



January Club Events

Treasurer's Report for December 2005

Assets

Cash and Bank Accounts

BoA checking	1,606.66	CD	2,759.68
CD	3,484.38	CD	2,915.28
CD	2,403.71	Post office	99.10

Savings SDCCU 50.00

Total Assets 13,318.81

Liabilities & Equity

Pre-Paid Dues	6,398.00	Property Ins.	2,400.00
Total Liabilities	8,798.00	Equity	4,520.81

Total Liabilities & Equity 13,318.81

Ride Needed

Mr. Peter DelMonte KC2CYR would like to get a ride to the meeting. He lives at 4490 Mesa Drive in Oceanside. APT 234W phone (760) 721-7045. He has 90 years of life experience, and has worked as a machinist. His radio is limited to the Palomar and Red mountain repeaters due to restrictions.

2006 Board Approved

The nominating committee consisting of Art KC6UQH, Harry

continued on page 2

INSIDE THIS ISSUE

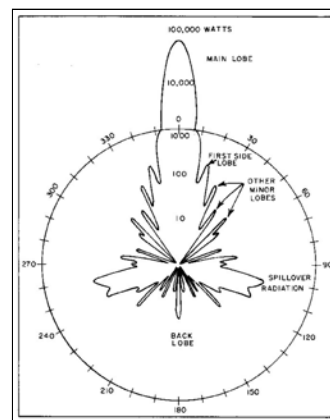
- 1 Of Antennas and Snowflakes
- 3 Contest Calendar
- 5 Repeater and License Info
- 7 Club Classified Advertisements Page
- 9 Software Defined Radios – a Definition Decoded

Of Antennas and Snowflakes

Michelle W5NYV

You might not think antennas and snowflakes have much in common. Snowflakes are made of water and are considered beautiful by almost everyone. Antennas are made of wire or tubing or whatever works and seem to be considered beautiful by almost no one. Snowflakes usually herald winter, holidays, shoveling, and stuck cars. Antennas herald the presence of an amateur radio operator or other communications system, and are rarely used as decorative motifs, and are almost never seen in poetry or art, unlike the snowflake.

However, both are subject to fundamental laws of nature. Both are affected greatly by the weather. Each and every snowflake is unique, just like antenna designs! Take the familiar dipole. The figure-eight-shaped antenna pattern, with its prosaic double lobes, finds a comfortable companion in the plain old water crystal, the basic hexagonal prism. A more complicated antenna pattern, with its main lobe, side lobes, and back lobe, could find a partner in the triangular plate prisms of branching snowflakes.



Plot is of a radar antenna from the collection of National Capital Area Skeptics. The photo is from the collection of Rasmussen&Libbrecht at www.snowcrystals.com. Snow crystal shapes are influenced primary by temperature and humidity. When temperatures are well below freezing, and the air is very dry, simple solid crystals form. When temperatures are between -10°C and -20°C, and the humidity is high, then the dendrites, sector plates, and other more complicated shapes start to form.

continued on page 3

Continued from page 1

W6YOO, and Paul NN6X brought forth a slate of candidates at the November meeting. Nominations from the floor were opened and closed with no additional candidates. At the December meeting Harry W6YOO conducted the elections. Motion by David KC6YSO to accept the slate of Officers. Second by Conrad KG6JEI. Motion carried.

December Membership Report

New Members Joining PARC:

KI6BIH, WB6UWA, KG6MDO, KI6BJA, KE6HDA.

Please welcome these new members. Four members reinstated their membership. Welcome back!

The participation points for the December meeting (party) have not been entered yet, maybe more people brought delectable goodies than signed up at the goodie table. If you brought treats, and didn't manage to sign in for them, please let me know. It's not too late to get an extra point!

Did you check your label this month? If all goes well with my printing, your e-mail of record will be there. What do we do with the info? If the Post Office returns your SCOPE, and we have an e-mail address, we can often find out why the mail didn't make it. I also phone if this happens. It seems that sometimes SCOPES are returned, even though the address is correct. Please check what is there, and send me a correction if appropriate. If you want your "special" e-mail address kept confidential, let me know, and it will not be printed.

