SCOPE January 2008 ❄

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

Club Meeting – San Diego Section ARES and an exciting raffle
2 January 7:30pm at the Carlsbad Safety Center

Board Meeting
9 January 7:00pm at W6GNI QTH

Raffle!

Available for raffle at the January meeting will be a Yeasu VX-170 2m hand held radio. In the spirit of ARES, which is our January program, this radio will also have a AA battery pack and a MFJ 2m/440 magnet mount antenna. It will be preprogrammed to San Digeo county 2m open repeaters with alpha tags. Raffle will be done after the sale of $200 of tickets. The radio was purchased for raffle with help from Ham Radio Outlet, San Diego.

December's raffle winner.
Photo by KB5MU

President's Message

By Steve Early AD6VI

This past year has been busy, with many good things and a few not so good things. We started last January with Harry Hodges filling in at the last minute with a DVD on the Peter the First Island DXpedition. This year, Harry has stepped in as our interim ARRL San Diego Section Manager, and the January program will be by Jim Cammarano, on ARES.

San Diego is still recovering from the October wildfires. As a community and a club, we learned a lot and are thankful that most of us survived. Several members lost their homes. We nearly lost the repeater site to the Poomacha Fire. The firefighters and Palomar Mountain and Valley Center CERT teams did an outstanding job of protecting homes and buildings on Palomar Mountain, stopping the flames about 50 yards from our site. PARC learned a lot about our repeaters. We learned that the old batteries were good for about 2-3 days, and that the new system will do well, but cannot carry as much equipment load.
We discovered that if we had to, we could cobble several repeaters together out of existing spare parts and have them in operation in a day or so.

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As a Board, we learned that several PARC members stepped up to the plate and served where they believed they could do the most good. Unfortunately, we also had PARC members criticizing each others efforts, rather than concentrating on the mutual ground of service to the community.

On the brighter side, PARC sponsored a 2 Saturday Extra exam preparation class. SANDARC tested 11 and upgraded 10 to Extra.

Looking down the road, Kids Day will be January 6th. February marks PARC's 72nd Birthday, and Field Day preparations are beginning.

Field Day was originally established to show that amateurs could operate portable. This point has been proven and the wildfires drove it home again, as there were areas of the county that did not have phones for weeks. Some may still not have working phones.
In addition to Field Day, I would like to make a seminar in portable operation a regular feature for new hams. There will be more details on this later.

I hope that everyone had a safe and happy holiday, and hope to see you at the January meeting.

Steve Early AD6VI
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Volunteers Wanted

Volunteers needed to help set up a 2m/440, 50W Yaesu radio and antenna at the Elfin Forest Fire Dept. Help will be needed with attaching the antenna (Diamond X-50a Vertical) and setting up and programming the mobile radio for use in the fire department and to possibly set up the mobile antenna on a car. Date of project TBD.
Contact:
Mickey Cross, KI6CSY
760-744-2034 or mickeykc@juno.com.

Radio Club Resources

Check out these great local radio clubs on the web at the following addresses.

http://www.fallbrookarc.org/
http://www.sddxc.org/
http://www.earsclub.org/
http://roars.net/
http://www.wa6bgs.org/
http://n6six.50megs.com/

Club Members ONLY!

PARC has a tube bank that includes many 6 & 12 volt receiving tubes (and some transmitting types) for use by club members to repair their own personal equipment. Not for commercial use or resale.

If we have your requests, I will pre-check and deliver them to the next club meeting.

WB6IQS@amsat.org, -John

January Membership

New Members Joining PARC: KI6MYX, K7EMR, KI6MDS, K200G, KI6JES, KI6MMI, KI6KJC, and KA9UAG. Please welcome these new members. Welcome!! Five members reinstated their membership. Welcome back.

Did you check your label this month? Check your renewal date! Depending on the speed of the mail for this SCOPE, there may be time to renew your membership for a few years at $18 per year, instead of the 2008 rate of $20. (Must be postmarked in 2007!!!)

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 or phone number kept confidential, let me know, and it will not be printed.

Al W6GNI

December Fold & Staple

Sonny WA5ACE, Jo KB6NMK, Al W6GNI & Kathy, Harry W6YOO

Goodie Givers

Nov Meeting Goodie Givers
KG6RCW Tom
KG6JEI Conrad

Dec Meeting Goodie Givers
W6YOO Harry
KG6JEI Conrad
W6ASP Preston
KG6RCW Tom
KC6AMY Amy
AE6SV Ralph
N6FN Bernie

Licensing and 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 at the Carlsbad Safety Center. Please call (619) 465-EXAM for the latest contact info. Test sessions may be cancelled if no one pre-registers.

EARS Testing is in Escondido on the Last Saturday of the month at 9:00 am at the LDS Church.
The address is 1917 East Washington Avenue , Escondido , 92025.
Contact Harry W6YOO (760) 743-4212 or W6YOO@amsat.org.

Palomar Amateur Radio Club Board of Directors Meeting Minutes November 14th 2007

The report was distributed by Bob Birch Total Equity and Liabilities are 14,263.42. The pre-paid dues are $5,273. The current Year to Data Cash Flow statement showed we have revenue greater than expenses of $1,083.10 since Jan 1st 2007. This doesn't take into account what we expect to spend on site and tower refurbishment.
Motion to accept report was made by Dennis KD6TUJ and seconded by Tom KG6RCW. All voted to accept report as presented.

Discussion Items

Liability Insurance

The carrier Marsh, Seabury & Smith did not send out a renewal notice this year so Bob club Treasurer called the company. He was told the rate for 2008 would be $400. He was advised to send a check and letter to the company to renew the insurance. The carrier two weeks later sent a renewal questionnaire, based on this

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questionnaire, they raised our liability insurance from $400 per year to $1,200 per year. The board decided to put the liability insurance out for bid to see if could find a better rate before we pay this amount

Repeater Site / Tower

Discussion was held on what to do with tower painting since the wildfires have limited our access to the site and weather is changing so painting will not be possible until spring 2008. It was also discussed because of the cost for lift rental and time required and liability would it be worth looking for a professional tower painting company and getting a quote. Generator power and power transfer was discussed based on the wildfires and the loss of electrical at our repeater site. We need to review our procedures and the Palomar Volunteer Fire Department would like to be a part of that discussion so they could turn off the power safely and not have generators feeding power back into the transmission lines. They would be willing to support us if possible during wildfires or other disasters on the mountain.

We need to setup a monthly maintenance list and have items checked off on a monthly basis. We will schedule work parties at the site on a monthly basis starting in April 2008. We have rights to a water share on our site based on our annual fees paid to the water district. Michelle will investigate what we need to do in order to have water on our site.

Palomar Mountain Volunteer Fire Department

Dennis installed a temporary ham radio station for the fire department. We have a tower reserved to give them. We will also assist in the installation of the tower. The tower needs to be delivered to them so they can fabricate a base for the tower. Tom KG6RCW has antennas to go on the tower once it's in the air.

ARES requested a Winlink net on one of the Palomar machines but no action was taken because more information was needed. Steve presented documentation on how to do non-profit raffles. This has been brought up several times as a way to fund the activities of the club. We will review this documentation and vote at the next meeting. Dennis KD6TUJ will purchase a small setup as a test for the December club meeting.

Steve and Michelle will talk with Terry Runyon on the shirts, jackets he is working on a machine to produce. Maybe a way of advertising

Due to continuing rising costs to support the repeaters, potential cost increase for liability insurance and loss of one of the tenants at the repeater site, Tom KG6RCW made a motion to raise club dues for individuals from $18 to $20 a year and family raised to $35. The motion was seconded by Dennis KD6TUJ. Motion carried with all voting yes. We need to change the printing on the Scope and Website to the new amounts.

Discussed and decided to publish other club meetings and programs in the Scope. There may be programs at other clubs our members may be interested in. If we start other clubs may follow and publish our meetings.

General Meeting

Meeting in December will be the club social.

Membership

Al reported the club now has 364 members down again from the previous month.

Next Board Meeting:

Will be held at Al's house W6GNI

Motion to Adjourn was made at 9:40 by Bob, seconded by Tom. Motion carried.

Respectfully submitted by Bob Birch KG6RGI for Gary Kent W6GDK Secretary.

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Start of the 60s

By Ron Pollack K2RP

By the beginning of the 1960s, the SSB handwriting was on the wall. As the 50s came to a close, AM was still king of the phone modes, and among the major manufacturers, only Collins, Hallicrafters and Gonset offered self-contained sideband transmitters. Most of the receiver manufacturers included product detectors and narrower filters to make SSB reception easier, but sideband transmitters were expensive to buy and complex to build. Homebrew transmitters for CW and AM were common, and although magazines published "build it" articles for sideband transmitters throughout the 50s, I don't think very many were built!

Not only was the choice of SSB transmitters limited, they were expensive! The Gonset GSB100 was probably the least expensive unit at $500. Collins had introduced the 75S1 at nearly $600 (plus a $100 power supply). Collins also produced the famous KWM2 transceiver (first of the true transceivers) for $1100 plus power supply. The Hallicrafters HT32A, successor to the HT32 we discussed recently, sold for nearly $700. Keep in mind that these are 1960 dollars!

So, imagine that you were a ham in 1960 with a desire to try SSB, but could not afford one of these. What else could you do? As they did on numerous occasions, Heathkit came to the rescue! Introduced in 1959, the SB10 was a phasing type of SSB generator designed for use with the very popular TX1 Apache medium power transmitter. It was easily adaptable to most other similar transmitters of the day. At $90, including VOX, it enabled the owner of a medium-powered AM transmitter to enter the world of SSB. Many thousands of these were sold. Shortly thereafter, Johnson Viking introduced a similar unit.

The photo on page 6 shows a typical "low cost" high-power SSB station that was typical of the era. Once again, Heathkit saw an opportunity to fill a demand, and introduced the HX10 Marauder in 1962. The specifications and general circuit details are very similar to the Hallicrafters HT32 series: Two 6146 finals, 180 watt final input, filter type dual conversion sideband generation, built in VFO, power supply, VOX, etc. While not an exact copy, it is clear that the features in the Marauder were inspired by the HT32. In fact, there are several features in the Heathkit transmitter that are superior to the Hallicrafters. For example, the HT32 only meters relative output, while the Heathkit monitors grid current, plate current, ALC, high voltage, and output. In addition, crystals and bandswitch positions are provided for the entire 10 meter band, and there is a narrow range pi network output for matching. In contrast, the HT32 (until the 32B model) provided only one 500 kHz segment, and required changing a crystal for other segments, and the output is fixed at 50 ohms. The heterodyning schemes are also different, in that the Hallicrafters VFO tunes clockwise to increase frequency on some bands, and counterclockwise on others. This slows bandswitching. Unlike the HT32, all the VOX controls are on the front panel of the Heathkit.

The biggest difference, however, was the price! The Marauder was introduced as a kit at $335, about half of what the manufactured HT32 listed for! Of course, the Heathkit had to be assembled, which was not a trivial project. In addition to putting thousands of hams on SSB, the Marauder was a "double milestone" for Heath. It marked the beginning and end of eras. It was the first self-contained SSB transmitter they produced. It may have been the first kit SSB transmitter produced by anyone! I don't know of an earlier one. I can't think of any other SSB transmitter kits ever produced in

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any great quantity by anyone other than Heath!

It was also the end of the era of Heath's "big iron" transmitters. Gone were the DX100, Apache, and other heavyweights. Collins, with the introduction of the S line, and Drake, with their small receivers, provided proof that equipment did not have to be heavy and bulky to be top quality.

The receiver shown in the photo below is the Hammarlund HQ170, (with its matching speaker) introduced in 1958, and was manufactured (as the slightly improved 170A) until the mid 60s.

It is a triple-conversion ham-band-only unit, covering 160 through 6 meters, and sold for $359, less speaker. The clock timer shown is a $10 option. It featured, among other things, selectable sideband. The two dials move together with one tuning control. The lower bands are on the right scale and the upper bands on the left, for ease of reading the scales. There is a vernier tuning control which varies the receive frequency by plus or minus 3 kHz. This has always been a top quality popular radio, exceeded perhaps only by the famous Collins 75A4, which sold for about $200 more.

Heathkit also produced a receiver that matched, in appearance, the Marauder and the Apache. It was the RX1 Mohawk, introduced in 1958. To simplify construction and alignment, the front end (RF section, mixer, oscillator, and bandswitch) were assembled and aligned at the factory. It is double conversion, and follows the "big and heavy" philosophy. It cost, as a kit, $300 plus speaker.

The two matching transmitters far outsold the Mohawk. I speculate that the reasons for this are: Hesitation on the builder's part to tackle such a complex and critical project and modest cost savings. Going just by published specifications, the HQ170 is a far superior receiver, and could be had for $60 (20%) more. By comparison, buying a manufactured transmitter would cost $350 more than its kit counterpart. The Hallicrafters SX101A receiver was available for $395, not to mention several other outstanding products in the same price category. All this being said, the reason I don't show the Mohawk with its matching amplifier and transmitter is that I don't have one! I've had my eye out for one for years!

The linear amplifier shown is the HA10 Warrior by Heathkit. It was introduced in 1961. This was the first Heath product ever offered factory wired as well as in kit form. The kit sold for $230, and the wired version was $100 more. The popularity of SSB made the grounded grid linear popular, as no huge modulator was required for high power as it is in AM mode. With a built-in power supply and 4 811A tubes, it is capable of 1000 watts input, the maximum permitted at the time. This is hardly a revolutionary circuit. There were several other grounded grid 811A amps available, and Ameritron is still making a very similar unit today! The biggest differences are in the use of solid state rectifiers in the more modern units, and the inclusion of a relay for use with transceivers. In the days of

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separate transmitters and receivers, an antenna relay on the output of the transmitter or amplifiers switched the antenna between the units. With a transceiver, the antenna must bypass the amplifier when receiving, and most modern amplifiers include a relay for that purpose, and most transceivers provide switching for the amp. In order to use a vintage amp with a modern transceiver, another relay must be provided. The rectifiers provided in the Warrior are the 866A Mercury Vapor types. The tubes have to be warmed before high voltage is applied, and if the unit is moved, a 30 minute warm-up is required. I replaced these tubes with plug-in solid state rectifiers to avoid this.

For about $1000, the 1960 ham could be on the air with a "full gallon," if he was willing to spend some time with the soldering iron. To do so with the manufactured units at the time would cost at least twice as much.

Comparing this setup to my Hallicrafters station described a few months ago, I find that audio and signal reports are

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Meet the 2008 Board
Membership Chair Al Donlevy W6GNI

Meet the 2008 Board
PARC President Steve Early AD6VI

Steve Early, AD6VI, earned his Technician license (KD6WRL) in 1993 and upgraded to Extra in 2000.

Steve is married with three children. All have earned Technician licenses. Steve was challenged to get an amateur radio license after working for RCA Government Services for several years, installing naval communications equipment.

For a day job, Steve is currently a Senior Manufacturing Engineer at Goodrich Aerostructures Group, in Chula Vista, CA, working on Boeing 787 Thrust Reversers.

After work, Steve serves with PARC, volunteers with the San Diego Imperial Counties Chapter of the Red Cross, teaches amateur radio related classes and is now running for ARRL San Diego Section Manager.

Steve has taught a number of Technician license preparation classes over the years and has had over 300 successful Technician license students.
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Club Classified Advertisements

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 SCOPE@PALOMARARC.ORG.

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

(1.1) For Sale 2m Hand held Kenwood TH-K2 FM Transceiver about a year old. Have all the books on the unit and it are programmed with all the local channels. Asking $75 OBO. Please call Bayard K6GAO 858-755-5507

(1.1) Wanted Yaesu FT-857D transceiver, or similar, for new General licensee.
David 760-942-5167
K200G@arrl.net

(11.29) Looking for a small 3 element tri-band HF beam such as the TH3-JRS. Jim Keller wb6yxy@arrl.net
760-717-6126

(10.15) For Sale 2 meter FM Transceiver. ICOM IC-2100H Mobile 207 memory Channels, HM-98S Lighted Mike, 55 Watts output. Green or Amber Display. Like NEW. All Local Channels Programmed in. $75.00 OBO. Please call Bayard K6GAO at 858-755-5507.

For Sale Uniden Weather Radio WX 500 NOAA all Hazards Weather Radio. With S.A.M.E. AC power supply. $25.00 OBO. Please call Bayard K6GAO at 858-755-5507.

For Sale Like New UNIDEN BEARCAT SCANNER BC-350C all pre programmed for all service Freq. AC and DC power supply cables. $75.00 OBO. Please Call Bayard K6GAO at 858-755-5507.

(9.9) AC ARC Welder, Marquette 180. 220 VAC power. With heavy duty cables and welding rod holder. $50 OBO. WB6IQS, John. 760-727-3876.

Satellite Dishes. 1 meter Primestar and smaller. Ku band LNBs. Most with hardware and mounting clamps. Make offer / free to good ham radio homes. WB6IQS, John 760-727-3876.

Reloading Equipment: Pistol / rifle dies, Rockchucker press, Lyman press, accessories, brass, copper jacketed bullets, lead casting molds and furnace. Lots of cast lead in small ingots. Best offer for all or parts. WB6IQS@att.net, John 760-727-3876.

(8.26) FOR SALE:
YAESU FT 840 Transceiver
ASTRON RS 35A Power Supply
MJF 949 Deluxe Versatuner
30 Foot Vertical Cushcraft Antenna

Ken Clark, KE4MII
200 N El Camino Real #165
Oceanside, CA 92058
760-231-8377

(7.22) Wanted: Transport for amateur UHF antennas to San Francisco Bay area. Fred Brown, W6HPH. Tel. 760-741-1328. w6hph@yahoo.es

(6.30) Cushcraft R-8 Vertical Antenna, New In Box, $200.00 (New $550.00). Selling because of CC&R Issues.
Call John N6LMY rohring@sbcglobal.net or (760) 602-5041

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comparable. The Hammarlund receiver is probably a bit better than the Hallicrafters one. The HT32 transmitter, however, has a wonderfully solid feel to the controls and a precision of tuning that the Heathkit cannot match. All this equipment is a thrill to use, but the HT32 is a joy. It represents a pinnacle in the art of electronics in that era.

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Contest Corral

Contest	Time and Date
SARTG New Year RTTY Contest	0800Z-1100Z, Jan 1
AGCW Happy New Year Contest	0900Z-1200Z, Jan 1
AGCW VHF/UHF Contest	1600Z-1900Z, Jan 1 (144) and
	1900Z-2100Z, Jan 1 (432)
ARRL RTTY Roundup	1800Z, Jan 5 to 2400Z, Jan 6
EUCW 160m Contest	2000Z-2300Z, Jan 5 and
	0400Z-0700Z, Jan 6
Kid's Day Contest	1800Z-2400Z, Jan 6
Hunting Lions in the Air Contest	0000Z, Jan 12 to 2400Z, Jan 13
070 Club PSKFest	0000Z-2400Z, Jan 12
MI QRP January CW Contest	1200Z, Jan 12 to 2359Z, Jan 13
Midwinter Contest, CW	1400Z-2000Z, Jan 12
North American QSO Party, CW	1800Z, Jan 12 to 0600Z, Jan 13
NRAU-Baltic Contest, CW	0530Z-0730Z, Jan 13
Midwinter Contest, Phone	0800Z-1400Z, Jan 13
NRAU-Baltic Contest, SSB	0800Z-1000Z, Jan 14
DARC 10-Meter Contest	0900Z-1059Z, Jan 13
NAQCC Straight Key/Bug Sprint	0130Z-0330Z, Jan 17
LZ Open Contest	0400Z-1200Z, Jan 19
UK DX Contest, RTTY	1200Z, Jan 19 to 1200Z, Jan 20
Hungarian DX Contest	1200Z, Jan 19 to 1200Z, Jan 20
North American QSO Party, SSB	1800Z, Jan 19 to 0600Z, Jan 20
ARRL January VHF Sweepstakes	1900Z, Jan 19 to 0400Z, Jan 21
Run for the Bacon QRP Contest	0100Z-0300Z, Jan 21
CQ 160-Meter Contest, CW	0000Z, Jan 26 to 2359Z, Jan 27
REF Contest, CW	0600Z, Jan 26 to 1800Z, Jan 27
BARTG RTTY Sprint	1200Z, Jan 26 to 1200Z, Jan 27
UBA DX Contest, SSB	1300Z, Jan 26 to 1300Z, Jan 27
SPAR Winter Field Day	1700Z, Jan 26 to 1700Z, Jan 27
SARTG New Year RTTY Contest	0800Z-1100Z, Jan 1
AGCW Happy New Year Contest	0900Z-1200Z, Jan 1
AGCW VHF/UHF Contest	1600Z-1900Z, Jan 1 (144) and
	1900Z-2100Z, Jan 1 (432)
ARRL RTTY Roundup	1800Z, Jan 5 to 2400Z, Jan 6
EUCW 160m Contest	2000Z-2300Z, Jan 5 and
	0400Z-0700Z, Jan 6
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NRAU-Baltic Contest, CW	0530Z-0730Z, Jan 13
Midwinter Contest, Phone	0800Z-1400Z, Jan 13
NRAU-Baltic Contest, SSB	0800Z-1000Z, Jan 14
DARC 10-Meter Contest	0900Z-1059Z, Jan 13
NAQCC Straight Key/Bug Sprint	0130Z-0330Z, Jan 17
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CQ 160-Meter Contest, CW	0000Z, Jan 26 to 2359Z, Jan 27
REF Contest, CW	0600Z, Jan 26 to 1800Z, Jan 27
BARTG RTTY Sprint	1200Z, Jan 26 to 1200Z, Jan 27

PARC and PARC Affiliated Repeaters

Frequency	Tx	Tone	Call Sign	Remarks
52.680	–	107.2	W6NWG	
146.730	–	107.2	W6NWG	Autopatch; see note 1,
147.075	+	107.2	W6NWG	Autopatch; see note 2
147.130	+	107.2	W6NWG	Autopatch; see note
447.000	–	107.2	W6NWG	Autopatch; see note 2
224.380	–	107.2	KK6KD	Americas Unidos
224.900	–	107.2	WD6HFR	Convair/220 ARC
224.940	–	107.2	KK6KD	Sharp Hospital Coverage
446.140	–	123.0	WB6FMT	Vista
146.175	+	107.2	N6FQ	Fallbrook ARC; linked to 445.600
445.600	–	107.2	N6FQ	Fallbrook ARC; linked to 146.175
145.050	(s)	None	W6NWG-1	Packet node; linked to Metro 9600 net
146.700	–	None	W6NWG-4	Packet duplex repeater; Duplex; PALBBS use OK

PARC also conducts the following ATV (amateur fast-scan television) operations:
ATV in: 915 MHz WBFM, 2441.5 MHz WBFM
Intercom: 146.415 MHz NBFM simplex (tone 79.7)
ATV out: 1241.25 MHz AM

Regular Nets Sponsored by PARC

Day	Time	Frequency	Name	Manager
T/Th/Sa	2000	146.730	NTS Traffic Net	Marvin KD6YJB KD6YJB@arrl.net
Sunday	0830	146.730	ARES Net	Jo Ashley KB6NMK@arrl.net
Sunday	1900	147.130	Handi-Hams	Marcia De Runtz KG6FIX
Sunday	2045	147.075	MARA	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 tthompdson@sdarc.org
Tuesday	2100	146.730	Off-Road Net	Dick Wilimek KA7AYTrwilimek@cox.net
Thursday	2000	147.075	SATERN	tomcarmody@cox.net
Thursday	2100	146.730	Ham Help Net	
Friday	2100	146.730	Hiker's Net	Ed KF6DXX@juno.com

Board of Directors Position	Call Sign	Contact Information
President - Steve Early	AD6VI	619-461-2818 ad6vi@amsat.org
Vice President		
Secretary		
Treasurer		
Director		
Director		
Scope Editor - Michelle Thompson	W5NYV	w5nyv@amsat.org
Repeater Chair		
Membership - Al Donlevy	W6GNI	760-630-3096 w6gni@amsat.org

[1] The 146.730 repeater transmits a CTCSS tone of 107.2, but does not usually require any tone for access. When necessary, an access tone of 107.2 can be enabled. A 107.2 tone is always required for autopatch access.
[2] PARC autopatches are closed, for members only, and always require an access tone of 107.2. For PARC autopatch access info, email autopatch@PalomarARC.org.

