	needed!	
Field Day Tech	John K.	WB6IQS@amsat.org
Inventory	Dennis B.	KD6TUI@amsat.org
New Member	Christy M.	KI6AOL
Nets	PARC	Board@palomararc.org
Newsletter	Filled!	W5NYV@amsat.org
Patch Info	Stan	W9FQN@amsat.org
Patch Electronics	Jerry H.	WB6FMT@amsat.org
Picnic	Mark R.	KF6WTN@amsat.org
Power AC/DC	Mike P.	K6MRP@amsat.org
Programs	Dennis B.	KD6TUI@amsat.org
Publicity	Terry R.	K3PXX
QSL Cards	Harry H.	W6YOO@cox.net
RACES Info	Jo A.	KB6NMK@amsat.org
RED Flag	Steve	AD6VI@amsat.org
Repeater Site	Mike P.	K6MRP@amsat.org
Repeater Tech	Mike D.	AB6QT@amsat.org
SANDARC	Jin/Steve	NE6O/AD6VI
Seller Table	John K.	WB6IQS@amsat.org
Asst. SWD Dir	needed!	
Testing VE	Rusty	dunedancer@cox.net
Trustee	Mike D.	AB6QT@amsat.org
Web	Paul W.	www.palomararc.org

## Reading Propagation Reports

### Michelle W5NYV

We've covered Smoothed Sunspot Numbers (SSNs) and learned that high SSNs are good for high frequency (HF) operation and that low SSNs are better for low frequency (LF) operation. We've learned that solar flares are generally bad for HF, and have intensities indicated by letters. For today, let's read an ARRL propagation report and see what else we need to know to use it. The following paragraph is an excerpt from the February 3<sup>rd</sup> ARRL propagation report.

Sunspot numbers for January 26 through February 1 were 24, 29, 11, 0, 0, 0 and 0 with a mean of 9.1. 10.7 cm flux was 86.9, 83.5, 80, 79.5, 78.8, 77.6, and 77.6, with a mean of 80.6. Estimated planetary A indices were 29, 8, 6, 3, 1, 2 and 4 with a mean of 7.6. Estimated mid-latitude A indices were 15, 7, 4, 1, 0, 1 and 3, with a mean of 4.4.

Right off, we see daily sunspot numbers. Notice how they tailed off and dropped to zero as the sunspots rotated out of view. These daily sunspot numbers are averaged over time to become our SSNs. The next measurement in the report is solar flux. "10.7 cm Solar Flux" is the amount of solar noise that is emitted by the sun at 10.7 cm (2800 MHz) wavelengths. Solar Flux numbers range from 50 to 300. Higher numbers mean that HF and DX operation should be improved. Lower numbers mean a lower maximum useable frequency. DX work at HF may therefore be limited. The final numbers are "A indices". Lots of different observatories all over the world each take geomagnetic activity measurements several times a day. The planetary A index is a global average of these geomagnetic measurements. The mid-latitude A index is the measure of geomagnetic disturbance that is tuned for mid-latitudes. The higher the A index, the worse it is for HF propagation. The K index is essentially the same measurement as the A index, however it is on a different scale.

If the sunspot numbers are sufficiently high, if 10.7cm solar flux remains above about 150 for a few days and if the A index stays below 7 (or the K index stays below 2), then be sure to check the bands for good DX because conditions should be right.

Now that you're ready to read propagation reports, where do you find them? They're broadcast weekly on W1AW, posted weekly on the ARRL website, and available each week as an email subscription from ARRL. Most observatories also publish their numbers themselves, so you can go directly to the primary source material! •••••



*Continued from page 3, "Echolink and PARC Repeaters"*

5. The easiest way to get the "feel" for Echolink repeater use is to connect to the Echolink Test Server (node # 9999). What follows can serve you as a guide to making your first Echolink transmission on the repeater.

a. Tune to 447.000 MHz repeater and announce your presence on the repeater. For example, I would say, "NN3V listening". If I do not hear anyone reply, I will then say "NN3V connecting to Echolink"

b. I then hold the mike key down and transmit 9999. If successful, I will hear "Connected to the Echolink test server. This server listens to your transmissions and plays them back to allow you to set your audio levels. Feel free to use the test server as often as you like".

c. From that moment on, anything I transmit into the repeater (or any other signal that enters the NN3V radio input) will be recorded by the test server and played back when the input goes quiet. Remember, listen and be patient!

d. When done testing I would simply Enter #. The system will alert me with "Echolink Test Server Disconnected"

e. I would then announce "NN3V returning the repeater to normal use" Well, that's it in a nutshell! I usually talk with many friends on the East Coast and in Europe as I drive to work in the morning. Beats the lack of DX in the downturn of the propagation cycle!