Al W6GNI

December Program Review

Mark Raptis KF6WTN was kind enough to shoot some photos of the December social. Here's a few images from a very enjoyable party! Below: Steve Early AD6VI. ✱



Outgoing Treasurer Jo Ashley KB6NMK. Thank you so very much for your years of service to the club in this position!



We didn't do it! Nobody saw us! You can't prove anything!



PARC Board Members at the Christmas Party. From left to right: Mark Raptis KF6WTN, Al Donlevy W6GNI, Mike Pennington K6MRP, Dennis Baca KD6TUJ, Christy Martin KI6AOL, Bob Birch KG6RGI, Tom Martin KG6RCW, Steve Early AD6VI, Gary Kent W6GDK.

SCOPE CHALLENGE

December's puzzle (There is no such call as NOCALL) was solved by... no one! How appropriately ironic.

January Challenge: Ermanno Signorelli knows that Mary's father has five daughters, four of whom are named Nana, Nene, Nini, and Nono. What is the name of the fifth daughter?

Answer the riddle correctly, 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 ✨

CONTEST CALENDAR

- Jan 1 SARTG New Year RTTY Contest
- Jan 1 AGCW Happy New Year Contest
- Jan 1 AGCW VHF/UHF Contest
- Jan 3 ARS Spartan Sprint
- Jan 6 WQF QRP Party
- Jan 7 Midwinter Contest, CW
- Jan 7 Original QRP Contest
- Jan 7 ARRL RTTY Roundup
- Jan 7 EYCW 160 Meter Contest
- Jan 8 Midwinter Contest, Phone
- Jan 8 DARC 10 Meter Contest
- Jan 8 Kid's Day Contest
- Jan 14 Hunting Lions In The Air Contest
- Jan 14 070 Club PSKfest
- Jan 14 MI QRP January CW Contest
- Jan 14 North American QSO Party, CW
- Jan 15 NRAU-Baltic Contest, CW & SSB
- Jan 16 Run for the Bacon QRP Contest
- Jan 19 NAQCC 80m Straight Key/Bug Sprint
- Jan 21 LZ Open Contest
- Jan 21 Hungarian DX Contest
- Jan 21 North American QSO Party, SSB
- Jan 21 ARRL January VHF Sweepstakes
- Jan 28 CQ 160 Meter Contest, CW
- Jan 28 REF Contest, CW
- Jan 28 SARL Youth Day
- Jan 28 BARTG RTTY Sprint
- Jan 28 UBA DX Contest, SSB

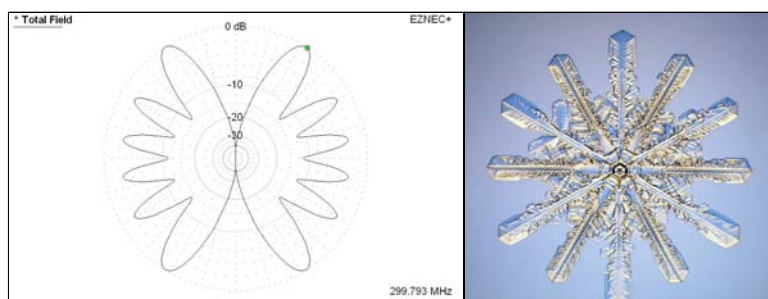
There's enough here to keep most contesters busy with CW, SSB, RTTY, Sprints and 48 hour contests. You can find complete rules in QST, CQ, NCJ, and Worldradio magazines. CU in the contest! 73, Harry

✨

You will not find snowflakes with 4, 5, or 8 sides in nature. You will find antenna patterns with 4 lobes. This is most easily created with a center-fed dipole antenna that is 2 wavelengths long. An 8-lobed pattern is achieved when the dipole is 4 wavelengths long.

Is there an antenna pattern with 5 lobes? Unlike starfish, which have an inherent pentaradial (5-part) symmetry, it's quite difficult to get a 5-sided snowflake. Can you think of an antenna design that has 5 lobes in free space? Maybe a high-gain yagi?