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Submissions: scope@palomararc.org
Questions? Ideas? Comments? W6NWG@amsat.org

This month's General Meeting will be held on January 2nd, 2008 (The first Wednesday of each month) at the Carlsbad Safety Center. This month the program is about San Diego Section ARES. Talk-in on 146.730 MHz repeater. Meeting starts at 19:30 but show up at 19:00 for setup and visiting before the meeting. Ridesharing and coordinating for dinner beforehand often occurs on the repeater on Wednesday afternoons. Everyone is welcome! 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, 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 (past president of PARC)

SCOPE February 2008 ❄

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

Technical Committee Meeting
6 February 7:00pm at the Carlsbad Safety Center

Club Meeting – Kerry N6IZW on "Fun with Optics", optical (laser) communications systems.
6 February 7:30pm at the Carlsbad Safety Center

Board Meeting
13 February 7:00pm at W6GNI QTH

January's Raffle Winner

Photo by KB5MU

The winner of January's raffle for a Yeasu VX-170 was KI6MUG, Justin Pitcairn, a new member who joined the club before the drawing. Congratulations Justin!

Photo by W5NYV

Dennis Baca KD6TUJ (on right) presents the Yaesu to Justin. ❄

January's General Meeting

San Diego ARES Update and Recruitment

Jim Cammarano KG6R (pictured below) and Teri Rowe KI6FKD presented an update on San Diego ARES with special emphasis on what sort of amateur radio operator that ARES is looking for.


Photo by KB5MU

Jim writes: "San Diego ARES welcomes everyone. All that is required is a sincere desire to serve the community by enhancing the public safety and an

continued on page 5

President's Message

Steve Early AD6VI

January has come and gone.
For the January Program, Jim Cammarano and Teri Rowe provided a presentation on SDGARES.
We are getting into winter (by San Diego Standards) and trying to stay warm and dry.

Our February Program will be presented by Kerry Banke, N6IZW. Kerry will be speaking to us about "light" repeaters. One report is for effective relay of 50 miles.
This ought to intriguing.
In addition, PARC is celebrating its 72nd year this month

Looking down the road, Field Day is coming. We are looking for volunteers to set-up, captain and operate the stations. We continue to look for a new Field Day site, as last year's is up for sale.

Field Day was originally established to show that amateurs could operate "portable".

This point has been proven and the wildfires drove it home again, as there were areas of the county that did not have phones until about three weeks ago. Some may still not have working phones.

In support of Field Day and to educate the amateur radio community, PARC is creating a seminar on "Basic Portable Operation". We are looking for participants can share their experience and ideas for doing this on a shoe-string budget.

Looking down the road, Dennis Baca is negotiating to get us a presentation on "Smoothing the Antenna Structure Permit Process"

I hope to see you all at the February meeting. Please bring a friend. ❄

Volunteers Wanted

Volunteers needed to help set up a 2m/440, 50W Yaesu radio and antenna at the Elfin Forest Fire Dept. Help will be needed with attaching the antenna (Diamond X-50a Vertical) and setting up and programming the mobile radio for use in the fire department and to possibly set up the mobile antenna on a car. Date of project TBD.
Contact:
Mickey Cross, KI6CSY
760-744-2034 or mickeykc@juno.com.

Radio Club Resources

Check out these great local radio clubs on the web at the following addresses.

http://www.fallbrookarc.org/
http://www.sddxc.org/
http://www.earsclub.org/
http://roars.net/
http://www.wa6bgs.org/
http://n6six.50megs.com/

Club Members ONLY!

PARC has a tube bank that includes many 6 & 12 volt receiving tubes (and some transmitting types) for use by club members to repair their own personal equipment. Not for commercial use or resale.

If we have your requests, I will pre-check and deliver them to the next club meeting.

WB6IQS@amsat.org, -John

February Membership

Photo by KB5MU

New Members Joining PARC: KA6ELK, KG6SPL, and K6FFM. In addition, 14 members reinstated their membership, which had lapsed. Thanks to all!

We need new members! And equally important, a greater percentage of renewals!

I'll bet you noticed that your renewal date was missing from your label last month! I had a rather severe computer problem last month, but believe that it is straightened out now. So how about checking to see if an expiration date is printed on your label this time, and if your expiration date is getting close, please send in a renewal check!

Al W6GNI

Fold & Staple

Sonny WA5ACE, Jo KB6NMK, Al W6GNI & Kathy, Harry W6YOO

Goodie Givers

Licensing and 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 at the Carlsbad Safety Center. Please call (619) 465-EXAM for the latest contact info. Test sessions may be cancelled if no one pre-registers.

EARS Testing is in Escondido on the Last Saturday of the month at 9:00 am at the LDS Church.
The address is 1917 East Washington Avenue , Escondido , 92025.
Contact Harry W6YOO (760) 743-4212 or W6YOO@amsat.org.

One-Day Amateur Radio Technician License Class #1
Saturday, February 9th, 2008
8am to 5pm (with breaks and one hour lunch)
Salvation Army - Joan Kroc Center
6845 University Ave, San Diego, CA, 92115
Please RSVP with Don Read, at Don_Read@usw.salvationarmy.org so that adequate materials and testing may be arranged.

Cost of Class: Free

Testing, if available at 5:00 PM, will be $5

This purpose of this course is to aid students in preparation for an amateur radio Technician License written examination (Element 2).

One-Day Amateur Radio Technician License Class #2
Saturday, March 29th, 2008
8 AM to 5 PM (with breaks and one hour lunch)
Salvation Army - Joan Kroc Center
6845 University Ave, San Diego, CA, 92115
Please RSVP with Don Read, at Don_Read@usw.salvationarmy.org so that adequate materials and testing may be arranged.

Cost of Class: Free

Testing, if available at 5:00 PM, will be $5

Description:
This purpose of this course is to aid students in preparation for an amateur radio Technician License written examination (Element 2). ❄

Palomar Amateur Radio Club Board of Directors Meeting Minutes

The meeting was called to order at 7:05pm by President Steve Early AD6VI. The meeting was held at the home of Al Donlevy W6GNI. Present at the meeting were:

President Steve Early AD6VI
Vice-President Dennis Baca KD6TUJ
Secretary Loren Hunt AD6ZJ
Treasurer Bob Birch KG6RGI
Director #1 Tom Martin KG6RCW
Membership Al Donlevy W6GNI
Director #2 Paul Williamson KB5MU
Scope Editor Michelle Thompson W5NYV

Treasurers Report

The report was distributed by Bob KG6RGI. Total Assets are $14,477.94. The prepaid dues are $5,654.00.

A motion to accept the report was made by Dennis KD6TUJ and seconded by Tom KG6RCW. Motion was carried.

Secretary's Report

Loren AD6ZJ presented the Secretary's report. A motion to accept the report with two name changes was made by Bob KG6RGI and Seconded by Tom KG6RCW. Motion was carried.

Discussion Items

1. Repeater Site

- Tom KG6RCW presented American Batteries as a company willing to accept the old large repeater batteries. It was decided to coordinate transportation of the batteries to American Battery in the spring.
- Tower painting will wait till spring
- Battery monitoring cables will need to be routed but can wait till spring.
- Two people should go to the site at a time for safety

General Meeting: February topic: Kerry N6IZW will present Fun With Optics

Membership Report: Presented by Al W6GNI
Current membership 373, sent 44 renewal reminders and received 17 renewals

Old Business:

1. Recognition for key players.
2. Projects/Programs for upcoming meetings – Discussed regularly listing our meeting topics with other clubs (more interaction with other clubs in the area is desired).
3. Insurance – We now have insurance with our original carrier at a competitive rate and have received a refund for overpayment.
4. PMVFD Tower – No progress has been made on getting them back on the air after the snow took down the antenna.

New Business:

1) Internet Member renewal – Paul KB5MU to look into adding a Paypal button on the PARC website to facilitate Member renewals online as well as donations.
2) Disposition of old trailer at repeater site – Paul KB5MU will post a notice at or near Mother's Kitchen to find a buyer for the old trailer

Place of next Board Meeting: Al Donlevy W6GNI. Motion to Adjourn made by Dennis KD6TUJ and seconded by Tom KG6RCW. ❄

continued from page 1

amateur radio license. Those who desire to serve and be deployed in drills and disasters should have the following qualities:

A sincere desire to serve the public in San Diego and Imperial Counties

A good attitude is as important as emergency communication skills

A willingness to promote San Diego ARES. Remember that when we participate in an ARES event, that we represent the group as a whole. If we do a great job as individuals, the served agency will have a favorable impression of ARES as an organization.

A willingness to attend meetings and training courses on a consistent basis

The ability to follow directions and work in a structured environment

Flexibility when deploying during drills or a disaster

A willingness to work as a team member, good judgment and attention to detail.

The understanding that San Diego ARES has required policies and procedures that must be followed: for safety reasons, as a matter of law, to comply with the Incident Command System and the National Incident Management System"

For additional information or to access our membership application, visit www.sdgares.net ❄

Source for Tubes

While looking for some transmitting caps for a ham friend's project, I stumbled across this web page

www.virhistory.com/ham/rrab/parts.htm

Dennis N6KI ❄

An Afterlife for AMSAT OSCAR 16

by Paul Williamson KB5MU

The AMSAT OSCAR 16 spacecraft, one of the four 1200-baud Microsats launched in January 1990, has recently been given a new life as a single-channel voice repeater. It had been in a standby mode for several years, since a memory failure knocked the store-and-forward software system (the "BBS") offline. In this mode it could be used as a simple digipeater, enabling some communications to continue, but most digital satellite users were more interested in the later 9600-baud satellites. Then in mid-2007, AO-16 went silent entirely, for unknown reasons. Unfortunately, the AO-16 command team was disorganized and moribund, so no immediate attempts were made to recover the satellite.

Around the end of October 2007, Drew K04MA, AMSAT Vice President of Operations, organized a reconstituted command team for AO-16, tapping into the expertise of several of the old guard while relying on the fresh energy of Mark, N8MH, who served as the primary command ground station for a new recovery effort. Mark transmitted a number of reset commands to AO-16 and it came back on the air.

When AO-16 is given a hard reset, it comes up in a special mode. This mode doesn't do much beyond allow more complicated software to be uploaded to the spacecraft's computer in a bootstrapping procedure. When Mark attempted to upload the next level of software, it ran for only a few seconds and then failed again. This suggested problems with the computer memory, so Mark ran a series of memory tests. This confirmed that the memory on AO-16 is no longer functional, which means that any kind of computer-controlled mode is no longer possible. Since AO-16 is designed as a digital satellite and has no linear transponders on board, its mission as originally designed is now over.

The Microsat design incorporates five

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receivers and two transmitters. In normal digital operation, one transmitter is active and it transmits a PSK-modulated data stream created by the onboard computer. The receivers are all active, and in normal operation they receive Manchester-encoded FM data streams from ground station modems, and feed each data stream to the onboard computer. In this mode, there is no connection between the receivers and the transmitter. The main computer receives and transmits according to a set of digital packet radio protocols for store and forward message exchange. Since the main computer is no longer working, that mode can no longer be used.

Fortunately, there is a simple test mode built into the radio module of the Microsat spacecraft. This mode connects the output of one of the receivers to the input of the transmitters, bypassing the data modems (and the main computer) entirely. This mode has now been enabled. This turns AO-16 into a single-channel analog repeater of a somewhat peculiar type.

Because the uplinks are intended to be Manchester-encoded FM data, the receivers are FM receivers. So the analog uplink must be FM. However, the downlink is not FM. The PSK transmitter, fed with an analog signal in this way, produces a double-sideband signal. That's like an old-fashioned AM signal, but with little or no energy in the carrier. It can be received with a single-sideband (SSB) receiver, using either USB or LSB.

Preliminary testing indicates that AO-16 can support this mode indefinitely, but it should still be considered experimental. Watch the AMSAT News Service bulletins for updates on availability. See the article to the right in order to learn how to make use of AO-16's bonus life. ❄

Using AO-16 in Analog Mode

by Paul Williamson KB5MU

Uplink:

145.920 MHz FM
fixed frequency
5 to 10 watts needed
no-gain omnidirectional antenna OK

Downlink:

437.026 MHz SSB (USB seems better than LSB)
plus or minus Doppler shift of up to 9 kHz
small yagi antenna preferred; omni might work
no elevation rotor needed: fixed 20-degree elevation OK

LISTEN and hear the satellite before you transmit. The tricky part is keeping up with the rapid Doppler shift on the downlink. A computer and satellite tracking software can help with this, but it's very possible to do it by hand. Tune high at the beginning of the pass, between 437.026 and 437.035, until you hear the signal. Then tune down as the signal shifts, just try to keep it sounding intelligible. You'll end up between 437.017 and 437.026 at the end of the pass. You don't need to tune the transmit frequency at all. Just leave it on 145.920 MHz.

The satellite has been crowded in the first few days of operation. Stick to short contest-style QSOs if there are many stations active.

Pass times are currently between 2:30 and 7:00 in both the morning and the afternoon. Use a satellite tracking program or use the "Passes" button on www.amsat.org to compute predictions for your location. An overhead pass is about 15 minutes long. Most useful passes don't go directly overhead, and those passes are shorter. ❄

Technical Committee Meeting
February 6th
7:00pm Carlsbad Safety Center

This meeting will be held immediately before the general membership meeting. Find W5NYV at a table in the room and sign in

All club members that are either already on the technical committee or are interested in being on the technical committee are invited to attend.

The purpose of the meeting is to gather input on all current, ongoing, and future projects including but not limited to improvements to the repeaters and repeater site.

The input will be prioritized and work will be assigned through regular Saturday/Sunday work parties that will begin in April 2008. These work parties will be held on the weekend following the general meeting. Goals for each work party will be announced at the general meeting, in the SCOPE, and on the website.

Site improvements, technical challenges, repeater maintenance and improvement, exploration of new technologies, and technical services provided to club members are subjects expected to be discussed at this and future technical committee meetings. See you there! ❄

Meet the 2008 Board

SCOPE Editor Michelle W5NYV

Born in North Dakota, grew up in Arkansas, trained in engineering, moved to California in 1996 to work for Qualcomm, trained some more in engineering, and retired from Qualcomm in 2001. I have a 6-year-old, a 4-year-old, and a 20-month-old. I'm extremely lucky to have a very supportive family. I enjoy engineering and amateur radio projects very much and am currently learning more about PIC microcontrollers. ❄

Meet the 2008 Board

Repeater Site Chair Mike Pennington, K6MRP

I was born in Whittier Ca. I have lived in Valley Center for the past 25 years. I retired from Pacific Bell in 2003 after 36 years as an installer and communications technician.

My interests are doing projects around the house which are never-ending, amateur radio, shooting, jeeping, sailing and traveling when time allows.

I have been doing work at the PARC site on Palomar since 1993. The ATV relay link from Palomar to Santiago Pk is located and maintained at my QTH. At this time it is being rebuilt by Art KC6UQH for a different input/output and better performance.

As soon as weather permits we will again have monthly work parties at the PARC site. There is much that needs to be done and plans are already scheduled as to when, where and how. The work parties will be announced in the Scope. Hope to see you there.
Mike K6MRP ❄

Club Classified Advertisements

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 SCOPE@PALOMARARC.ORG.

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

(1.20) Help needed. Looking for someone who has experience mounting the Arrow Satellite antenna to a tripod or other support structure. Thanks, Jim Keller WB6YXY jkeller@cox.net

(1.1) For Sale 2m Hand held Kenwood TH-K2 FM Transceiver about a year old. Have all the books on the unit and it are programmed with all the local channels. Asking $75 OBO. Please call Bayard K6GAO 858-755-5507

(1.1) Wanted Yaesu FT-857D transceiver, or similar, for new General licensee. David 760-942-5167 K200G@arrl.net

(11.29) Looking for a small 3 element tri-band HF beam such as the TH3-JRS. Jim Keller wb6yxy@arrl.net 760-717-6126

(10.15) For Sale 2 meter FM Transceiver. ICOM IC-2100H Mobile 207 memory Channels, HM-98S Lighted Mike, 55 Watts output. Green or Amber Display. Like NEW. All Local Channels Programmed in. $75.00 OBO. Please call Bayard K6GAO at 858-755-5507. For Sale Uniden Weather Radio WX 500 NOAA all Hazards Weather Radio. With S.A.M.E. AC power supply. $25.00 OBO. Please call Bayard K6GAO at 858-755-5507. For Sale Like New UNIDEN BEARCAT SCANNER BC-350C all pre programmed for all service Freq. AC and DC power supply cables. $75.00 OBO. Please Call Bayard K6GAO at 858-755-5507.

24 GHz Activity Day Report

Ed Munn W6OYJ

On Saturday January 19th, from Mt Soledad DM12ju, I used a modified Pcom with about 100 mW and 24 inch Pcom dish, and worked the following stations on 24 GHz narrowband:

K6JEY, Signal Hill DM03WT, ssb mode, Doug's signal 5x9+, dx 135 km
W6QIW, Secret Site 51 DM04TI, cw mode, Steve's signal 549, dx 200 km
N6RMJ, Huntington Beach DM03XQ, ssb mode, Pat's signal 5x9+, dx 117 km
KC6QHP, Signal Hill DM03WT, cw mode, Tony's signal 549, dx 135 km
Then my cw key fell and yanked its connector off, so I was no longer able to provide a carrier for dish aiming. As I was leaving Mt Soledad I discovered N6TEB operating about 100 yards east of my earlier location with gear for 5, 10 and 4 GHz, and many uhf/vhf bands.