Some neat nodes:

Call Sign	Node#	Location
W8TVC-R	54646	
7Z1UG	218150	SAUDIA ARABIA
JA3YAA	245977	TOKYO
JA6NKA	4601	KAGOSHIMA REPEATER
S21RB-L	68569	BANGLADESH
VK2IAU	98979	AUSTRALIA
VK2TVZ-R	264410	COOMA RPTR, AUSTRALIA
VK3JED-R	62214	VK EmComm
RD3AE	214348	MOSCOW

So where are we as far as getting the service established on the 447 MHz repeater?

Well, at the moment we have a few kinks to work out. Preliminary tests show the Echolink node is not working well through our repeaters. There are several possibilities.

It may be that there is some non-linearity in the repeaters, such that when a tone is transmitted into the repeater, the output tone is distorted. Echolink is very touchy on the quality of the tones.

If we have any non-linearity, then the tones will not work properly to connect through Echolink.

There is also a possibility that the autopatch system is set up (correctly) to prevent unexpected or "bogus" tones from bringing up the autopatch (something we do not want).

If that is the case, then modifications will be needed. There may be several ways to correct this, and in some of the ways, the autopatch system and Echolink can coexist.

The bottom line is that if you, the PARC members, want this to be a working system, you have to show interest, and raise this as a matter worth fixing.

Meanwhile, if you are driving through Poway (such as driving down I-15 around Rancho Bernardo road) feel free to try the NN3V Echolink node. It is on 146.415 MHz simplex. All you have to do is follow the above procedures. •••••

*Continued from Page 2, President's Report*

If you are, or someone you know is, new to amateur radio, this is a great opportunity to see many of the opportunities and ways to participate, such as Microwave, Amateur Television (ATV), Long Distance (DX), Low Power (QRP) and Homebrew (build it yourself).

If you want to get into Amateur Radio Public Service, this is a good opportunity to meet representatives of most of the major players, such as Amateur Radio Emergency Services (ARES), American Red Cross (ARC), Community Emergency Response Team (CERT), Radio Amateur Civil Emergency Service (RACES). We are providing this program to help HAM's to prepare for upcoming Public Service events (like the SURF Lake Hodges 50K Run on March 11th and the Special Olympics, Contests like "Field Day" (June 23rd-25th), and Emergencies (like wild fires, etc.).

Bring a friend and learn something new. Speaking of Field Day, the Palomar Amateur Radio Club is looking for several new volunteers to help out on June 23, 24th and 25th. Chef Le Marc (KF6WTN) has reported that, due to circumstance beyond his control, he will not be able to participate in Field Day this year. So, we are looking for help at the Road Kill Cafe. It will be hard to approach the standard that Mark has set, but we must try. Additional opportunities are likely to be identified as we approach June, so keep an eye on The Scope.

See you March 1st, 7:30PM, at the Carlsbad Safety Center.

Steve Early, President

Palomar Amateur Radio Club, Inc.

Palomar Amateur Radio Club  
P.O.Box 73  
Vista, CA 92085-0073

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## About our Newsletter

Scope (USPS #076530) is published monthly by the Palomar Amateur Radio Club 1651 Mesa Verde Drive, Vista, CA 92084. Periodicals postage paid at Vista, CA 92085. Dues are \$18 per year or \$30 per year for a family. Dues include a subscription to Scope. Editor: Michelle Thompson W5NYV.

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

Questions? Ideas? Comments? [W6NWG@amsat.org](mailto:W6NWG@amsat.org)

## About our Organization

The Palomar Amateur Radio Club serves the Amateur Radio community of San Diego County California with repeaters located on Palomar Mountain. The club has monthly meetings, Field Day festivities, an annual auction, and many other fun and interesting functions. All are welcome at our club meetings and on-the-air interactive radio nets which now feature discussion groups on hiking, sailing, microwave, off-roading, as well as traditional message traffic and emergency communications nets (RACES - ARES - MARA).

73 and hope to CU you on the air! -NN3V

## Meeting Location and Time

This month's General Meeting will be held on March 1st, 2006 (the first Wednesday of each month) at the Carlsbad Safety Center. The meeting will be "I Have My License... Now What?" Talk-in on 146.730 MHz repeater. Meeting starts at 19:30. Ridesharing and coordinating for dinner beforehand often occurs on the repeater on Wednesday afternoons. Everyone is welcome!