The most number of sides seen in snowflakes is 12. No one really knows what types of weather conditions are best for producing these wheeled wonders. However, with a dipole 6 wavelengths long, a 12-lobed antenna pattern can be created!

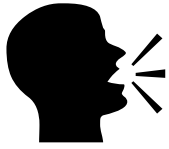


Plot by W5NYV using EZNEC, photo from the collection of Rasmussen&Libbrecht collection at snowcrystals.com. ✨

The Plight of Radio Flight

Undulating heaps of raging solar dunes
 Flare-up in discontent aloud and none too soon
 Convulsed magnetic strands dance coronal tunes
 While spastic plasmic electrons dance, spin and croon
 Luminal shrieks are broadcast
 To the lonely blackened void
 Chased by a swarm of dissenters cast
 Out from the angry spheroid
 Shocked by a protruding magnetopause
 Snared by magnetic straps
 Flocked by the rising tropopause
 Flared by collisional traps
 These, the terrestrial ether succumbs
 And fade in a dream of shimmering bifrost
 The tricolor auroral curtain becomes
 A legacy of the solar shards once lost.

-by John C. Mannone July 26, 2003. This poem is about a solar burst-particle and radio emission. It was presented at the SARA 2003 Conference in Green Bank, WV July 27-30, 2003 in a talk entitled "Solar Physics With 20 MHz Antennas: Time and Frequency Domain Analysis."



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 cmiele@juno.com
Sunday	0830	146.730	ARES Sunday Net	Dennis K7DCG
Sunday	2045	147.075	MARA ES	Glenn Jones KG6JDF@amsat.org
Monday	1915	146.730	RACES Sub-Net	
Monday	2100	146.730	Microwave Net	Kerry B.
Tuesday	1900	147.130	Red Cross Net	Ted tthompson@sdarc.org
Tuesday	2100	146.730	Off-Road Net	Jerry A. K6PFP jwak6pfp@cts.com Dick W. KA7AYT rwillimek@home.com
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 KC6YSO@amsat.org
Friday	2100	146.730	Hiker's Net	Ed KF6DXX@juno.com Glenn P. KE6ZLY@juno.com
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

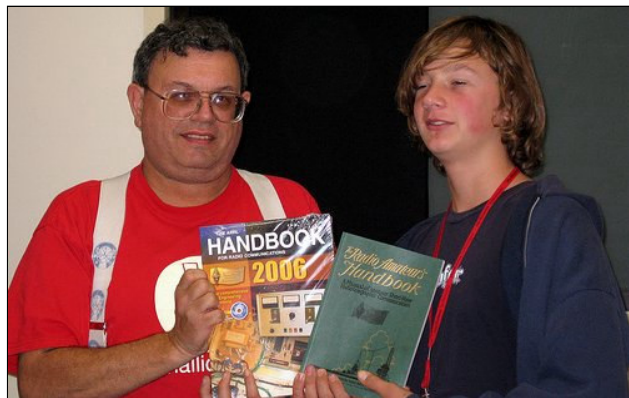
Net Participation Tracker – A convenient form for participating in PARC nets.

NET	DATE	NOTES

Repeater Information

PARC Trustee: AB6QT
 52.680 W6NWX -0.5 MHz
 Autopatches: 146.730-, 147.075+, *147.130+, *447.000-
 PKT: 145.050s (PALOMAR/W6NWX-1) 146.700-
 (Duplex Pkt) PALBBS/EMG use 145.070/146.700-
 (W6NWX-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

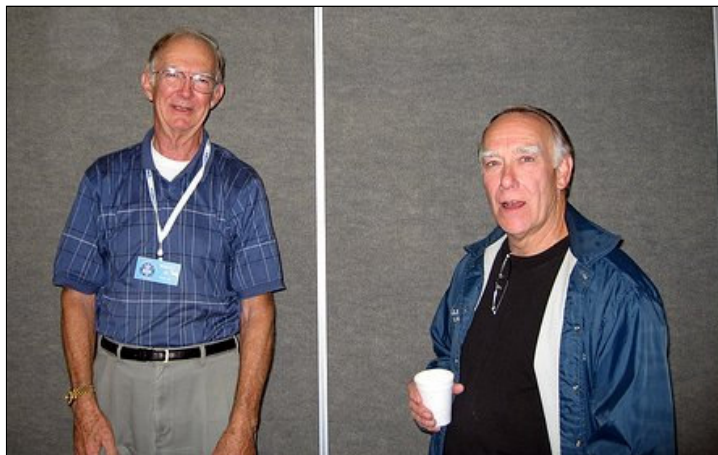


December Social photos by KF6WTN.