There was a contest that weekend but I was not participating in it. Instead, some of the San Bernardino Microwave Society members scheduled a "24 GHz Activity Day" on Saturday. This was to take advantage of the relatively dry air with lower transmission losses, and the fact that several members have recently assembled gear for the 24 GHz Amateur band. 73s and Thanks to all those who were active that day.
Ed Munn, W6OYJ ❄

Special Event on 147.130

The Fallbrook Amateur Radio Club has been asked to help with communications for "Avenue of the Oaks" bicycle ride on April 5th, 2008 in Fallbrook. See http://www.avenueoftheoaks.com/
The 147.130 repeater will be used for a secondary communications net. The primary net will be on the FARC repeaters. This is a brand new event,, so much will be learned about supporting the 62 mile route. ❄

Contest Corral

NCCC Sprint	0330Z-0400Z, Feb 1
Vermont QSO Party	0000Z, Feb 2 to 2400Z, Feb 3
YL-ISSB QSO Party, CW/RTTY	0000Z, Feb 2 to 2359Z, Feb 3
10-10 Int. Winter Contest, SSB	0001Z, Feb 2 to 2359Z, Feb 3
NCCC Sprint	0330Z-0400Z, Feb 2
YLRL YL- OM Contest, CW	1400Z, Feb 2 to 0200Z, Feb 4
FYBO Winter QRP Sprint	1400Z-2400Z, Feb 2
Minnesota QSO Party	1400Z-2400Z, Feb 2
AGCW Straight Key Party	1600Z-1900Z, Feb 2
Delaware QSO Party	1700Z, Feb 2 to 0500Z, Feb 3 and
	1300Z, Feb 3 to 0100Z, Feb 4
Mexico RTTY International Contest	1800Z, Feb 2 to 1759Z, Feb 3
North American Sprint, CW	0000Z-0400Z, Feb 3
ARCI Fireside SSB Sprint	2000Z-2359Z, Feb 3
RSGB 80m Club Championship, SSB	2000Z-2130Z, Feb 4
ARS Spartan Sprint	0200Z-0400Z, Feb 5
NCCC Sprint	0330Z-0400Z, Feb 8
CQ WW RTTY WPX Contest	0000Z, Feb 9 to 2400Z, Feb 10
New Hampshire QSO Party	0001Z, Feb 9 to 0001Z, Feb 11
NCCC Sprint	0330Z-0400Z, Feb 9
Asia-Pacific Spring Sprint, CW	1100Z-1300Z, Feb 9
Dutch PACC Contest	1200Z, Feb 9 to 1200Z, Feb 10
KCJ Topband Contest	1200Z, Feb 9 to 1200Z, Feb 10
YLRL YL- OM Contest, SSB	1400Z, Feb 9 to 0200Z, Feb 11
Louisiana QSO Party	1500Z, Feb 9 to 0300Z, Feb 10
OMISS QSO Party	1500Z, Feb 9 to 1459Z, Feb 10
British Columbia QSO Challenge	1600Z, Feb 9 to 0359Z, Feb 10
FISTS Winter Sprint	1700Z-2100Z, Feb 9
RSGB 1st 1.8 MHz Contest, CW	2100Z, Feb 9 to 0100Z, Feb 10
North American Sprint, SSB	0000Z-0400Z, Feb 10
SKCC Weekend Sprintathon	0000Z-2400Z, Feb 10
ARRL School Club Roundup	1300Z, Feb 11 to 2400Z, Feb 15
NAQCC Straight Key/Bug Sprint	0130Z-0330Z, Feb 13
RSGB 80m Club Championship, Data	2000Z-2130Z, Feb 13
NCCC Sprint	0330Z-0400Z, Feb 15
ARRL Inter. DX Contest, CW	0000Z, Feb 16 to 2400Z, Feb 17
Feld Hell Sprint	1500Z-1700Z, Feb 16
Run for the Bacon QRP Contest	0200Z-0400Z, Feb 18
AGCW Semi-Automatic Key Evening	1900Z-2030Z, Feb 20
RSGB 80m Club Championship, CW	2000Z-2130Z, Feb 21
NCCC Sprint	0330Z-0400Z, Feb 22
Russian PSK WW Contest	2100Z, Feb 22 to 2100Z, Feb 23
CQ 160-Meter Contest, SSB	0000Z, Feb 23 to 2359Z, Feb 24
REF Contest, SSB	0600Z, Feb 23 to 1800Z, Feb 24
UBA DX Contest, CW	1300Z, Feb 23 to 1300Z, Feb 24
Mississippi QSO Party	1500Z, Feb 23 to 0300Z, Feb 24
North American QSO Party, RTTY	1800Z, Feb 23 to 0600Z, Feb 24
High Speed Club CW Contest	0900Z-1100Z, Feb 24 and
	1500Z-1700Z, Feb 24
North Carolina QSO Party	1700Z, Feb 24 to 0300Z, Feb 25
SKCC Sprint	0100Z-0300Z, Feb 27
NCCC Sprint	0330Z-0400Z, Feb 29

PARC and PARC Affiliated Repeaters

Frequency	Tx	Tone	Call Sign	Remarks
52.680	–	107.2	W6NWG	
146.730	–	107.2	W6NWG	Autopatch; see note 1,
147.075	+	107.2	W6NWG	Autopatch; see note 2
147.130	+	107.2	W6NWG	Autopatch; see note
447.000	–	107.2	W6NWG	Autopatch; see note 2
224.380	–	107.2	KK6KD	Americas Unidos
224.900	–	107.2	WD6HFR	Convair/220 ARC
224.940	–	107.2	KK6KD	Sharp Hospital Coverage
446.140	–	123.0	WB6FMT	Vista
146.175	+	107.2	N6FQ	Fallbrook ARC; linked to 445.600
445.600	–	107.2	N6FQ	Fallbrook ARC; linked to 146.175
145.050	(s)	None	W6NWG-1	Packet node; linked to Metro 9600 net
146.700	–	None	W6NWG-4	Packet duplex repeater; Duplex; PALBBS use OK

PARC also conducts the following ATV (amateur fast-scan television) operations:
ATV in: 915 MHz WBFM, 2441.5 MHz WBFM
Intercom: 146.415 MHz NBFM simplex (tone 79.7)
ATV out: 1241.25 MHz AM

Regular Nets Sponsored by PARC

Day	Time	Frequency	Name	Manager
T/Th/Sa	2000	146.730	NTS Traffic Net	Marvin KD6YJB KD6YJB@arrl.net
Sunday	0830	146.730	ARES Net	Jo Ashley KB6NMK@arrl.net
Sunday	1900	147.130	Handi-Hams	Marcia De Runtz KG6FIX
Sunday	2045	147.075	MARA	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 tthompdson@sdarc.org
Tuesday	2100	146.730	Off-Road Net	Dick Wilimek KA7AYTrwilimek@cox.net
Thursday	2000	147.075	SATERN	tomcarmody@cox.net
Thursday	2100	146.730	Ham Help Net	Lin Robertson kj6ef@amsat.org
Friday	2100	146.730	Hiker's Net	Ed KF6DXX@juno.com

Board of Directors Contact Information

Board of Directors Position	Call Sign	Contact Information
President - Steve Early	AD6VI	619-461-2818 ad6vi@amsat.org
Vice President - Dennis Baca	KD6TUJ	
Secretary - Loren Hunt	AD6ZJ	
Treasurer - Bob Birch	KG6RGI	
Director - Paul Williamson	KB5MU	858-571-8585 kb5mu@amsat.org
Director - Tom Martin	KG6RCW	
Scope Editor - Michelle Thompson	W5NYV	858-229-3399 w5nyv@amsat.org
Repeater Chair - Mike Pennington	K6MRP	mrpenni@pacbell.net
Membership - Al Donlevy	W6GNI	760-630-3096 w6gni@amsat.org

[1] The 146.730 repeater transmits a CTCSS tone of 107.2, but does not usually require any tone for access. When necessary, an access tone of 107.2 can be enabled. A 107.2 tone is always required for autopatch access.
[2] PARC autopatches are closed, for members only, and always require an access tone of 107.2. For PARC autopatch access info, email autopatch@PalomarARC.org.

SCOPE
P.O.BOX 73
VISTA, CA 92085-0073

Address service requested

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Submissions: scope@palomararc.org
Questions? Ideas? Comments? W6NWG@amsat.org

This month's General Meeting will be held on February 6th, 2008 (The first Wednesday of each month) at the Carlsbad Safety Center. This month the program is about laser communications. Talk-in on 146.730 MHz repeater. Technical Committee meeting starts at 19:00. General meeting starts at 19:30 but show up at 19:00 for setup and visiting beforehand. Ridesharing and coordinating for dinner beforehand often occurs on the repeater on Wednesday afternoons. Everyone is welcome! 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, 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 (past president of PARC)

SCOPE March 2008 ❄

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

Technical Committee Meeting - Autopatch
5 March 7:00pm at the Carlsbad Safety Center

Club Meeting – Jonathan Kramer, W6JLK: "I'm from the Government (Planning Department) and I'm here to help you!"
5 March 7:30pm at the Carlsbad Safety Center

Board Meeting
12 March 7:00pm at W6GNI QTH

AC6V – Silent Key

By Bernie Lafreniere N6FN

Field Day 2002, Rod assisting 11 year Old Bryce Kozlowski contact Australia! Photo credit: W6VR

Rod got his start in radio in the late 1940's by listening to short wave broadcasts, long range AM stations and eavesdropping on the ham bands with his Knight Kit OceanHopper. Later as his enthusiasm grew he upgraded to a Hallicrafters S-40A.

He seemed to gravitate to electronics, taking two years of electrical and electronics vocational training in high school. Who knows how much electronics mischief he got into while in

continued left side pg 4

K6QK – Silent Key

By Dennis Vernaccia N6KI

I think I met Harvey around 15 years ago and it may have been when he towed his tower trailer up to a PARC FD event or when he volunteered his trailer and operating skills to participate in a few Dx-peditons to Mexico with the 6E2T group in the early /mid 90s.

Harv was a master of many trades and he and I and my dad who is a retired tool and die machinist hit it off pretty well. Harv was a very opinionated guy as we all know and at times we had our disagreements but knowing Harv had a heart of gold and would cut off his right arm to help out, when one got themselves in a pinch on a mechanical project, we always seemed to unruffle our feathers and get back to the tasks.

I am forwarding a couple of pix of when Harv came over with a few other hams. Harv was instrumental in helping me plan and get my MonstIR SteppIR antenna onto my tower on my small city lot when we had to bypass the manufacturer's instructions and figure some way to work on my patio roof with a Rube Goldberg plan of attack.

Then Harv re-engineered his SteppIR and

continued right side page 4

Technical Committee Meeting
March 5th 7:00pm
Carlsbad Safety Center

This meeting will be held immediately before the general membership meeting. Find W5NYV at a table in the back of the room.

The topic under discussion this month is the Autopatch.

President's Letter
By Steve Early AD6VI

February, while a short month, has come and gone. We had a very good presentation on optical communications by Kerry Banke, N6IZW.

We will start March on a sad note. Two workhorses in the amateur community, Harv Hiller K6QK and Rod Dinkins AC6V have become Silent Keys. HARV was an avid contester who built his own tower trailer, which has been studied and envied by many.
Rod hosted and maintained the world-famous AC6V.COM Amateur Radio Web Site. Rod was also the very first contact for many new amateur radio operators in the San Diego area, welcoming them to the PARC repeaters. Both will be greatly missed.

Our March Program will feature attorney Jonathan Kramer, W6JLK and is titled "I'm from the Government (Planning Department) and I'm here to help you!" This is a relevant topic, not only because of local zoning issues, but because of a major zoning issue brewing in Palmdale, CA Looking down the road, Field Day is coming again. We are looking for volunteers to set up, captain and operate the stations. We continue to look for a new Field Day site, as last year's site is up for sale. Field Day was originally established to show that Amateurs could operate "portable". *continued lower right pg 8*

Volunteers Wanted
Volunteers needed to help set up a 2m/440, 50W Yaesu radio and antenna at the Elfin Forest Fire Dept. Help will be needed with attaching the antenna (Diamond X-50a Vertical) and setting up and programming the mobile radio for use in the fire department and to possibly set up the mobile antenna on a car. Date of project TBD.
Contact:
Mickey Cross, KI6CSY
760-744-2034 or mickeykc@juno.com.

Radio Club Resources
Check out these great local radio clubs on the web at the following addresses.

http://www.fallbrookarc.org/
http://www.sddxc.org/
http://www.earsclub.org/
http://roars.net/
http://www.wa6bgs.org/
http://n6six.50megs.com/

Club Members ONLY!

PARC has a tube bank that includes many 6 & 12 volt receiving tubes (and some transmitting types) for use by club members to repair their own personal equipment. Not for commercial use or resale.

If we have your requests, I will pre-check and deliver them to the next club meeting.

WB6IQS@amsat.org, -John

March Membership

New Members Joining PARC in January: KI6MYY, KI6MUG, KI6LAV, AB6RM, and N8QOS.
In February: KI6NVT, N6DWF, N6EZV, KI6GZM, KI6LKP, KI6NUG, and Tom Rentz (No call yet)
WAY TO GO!

Several previous members reinstated their membership. Please be sure to welcome the new and old returning members.

Please use the firms that support the club, and mention that you saw their advertisements in the newsletter.

Also, check your label for your renewal date. If your mailed SCOPE didn't arrive, and you are reading this on the web site, as a fall back, maybe your membership ran out? We do great on attracting "New Members", but not so great on the renewals! The club really needs all its members!

Al
W6GNI

Fold & Staple

Sonny WA5ACE, Jo KB6NMK,
Al W6GNI & Kathy

We could use one or two more on the list of Fold & Staple folks. Stop by the membership table and volunteer. A social work exercise, and get a participation point too.

Licensing and 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 at the Carlsbad Safety Center. Please call (619) 465-EXAM for the latest contact info. Test sessions may be cancelled if no one pre-registers.

EARS Testing is in Escondido on the Last Saturday of the month at 9:00 am at the LDS Church.
The address is 1917 East Washington Avenue , Escondido , 92025.
Contact Harry W6YOO (760) 743-4212 or W6YOO@amsat.org.

One-Day Amateur Radio Technician License Class

Saturday, March 29th, 2008
8 AM to 5 PM (with breaks and one hour lunch)
Salvation Army - Joan Kroc Center
6845 University Ave, San Diego, CA, 92115
Please RSVP with Don Read, at Don_Read@usw.salvationarmy.org so that adequate materials and testing may be arranged.

Cost of Class: Free

Testing, if available at 5:00 PM, will be $5

Description:
This purpose of this course is to aid students in preparation for an amateur radio Technician License written examination (Element 2). ❄

AC6V continued from left side pg 1
high school? Following high school Rod got his start as an electrical apprentice at Republic Steel in Canton Ohio where he worked for a couple of years.

The military and the Korean War came calling and Rod spent four years in the Navy (1951~1955) as an Aviation Electronics Technician – AT1. Apparently quite good at it, he also taught electronics at the NATTC Memphis, TN.

While in the Navy as a Radio Operator and Avionics Maintenance Technician Rod for Air Transport Squadron VR-8, he accumulated hundreds of hours of flying time out of Hickam Field, Hawaii in Douglas R5D and Lockheed R7V-1 Super Constellation aircraft. It was with great fondness that he looked back and reflected on those days, especially operating CW from these now classic aircraft.

After his stint in the Navy, Rod earned an AA degree in electronics and found employment at Convair Pomona, teaching electronics and missile technology for four years. Later he spent two years as a vocational electronics instructor at the junior college level in Walnut California.

All of this gave Rod the background he needed for his true calling, being a technical writer. Rod was very passionate about producing the best technical documentation possible, patiently and skillfully pulling information from sometimes-reluctant design engineers. He worked 30 years as tech writer in aerospace, with many of those years at Hewlett Packard. With their passion for excellence, Rod really thrived and enjoyed his years at HP.

Rod was first licensed in 1977 as WA6WTO upgrading to extra and his now famous AC6V call in 1978. With his electronics background and passion
continued left side pg 7

K6QK continued from right side pg 1
shorty 40 mtr beam and did a beautiful installation on his re-engineered tubular tower. His uncanny mechanical ability showed when he would come over to my dad's garage machine shop and fabricate some of the few pieces he could not do from his well-laid out home shop.

Well, I am sure he is now upstairs giving Leonardo Di Vinci an earful of how Harv would have implemented all of Leonardo's masterful designs!

This is indeed a sad day and I know Harv will be greatly missed by all who have ever had the pleasure of his company or help. (yeah, even those who he may have rubbed the wrong way might sit back and say, "ya know..., I may have disagreed on a few things with Harv, but his heart was in the right place !)

My Dear Friend Harvey Hiller K6QK

By Tom WONI

I am so lucky to have known Harvey. He knew so much about so many things in this world. Few people have knowledge that is both broad and deep, and few would share their knowledge as freely as Harv. He was always there to give me advice or help out whenever I needed it. I figure over the last 10 years of lunches with Harv I've had the benefit of his knowledge, enjoyed his stories, and his keen wit on 500+ occasions!
As I say, I'm a very lucky guy to have known Harvey Hiller. Smooth seas forever my friend, de Tom/WONI

Harvey Hiller, K6QK

By Bud Semon N7CW

On Feb. 13, 2008, I lost a true friend and the San Diego ham radio community lost a one-of-a-kind guy when Harv, K6QK became a silent key. I've known Harv for about 20 years – we were both members of the old General Dynamics Amateur
continued right side pg 7

Microsats: The San Diego Connection

by Paul Williamson KB5MU

Late one night in November 1987, at a McDonald's near the site of the AMSAT Space Symposium, an idea was hatched. AMSAT would create a batch of several nearly identical small spacecraft, using (then) state of the art computers based on the PS-186 design created by members of the San Diego Packet Radio Association N6NKF, KA6IQA, and WB6HHV. With enough computer processing power on board, and with modems to exchange digital data signals with ground stations, these satellites would operate as store-and-forward relay stations. A message could be sent from anywhere to anywhere, even using a low orbit satellite, by storing the message on board the spacecraft as it whizzed around the planet. The sending station would upload the message when the satellite was in view from his location, and a distant receiving station would download the message later, when the satellite was in view from there.

To accomplish this mission, the spacecraft needed substantial processing power, and it needed a lot of memory to store the messages. It needed to be comparable to, say, an IBM PC XT desktop computer. But the spacecraft would be only nine inches on a side, and there had to be room for batteries, and radio transmitters and receivers, and all the other hardware needed on board a satellite. The entire computer system had to fit into a tray that was only nine inches square and less than two inches deep. All the memory had to be solid-state RAM -- a hard disk with its moving parts was out of the question! We needed 256K of program memory, which had to be capable of automatically correcting single-bit errors caused by radiation, and a total of 10 megabytes of additional memory for message storage. That was a very large memory array for those days.

To cram all this stuff into the available space, three 8-layer circuit boards were packed densely with surface-mounted components. This kind of construction is routine nowadays, but it was pushing the envelope for civilian commercial construction in 1988, and way beyond anything AMSAT had used. Obtaining the required components in the required quantities was a challenge. The manufacturer of the circuit boards was not very familiar with surface mount technology and was using brand-new software to design the board layout. Because of the component density of the boards, AMSAT broke with its tradition and paid to have the components soldered onto the boards commercially -- and that contractor was also not as familiar with surface mounting techniques as it might have been. All of these problems were exacerbated by a tight schedule to meet a specific deadline in order to be ready for the launch we'd managed to arrange.

It was only natural that the assembled computer boards be sent to San Diego for testing and debug. We had the original PS-186 designers, and we had access to surface-mount rework equipment in the prototype assembly lab at Qualcomm. The schedule allowed for a long holiday weekend to check out the boards and certify them working, before sending them on to the next stage of spacecraft integration in Colorado. This plan was, shall we say, somewhat optimistic. The boards arrived in time for the holiday weekend, but they were incompletely assembled, and, well, they just didn't work.

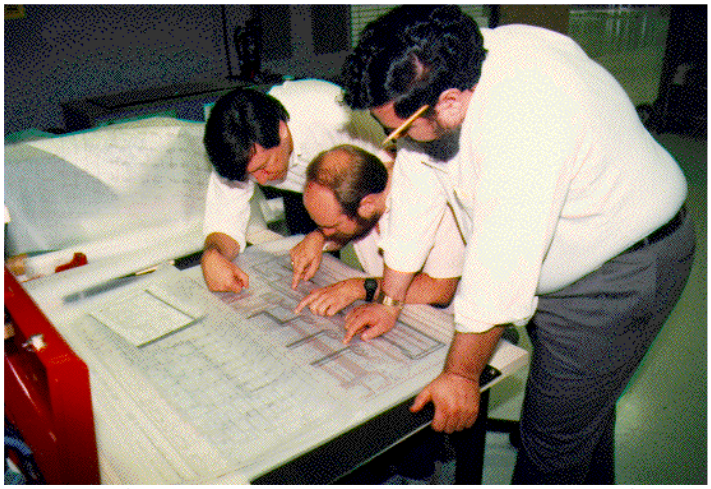
The long weekend turned into three long weeks of all-nighters and weekends for an expanded crew of digital hardware and software engineers. We found and corrected circuit design errors. We found and corrected board layout errors caused by bugs in the new layout software. We found and corrected board fabrication problems caused by poor process control at the board manufacturer. We found and corrected numerous soldering defects caused by poor process control in wave soldering at the commercial assembly house. We found and corrected manual assembly errors caused by plain sloppiness at assembly, which was probably caused by the schedule rush AMSAT imposed on

them to get done before the long holiday weekend. Eventually we got everything working on all six sets of computer hardware. The watchword for the project was "Some Assembly Required."

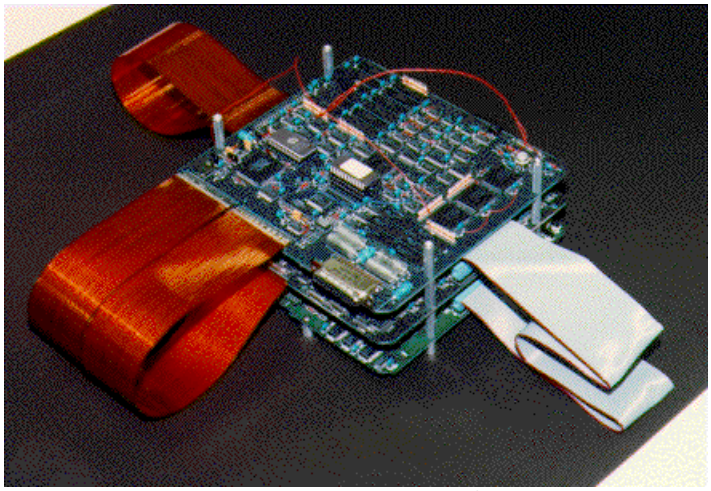
Now, in the real world, or even in a rational version of the AMSAT world, these computers would have been developmental prototypes. They would have been used for lab testing only. The changes we invented to correct the problems found in the lab would have been incorporated into new board designs and a nice fresh set of computers would be built (and tested) for flight. But that wasn't practical, for a number of reasons. There wasn't enough time to do anything like that and still meet the launch schedule. Even if there had been enough time, we didn't have enough money in the budget to build another set of boards. And, even if there had been enough time and money, we probably would not have been able to obtain another set of components. So, those hacked-up circuit boards, covered with hand-soldered wires and Xacto-knife cuts and even piggy-backed components soldered on top of other components, debugged in an environment resembling a lunchroom more than a cleanroom, were the actual flight computers for the four Microsats launched in January 1990 as AO-16, DO-17, WO-18, and LO-19.

Miraculously, those computers worked. AO-16 in particular had no computer failures from launch in 1990 until about 2005, and it appears the same is true of LO-19. It's a bit harder to tell about DO-17 and WO-18 because of unrelated failures in the spacecraft. But now, finally, it appears that there has been a major failure in the memory array on board AO-16. The computer itself is still operational, but without reliable memory it can't do anything very useful.

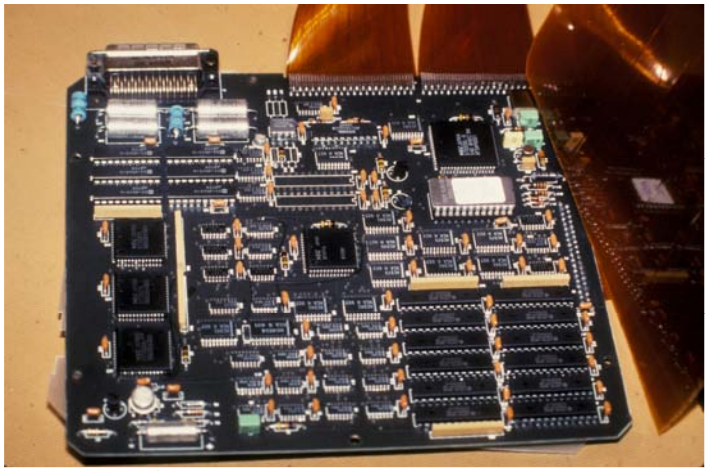
So what happened with that crash schedule? The primary payload was delayed, which delayed the launch. Our satellites were ready months ahead of time.



Tom KA6IQA, Paul KB5MU, and Franklin N6NKF study the Microsat computer schematic diagram in the lab at Qualcomm. Photo by NK6K.



Three-board stack in lab test configuration. Photo by NK6K.



The main CPU board. Photo by N4HY

AC6V continued from left side pg 4
for excellence, Rod thrived in Amateur Radio, earning numerous awards, including DXCC Honor Roll and even DXCC QRP in addition to 5-Band WAS, and as if that was not enough, WAS on 17 meters and he even had 49 states on 12 meters, needing only Utah. Here at the Palomar Amateur Radio Club, Rod was best known for elmering many of our members, providing years of assistance to all that asked on our 146.730 repeater, manning the GOTA station at field day, and initiating impromptu fire nets in times of emergency. However, the rest of the rest of the world knows Rod through his world-class amateur radio web page www.AC6V.com and his books FM-101X and DXing 101-X. Rod's passing leaves a big hole in the Palomar Amateur Radio Club and in the amateur radio community at large. Rod is survived by his lovely and caring wife Karla, his two sons Jeff and Steve. For many years Jeff was a professional programmer at Sun Microsystems and now operates as an independent consultant. Steve is Video/Media Engineer at Apple computer. Both of his sons following in their dad's technological footsteps. In closing, one of Rod's favorite sayings: "Hark! I Have Hurled My Words To The Far Reaches Of The Earth! What King Of Old Could Do Thus?" Rod has certainly hurled his words to the far ends of the earth and he now has a much higher platform from which to do it! ❄

AC6V memorial luncheon at Philly Frank's. The people shown (clockwise from the left) are Paul NN6X, Charlie NN3V, Tom W0NI, Steve AD6VI, Conrad KG6JEI, Terry K3PXX, Howard KY6LA, and Dick N6AA. Photo by KB5MU.

K6QK continued from right side pg 4
Radio Club and the San Diego DX Club. We shared many common interests – DXing, Contesting and building stuff. While my projects were small electronic gizmos, Harv built towers, tower trailers and refurbished old cars.

We started our relationship by operating Field Day and the California QSO Party together. We operated Field Day from the top of Hot Springs Mountain and CQP from Elliot Mine in Imperial County. We both enjoyed the work involved in setting up a competitive station in the wild and then operating to run up a good score. Harv liked his outdoors a bit more civilized than I did. And he was always the cook – a damn fine cook at that. It was during an early Field Day that the idea of a tower on trailer was born and he took it from there. He designed and built that thing from scratch – it was self contained with operating areas, cooking areas, massive tarps for sun shade and antennas to cover almost every band. Operating CQP from Elliot Mine was a very tough 4WD trip (without the trailer) which did not fit Harv's idea of civilized. So we moved to Desert View Tower, where we could pull the trailer, and that continues to be our CQP location. Along with Harv, Jim, K6ZH and others, we have won the Multi-Single and Multi-Single County Expedition category of CQP 8 times in 15 years. And we still own the M/S CE record.

When it came to ham radio projects with a mechanical flavor, Harv was always the go-to guy. He has helped with many of the local San Diego antenna and tower raisings. Most of my antenna projects would not have gotten off the ground without his help and imagination. My current tower in Arizona only exists because of Harv's ingenuity, his skill and his effort.

Among the many things I learned from Harv is "Do it right". Don't skimp on material or quality. For several years
continued on pg 9

Club Classified Advertisements

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 SCOPE@PALOMARARC.ORG.

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

(1.20) Help needed. Looking for someone who has experience mounting the Arrow Satellite antenna to a tripod or other support structure. Thanks, Jim Keller WB6YXY jkeller@cox.net

(1.1) For Sale 2m Hand held Kenwood TH-K2 FM Transceiver about a year old. Have all the books on the unit and it are programmed with all the local channels. Asking $75 OBO. Please call Bayard K6GAO 858-755-5507

(1.1) Wanted Yaesu FT-857D transceiver, or similar, for new General licensee. David 760-942-5167 K200G@arrl.net

(11.29) Looking for a small 3 element tri-band HF beam such as the TH3-JRS. Jim Keller wb6yxy@arrl.net 760-717-6126

(10.15) For Sale 2 meter FM Transceiver. ICOM IC-2100H Mobile 207 memory Channels, HM-98S Lighted Mike, 55 Watts output. Green or Amber Display. Like NEW. All Local Channels Programmed in. $75.00 OBO. Please call Bayard K6GAO at 858-755-5507. For Sale Uniden Weather Radio WX 500 NOAA all Hazards Weather Radio. With S.A.M.E. AC power supply. $25.00 OBO. Please call Bayard K6GAO at 858-755-5507. For Sale Like New UNIDEN BEARCAT SCANNER BC-350C all pre programmed for all service Freq. AC and DC power supply cables. $75.00 OBO. Please Call Bayard K6GAO at 858-755-5507.

Fallbrook Amateur Radio Club

The Fallbrook Amateur Radio Club will be meeting March 1 at 3:00PM.
The meeting will be celebrating "Anniversary of 10 Years on Red Mountain" Speaking about repeater history, Art Rideout-WA6IPD, Chris Durso-AA4CD, Bob Gonsett-W6VR, Ron Patten-KG6HSQ.

Meeting location, Roy Noon Hall, 231 E. Hawthorne St.
Visitors are welcome.
Talk in 146.175+ 107.2
Web site www.fallbrookarc.org ❄

Special Event on 147.130

The Fallbrook Amateur Radio Club has been asked to help with communications for "Avenue of the Oaks" bicycle ride on April 5th, 2008 in Fallbrook. See http://www.avenueoftheoaks.com/
The 147.130 repeater will be used for a secondary communications net. The primary net will be on the FARC repeaters. This is a brand new event,, so much will be learned about supporting the 62 mile route. ❄

President's Letter continued from pg 2

In support of Field Day and to educate the amateur radio community, PARC is creating a Seminar on "Basic Portable Operation". We are looking for participants can share their experience and ideas for doing this on a shoe-string budget.

In addition to Field Day leadership, we are looking for candidates to apply to the PARC Technical Committee. It is past time to get new people involved. To aid this process, we are seeking qualified hams to be interviewed, selected, and trained by our current technical committee members. You will be hearing more on this in the next few months. I hope to see you on March 5th. Bring a friend.

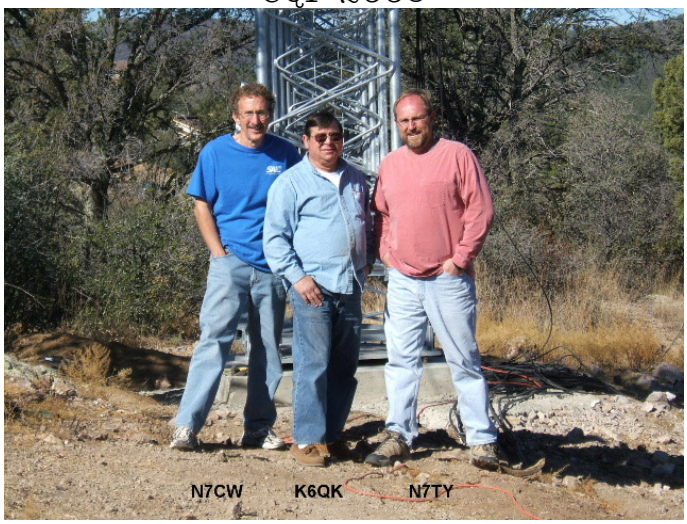
Steve Early,
President, Palomar Amateur Radio Club. ❄

after leaving GD, Harv worked as a handyman. When he would give a potential customer a quote, they would invariably ask "Why is it so expensive?" His response was "Do you want it cheap or done right?" He often walked away from a job when the customer answered "Cheap". He couldn't stand it when he couldn't do a job correctly. I have so many great memories of times shared with Harv, I could write for days. There was the time he convinced me to operate CQP from the desert near Ocotillo Wells. It was so hot, that we drank and drank and drank and didn't pee for 2 days. We operated the ARRL VHF contest from Hot Springs Mountain one year. Harv was operating from one side of the trailer and I was on the other. A large rattlesnake came out of the bushes to check on Harv's operating style – Harv could really move fast for a short guy! One part of ham radio we had not shared was going to the Visalia DX convention. That was planned for this year. Since I moved to Arizona, we chatted every couple weeks, keeping up on our lives, new projects, plans, exchanging ideas. Harv was one of those unique individuals (at least in my life) where one of us would start with an idea, the other would build on it, the first person would build further and after a dozen iterations, a first class design is ready to go. Then Harv would build it while I watched. Thanks, Harv, for everything you gave me over the years. SK. ❄

Harv at Elliot Mine, CQP 1991

Harv at a January VHF Contest from Mt. Soledad in San Diego

CQP 2006



Bud, Harv and Bruce at the N7CW Tower Installation, 2007

PARC and PARC Affiliated Repeaters

Frequency	Tx	Tone	Call Sign	Remarks
52.680	–	107.2	W6NWG	
146.730	–	107.2	W6NWG	Autopatch; see note 1,
147.075	+	107.2	W6NWG	Autopatch; see note 2
147.130	+	107.2	W6NWG	Autopatch; see note
447.000	–	107.2	W6NWG	Autopatch; see note 2
224.380	–	107.2	KK6KD	Americas Unidos
224.900	–	107.2	WD6HFR	Convair/220 ARC
224.940	–	107.2	KK6KD	Sharp Hospital Coverage
446.140	–	123.0	WB6FMT	Vista
146.175	+	107.2	N6FQ	Fallbrook ARC; linked to 445.600
445.600	–	107.2	N6FQ	Fallbrook ARC; linked to 146.175
145.050	(s)	None	W6NWG-1	Packet node; linked to Metro 9600 net
146.700	–	None	W6NWG-4	Packet duplex repeater; Duplex; PALBBS use OK

PARC also conducts the following ATV (amateur fast-scan television) operations:
ATV in: 915 MHz WBFM, 2441.5 MHz WBFM
Intercom: 146.415 MHz NBFM simplex (tone 79.7)
ATV out: 1241.25 MHz AM

Regular Nets Sponsored by PARC

Day	Time	Frequency	Name	Manager
T/Th/Sa	2000	146.730	NTS Traffic Net	Marvin KD6YJB KD6YJB@arrl.net
Sunday	0830	146.730	ARES Net	Jo Ashley KB6NMK@arrl.net
Sunday	1900	147.130	Handi-Hams	Marcia De Runtz KG6FIX
Sunday	2045	147.075	MARA	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 tthompdson@sdarc.org
Tuesday	2100	146.730	Off-Road Net	Dick Wilimek KA7AYTrwilimek@cox.net
Thursday	2000	147.075	SATERN	tomcarmody@cox.net
Thursday	2100	146.730	Ham Help Net	Lin Robertson kj6ef@amsat.org
Friday	2100	146.730	Hiker's Net	Ed KF6DXX@juno.com

Board of Directors Contact Information

Board of Directors Position	Call Sign	Contact Information
President - Steve Early	AD6VI	619-461-2818 ad6vi@amsat.org
Vice President - Dennis Baca	KD6TUJ	
Secretary - Loren Hunt	AD6ZJ	
Treasurer - Bob Birch	KG6RGI	
Director - Paul Williamson	KB5MU	858-571-8585 kb5mu@amsat.org
Director - Tom Martin	KG6RCW	
Scope Editor - Michelle Thompson	W5NYV	858-229-3399 w5nyv@amsat.org
Repeater Chair - Mike Pennington	K6MRP	mrpenni@pacbell.net
Membership - Al Donlevy	W6GNI	760-630-3096 w6gni@amsat.org

[1] The 146.730 repeater transmits a CTCSS tone of 107.2, but does not usually require any tone for access. When necessary, an access tone of 107.2 can be enabled. A 107.2 tone is always required for autopatch access.
[2] PARC autopatches are closed, for members only, and always require an access tone of 107.2. For PARC autopatch access info, email autopatch@PalomarARC.org.

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Submissions: scope@palomararc.org
Questions? Ideas? Comments? W6NWG@amsat.org

This month's General Meeting will be held on March 5th, 2008 (The first Wednesday of each month) at the Carlsbad Safety Center. This month the program is about dealing with the government. Talk-in on 146.730 MHz repeater. Technical Committee meeting starts at 19:00. General meeting starts at 19:30 but show up at 19:00 for setup and visiting beforehand. Ridesharing and coordinating for dinner beforehand often occurs on the repeater on Wednesday afternoons. Everyone is welcome! 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, 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 (past president of PARC)

SCOPE April 2008 ❄

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

Technical Committee Meeting- repeater repairs
2 April 7:00pm at the Carlsbad Safety Center
Club Meeting – The History of Vacuum Tubes
2 April 7:30pm at the Carlsbad Safety Center
Art KC6UQH will present in memory of Rod AC6V
Repeater Site Work Party
5 April Meet at Mother's Kitchen at 9am
Public Service Events
5 April, see page 8
19 April San Diego Tour de Cure, see page 7
Board Meeting
9 April 7:00pm at W6GNI QTH

K6QK – Silent Key

By Michael KF6HCL

As a 10+ year member of the "lunch bunch", it has been my honor to know Harvey Hiller, K6QK. In these later years, he treated me like a son. He was like a second Father to me and my admiration of him knew no bounds. Quick to advise me, Harv gave his wisdom freely.

For those that had found him direct or abrupt, I can tell you that the man had a heart of gold and I wish more people were as honest as Harv was. To me, Harv represented a special kind of person. One that, while not always "PC", told it like it is. All those that knew him knew he was incredibly intelligent and very diverse in his engineering capabilities.

From building his own Field Day trailer to his own Hot Rod, Harv was a master of his craft. So Harv, I am a better man because I knew you and what you ingrained in me, will always be with me. You were the finest Elmer any young man could have ever had. I will miss you dearly. ❖

Harv at Field Day.

Harv at N6KI helping with the SteppIR.

Technical Committee Meeting
April 2nd 7:00pm
Carlsbad Safety Center

This meeting will be held immediately before the general membership meeting. Find W5NYV at a table in the back of the room.

The topic under discussion this month is April Work Party.

April Membership

New Members Joining PARC: KI6JMH, KI6FVN, KI6LRV, KI6OHT, KI6NRF, KI6PBU, KI6KJG, KI6MHX, AND KI6LAY. In addition, SIX past members reinstated their membership.

Of course we welcome all members, new and "old", even "new" old timers.

The Board is seeking helpers to encourage membership in the club, and to help retain the members we have when renewal time comes about.
Al W6GNI

March Fold & Staple

Sonny WA5ACE, Jo KB6NMK, Al W6GNI & Kathy, Harry W6YOO

We could use one or two more on the list of Fold & Staple folks. Stop by the membership table and volunteer. A social work exercise, and get a participation point too.

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http://www.kiloxray.com/vec/

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The address is 1917 East Washington Avenue , Escondido , 92025.
Contact Harry W6YOO (760) 743-4212 or W6YOO@amsat.org.

Radio Club Resources

Check out these great local radio clubs on the web at the following addresses.
http://www.fallbrookarc.org/
http://www.sddxc.org/
http://www.earsclub.org/
http://roars.net/
http://www.wa6bgs.org/
http://n6six.50megs.com/

SCOPE Show And Tell

PARC is looking for members to bring items to the meetings for a "show and tell". These items could be projects in progress or completed old and/or restored equipment, short items of interest, or unusual items, and happens 5-10 minutes prior to the evening's presentation. Contact Dennis KD6TUJ at 760.802.2573 or email at KD6TUJ@amsat.org to help coordinate.

Club Members ONLY!

PARC has a tube bank that includes many 6 & 12 volt receiving tubes (and some transmitting types) for use by club members to repair their own personal equipment. Not for commercial use or resale.

If we have your requests, I will pre-check and deliver them to the next club meeting.

WB6IQS@amsat.org, -John

Contest Corral – Edited by Harry W6YOO

Contest	Time and Date
Montana QSO Party	0000Z, Apr 4 to 2400Z, Apr 5
YLRL DX-YL to NA-YL Contest, CW	1400Z, Apr 4 to 0200Z, Apr 6
SP DX Contest	1500Z, Apr 5 to 1500Z, Apr 6
EA RTTY Contest	1600Z, Apr 5 to 1600Z, Apr 6
QCWA Spring QSO Party	1800Z, Apr 5 to 1800Z, Apr 6
Missouri QSO Party	1800Z, Apr 5 to 0500Z, Apr 6 and
	1800Z-2400Z, Apr 6
RSGB RoPoCo 1	0700Z-0900Z, Apr 6
RSGB 80m Club Championship, CW	1900Z-2030Z, Apr 7
NAQCC Straight Key/Bug Sprint	0030Z-0230Z, Apr 9
YLRL DX-YL to NA-YL Contest, SSB	1400Z, Apr 11 to 0200Z, Apr 13
JIDX CW Contest	0700Z, Apr 12 to 1300Z, Apr 13
Radio Maritime Day	1200Z, Apr 12 to 1200Z, Apr 13
EU Spring Sprint, CW	1600Z-1959Z, Apr 12
Georgia QSO Party	1800Z, Apr 12 to 0359Z, Apr 13 and
	1400Z-2359Z, Apr 13
Yuri Gagarin International DX Contest	2100Z, Apr 12 to 2100Z, Apr 13
SKCC Weekend Sprintathon	0000Z-2400Z, Apr 13
UBA Spring Contest, SSB	0600Z-1000Z, Apr 13
RSGB 80m Club Championship, SSB	1900Z-2030Z, Apr 16
Holyland DX Contest	0000Z-2359Z, Apr 19
TARA Skirmish Digital Prefix Contest	0000Z-2400Z, Apr 19
ES Open HF Championship	0500Z-0559Z, Apr 19 and
	0600Z-0659Z, Apr 19 and
	0700Z-0759Z, Apr 19 and
	0800Z-0859Z, Apr 19
Feld Hell Sprint	1500Z-1700Z, Apr 19
EU Spring Sprint, SSB	1600Z-1959Z, Apr 19
Michigan QSO Party	1600Z, Apr 19 to 0400Z, Apr 20
EA-QRP CW Contest	1700Z-2000Z, Apr 19 (20-10m) and
	2000Z-2300Z, Apr 19 (80m) and
	0700Z-1100Z, Apr 20 (40m) and
	1100Z-1300Z, Apr 20 (20-10m)
Ontario QSO Party	1800Z, Apr 19 to 0500Z, Apr 20 and
	1200Z-1800Z, Apr 20
YU DX Contest	2100Z, Apr 19 to 0500Z, Apr 20 and
	0900Z-1700Z, Apr 20
Run for the Bacon QRP Contest	0100Z-0300Z, Apr 21
SKCC Sprint	0000Z-0200Z, Apr 23
RSGB 80m Club Championship, Data	1900Z-2030Z, Apr 24
SP DX RTTY Contest	1200Z, Apr 26 to 1200Z, Apr 27
Helvetia Contest	1300Z, Apr 26 to 1259Z, Apr 27
QRP to the Field	1500Z, Apr 26 to 0300Z, Apr 27
Florida QSO Party	1600Z, Apr 26 to 0159Z, Apr 27 and
	1200Z-2159Z, Apr 27

It's All Downhill From Here

By Michelle W5NYV

Most Extra class hams that enjoy contesting, Field Day, special events, and are active in their club and community have already made their first HF CW contact. However, it was only this past week that I made mine. Yes, it's true. I'd never made a CW contact on HF before. My CW skills are rudimentary. I passed the code test at 5wpm with clear copy, but 5wpm is hardly the stuff of legend, let alone something making you useful at events like Field Day. So, I decided that I would try to contact TX5C this past week. On CW. Taking Harry's advice, I then decided to use my laptop computer, running MixW, to handle the 30 wpm rate I was expecting. After 60+ calls, the contact was successful. It was a tremendous thrill. What was next? A Turks & Caicos Island contact! It was much more fun than I expected it to be and I am looking forward to more. ❖

AC6V – Silent Key

AC6V at Midway.