License & Class Information

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

- PARC Testing is in Carlsbad on the 2nd Saturday of the month at 9:30am in the Fire Station at the Carlsbad Safety Center.
 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 ccc@arrl.org or via regular mail to ARRL CCE, 225 Main Street, Newington, CT 06111. ✱



Al Donlevy W6GNI and Mike Pennington K6MRP.

HAM RADIO

Tom KM6K
 Ron N6OMW
 Jose XE2SJB
 Bob KA6EKT

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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!

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Goodie Givers

We'll credit you next month! See AP's membership report on page 2 for details. Thanks to those that brought goodies. ☺



Current Needs

Volunteers are needed for the following club positions.

Billing Chair (handles billing for advertisements in SCOPE).

Del Mar Fair participation Chair.

2006 Field Day Chair.

SCOPE editor.

Publicity 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 KD6TUJ

(760) 722-0251 KD6TUJ@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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WA6GYG

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<http://www.rfparts.com/>

e-mail: rfp@rfparts.com

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(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

(10.25) Tempo S-2 (220 Mhz) Handheld with SS32 PL & DTMF built in. With Chgr.

\$40.00. Galaxy Electronics Phone Patch PR-550, \$20.00. Texas Instrument TI-2000 Slim Line Laptop w/3.5 disc drive, 20 MB HD w/ac adaptor (ideal for Portable Packet). \$20.00, Epson C60 Ink Jet Printer, New/Unopened, \$40.00. Avenger 4000 Commercial Alarm System, w/8 PIR's, keypad, 2 sirens, 1 sonic, \$100.00 OBO, 13 Inch Sony Industrial Video Color monitor Model PVM-1390, \$30.00 OBO, International Audio/Video Color Processor w/ac adaptor \$30.00 OBO. 54" Oak Roll Top Desk, excellent Condx \$350.00, Sentry Fire Proof Combination Safe, \$50.00. Heath SWR Meter Model HM-102 (needs meter cover) \$10.00. IBM Clone Pentium II clone, 350 Mhz, 6 GB HD, \$50.00 OBO. 250 Laser Movies, \$7.00/ea List available, first come first served. Contact Dennis K7DCG 858-748-9046 or email K7DCG@aol.com

(9.13) Ham-friendly property FOR

SALE. www.pettus.us

(9.12) FOR SALE Cubic Astro 150A fix or mobile 10-80m SSB 100w PEP with DS and Manual \$250.00. Kenwood 2m transceiver Model #TR-7330 5-25w w/auto patch mic MC-46, ARX 2m ant, manual \$150.00. Astro PS7A w/manual \$25.00. Cubex 4 el Quad 30' boom w/Quad arms, fiberglass spreaders, instruction manual \$100.00. Shure mic w/stand ptt \$20.00. Heathkit phone patch model #HD 15 w/manual \$25.00.

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

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

See catalog at www.Palomar-Engineers.com
Please check our complete ads in **QST**, **73**, **CQ**, and **World Radio** magazines.