AC6v at Field Day.

K6QK – Silent Key


Harv at the helm.
Photo by KB5MU.

March Meeting Goodie Givers

KG6VVN Dan
KG6JEI Conrad

Thanks for making the meeting so sweet!

Dennis N6KI Reports about a Heath Company Virtual Museum

Be sure to click on Blue Links in the URL below.
This is definitely a "Blast from the Past" if you were licensed way back when!

http://www.heathkit-museum.com/hvmhistory.shtml

The End of the "True" Boatanchors

By Ron Pollack K2RP

For the first 15 or so years after the end of WW II in 1945, most amateur receivers and transmitters were characterized by their substantial size and weight, giving rise to the term "boat anchors." In addition, these units acted independently of each other, making it necessary to tune both to the same frequency, known as "zero beating."

In the late 50s, this was all to change. R.L. Drake and Collins were the innovators in smaller, lighter receivers. Drake introduced the 1A, soon followed by the 2A and 2B receivers. These were triple conversion units with crystal controlled oscillators, and weighed only about 15 pounds with built in power supplies but requiring external speakers. The 1A was introduced at $300, but the 2A and 2B were priced at $270. To contrast, Hammarlund was producing the HQ170 at $370 with a few more features (such as 160 and 6 meter coverage, and a crystal filter instead of passband tuning), but weighing 3 times as much at 45 pounds. The HQ 170 was 19 inches wide, while the Drakes were only about 12 inches wide, as well as being much narrower and shallower.

Collins was also downsizing, replacing the venerable 75A4 with the 75S1, the first of the famous "S Line" of products. This receiver, too, is substantially smaller than the one it replaced. More important, it was designed to mate with the 32S1 transmitter, with the receiver VFO controlling the transmitter for transceiver type operation. The concept of transceivers had been introduced by Collins a year or two earlier with the KWM1 and, later, the KWM2 transceivers. For the first time, the transmit frequency was now automatically the same as the receive frequency, a feature that we take for granted today. The 32S1 required a separate power supply, so the transmit system was still fairly bulky and heavy.

It wasn't long before the Heath Company saw an opportunity to fill a need for a lower priced light receiver and transmitter that could be offered in kit form. The result was the SB300 receiver and SB400 transmitter, debuting in about 1963 with a multitude of available options and accessories. Styled similarly to the Collins equipment, it was often called the "poor man's S Line." The receiver sold for $265 and the transmitter for $325, in sharp contrast to the $495 and $590 for the Collins counterparts. Add another $105 for the required Collins power supply (Heath's was built in) and the Collins station cost twice what the Heathkit did.

Among the accessories available were speakers, CW, SSB and AM filters, VHF converters, SWR bridges, phone patches, keyers, and more. A linear amplifier, the SB200 was soon introduced as well, all in matching green design.

The SB300 receiver used an LMO (Linear Master Oscillator) as the VFO. The output of the LMO varied from 5 to 5.5 MHz and was linear across the band. All crystals were provided for 4 10 meter segments, (as well as 80 thru 15), giving full coverage of the band without buying extra crystals. It is a dual conversion superhet, and the only solid state devices are the rectifiers. Ten tubes were used and most of the wiring was on two printed circuit boards.

The receiver was soon joined by the SB400, which matched both in appearance and function. It was designed to be used with the SB300 receiver, and was interconnected by seven coax cables, providing transceiver operation. Split operation was also possible, and a crystal pack was included so that the transmitter could be used with other receivers. The transmitter used a pair of 6146 tubes in the final amplifier with about 180 watt PEP input. Like the receiver, it had an LMO and covered all bands 80 thru 10,

This pair was a huge success, and many thousands were assembled and many are

continued on page 6

continued from page 5

still in use. In 1966, a refined version, the SB301 replaced the SB300. While basically the same receiver, RTTY capability was included, as well as a noise limiter and WWV capability. At the same time, the SB400 was upgraded to the SB401, with easier switching between separate and transceiver functions. The crystal pack was made optional, as most were used with Heath receivers where the separate crystal pack was not needed. The price was reduced to $285. These receivers and transmitters were all tube type, with generous use of printed circuit boards, but there was still much point to point wiring. A model SB310 was also made, similar to the SB300, but offering coverage of the short wave broadcast bands.

In 1970, the SB301 was discontinued, and, with great fanfare, the SB303 was launched. It was a completely solid state receiver, using 27 transistors, an IC, and some diodes. It was immensely popular and well received. Because of its all solid state design, it was more stable than its tube type predecessors, and offered a few more features. The crystal calibrator offered 25KHz as well as 100KHz markers, an RF attenuator control, and improved sensitivity. Filters were offered in the AM, SSB, and CW modes, with the CW and AM filters optional. It was built on nine printed circuit boards, enabling a minimum of point to point wiring. This was an outstanding value for its time, retailing for $345. It is still a hot performer even by today's standards. The SB310 short wave receiver was replaced with the SB313, a solid state version.

These 3 receivers were probably the most successful and popular kit receivers of all time, and many are in use still. The ones pictured here are the last of the series, the SB401 and SB303. They are unique in my collection, in that I bought them new in 1971 and built them myself. They were my main (and only) operating radios for many years, and still perform flawlessly today, even after being subject to RTTY use for years.

Accessories shown are the SB610 monitor scope which can monitor transmitted waveforms as well as received ones, provides a two tone test signal for SSB testing, and can be used as a simple scope and RTTY tuning aid when wired for these functions. The speaker is the popular SB600, which had space in it for the HP23 series power supplies used with several transceivers (unnecessary with the 401/303). The HM15 SWR bridge was the latest incarceration of the AM2 bridge introduced in 1957. The electronic keyer is model HD 1410 which came out a bit later. The keyer is very versatile, in that it will key positive and negative keying lines up to several hundred volts with no changes. The disadvantage is that the built in keyer paddles are not adjustable. The microphone shown is a Shure 435, with a matching "Heath Green" head.

The SB line eventually included several transceivers, accessory VFOs, phone patches, linear amps, VHF converters, a six meter receiver, antenna tuners, etc. They were hugely popular from the 60s thru the 80s, with many in collections and in use today. I wouldn't part with mine!

Ron Pollack, K2RP ❖

"Thank You PARC!"

On April 19, 2008, the American Diabetes Association (ADA) in San Diego will hold the San Diego Tour de Cure (SDTdC) bicycle ride, an annual fund-raising cycling event in which an estimated 1000 cyclists will participate. The event's three bicycle routes cover most all of San Diego county, from the Start/Finish on the campus of Mira Costa College in Cardiff, to the Torrey Pines hill, east through Rancho Santa Fe in the south, to east of I-15 to Valley Center to Bonsall to Oceanside in the North County and south on the Coast Highway. The 'Tour' starts with the first of three courses, the Century or 100 mile ride, departing at 7:00am and the other two courses, the 70 mile and 30 mile rides, depart at half hour intervals. The event is anticipated to last all day with the last of the riders finishing around 4:30pm.

For the first time for this event in San Diego, and at the request of the ADA, the Motorcycling Amateur Radio Club, MARC, will provide essential safety, route monitoring, control and coordination communications support to this event. This support includes bicycle rider safety, monitoring rider progress throughout the three courses, controlling and dispatching 5 Support and Gear (SAG) vehicles for mechanical assistance to riders, and coordinating and controlling the 11 motorcycles equipped with amateur radio and APRS that are supporting the event.

The Motorcycling Amateur Radio Club was organized 16 years ago (May 10th!) with the objective of providing service to the community while combining the two hobbies of motorcycling and ham radio. MARC is dedicated to providing two-way radio communications for selected charity events in their respective regions nationwide. Essential to this service and support is reliable radio communications between MARC's centralized Net Control and the MARC volunteer support vehicles throughout the course. That's where PARC comes in. This year MARC needed a reliable 70cm back-up/secondary repeater with reliable coverage of all of San Diego County (The BARN/ALERT repeater located on Palomar Mountain will be the primary repeater), and PARC came through with permission to use the PARC 70cm repeater the day of the event.

So from the members of the Motorcycling Amateur Radio Club to the members of the Palomar Amateur Radio Club, a hearty "Thank You" and 73's to you all for helping make this event support possible!

More information on the San Diego Tour de Cure itself can be found at: http://tour.diabetes.org/site/TR/TourdeCure/TDC551018030?pg=entry&fr_id=5059 including links to route maps of the three courses (all routes Start/End at Mira Costa College, Cardiff Campus).

If want to get involved with support to charity events or would like to know more about MARC or putting ham radio or APRS on your motorcycle, here's the link to the MARC web site: http://www.marc-hq.org/pages/homepage.htm And remember, you don't have to ride a motorcycle to become a MARC member and get involved; many of MARC's members participate by driving amateur radio equipped support vehicles, an essential element of event support.

My personal thanks, PARC!

Frank Littlebury, KE6WOE
PARC member and MARC member
MARC San Diego Tour de Cure Coordinator

Author's motorcycle in MARC configuration

Club Classified Advertisements

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 SCOPE@PALOMARARC.ORG.

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

(1.20) Help needed. Looking for someone who has experience mounting the Arrow Satellite antenna to a tripod or other support structure. Thanks, Jim Keller WB6YXY jkeller@cox.net

(1.1) For Sale 2m Hand held Kenwood TH-K2 FM Transceiver about a year old. Have all the books on the unit and it are programmed with all the local channels. Asking $75 OBO. Please call Bayard K6GAO 858-755-5507

(1.1) Wanted Yaesu FT-857D transceiver, or similar, for new General licensee. David 760-942-5167 K200G@arrl.net

(11.29) Looking for a small 3 element tri-band HF beam such as the TH3-JRS. Jim Keller wb6yxy@arrl.net 760-717-6126

Public Service Net on 147.130

The Fallbrook Amateur Radio Club has been asked to help with communications for "Avenue of the Oaks" bicycle ride on April 5th, 2008 in Fallbrook. See http://www.avenueoftheoaks.com/ The 147.130 repeater will be used for a secondary communications net. The primary net will be on the FARC repeaters. This is a brand new event,, so much will be learned about supporting the 62 mile route. ❖

Electronics and Ham Radio Resources http://www.kiloxray.com/#resources

Wildland Fire Safety Training

This course is intended for primary and secondary responders.
Instructor: Roxanne Provaznik from the Cal Fire – Monte Vista Station
Location: The Church of Jesus Christ of Latter Day Saints
5555 Aztec Dr, La Mesa, CA 91942
Date: Saturday April 12th, 2008
Time: 9:00 AM to 2:00 PM (?)
Please RSVP with Rich Beisigl at rbeisigl@csst.net In accordance with facility policy, please do not bring coffee or tobacco products into the building. ❖

K6QK Luncheon Fuddrucker's 1 March 2008

Dozens of Harv's friends gathered at Fuddrucker's on March 1 to share memories of Harv with each other and with Harv's wife Dee (seated left). Others pictured include Fred K6ISS, Orlando N6QVW, Dennis N6KI, Jim KG6R, Harry W6YOO, Gayle K6GO, and Arnie W7BIA. Photo by KB5MU.

Arnie W7BIA has just finished writing his message in a book of remembrances of Harv.
Photo by KB5MU. ❖

President's Message

March was a quick month for many. Our March program was given by attorney Jonathan Kramer, W6JLK and was titled: "I'm from the Government (Planning Department) and I'm here to help you!". Jonathon spoke about his experiences as a consultant for community planning departments and provided insight on what to do (and not do) or say, when dealing with our civil servants. Jonathon illustrated how our approach and presentation can lead to success or failure. The presentation, which was recorded, kept everyone's attention for the entire program

Our April program will feature Art McBride, KC6UQH, delivering a presentation prepared by Rod, AC6V (SK), on The History of Vacuum Tubes, beginning with the Edison effect and covering special tube types still in service today. The program will end with a comparison of the advantages of both tubes and solid state technology. This ought to be a good opportunity for many of us to learn a bit about the radio art, as well as the science behind it.

Looking down the road, Field Day is coming soon. The Field Day net will start soon. We are looking for volunteers to set-up, captain and operate the stations. Last month, we were told that the San Marcos site is available, so we will be there again. Field day was originally established to show that Amateurs could operate "portable". This aspect, in turn has proven useful for disaster response and recovery. This point has been proven and the October wildfires drove it home again, as there were areas of the county that did not have phones for several months and amateur radio helped out. A few Field Day Rules have changed. A new one says "One (1) 100-point bonus may be claimed if your Field Day operation includes a specific educational-related activity." It seems to me that a 'Basic Portable Operation Seminar' will meet this requirement and fits the Field Day theme nicely. To that end, I am looking for participants who can share their experience and ideas for doing this on a shoe-string budget. Specific times and details for this seminar will be announced prior to Field Day.

I hope to see you on April 2nd. Bring a friend.
Steve Early,
President
Palomar Amateur Radio Club. ❖

Field Day Preparations

By Conrad Lara KG6JEI

We are fast approaching the time of year again where we pull out all the stops and go for the gold. Field Day will be held June 27-29 this year. Once again the San Marcos EOC will be hosting our Field Day site at the corner of Rancheros and Santar right off the 78.

A few of our regulars will be unavailable this year. This year will be a perfect chance to get in on the action, and yet still have the support of our more experienced operators to help. Here are our areas of greatest need:

1) Band captains and operators for each station (schedule to be worked out with each band captain).
2) Shelters (RV'S, Travel Trailers, and the like) for operating stations.
3) MANY people need to setup and tear down the site.
4) Training. We plan to offer educational training and FCC Amateur License testing. We need volunteers.
5) Publicity. Please tell anyone you know that everyone is welcome we will be running a GOTA station for non active/unlicensed operators. Word of mouth is the best way to bring people in hams and non hams alike.

Please contact me at KG6JEI@amsat.org to volunteer or if you have any questions. I am also available at the club meetings. More information will be made available as it develops. ❖

PARC and PARC Affiliated Repeaters

Frequency	Tx	Tone	Call Sign	Remarks
52.680	–	107.2	W6NWG	
146.730	–	107.2	W6NWG	
147.075	+	107.2	W6NWG	
147.130	+	107.2	W6NWG	
447.000	–	107.2	W6NWG	
224.380	–	107.2	KK6KD	Americas Unidos
224.900	–	107.2	WD6HFR	Convair/220 ARC
224.940	–	107.2	KK6KD	Sharp Hospital Coverage
446.140	–	123.0	WB6FMT	Vista
146.175	+	107.2	N6FQ	Fallbrook ARC; linked to 445.600
445.600	–	107.2	N6FQ	Fallbrook ARC; linked to 146.175
145.050	(s)	None	W6NWG-1	Packet node; linked to Metro 9600 net
146.700	–	None	W6NWG-4	Packet duplex repeater; Duplex; PALBBS use OK

PARC also conducts the following ATV (amateur fast-scan television) operations:
ATV in: 915 MHz WBFM, 2441.5 MHz WBFM
Intercom: 146.415 MHz NBFM simplex (tone 79.7)
ATV out: 1241.25 MHz AM

Regular Nets Sponsored by PARC

Day	Time	Frequency	Name	Manager
T/Th/Sa	2000	146.730	NTS Traffic Net	Marvin KD6YJB KD6YJB@arrl.net
Sunday	0830	146.730	ARES Net	Jo Ashley KB6NMK@arrl.net
Sunday	0930	147.075	Winlink Users Net	Robert Palle KC2CHN
Sunday	1900	147.130	Handi-Hams	Marcia De Runtz KG6FIX
Sunday	2045	147.075	MARA	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 tthompdson@sdarc.org
Tuesday	2100	146.730	Off-Road Net	Dick Wilimek KA7AYTrwilimek@cox.net
Thursday	2000	147.075	SATERN	tomcarmody@cox.net
Thursday	2100	146.730	Ham Help Net	Lin Robertson kj6ef@amsat.org
Friday	2100	146.730	Hiker's Net	Ed KF6DXX@juno.com

Board of Directors Contact Information

Board of Directors Position	Call Sign	Contact Information
President - Steve Early	AD6VI	619-461-2818 ad6vi@amsat.org
Vice President - Dennis Baca	KD6TUJ	
Secretary - Loren Hunt	AD6ZJ	
Treasurer - Bob Birch	KG6RGI	
Director - Paul Williamson	KB5MU	858-571-8585 kb5mu@amsat.org
Director - Tom Martin	KG6RCW	
Scope Editor - Michelle Thompson	W5NYV	858-229-3399 w5nyv@amsat.org
Repeater Chair - Mike Pennington	K6MRP	mrpenni@pacbell.net
Membership - Al Donlevy	W6GNI	760-630-3096 w6gni@amsat.org

SCOPE
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VISTA, CA 92085-0073

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Submissions: scope@palomararc.org
Questions? Ideas? Comments? W6NWG@amsat.org

This month's General Meeting will be held on April 2nd, 2008 (The first Wednesday of each month) at the Carlsbad Safety Center. This month the program is about Vacuum Tubes. Talk-in on 146.730 MHz repeater. Technical Committee meeting starts at 19:00. General meeting starts at 19:30 but show up at 19:00 for setup and visiting beforehand. Ridesharing and coordinating for dinner beforehand often occurs on the repeater on Wednesday afternoons. Everyone is welcome! 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, 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 (past president of PARC)

SCOPE May 2008 ❄

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

Technical Committee Meeting- Open Docket
7 May 7:00pm at the Carlsbad Safety Center
Club Meeting
Namaste Project Overview by Michelle W5NYV
Simple Weekender HF Antennas by Loren AD6ZJ
7 May 7:30pm at the Carlsbad Safety Center
Repeater Site Work Party
10 May Meet at Mother's Kitchen 1pm
Board Meeting
14 May 7:00pm at KG6RGI QTH
CERT County Training Day
17 May all day

President's Message

April has passed and warmer weather is now upon us.

Our April program featured Art McBride, KC6UQH, who delivered a presentation prepared by Rod, AC6V (SK), on The History of Vacuum Tubes, beginning with the Edison effect and covering special tube types still in service today.

Our May program will be on inexpensive wire antennas, by Loren Hunt, AD6ZJ. Loren is into portable contesting so many of these ought to be field expedient.

Looking down the road, Field Day is coming again. The Field Day net has started and we are looking for help in many areas. We are looking for volunteers to set up, captain and operate the stations. We will be at the San Marcos site again, so we will be easy to find and easy to get to.

Field day was originally established to show that amateurs could operate "portable". This aspect, in turn has proven useful for disaster response and recovery.

This point has been proven and the October wildfires drove it home again, as there were areas of the county that did not have phones for several months

A few Field Day Rules have changed. A new one says "One (1) 100-point bonus may be claimed if your Field Day operation includes a specific educational-related activity."

It seems to me that a 'Basic Portable Operation Seminar' will meet this requirement and the Field Day theme nicely. To that end, I am looking for participants who can share their experience and ideas for doing this on a shoe-string budget. Specific times and details for this seminar will be announced in prior to Field Day.

I hope to see you on May 7th. Bring a friend.

Steve Early,
President, Palomar Amateur Radio Club.

Technical Committee Meeting
May 7th 7:00pm
Carlsbad Safety Center

This meeting will be held immediately before the general membership meeting. Find a club officer to participate.

April Membership

New Members Joining PARC: N1QB, W6NWF, Robert Kitson, and KI6NCA. Five reinstated their memberships after a delay. A good month for the club! Please welcome these new members, on the air, and in person. And KG6MDQ renewed for 5 years!! Multiple year renewals are really appreciated, as that makes less work, less chance for my errors, and fewer trips to the bank for yours truly.
Al W6GNI

March Fold & Staple

Sonny WA5ACE, Jo KB6NMK,
Al W6GNI & Kathy, Harry W6YOO

We could use one or two more on the list of Fold & Staple folks. Stop by the membership table and volunteer. A social work exercise, and get a participation point too.

Licensing and 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 at the Carlsbad Safety Center.

http://www.kiloxray.com/vec/

Test sessions may be cancelled if no one pre-registers.