Remote ant SW motor driven 6-position coax w/control box \$100.00 Dummy load 1kw +/- \$10.00. Fluke multimeter model #77 w/manual \$65.00. Brak-D-Lay for Hy-Gain rotor w/instructions \$15.00. Contact Kris W6KTE (760) 941-3555

(9.10) WANTED: for the Crest Radio Museum. BOATANCHORS!!! Also need a Heathkit SB-101/102, RX-1/TX-1, VF-1 and DX-100. Operating condx not a problem. Desperately need the following 2-meter radios to complete the collection: Icom IC-20, Trio TR-2E & TX-26, Sonar CD-2, WRL Techciever, Robert Dollar 2M, Kenwood TR-2300 & TR-7100, Tempo FMA Anyone have these and would like to part with them? Contact WA6MHZ at wa6mhz@arrl.org or Landline (619) 593-1111

(8.1) WTB a 40'+ pushup pole in good condition... Please contact me: cstein6@cox.net or (858)349-9919 Charles KG6VVM

(7.17) (1) Hy-Gain Dynamic Microphone Model #610 \$30.00 OBO. (1) Realistic Stereo AMP. Model #SA-10. \$15.00 OBO. (1) Frequency-Counter Model #711 115 VAC or 12 VDC \$35.00 OBO. Please call Bayard K6GAO (858) 755-5507. Thank you.

(7.15) Wanted: CQ Magazine for May 1959. Beg, Borrow, or Buy. Would consider entire year of '59 and possible older issues. Bob Byrnes KE6MTT email rbyrnes@pacbell.net

(6.27) 300 Laser Movies, email for a list, first come first sold, \$7.00/each. Contact Dennis K7DCG, (858)748-9046 or email K7DCG@AOL.com.

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	needed!	K6GVM@arrl.net
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.	KG6TUJ@amsat.org
New Member	filled!	TBA
Nets	PARC	Board@palomararc.org
Newsletter	needed!	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.	KG6TUJ@amsat.org
Publicity	needed!	
QSL Cards	needed!	
RACES Info	Jo A.	KB6NMK@amsat.org
RED Flag	Steve	AD6VI@amsat.org
Repeater Site	Michelle	W5NYV@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

Repeater Site Reports

On 12/10/05, Dennis, kd6tuj; Mark, kf6wtn & Jessica; Dave, kd6eby and Mike, k6mrp, dug a ditch and ran conduit from the hut to the storage shed. We finished running conduit into the generator and sunken buildings. All the ditches were covered and the ground leveled. I fastened the ribbon cable to the buildings. Dennis worked on the auto patch and said it is now working. The weather was nice on the mountain but got a little cool at late afternoon.

On 12-06-05, Mike, k6mrp and Steve, kd6zst installed lap cement and 90 lb mineral felt. Also installed some of the insulation in attic and one of the end vents before we were over taken by darkness. The building is now secure from winter storms.

On 12-03-05, Michelle W5NYV represented Palomar Amateur Radio Club at the inaugural meeting of the Palomar Communications Committee. Mike AB6QT also attended, representing Palomar Observatory as well as PARC.

On 12-02-05, Mike, k6mrp and Steve, kd6zst installed the soffit boards, end fascia, painted all fascias, installed drip edge metal, mastic and 30 lb felt. We also witnessed a real great sunset through the incoming clouds from the ocean.

On 11-29-05, Mike, k6mrp installed plywood and side fascia on the freezer building. In the afternoon Mike, ab6qt helped me install the end panels on the building.

On 11-27-05, Mike, k6mrp installed ac distribution panel and connected wiring from inverter output.

On 11-15-05, Mike, k6mrp and Steve, kd6zst, ran conduit and wiring from the ac to dc inverters to the distribution panels in the hut. Also connected inverter 0 to dc input power.

On 11-13-05 met Art kc6uqh at site to help with ATV. I later installed fuse panel in the new inverter rack for fusing the inverters with 48vdc. I also finished up the overhead ironwork for the inverter rack. On 11-15-05 went to site and re-strapped batteries to locate negative terminal and cabling next to buss bar. Checked the torque on all battery terminals, shortened excessive length cabling and re-terminated.

On 11-12-05 I with the help of Michelle, w5nyv mounted the inverter rack in the block building. Then with the help of John, wb6iqs and Mark, kf6wtn we installed the inverters in the rack.