EARS Testing is in Escondido on the last Saturday of the month at 9:00 am at the LDS Church.
The address is 1917 East Washington Avenue, Escondido , 92025.
Contact Harry W6YOO (760) 743-4212 or W6YOO@amsat.org.

General Class

Two-Day Amateur Radio General License Class
Saturdays, June 7th and June 21st, 2008
9 AM to 2 PM (with breaks and working lunch)
Salvation Army, Joan Kroc Center, Community Room
6845 University Ave, San Diego, CA, 92115
Please RSVP with Don Read, at Don.Read@usw.salvationarmy.org so that adequate materials and testing may be arranged.
Cost of Class: Free
Testing on June 21st at 2:00 PM will be $5

Radio Club Resources

Check out these great local radio clubs on the web at the following addresses.

http://www.fallbrookarc.org/
http://www.sddxc.org/
http://www.earsclub.org/
http://roars.net/
http://www.wa6bgs.org/
http://n6six.50megs.com/

Club Members ONLY!

PARC has a tube bank that includes many 6 & 12 volt receiving tubes (and some transmitting types) for use by club members to repair their own personal equipment. Not for commercial use or resale.

If we have your requests, I will pre-check and deliver them to the next club meeting.

WB6IQS@amsat.org, -John

Contest Corral – Edited by Harry W6YOO

Contest	Time and Date
QRP Minimal Art Session	1900Z-2300Z, May 1
NCCC Sprint Ladder	0230Z-0300Z, May 2
MARAC SSB QSO Party	0000Z, May 3 to 2400Z, May 4
MARAC CW QSO Party	0000Z, May 3 to 2400Z, May 4
10-10 Int. Spring Contest, CW	0001Z, May 3 to 2359Z, May 4
Microwave Spring Sprint	0600-1300 local, May 3
7th Call Area QSO Party	1300Z, May 3 to 0700Z, May 4
Portuguese Navy Day Contest	1500Z, May 3 to 1500Z, May 4
Indiana QSO Party	1600Z, May 3 to 0400Z, May 4
ARI International DX Contest	2000Z, May 3 to 1959Z, May 4
New England QSO Party	2000Z, May 3 to 0500Z, May 4 and
	1300Z-2400Z, May 4
RSGB 80m Club Championship, SSB	1900Z-2030Z, May 5
NCCC Sprint Ladder	0230Z-0300Z, May 9
Nevada Mustang Roundup	2300Z, May 9 to 2300Z, May 10
SBMS 2 GHz and Up WW Club Contest	0600 local, May 10 to 2000 local, May 11
VK/Trans-Tasman 80m Contest, Phone	0800Z-1400Z, May 10
EUCW Fraternizing CW QSO Party	1000Z-1200Z, May 10 and
	1800Z-2000Z, May 11
CQ-M International DX Contest	1200Z, May 10 to 1159Z, May 11
VOLTA WW RTTY Contest	1200Z, May 10 to 1200Z, May 11
FISTS Spring Sprint	1700Z-2100Z, May 10
50 MHz Spring Sprint	2300Z, May 10 to 0300Z, May 11
SKCC Weekend Sprintathon	0000Z-2400Z, May 11
RSGB 80m Club Championship, Data	1900Z-2030Z, May 14
EU PSK DX Contest	1200Z, May 17 to 1200Z, May 18
His Maj. King of Spain Contest, CW	1200Z, May 17 to 1200Z, May 18
Feld Hell Sprint	1500Z-1700Z, May 17
Manchester Mineira All America CW Contest	1500Z, May 17 to 2359Z, May 18
Baltic Contest	2100Z, May 17 to 0200Z, May 18
Run for the Bacon QRP Contest	0100Z-0300Z, May 19
NAQCC Straight Key/Bug Sprint	0030Z-0230Z, May 22
RSGB 80m Club Championship, CW	1900Z-2030Z, May 22
CQ WW WPX Contest, CW	0000Z, May 24 to 2359Z, May 25
VK/Trans-Tasman 80m Contest, CW	0800Z-1300Z, May 24
ARCI Hootowl Sprint	2000 local - 2400 local, May 27
MI QRP Memorial Day CW Sprint	2300Z, May 26 to 0300Z, May 27
SKCC Sprint	0000Z-0200Z, May 28
Kids Roundup	1400Z, May 31 to 2200Z, Jun 1

May Meeting Raffle Item

MFJ-1910
33 Foot Telescoping Fiberglass Mast

This Fiberglass mast is a great addition to any portable or stealth setup. Collapsed size is only 3.8 feet so it's great to keep in the trunk for spur of the moment deployment.

At 33 foot total length it is a 1/4 wave on 40m. Attach a wire to the ring on top, strap the base to something (anything), add some radials and a length of coax and you're on the air. This fiberglass mast will be part of the May meeting feature on simple antennas. I used these during the California QSO Party when I operated as a County Expedition and they worked great. They are easy to put up even with 40 MPH gusts!

HRO stocks these at $79.95 or be the lucky winner in the raffle.

AD6ZJ, Loren

Show And Tell

PARC is looking for members to bring items to the meetings for a "show and etell". These items could be projects in progress or completed old and/or restored equipment, short items of interest, or unusual items, and happens 5-10 minutes prior to the evening's presentation. Contact Dennis KD6TUJ at 760.802.2573 or email at KD6TUJ@amsat.org to help coordinate.

Ham Help Net Needs Help

By Lin KJ6EF

The Thursday Night 9PM Ham Help Net is in need of a back-up Net Control Op. Currently there's no stand-in for when Net Control is out of town, ill, family emergencies, etc etc.

Please contact Lin Robertson/KJ6EF at kj6ef@amsat.org if you'd like to be a "pinch hitter" for the net. We have an approved format and script, so it should be fairly straightforward.

Visit to Palomar Volunteer Fire Department

By Dennis KD6TUJ

Tom KG6RCW and I KD6TUJ met at TOWizard to deliver the tower designated for Palomar Mountain Volunteer Fire Department. We delivered the tower, then went to the repeater site. We dropped off 2 pole pruners, 1 with a saw attached. Tom got the labeled info off the camper. Tom suggested, and I agreed, that it would be good to place the 2 omni antennas on the roof of the container to prevent damage as they would not fit inside. We went back to the fire station and found Chief Lucia there. We talked with the Chief about his plans. Chris showed up shortly after, so we confirmed with him also. Doc showed up (their fabricator) and was told the requirements for the tower base. Chris will let us know when the tower is set so we can continue the installation. It was a good trip and great contact with PMVFD.

Dennis KD6TUJ

Dennis Vernaccia Reports about a Heath Company Virtual Museum

Be sure to click on Blue Links in the URL below.
This is definitely a "Blast from the Past" if you were licensed way back when!

http://www.heathkit-museum.com/hvmhistory.shtml

Minutes of the Palomar Amateur Radio Club Board of Directors Meeting

April 9th 2008

Minutes are unapproved until May 2008 board meeting. Comments and corrections to Loren AD6ZJ.

The meeting was called to order at 7:03 PM by President Steve Early AD6VI. The meeting was held at the home of Al Donlevy W6GNI. Present at the meeting were:

President Steve Early AD6VI
Vice-President Dennis Baca KD6TUJ
Treasurer Bob Birch KG6RGI
Secretary Loren Hunt AD6ZJ
Director #1 Tom Martin KG6RCW
Membership Al Donlevy W6GNI
Director #2 Paul Williamson KB5MU
Scope Editor Michelle Thompson W5NYV
Repeater Site Mike Pennington K6MRP
Guest Conrad Lara KG6JEI, Field Day Chair

Treasurer's Report

Bob KG6RGI distributed the report. Total Assets are $15,250.45. The prepaid dues are $6,030.00. A motion to accept the report was made by Tom KG6RCW and seconded by Loren AD6ZJ. Motion was carried.

Secretary's Report

Loren AD6ZJ presented the Secretary's report. A motion to accept was made by Paul KB5MU and seconded by Bob KG6RGI. Motion was carried.

Discussion Items

1. Field Day ideas

Educational points, meaningful ways to earn them.
The need to pull guests into the GOTA station.
A Treasure hunt of sorts for guests.
Steve AD6VI will prepare something for the ARRL web page.
We need to get coordination of antennas and filters so to minimize interference.

General Meeting: May topic: Simple homemade HF antennas presented by Loren AD6ZJ. Warmup act W5NYV introducing the AMSAT project Namaste.

Membership Report

Presented by Al W6GNI
Current club membership is 392.

Repeater Site Report: Presented by Mike K6MRP

1. The Winlink experiment was successfully completed last weekend.
2. The old battery removal is set to begin this month with Michelle W5NYV, Tom KG6RCW, Mike K6MRP and Dennis KD6TUJ all getting involved as the batteries are several hundred pounds each.
3. Dennis KD6TUJ will look into propane conversion for one of the generators. A final decision needs to be made on where to house the generator.
4. A decision on which repeaters will be on the generator needs to be made.

OLD Business:

1) This months raffle netted $98.00 for the club
2) Still looking for those willing to teach new ham classes

New Business:

1) Should PARC submit an application to be recognized as a special service club with the ARRL? Michelle W5NYV will fill out form.
2) Repeater usage issues needs to be addressed

Place of next Board Meeting: Home of Bob Birch KG6RGI

Motion to adjourn made by Bob KG6RGI and seconded by Loren AD6ZJ.

April Goodie Givers

KD6YJB Marvin, KG6RCW Tom, W6ASP Preston, KG6JEI Conrad

April Fold and Staple

W6GNI Al & Kathy
KB6NMK Jo

San Diego 100 Mile Endurance Run

Cuyamaca Mountains, San Diego, CA
June 7-8, 2008

On behalf of Race Director, Paul Schmidt, K6PKS, we thank you for your interest in providing communications for the SD100 Endurance Run. Your commitment to the communications team will be an integral part of another successful event.

Please see the attached preliminary list of assignments and available openings. If your callsign is in the "Tentative" category, please contact us immediately with the following information in order to confirm your commitment to working the event:

1) your availability
2) location preference
3) whether or not you will have a shelter available (motorhome, trailer, tent, etc)

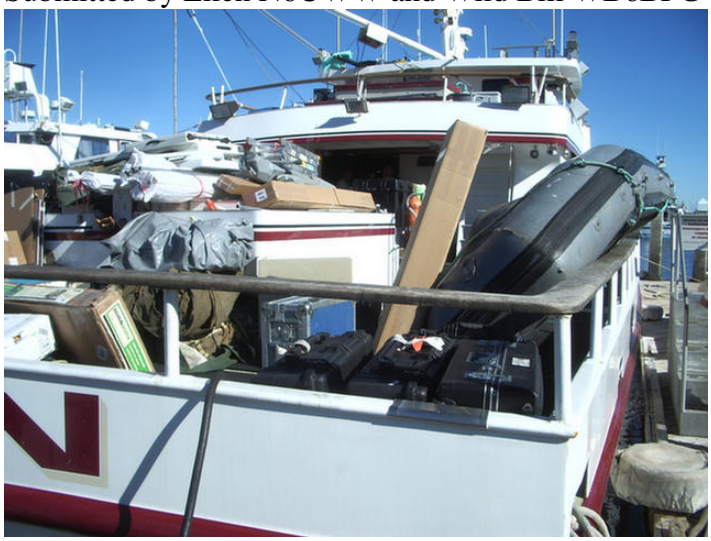
If your callsign is not on the list, now's your chance! We are still in need of confirmed commitments from additional volunteers so if you could spread the word we'd appreciate it. The more operators we have for the event, the more fun it will be for all involved. For further information please refer to the event website at San Diego 100 Website or contact us via e-mail with your questions or comments.

Ellen N6UWW@amsat.org and Wild Bill WB6BFG@amsat.org

Station	Op	Op		Remarks
SUNRISE HWY	W6ABE			W6ABE 5th wheel - full duration
PEDRO FAGES				
CAMP CUYAMACA	K6AH			
PASO PICACHO	N6JOJ			N6JOJ motorhome - full duration
BIG BEND				
MILK RANCH RD	KB9WFS	KG6WNW		tent camp - full duration
SWEETWATER BRIDGE	KI6JYC	KG6WOB		motorhome - full duration
NET CONTROL	WB6BFG	N6UWW		trailer - full duration
ROVER	W6SST	WN6K		
TENTATIVE OPS	N0KII	KG6ZUS		GTARC
	KI6DPN	KI6DPO		GTARC
	KF6ZBF	KF6ZBE		Mark & Kathy
	K6DEX	KI6FKB		Bob & Sue
	KD6ACV	KI6FKA		
	W6IPT	KI6AOQ		
	KG6RCW	KI6FKC		
	N1QI	KI6AGN		

Clipperton Island DXpedition Photographs

Submitted by Ellen N6UWW and Wild Bill WB6BFG



Continued on Page 9

Club Classified Advertisements

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 SCOPE@PALOMARARC.ORG.

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

(5.1) Complete 5-watt portable 20- meter QRP CW station. Oak Hill Research OHR-100A professionally wired and aligned. Built-in Iambic keyer, battery supply. Custom "Old Timer" wood case with calibrated vernier dial. Complete with field kit with mini-keys, 20 meter "Gusher" dipole and many accessories. Like new condition, asking $185. Kirt KK7QT 760-994-0127

(5.1) Transport needed for UHF antennas to SF bay area.
Contact Fred Brown, W6HPH
w6hph@yahoo.es
Tel. 760-742-1328
or 760-740-8501

(1.20) Help needed. Looking for someone who has experience mounting the Arrow Satellite antenna to a tripod or other support structure.
Thanks, Jim Keller WB6YXY
jkeller@cox.net

(1.1) For Sale 2m Hand held Kenwood TH-K2 FM Transceiver about a year old. Have all the books on the unit and it are programmed with all the local channels. Asking $75 OBO.
Please call Bayard K6GAO 858-755-5507

(1.1) Wanted Yaesu FT-857D transceiver, or similar, for new General licensee.
David 760-942-5167
K200G@arrl.net

(11.29) Looking for a small 3 element tri-band HF beam such as the TH3-JRS.
Jim Keller wb6yxy@arrl.net
760-717-6126 ❖

San Diego Section Meeting Location:
Do you know of a good place?

As the incoming Section Manger, I am conducting a series of Section Information Meetings. The purpose is to provide a forum for us to meet and discuss needs and opportunities within the San Diego Section. Your input is important, so that the Section may better serve the local amateur community.

I am planning to hold several of these meetings, at different location within the Section, so that you do not have to travel far to attend.

The first was held on April 4th, 2008, in at the Carlsbad Safety Center. Other locations in the Section will follow.

If you know of a location near you, which can accommodate up to fifty (or so) of us, please contact me at ad6vi@arrl.org. ❖

Clipperton Island DXpedition Photographs

Submitted by Ellen N6UWW and Wild Bill WB6BFG

PARC and PARC Affiliated Repeaters

Frequency	Tx	Tone	Call Sign	Remarks
52.680	–	107.2	W6NWG	
146.730	–	107.2	W6NWG	See note 1
147.075	+	107.2	W6NWG	
147.130	+	107.2	W6NWG	
447.000	–	107.2	W6NWG	
224.380	–	107.2	KK6KD	Americas Unidos
224.900	–	107.2	WD6HFR	Convair/220 ARC
224.940	–	107.2	KK6KD	Sharp Hospital Coverage
446.140	–	123.0	WB6FMT	Vista
146.175	+	107.2	N6FQ	Fallbrook ARC; linked to 445.600
445.600	–	107.2	N6FQ	Fallbrook ARC; linked to 146.175
145.050	(s)	None	W6NWG-1	Packet node; linked to Metro 9600 net
146.700	–	None	W6NWG-4	Packet duplex repeater; Duplex; PALBBS use OK

PARC also conducts the following ATV (amateur fast-scan television) operations:
ATV in: 915 MHz WBFM, 2441.5 MHz WBFM
Intercom: 146.415 MHz NBFM simplex (tone 79.7)
ATV out: 1241.25 MHz AM

Regular Nets Sponsored by PARC

Day	Time	Frequency	Name	Manager
T/Th/Sa	2000	146.730	NTS Traffic Net	Marvin KD6YJB KD6YJB@arrl.net
Sunday	0830	146.730	ARES Net	Jo Ashley KB6NMK@amsat.org
Sunday	1900	147.130	Handi-Hams	Marcia De Runtz KG6FIX
Sunday	2045	147.075	MARA	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 tthompdson@sdarc.org
Tuesday	2100	146.730	Off-Road Net	Dick Wilimek KA7AYTrwilimek@cox.net
Thursday	2000	147.075	SATERN	tomcarmody@cox.net
Thursday	2100	146.730	Ham Help Net	Lin Robertson kj6ef@amsat.org
Friday	2100	146.730	Hiker's Net	Ed KF6DXX@juno.com

Board of Directors Contact Information

Board of Directors Position	Call Sign	Contact Information
President - Steve Early	AD6VI	619-461-2818 ad6vi@amsat.org
Vice President - Dennis Baca	KD6TUJ	
Secretary - Loren Hunt	AD6ZJ	
Treasurer - Bob Birch	KG6RGI	
Director - Paul Williamson	KB5MU	858-571-8585 kb5mu@amsat.org
Director - Tom Martin	KG6RCW	
Scope Editor - Michelle Thompson	W5NYV	858-229-3399 w5nyv@amsat.org
Repeater Chair - Mike Pennington	K6MRP	mrpenni@pacbell.net
Membership - Al Donlevy	W6GNI	760-630-3096 w6gni@amsat.org

[1] The 146.730 repeater transmits a CTCSS tone of 107.2, but does not usually require any tone for access. When necessary, an access tone of 107.2 can be enabled.

SCOPE
P.O.BOX 73
VISTA, CA 92085-0073

Address service requested

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Submissions: scope@palomararc.org
Questions? Ideas? Comments? W6NWG@amsat.org

This month's General Meeting will be held on May 7th, 2008 (The first Wednesday of each month) at the Carlsbad Safety Center. This month the program is about Simple Weekender HF Antennas. Talk-in on 146.730 MHz repeater. Technical Committee meeting starts at 19:00. General meeting starts at 19:30 but show up at 19:00 for setup and visiting beforehand. Ridesharing and coordinating for dinner beforehand often occurs on the repeater on Wednesday afternoons. Everyone is welcome! 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, 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 (past president of PARC)

SCOPE June 2008 ❄

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

Club Meeting - WriteLog
4 June 7:30pm at the Carlsbad Safety Center
Repeater Site Work Party
8 June Meet at Mother's Kitchen 10:00am
Tear down and remove the old battery racks from the tin shed. Install insulation, vents and metal roofing on the freezer building.
Public Service Event
7-8 June San Diego 100 Mile Endurance Run
Board of Directors Meeting
11 June 7:00pm at KG6RGI QTH
Field Day
27-28 June 2008 See page 10 for details

President's Message

The May meeting was unusual, as a conflict arose and PARC was asked by the Carlsbad Police Department to meet in Room 3 (the small room at the end of the hall).

Regardless of the tight quarters, Loren Hunt, AD6ZJ provided a very informative presentation on field expedient wire antennas that work for both contesting and emergency communications.

For June, we have known since January that we will be in Room 3. The coziness should do well to help us all see and hear a lesson on using WriteLog, a logging program for contesting. (http://www.writelog.com/) Paul W6NK will present the program.

Looking down the road, Field Day will be here on June 27th and 28th. The Field Day net has started and we are looking for help in many areas. We are looking for volunteers to set up, captain and operate the stations. We will be at the San Marcos site again, so we will be easy to find and easy to get to.

A few Field Day Rules have changed. A new one says "One (1) 100-point bonus may be claimed if your Field Day operation includes a specific educational-related activity."

It seems to me that a 'Basic Portable Operation Seminar' will meet this requirement and the Field Day theme nicely. To that end, I am looking for participants who can share their experience and ideas for doing this on a shoe-string budget.

I hope to see you on June 4th. Bring a friend. ❖

Steve Early,
President, Palomar Amateur Radio Club.

Show And Tell

PARC is looking for members to bring items to the meetings for a "show and tell". These items could be projects in progress or completed old and/or restored equipment, short items of interest, or unusual items, and happens 5-10 minutes prior to the evening's presentation. Contact Dennis KD6TUJ at 760.802.2573 or email at KD6TUJ@amsat.org to help coordinate.

County-Wide CERT Drill

By Georgia Smith KI6LAV

So, what exactly is CERT? A Community Emergency Response Team consists of citizens trained by local fire department personnel to respond quickly in an emergency. In the event of a major disaster, fire/police personnel will be over-tasked and able to respond to only a fraction of our calls for help (remember the adage to be prepared to be on your own for at least 72 hours?). Well, that's where CERT will fill in. Local citizen volunteer groups, organized into CERT teams, will be mobilized and act as first responders until government aid arrives. CERT is organized under the Dept. of Homeland Security, is managed by the various local fire departments, and provides free training to local citizen volunteers, age 18 and older.

As a skills refresher, a county-wide CERT drill was held on Saturday, May 17th, in the parking lot of the Vista County Courthouse – in 93 degree heat (what's a good disaster drill without the threat of heat stroke?). The event was attended by 200 CERT-trained volunteers who were put through their paces learning and practicing valuable emergency response skills. The crowd was divided into seven groups which then rotated through the seven training stations including triage, light search and rescue, helicopter safety, fire suppression, and my favorite, of course – RADIO COMMS!