January Program Preview

Software Defined Radios – a definition decoded

Michelle W5NYV

This article is intended to introduce January's program presentation on Software Defined Radios (SDR) by Brian Comer KF6C. Let's start with a working definition of an SDR. From the American National Standard T1.523.2001 *Telecom Glossary 2000*, it is "A radio consisting of a receiver and/or a transmitter, where each has the following properties, respectively: (a) the received signal is digitized and then processed using software-programmable digital signal processing techniques (digitization may occur at the rf, IF, or baseband); (b) the modulated signal to be transmitted is generated as a digital signal using software-programmable digital signal processing techniques; the digital signal is then converted to an analog signal for transmission (the conversion to analog may occur at baseband, IF, or rf); and (c) a key element of these radios is that software programmability allows easy changes of the radio's fundamental characteristics such as modulation types, operating frequencies, bandwidths, multiple access schemes, source and channel coding /decoding methods, frequency spreading/despreading techniques and encryption/decryption algorithms."

Well, let's decode this definition. We should all be familiar with what a receiver is. The antenna of a receiver collects RF waveforms which are often downconverted to an intermediate frequency and then downconverted again to a baseband frequency. There may be several stages of filtering along the way. The definition states that digitization may occur at any of these stages. Digitization is a process where the "real world" analog signal is translated into the ones and zeroes that a computer can manipulate. Analog to digital converters (ADCs) are the key component of digitization.

As you might imagine, the decision on what stage the digitization occurs is directly influenced by ADC performance. Digitizing at the RF stage means that you are sampling the highest frequency signal in your system. A fundamental law of sampling is that the sampling rate must be at least twice the bandwidth of the sampled signal. This is called the Nyquist theorem. If your sampling rate is lower than the Nyquist rate, your digital data can be faulty.

Digitizing the entire bandwidth while maintaining sufficient dynamic range requires a very powerful ADC. Most commercially available ADCs simply can't handle the bandwidth and processing requirements. This is why the vast majority of SDRs do not currently digitize at the RF stage. The

benefits do not outweigh the costs (such as power consumption, processing requirements, and device cost) for typical applications. If you could digitize at the RF stage, your radio would be quite the device. Imagine being generally unlimited by frequency band! In practice, the RF stage in an SDR is a traditional and familiar implementation that is designed for a particular frequency band. Or, alternatively, an RF band's dynamic range ratio is defined in a way that available ADCs can handle the job. This is the case in some satellite applications. The next stage down the receiver chain, the IF stage, is where many SDRs have their ADC. After downconversion, the frequency and bandwidths of the IF signals are low enough to where ADCs can digitize without losing critical signal information. Digitizing here allows replacement of IF and baseband hardware components. Digitizing at the baseband is quite common. Even with a traditional RF and IF stage, the advantages are well worth the relatively low cost ADCs and processors that are designed to replace baseband hardware components.

Software programmability requires a processor of some sort. The ADC provides the data, but the processor is where the power of the SDR resides. The processor might be something called a Digital Signal Processor (DSP), a processor designed specifically for processing digital signals, or it might be a general-purpose processor, much like the one in your PC. Software programming allows for easy changes to modulation schemes, operating frequencies, bandwidths, source coding, channel coding, authentication protocols, encryption algorithms, and more within the SDR. Imagine an SDR that could allow, in the case of emergencies, all members of a particular agency or team to speak with almost any other group over the air. Imagine being able to define an encryption protocol that protected your wireless data that never went out of date. With quality software programming, complementary devices to the radio can be leveraged in surprisingly efficient ways. For example, any computer peripheral device can now become an extension to the radio. Other advantages include greatly increased power and spectral efficiency. Manufacturability can be improved. RF devices are sometimes quite difficult to standardize and develop. Reducing the number of custom RF devices on a bill of materials is significant win for any communications manufacturer.

All of these advantages depend on having a corps of skilled software designers that also understand RF design. This would seem to be a completely natural fit for the future of amateur radio! Emphasis on software design skills will be a large part of the future of radio theory and practice. See you at the January meeting! ✨

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

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Submissions: scope@palomararc.org

Questions? Ideas? Comments? 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 January 4th, 2006 (the first Wednesday of each month) at the Carlsbad Safety Center. Program will be on Software Defined Radios by Brian Comer KF6C. 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!