Vista CERT Trailer w/ hams (L-R) Dave Ochs KI6LKP Jim Egerton W6SST, and Georgia Smith KI6LAV

Scott McClintock (KI6DIZ) was in charge of the Radio Comms exercise and did a masterful job of educating the volunteers, with some assistance from Vista CERT hams Jim Egerton (W6SST), Dave Ochs (KI6LKP), and yours truly (KI6LAV). Volunteers were issued FRS radios (paired in frequency) and then deployed to opposite sides of the parking lot to pass traffic. They were given particularly challenging short messages which required them to use the Int'l Phonetic Alphabet. Well, wrong buttons were pushed, frequencies were mangled, "Juliet" became "Jellybean," and interference was rampant! Can't get more realistic than that! Even though many of these folks had never operated a radio before, most participants were able to pass their messages successfully. They finished the exercise motivated and pumped up about radio comms. Scott used the opportunity to encourage ham radio training/licensing. Well, he got their attention with over 25 sign-ups for the next technician class. We were pleasantly surprised to learn that in each group rotating through the comms station, there was already at least one licensed ham and sometimes as many as six! It was good to say hello again to Frank Finn (KI6MMT) who was in my CERT class last summer and now has his ticket. Way to go Frank!

Scott McClintock Teaching Radio Comms

The participating CERT teams were from all over the county (Vista, San Marcos, Fallbrook, Encinitas, Palomar Mtn.,

see CERT right-hand side pg 4

Battery Removal at the Site

Today, May 21st 2008, the old batteries were removed from the Palomar Amateur Repeater Club site and delivered to American Battery for disposal.

The work party consisted of Al W6GNI, Tom KG6RCW, Dennis, KD6TUJ and co-worker (forgot the name), Wild Bill, WB6BFG and myself, Mike K6MRP.

The 14 batteries were dollied on the trailer and placed on 4 pallets. Styrofoam was placed between them and then they were wrapped with shrink wrap and secured to the trailer. When we arrived at American Battery the batteries were unloaded with a fork-lift. All went well thanks to the excellent help.

May Membership

New Members Joining PARC:
KK7QT, K6WSC, KF6TYM, W9WV, KI4OHS, and KI6MMT
And several reinstatements, including one after 11 years! Welcome back.
If you are one that has selected to receive the SCOPE on the web, please remember to renew your membership on time!

Al W6GNI

May Fold & Staple

KB6NMK Jo
W6GNI Al & Kathy

We need more help! We could use one or two more on the list of Fold & Staple folks. Stop by the membership table and volunteer. A social work exercise, and get a participation point too.

Licensing and 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 at the Carlsbad Safety Center.

http://www.kiloxray.com/vec/

Test sessions may be cancelled if no one pre-registers.

EARS Testing is in Escondido on the last Saturday of the month at 9:00 am at the LDS Church.
The address is 1917 East Washington Avenue, Escondido , 92025.
Contact Harry W6YOO (760) 743-4212 or W6YOO@amsat.org.

Radio Club Resources

Check out these great local radio clubs on the web at the following addresses.

http://www.fallbrookarc.org/
http://www.sddxc.org/
http://www.earsclub.org/
http://roars.net/
http://www.wa6bgs.org/
http://n6six.50megs.com/

Club Members ONLY!

PARC has a tube bank that includes many 6 & 12 volt receiving tubes (and some transmitting types) for use by club members to repair their own personal equipment. Not for commercial use or resale.

If we have your requests, I will pre-check and deliver them to the next club meeting.

WB6IQS@amsat.org, -John

San Diego County Fair

As you know, the 2008 San Diego County Fair (Del Mar) is coming up and will run from Saturday, June 14, 2008 through Sunday, July 6, 2008. The SANDARC booth will be at the new location in the Infield right by all of the other emergency organizations.

SANDARC needs YOUR HELP. While the clubs usually cover certain days, there are many days and shifts still available. Please visit the SANDARC website calendar at www.sandarc.org for available shifts. Can you help out by covering a 10:00a.m. to 2:00p.m. shift or a 2:00p.m. to 6:00p.m. shift?

The SANDARC Booth is your opportunity to share amateur radio with all age levels in the San Diego community. You are encouraged to wear your club shirt, hat and jacket, to bring an exhibit, to do a demonstration, and to talk about your specific club and the activities, education, and events that your club offers. This is your opportunity to highlight your special interest area such as DX, Field Day expertise, emergency service aspects, etc., as well as to promote amateur radio in general to the public.

You will receive a pass to get into the fair and are invited to spend the remainder of the day at the fair or come early and enjoy the fair before and after your shift.

Please HELP SANDARC present amateur radio to our community by signing up for a shift and emailing me at kc6qls@cox.net with the time you can help out as soon as possible. This information has to be provided to the fair as soon as possible in order for us to obtain the number of passes we will need for SANDARC booth volunteers.

I look forward to hearing from you. ❖

Paul, KC6QLS SANDARC Vice Chairman and Fair Chair

CERT continued from page 2

Imperial Beach, Coronado, Inland Empire, just to name a few) and many brought their CERT trailers, stocked with emergency gear. Vista CERT even had several CERT poles on display (design courtesy of Jerry Kostro (AK6QJ)).

Lunch was provided – MRE's for all! Yum! Disaster Services Worker badges will be issued to all who completed the exercise, including Steve Early (AD6VI) – how that man has time/energy to volunteer for yet another public service group is beyond me – but he does it. He MUST have a clone!

MREs awaiting consumption

Organizing and supporting the effort were the various area fire and sheriff's departments.

Office of the Governor's OES Comms Van

see CERT continued on page 6

Pacific Crest Trail 50 Mile Foot Race
10 May 2008

By Jim Egerton W6SST

It is 0445 and the alarm's going off. With a quick cup of coffee and a blueberry muffin supplied by Paul Schmidt K6PKS and we are off to the start/finish line at Boulder Oaks Park. When we get there crowds had already gathered and runners were checking in. Some would leave at 0530 for an early start and the rest 0600. The last runner to finish comes in around 1800 hrs. Makes for a long day.

This foot race goes up the Pacific Coast Trail to an aid station called Penny Pines up on the Sunrise Highway and a little beyond then back down to the start finish thru Penny Pines aid station, Todd's Cabin aid station, Dales Kitchen aid station, Fred's Canyon aid station and then back to Boulder Oaks start/finish line.

Each aid station is manned by aid givers of food, water, shade and minor medical care and oh yes two or three dedicated ham radio operators. There is over 5000 feet of elevation gain in this race. Go to this address for full race details and outcome:

http://www.pct50.com/index.php?option=com_frontpage&Itemid=1

Ok, what in the world do they need hams for at aid stations? Simply to log each runner into the aid stations and keep track of them throughout the race. By logging each runner that enters an aid station and reporting that back to net control, then NC can make a spread sheet of each runner through each aid station. If one is missing it is quickly found out. Reports of down or injured runners can be radioed down to the start finish line and SARS and EMS are activated.

The only repeater system that works at every aid station is the RACES VHF repeater system. They have been good friends for all these Laguna Mountain and Cuyamaca Mountain races. Simplex UHF and VHF are used for comms between aid stations if possible.

This communications means each aid station ham volunteer group log out and back over two hundred runners. That's over 1000 times runners are logged at Net Control. All aid stations call in as they accumulate 5 to 10 runners. Now you can imagine the level of work at Net Control. In addition to that, supply requests from aid stations are radioed to Net Control so the race director can dispatch supplies where needed. Family and friends will request position reports on runners. We place a "shadow" with the race director so there is constant communications between the race director and Net Control. No ham aid station personnel are released until a "sweep" goes through the aid station. Sweeps are runners that start down the trail after the last runner goes thru the turn around. They look for injured or lost runners. All this takes dedication and concentration for over 13 hours at Net Control.

Here, in my opinion, are the best ham communicators in the world.

Tom Aterno	KI6ASP
Bob Birch	KG6RGI
Don Compton	KG6NDX
Dave Doan	KC6YSO
Len Fulbright	K5WFW
John Giroux	KI6NVT
Andre Hansen	K6AH
Gary Kent	W6GDK
Jerry Kostro	AK6QJ
Tom Martin	KG6RCW
Mike Oberbauer	KG6TDP
Paul Schmidt	K6PKS
Larry Plummer	AC6AV
Georgia Smith	KI6LAV

Individually, some interesting details:

Dave Doan KC6YSO coordinated communications for these events for over 15 years. He knows the ends and out of all of them. You need advice on how to do communications for a race then he has the experience to help. From NVIS HF to VHF he has the experience to advise you

see RACE right-hand side page 6

CERT continued from page 4

We were fortunate to have the San Diego RACES communications van on site, with Steve Ruesch (KE6CWP) and Craig Williams (W6CAW) conducting tours, as well as the Office of the Governor's OES comm van, manned by Arnie Lewin (W7BIA) – both of which sported some eye-popping antenna farms atop (see photos).

San Diego RACES Communications van

With two rescue helicopters and one remote-controlled model chopper on site, Richard Tilch (KE6FHR), Vista Fire Dept., shared tips about working safely around helicopters.

If you haven't already, please consider volunteering for your city's CERT program. The training is free and focused on how to assist your family and neighbors in the event of a major disaster. As you already know, in the event of such an emergency, licensed radio operators will be sorely needed to keep communication lines open. ❖

Cribbing exercise at CERT drill

What's cribbing? In vehicle extrication and urban search and rescue, cribbing refers to the use of blocks and wedges to stabilize an object. It is commonly used to stabilize overturned cars, and debris within collapsed buildings.

RACE continued from page 5

what will work and what won't. Georgia Smith KI6LAV and Bob Birch are new to these events. Georgia is a new ham for less than a year. She loves ham radio and contributes in any way she can. We are lucky to have such a dedicated and intelligent addition to ham radio. Bob Birch KG6RGI has been a Red Cross Volunteer for over 35 years. He is now the head of communications volunteers for the San Diego/Imperial County of the American Red Cross.

Len Fulbright K5WFW is currently involved in ARES, American Red Cross Comm. Team and is one of the most accurate recorders of runners I know.

Larry Plummer AC6AV and Mike Oberbauer KG6TDP are from the El Cajon Radio Club. They are both what you hope for to get Net Control up and running. Their calm and focused control of net makes everything come out ok.

Jerry Kostro AK6QJ is one of the most accomplished radio guys I know. His ability to put the whole picture of a race, radio, people, geography, propagation, logging formats, and aid station parameters together is so astounding.

Andre Hansen K6AH is the person who responds to a question of "how long can you stay?" by replying "as long as it takes". His knowledge of digital communications will open up logging and reporting to a written form someday. His ability to look at software and make it applicable to the situation at hand is an asset we will all need in EmComm.

Gary Kent W6GDK has been involved with EmComm for years. His ability to adapt to situations made him perfect for "shadow". You have to have someone that can represent our side to the Race Director and let him know we are there for him and the runners. Gary is the

see RACE right-hand side pg 9

Dayton Hamvention
Then and Now

Howard White KY6LA

It's been 25 years since I last went to the Dayton Hamfest, but more on that later.

I started going to the Dayton Hamfest almost as soon as I could drive in the early 60's. It was only an 8-10 hour drive from Toronto. So, we would find a ham with a large truck and a bunch of us would pile into the back and head down to the Mecca of Ham Radio. In those days hams used to have to pay 100% duty on ham gear coming back to Canada so we looked upon Dayton as a way to supplement our meager incomes and also get some of the latest American leftovers for ourselves. Disposable income was scarce so we usually slept in or under the truck. Entrance fee was $2.00. The flea market was huge. Crowds were probably 30,000. Several thousand vendors all selling military surplus, left over police and fire radios and all sorts of good stuff that we could never find in Canada. By contrast the commercial vendors were crammed into the tiny hockey rink at Hara Arena. Since the Hamfest was in April you could guarantee that it would be pouring cats and dogs for at least one of the 3 days. By Sunday PM, we would have totally jammed the truck full of goodies. In fact, one year we had so much stuff that I had to ride on the tailgate most of the way home. Well before seat belt laws. Needless to say we had a line up of hams waiting for us back in Toronto where we usually resold much of the goodies for a significant profit Sunday night.

Fast forward to the 70's. Entrance Fee was $5.00. Suddenly we had disposable income to buy ham gear. We actually rented hotel rooms and drove in cars. The flea market was even bigger. Computer parts started to show up. Crowds peaked at 50,000. My big thrill was in 1974 when I bought the first ever Alpha 374, his show demo model, directly from Dick Ehrhorn W0ID and then had the displeasure of paying Canadian duties of 100%. The show was still exciting because there was always something new to see and old friends to meet.

Fast forward to the 80's. The entrance fee was $10.00. The flea market started to tail off. Now we flew to Dayton. Crowds were down to about 30,000 again. Lots and lots of computer gear would show up. My last thrill was in 1983 when I bought one of the first (if not the first ever) Signal One radios and of course, had to pay 100% Canadian duties. Little had changed for the commercial vendors. They were still crammed into the tiny hockey rink. We still crammed a huge truck full of stuff but now it was a rented truck and we actually paid someone to drive it back for us. There was still exciting stuff to buy and hams still lined up in Toronto to help us empty the truck. By the mid 80's we had moved to California. Dayton now seemed a long way away so I stopped going.

In 2008 my friend Harvey K6QK passed away suddenly. Harvey and I had always talked about Dayton but we had always put it off to next year. So I knew I had to do Dayton this year. Rob WA3IHV and I booked flights to Dayton. With the help of my friend Mark WB9QZB we got a couple of rooms at the Doubletree. We flew in Thursday night to the old familiar sight of Dayton flooded while it rained cats and dogs. Entrance fee is now $25.00. Crowd was about 20,000.

Friday AM it was still raining so we attended forums. The D-Star Forum and especially the Ham Law Forum alone were worth the price of the trip. As it started to dry up, we went out into the flea markets. Boy had things ever changed. There were about 1,000 vendors – only about 1/3 of the area from the peak of the 70's. However, the Hara Arena has totally changed for the better. Where there were open fields

See "Dayton" page 9

Club Classified Advertisements

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 SCOPE@PALOMARARC.ORG.

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

(5.1) PRICE REDUCED Complete 5-watt portable 20- meter QRP CW station. Oak Hill Research OHR-100A professionally wired and aligned. Built-in Iambic keyer, battery supply. Custom "Old Timer" wood case with calibrated vernier dial. Complete with field kit with mini-keys, 20 meter "Gusher" dipole and many accessories. Like new condition, asking $100. Kirt KK7QT 760-994-0127

(5.1) Transport needed for UHF antennas to SF bay area.
Contact Fred Brown, W6HPH
w6hph@yahoo.es
Tel. 760-742-1328
or 760-740-8501

(1.20) Help needed. Looking for someone who has experience mounting the Arrow Satellite antenna to a tripod or other support structure.
Thanks, Jim Keller WB6YXY
jkeller@cox.net

(1.1) For Sale 2m Hand held Kenwood TH-K2 FM Transceiver about a year old. Have all the books on the unit and it are programmed with all the local channels. Asking $75 OBO.
Please call Bayard K6GAO 858-755-5507

(1.1) Wanted Yaesu FT-857D transceiver, or similar, for new General licensee.
David 760-942-5167
K200G@arrl.net

(11.29) Looking for a small 3 element tri-band HF beam such as the TH3-JRS.
Jim Keller wb6yxy@arrl.net
760-717-6126 ❖

San Diego Section Meeting Location:
Do you know of a good place?

As the incoming Section Manger, I am conducting a series of Section Information Meetings. The purpose is to provide a forum for us to meet and discuss needs and opportunities within the San Diego Section. Your input is important, so that the Section may better serve the local amateur community.

I am planning to hold several of these meetings, at different location within the Section, so that you do not have to travel far to attend.

The first was held on April 4th, 2008, in at the Carlsbad Safety Center. Other locations in the Section will follow.

If you know of a location near you, which can accommodate up to fifty (or so) of us, please contact me at ad6vi@arrl.org. ❖

"Dayton" continued from page 7

covered with flea market vendors, now there were convention center buildings filled to the brim with commercial vendors. The commercial area is now at least 10 times larger than it was in the 70's and 80's.

Saturday the weather got nice so we spent much of the day in the flea market buying all sorts of little goodies. We ran into old friends from Toronto who were still filling trucks to bring back goodies to Canada, albeit the duties were no longer 100%. Sunday we spent the entire day inside looking at the commercial vendors. Rob and I went to Dayton with the intention of doing a deal for a couple of IC-7800's. I had had a chance to bench test one at my house against my IC-756 Pro3 and a K-3 so I knew the IC-7800 was the best money could buy. But lo and behold, we saw the German made $15,000 Hilberling and more important we got introduced to the Software Defined Radio (SDR) technologies such as the Flex 5000 which represent the next paradigm of radio technology. So instead of IC-7800's we came back with brochures and manuals and prototypes for SDR's and far more questions than we were able to answer.

If anything Dayton 2008 was better for me than any of the past 45+ years. It brought back much of the thrill and excitement about new technologies of my youth. We learned an incredible amount. We saw things that we did not even know existed. Frankly the time flew so quickly and there was so much at Dayton that we really did not get a chance to see or do everything. In fact, the only thing I am certain about is that we are definitely going back next year.❖

Howard White
KY6LA

RACE continued from page 6

perfect person for that job.

Tom Aterno KI6ASP is an outdoors man and loves to work these events. He would go walk the trail if you asked him. He is in his element being out in the Lagunas doing the job. Could you ask more?

Tom Martin KG6RCW is a Board member of The Palomar Amateur Radio Club. He also is a member of the San Diego/Imperial County Chapter of the American Red Cross Communications team. He volunteers selflessly and you can count on him in any situation.

Paul Schmidt K6PKS combines skills in running, EMS, radio communications, and is a total guru of on-foot racing. He directs races, directs communications, and does runner evaluations when they have problems. He is directing the 100 miler in June. He is a real pleasure to work with.

John Geroux KI6NVT is a new ham. Licensed just a few months ago, he wanted to help. He logged and learned. What is great, he said he would love to continue to volunteer. He logged and logged at Penny Pines. He learned a lot and I can't wait to ask him to volunteer again. Like KI6LAV there are new hams that want to help. They are the lifeblood of our future as amateur radio operators. ❖

Fred's Canyon aid station workers feeding and hydrating the runners.

Palomar Amateur Radio Club Field Day Information

Field Day is coming soon. On 27 June 2008 Palomar Amateur Radio Club will be located at the corner of Santar Place and Rancheros Road in San Marcos. This is in direct view of traffic from Highway 78. PARC will be operating 5F, (5 concurrent transmitters in conjunction with an Emergency Operations Center [San Marcos Sheriff's Office])

Directions

E/B 78 off at Barham Left at signal
Left on Woodland Parkway
Left on Rancheros Road

W/B 78 off at Woodland Parkway Right
Left on Rancheros Road

Field Day equipment will start arriving at 12:00pm for spotting and assembly. Operations and arrangements will be similar to the past few years that we have had the privilege of operating at this highly visible location. This location caught the sight of our "competitor" from Huntsville, who stopped by. And then it caused a visual sensation that stopped traffic.

With signage on the freeway facing corner of AMATEUR RADIO DEMONSTRATION, our event should be well noticed. Along with a new sign PUBLIC INVITED to attract some of those visitors who need extra encouragement.

Field Day operations will run from 11:00 A.M. Saturday to 11:00 A.M. Sunday.

The GOTA (Get On The Air) station will be championed by Don WD6FWE who will assist new hams and visitors to get on HF communications with several modes.

Spread the word. All are welcome to come visit. Invite friends, neighbors, Elected Officials, and Public Safety members

For more information contact
Conrad KG6JEI
on 146.730(-) or call 760.481.9433.

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Submissions: scope@palomararc.org
Questions? Ideas? Comments? W6NWG@amsat.org

This month's General Meeting will be held on June 4th, 2008 (The first Wednesday of each month) at the Carlsbad Safety Center. This month the program is about WriteLog and is presented by Paul WN6K. Talk-in on 146.730 MHz repeater. General meeting starts at 19:30 but show up at 19:00 for setup and visiting beforehand. Ridesharing and coordinating for dinner beforehand often occurs on the repeater on Wednesday afternoons. Everyone is welcome! 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, 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 (past president of PARC)

SCOPE July 2008 ❄

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

Club Meeting
2 July 7:30pm at the Carlsbad Safety Center
"Andre K6AH and digital radio techniques for emergency communications"

Repeater Site Work Party
6 July Meet at Mother's Kitchen 10am

Board Meeting
9 July 7:00pm at KG6RGI QTH

Collins 75A4 Receiver

by Ron Pollack K2RP

In the early 1950s, SSB became increasingly popular. Many of the transmitters were homebrew, with construction articles in the major magazines almost every month. However, the receivers of the day made reception of these signals difficult.

The receivers came up short in several categories. First, stability needed to be improved. Any slight drift caused the sideband signal to be unreadable. Most of the receivers of the time were not designed to use AVC (AGC) with the BFO on, allowing strong signals to overload the front end. The technique of receiving SSB on these receivers was to advance the audio all the way and use the RF gain as a volume control.

One of the big advantages of SSB was the narrower bandwidth, allowing more signals in a given area of the band without QRM. However, since narrow selectivity was not available, that advantage disappeared. Also, some type of filter was needed to receive only one sideband.

In the early 50s, Art Collins of Collins Radio fame undertook to produce a top quality receiver in his 75A line (75A3 being the latest) that was designed to solve the problems of the new mode, while still retaining top performance on CW and AM. The 75A4, introduced in 1955, was the result. The introductory price was $700 including one mechanical filter. Add a CW filter and matching speaker and your tab was $775. The receiver employed a total of 22 tubes!

Around the same time, a matching transmitter was introduced, the model KWS-1. The two units did not interact, so that transmit and receive frequencies were set separately. These were known, then and now, as the "Gold Dust Twins," because of the price! Only about 1000 of the transmitters were made, and are very rare and valuable today. About 6000 receivers were built until being replaced with the 75S1. A great many of these receivers survived, and change hands frequently, but not inexpensively. Depending on condition and accessories, a 75A4 will bring from $800 to $1500 today. The transmitter, if you can find one, will probably be in the $5000 range. Complete with power supply, this 1 KW CW, AM and SSB transmitter weighed a whopping 260 lbs and would nick your

continued on page 3

Technical Committee Meeting
July 2nd 7:00pm
Carlsbad Safety Center

This meeting will be held immediately before the general membership meeting. Find a club officer to participate.

Membership Report

New Members Joining PARC:
KI6QDB, K7WCC,and KI6MMF. Welcome!

And no "old" members reinstating their membership. Not a very good month for growing the membership!

Al
W6GNI

Fold & Staple Report

W6GNI Al & Kathy
KB6NMK Jo & Tyler & Toby & Matthew
K2RP Ron, KD6TUJ Dennis

We could use one or two more on the list of Fold & Staple folks. Stop by the membership table and volunteer. A social work exercise, and get a participation point too.

Licensing and 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 at the Carlsbad Safety Center.

http://www.kiloxray.com/vec/

Test sessions may be cancelled if no one pre-registers.

EARS Testing is in Escondido on the last Saturday of the month at 9:00 am at the LDS Church.
The address is 1917 East Washington Avenue, Escondido , 92025.
Contact Harry W6YOO (760) 743-4212 or W6YOO@amsat.org.

Radio Club Resources

Check out these great local radio clubs on the web at the following addresses.

http://www.fallbrookarc.org/
http://www.sddxc.org/
http://www.earsclub.org/
http://roars.net/
http://www.wa6bgs.org/
http://n6six.50megs.com/

Show And Tell

PARC is looking for members to bring items to the meetings for a "show and tell". These items could be projects in progress or completed old and/or restored equipment, short items of interest, or unusual items, and happens 5-10 minutes prior to the evening's presentation. Contact Dennis KD6TUJ at 760.802.2573 or email at KD6TUJ@amsat.org to help coordinate.

Club Members ONLY!

PARC has a tube bank that includes many 6 & 12 volt receiving tubes (and some transmitting types) for use by club members to repair their own personal equipment. Not for commercial use or resale.

If we have your requests, I will pre-check and deliver them to the next club meeting.

WB6IQS@amsat.org, -John

continued from page 1

bank account for $2000! Remember, all these prices are in 1955 dollars! No wonder they were called the "Gold Dust Twins!"

The 75A4 was not just an improved 75A3. The entire receiver was redesigned. Some of the new features included less gain in the front end for lower noise and greater dynamic range.

Some "firsts" were mechanical filters in the IF, separate product and diode detectors, amplified AGC with both detectors, and passband tuning.

Passband tuning made it possible to move an interfering signal out of the IF passband without creating distortion.

One feature carried over from the earlier receivers was the PTO, permeability tuned oscillator. The traditional method of tuning receivers was with a variable capacitor.

Collins developed a VFO whose frequency was varied by moving a slug in and out of a coil, varying the inductance and thus the resonance of the tuned circuit. This resulted not only in increased stability, but also allowed a linear rate of tuning.

The 75A4 is generally regarded as the premier receiver of the era. It is hard to overemphasize the status of these two units in their day. Therefore, it's surprising to find dozens of modifications that were made!

Throughout the 50s, 60s, and even 70s, over 80 articles were published in the amateur press describing mods. Some were great, some were not so great, and some required special equipment and skills to complete.

Popular topics were AGC mods, sensitivity mods, noise limiter improvement, and use of less expensive mechanical filters. There was even a book published that was a compendium of all the modification articles.

I acquired the receiver shown in the photo below last year, under bittersweet circumstances, to say the least.

I had always admired it when it belonged to a good friend who became an SK in the fall of 2006, and his family, knowing what I thought of the receiver, made it available to me. The only way I would part with it is if I could bring my friend back!

It has all the available filters, plus some spares. (The receiver has room for 3 switch selected plug in filters.) It also has the optional 4:1 spinner knob.

It is in the same condition as when I got it, and other than cleaning I have done nothing to it. In my collection of many dozen vintage units, this one is in the best, most original condition. It looks like it did when it came out of the box well over 50 years ago, and performs flawlessly.

Anyone who wants to come and operate one of the true classics of the 50s is welcome to give me a call!

Repeater Site Work Reports

On 06/08/08, David, KD6EBY, Michelle, W5NYV and Mike, K6MRP were present for the scheduled June work party. David did an excellent job of cleaning out the old battery shed and preparing the battery racks for removal. Michelle checked for volunteer workers at Mothers Cafe and found none. She then proceeded to the site to work on inventory and documentation. Mike wired in the distribution box for emergency inverter power in building #4 which houses the PARC voice repeaters.

On 06/22/08, Art, KC6UQH replaced the 146.730 repeater with a spare which he had updated and modified at his QTH. After doing some in service testing it was determined it had a much better signal than the old repeater. Thanks Art! Art will be taking the old repeater to his QTH to fix and update it. Mike, K6MRP added conduit and added 5 emergency inverter outlets in building #4.

The club is looking for 19 inch equipment racks with slide out shelves so that we can better organize our repeater equipment . Any donation from someone removing said equipment would be greatly appreciated. Please contact Mike, K6MRP at k6mrp@amsat.org or 760 749 8888. Thanks.

The next work party is on Sunday, the 6th of July. Meet at Mother's Kitchen at 10am to head over to the repeater site, or 9am if you would like to meet Michelle for breakfast and/or coffee.

Any questions please contact Michelle W5NYV, Work Party Chair at w5nyv@amsat.org or Mike K6MRP Repeater Site Technical Chair at k6mrp@amsat.org .

de Mike, K6MRP
Repeater Site Technical Chair

In Search of W6IAC

My name is Dave Raab W7DKR. I lived in Escondido fsor a little over 20 years and graduated from the old High School in 1952.

We had a Ham Club with the call sign of W6IAC. The station sponsor was Ed Cameron, W6FJH. We had quite a group and I am not sure how long the club lasted after I was gone.

I have thought a lot about that club and was wondering if anyone in PARC may remember that far back or maybe someone may still be around that belonged to the club.

If anyone did belong to the EUHS Radio club, could you please get in touch with me?

I would like write a little piece for the QCWA journal about the W6IAC club.

Thank you in advance for any assistance you may give me.

73's and CUL,

Dave W7DKR, ex-WN6PCQ (1952)
E-Mail: daveraab@gmail.com

Dave Tennant KD6EBY helps clean out the old battery building at the repeater site work party on June 8th.

ATV Guide

ATV stands for amateur television. Using amateur radio frequencies, operators can transmit and receive NTSC standard video. You may have heard of slow scan TV. This type of transmission is often called fast scan TV.

Here is a roundup of ATV activity, from the ATV Newsletter distributed by Bryon Foster N6IFU.

Scheduled Program Guide for ATV

Monday:
SCART Net (GB3IV)
http://g7jtt.camstreams.com

Tuesday:
ATCO ATV Net
Every Tuesday at 6:00 PM PT/9:00 PM ET
http://wb8lga.camstreams.com
W7TED Repeaters Net Night
Every Tuesday at 8:00 PM PT/11:00 PM ET
http://w7ted.camstreams.com
Torbay Amateur Television & Microwave Group
Group Activity Night
Every Tuesday at 2000 to 2200 UTC/1:00 PM PT/4:00 PM ET
or www.gb3tb.dyndns.tv
http://www.ustream.tv/channel/gb3tb-23cms-atv-repeater

Wednesday:
Chat Night, GB3ZZ
Every Wednesday at 2100 UTC/1:00 PM PT/4:00 PM ET
http://gb3zz.camstreams.com
CATS Net
Every Wednesday at 6:00 PM PT/9:00 PM ET
http://kb3lnn.camstreams.com

Thursday:
Torbay Amateur Television & Microwave Group
Group Activity Night Every Thursday at 2000 to 2200 UTC/1:00 PM PT/4:00 PM ET www.gb3tb.dyndns.tv
San Bernardino Microwave Society Meeting
Topic of Tech Talk: 10 Band Rover Rig
By Wayne Overbeck N6NB
Next meeting July 3rd
7:00 to 9:00 PM PT
www.ac6rb.com then click on option #1 or #2
BRATS Net
Every Thursday at 6:00 PM PT/9:00 PM ET
http://kb3lnn.camstreams.com

Friday:
GB3GG, Grimsby Amateur Television Group Net
Every Friday at 2100 ZULU
2:00 PM PT/5:00 PM ET
http://www.ustream.tv/channel/gb3gg
Sunday:
Torbay Amateur Television & Microwave Group
Group Activity Night
Every Sunday at 2000 to 2200 UTC/1:00 PM PT/4:00 PM ET
http://www.ustream.tv/channel/gb3tb-23cms-atv-repeater
or www.gb3tb.dyndns.tv
MATS Net
Every Sunday at 5:00 PM PT/8:00 PM ET
http://kb3lnn.camstreams.com

Powerful Progress

Mike Pennington K6MRP works on the power distribution at the repeater site work party on June 8th.

He's upgrading the power lines as well as adding additional outlets designed for emergency power.

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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.

(6.8) Wanted: Cushcraft R7 vertical multiband antenna for HF use. Contact Mickey 760-744-2034 or mickeykc@juno.com.

(6.5) FOR SALE: HP 1727A Oscilloscope. Club Donation. Dual Trace, 275 MHz bandwidth. With service manual and padded top cover. Unit checks out but trace on CRT is dim. No probes included. Has analog storage capabilities, but this feature is not guaranteed. Circa 1981. Unit is very heavy and extra deep. It is all solid state, except for scope tube. $50 OBO. Contact WB6IQS@att.net.

(5.1) Complete 5-watt portable 20- meter QRP CW station. Oak Hill Research OHR-100A professionally wired and aligned. Built-in Iambic keyer, battery supply. Custom "Old Timer" wood case with calibrated vernier dial. Complete with field kit with mini-keys, 20 meter "Gusher" dipole and many accessories. Like new condition PRICE REDUCED to $100. Kirt KK7QT 760-994-0127

❖

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Minutes
Palomar Amateur Radio Club
Board of Directors Meeting
May 14th 2008

The meeting was called to order at 7:05 PM by President Steve Early AD6VI. The meeting was held at the home of Bob Birch KG6RGI. Present at the meeting were:
President Steve Early AD6VI
Vice-President Dennis Baca KD6TUJ
Secretary Loren Hunt AD6ZJ
Treasurer Bob Birch KG6RGI
Director #1 Tom Martin KG6RCW
Repeater Site Mike Pennington K6MRP
Guest Conrad Lara KG6JEI

Treasurer's Report
Steve AD6VI distributed the report. Total Assets are $15,591. The prepaid dues are $6,293.00.
A motion to accept the report was made by Tom KG6RCW and seconded by Loren AD6ZJ. Motion was carried.

Secretary's Report
Loren AD6ZJ presented the Secretary's report. A motion to accept the Minutes with one name change was made by Dennis KD6TUJ and seconded by Mike K6MRP. Motion was carried.

Discussion Items
1. Field Day
-Have Site – Same San Marcos site as the last several years
-Insurance forms received and sent
-The following band captains have been asked and/or accepted:
-20/80 SSB NN3V - accepted
-20/80 CW WN6K - asked
-15/40 SSB N6UWW & W6BFG - asked
-15/40 CW N6KI - accepted
-10M SSB N6HBO - asked
-6M GOTA WD6FEW - accepted
-Satellite KE6UQH - accepted
-Roadkill Café KG6RCW – accepted
-Conrad KG6JEI will chair this year's Field Day
-Field day site budget and cooking budget needed
-List of FD sites should be posted in the Scope
-Tom, KG6RCW will cut the grass, he is looking for an additional helper
-Look into mailer to all new hams in the area to invite them to field day
-Discussion to purchase 3 additional folding antenna brackets. A motion was made by Tom KG6RCW and seconded by Bob KG6RGI to purchase the 3 brackets with a NTE of $400.00. Motion carried
-A motion was made by Dennis KD6TUJ and seconded by Mike K6MRP for a food budget NTE $300.00. The motion carried
-Trailer assignment – PARC trailer – 20/80 CW station. K3PXX's Bird trailer will also be available but not assigned at this time.
2. Repeater Site
-Batteries removed from shed
-Trailer still on site but buyer still wants it
-The work party had no workers, we need to do better at communicating the need
-Request was made to change the technical committee name and subject matter to be more general in nature
-Lighting and electrical upgrades for the buildings has started, there is much to do
-Plan to move the old batteries off site on the 21st.
-K6MRP, Mike has been approved as the temporary technical chair – KG6RCW made the motion and was seconded by AD6ZJ. The motion carried
-Discussion of training more club members on controlling the repeaters remotely and on general repeater site practices
3. General Meeting for June – Paul, WN6K will be presenting on WriteLog, a contest logging program.

Membership Report:
Current club membership is 379.

New Business:
1) Discussion of member recognition
2) Place of next Board Meeting: Bob Birch KG6RGI
Motion to Adjourn made by Loren AD6ZJ and seconded by Tom KG6RCW.

PARC and PARC Affiliated Repeaters

Frequency	Tx	Tone	Call Sign	Remarks
52.680	–	107.2	W6NWG	
146.730	–	107.2	W6NWG	See note 1
147.075	+	107.2	W6NWG	
147.130	+	107.2	W6NWG	
447.000	–	107.2	W6NWG	
224.380	–	107.2	KK6KD	Americas Unidos
224.900	–	107.2	WD6HFR	Convair/220 ARC
224.940	–	107.2	KK6KD	Sharp Hospital Coverage
446.140	–	123.0	WB6FMT	Vista
146.175	+	107.2	N6FQ	Fallbrook ARC; linked to 445.600
445.600	–	107.2	N6FQ	Fallbrook ARC; linked to 146.175
145.050	(s)	None	W6NWG-1	Packet node; linked to Metro 9600 net
146.700	–	None	W6NWG-4	Packet duplex repeater; Duplex; PALBBS use OK

PARC also conducts the following ATV (amateur fast-scan television) operations:
ATV in: 915 MHz WBFM, 2441.5 MHz WBFM
Intercom: 146.415 MHz NBFM simplex (tone 79.7)
ATV out: 1241.25 MHz AM

Regular Nets Sponsored by PARC

Day	Time	Frequency	Name	Manager
T/Th/Sa	2000	146.730	NTS Traffic Net	Marvin KD6YJB KD6YJB@arrl.net
Sunday	0830	146.730	ARES Net	Jo Ashley KB6NMK@amsat.org
Sunday	1900	147.130	Handi-Hams	Marcia De Runtz KG6FIX
Sunday	2045	147.075	MARA	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 tthompdson@sdarc.org
Tuesday	2100	146.730	Off-Road Net	Dick Wilimek KA7AYTrwilimek@cox.net
Thursday	2000	147.075	SATERN	tomcarmody@cox.net
Thursday	2100	146.730	Ham Help Net	Lin Robertson kj6ef@amsat.org
Friday	2100	146.730	Hiker's Net	Ed KF6DXX@juno.com

Board of Directors Contact Information

Board of Directors Position	Call Sign	Contact Information
President - Steve Early	AD6VI	619-461-2818 ad6vi@amsat.org
Vice President - Dennis Baca	KD6TUJ	
Secretary - Loren Hunt	AD6ZJ	
Treasurer - Bob Birch	KG6RGI	
Director - Paul Williamson	KB5MU	858-571-8585 kb5mu@amsat.org
Director - Tom Martin	KG6RCW	
Scope Editor - Michelle Thompson	W5NYV	858-229-3399 w5nyv@amsat.org
Repeater Site - Mike Pennington	K6MRP	760-749-8888 k6mrp@amsat.org
Repeater Tech - Mike Pennington	K6MRP	760-749-8888 k6mrp@amsat.org
Membership - Al Donlevy	W6GNI	760-630-3096 w6gni@amsat.org

[1] The 146.730 repeater transmits a CTCSS tone of 107.2, but does not usually require any tone for access. When necessary, an access tone of 107.2 can be enabled.

SCOPE
P.O.BOX 73
VISTA, CA 92085-0073

Address service requested

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Submissions: scope@palomararc.org
Questions? Ideas? Comments? W6NWG@amsat.org

This month's General Meeting will be held on July 2nd, 2008 (The first Wednesday of each month) at the Carlsbad Safety Center. This month the program features Andre K6AH and digital radio techniques for emergency communications. Talk-in on 146.730 MHz repeater. Technical Committee meeting starts at 19:00. General meeting starts at 19:30 but show up at 19:00 for setup and visiting beforehand. Ridesharing and coordinating for dinner beforehand often occurs on the repeater on Wednesday afternoons. Everyone is welcome! 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, 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 (past president of PARC)

SCOPE August 2008 ❄

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

Club Meeting
6 August 7:30pm at the Carlsbad Safety Center
"Jerry Kostro presents Radio Mobile, a VHF/UHF predictive RF mapping program"
Repeater Site Work Party
10 August Meet at Mother's Kitchen 10am
16 August Meet at Mother's Kitchen 10am
Board Meeting
13 August 7:00pm at W6GNI QTH
PARC Annual Picnic
24 August at San Dieguito Park

President's Letter

June was busy. July started busy, with a presentation from Andre Hansen, K6AH, on Digital Communications Techniques for Emergency Communications and then Red Flag Patrol on July 4th. July ended with a Repeater Technical Committee meeting, which is covered in this edition of the SCOPE.

Our August program will feature Jerry Kostro, AK6QJ, on "Radio Mobile", a VHF/UHF predictive RF Mapping program, that has been used, with success, to predict good communications points for special events.

Looking down the Road:
August is looking pretty busy and September may be, as well. RACES will be hosting one more "Wild-Land Fire Safety Training" on August 11th at 6:00pm. Contact Gerry Sandford at gerry.sandford@sdsheriff.org for location and RSVP. The PARC Picnic is August 24th at San Dieguito Park. Ham Radio Round-up will be in September. Keep an eye out for details.

We have a number of brand-new hams in the area and there will be a Get-On-The-Air Seminar on the morning of August 23rd. A venue will be determined by the time this reaches you. We need your help with one-one one mentoring for part of this event. In particular, we would like plenty of people to demonstrate basic programming of radios. If you are able to help, contact me at ad6vi@cox.net.

Hope to see you all on August 6th, at the Carlsbad Safety Center

Steve Early,
President, Palomar Amateur Radio Club

Radio Club Resources

Check out these great local radio clubs on the web at the following addresses.

http://www.fallbrookarc.org/
http://www.sddxc.org/
http://www.earsclub.org/
http://roars.net/
http://www.wa6bgs.org/
http://n6six.50megs.com/

Show And Tell

PARC welcomes members to bring items to the meetings for a "show and tell". These items could be projects in progress or completed old and/or restored equipment, short items of interest, or unusual items, and happens 5-10 minutes prior to the evening's presentation.
Contact Dennis KD6TUJ at (760)802-2573 or email at KD6TUJ@amsat.org to coordinate.

Membership Report

New Members Joining PARC: G4WKW, KI6RRQ, W6CDU.
And 16 members reinstated their membership.
And, W6BGK sent $100 for 5 years! Thanks!!

If you are reading this on the web site because you didn't get a SCOPE in the mail - how about joining, or rejoining PARC? The club needs the support of many hams to keep Palomar Mountain repeating back what goes up there!

Our membership is still dropping. Bring a friend, and let's sign them up. Maybe too much internet/cell phone competition? But, there are many aspects to ham radio, new ones every year. The digital modes are really neat! How many other hobbies can brag about having their own satellites up?

As a reminder, in accordance with the by-laws, the year for participation points is August 1 through July 31. So, the points for attending the August 6th, 2008 club meeting will be starting points for year 2009. The fold and staple crew will get their points added in 2008, since this newsletter was prepared and mailed before July 31st.

Al
W6GNI

Fold & Staple Report

July Issue Fold & Staple Crew

KB6NMK Jo, W6GNI Al, WA5ACE Sonny, K2RP Ron

We could use one or two more on the list of Fold & Staple folks. Stop by the membership table and volunteer. A social work exercise, and get a participation point too.

Licensing and 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 at the Carlsbad Safety Center.

http://www.kiloxray.com/vec/

Test sessions may be cancelled if no one pre-registers.

EARS Testing is in Escondido on the last Saturday of the month at 9:00 am at the LDS Church.
The address is 1917 East Washington Avenue, Escondido , 92025.
Contact Harry W6YOO (760) 743-4212 or W6YOO@amsat.org.

Novice History Website

Cliff Cheng, PhD, WW6CC and now recently assigned AC6C has a website that strives to preserve and present the stories and biographies of hams who held novice licenses from 1951 to 2000.

I am sure there are hams you all may recognize who have contributed to the site and Cliff is looking for more stories of your Novice experience.

I know that in 1963 when I took my Novice exam at my local high school, it seemed a real challenge to learn the morse code and theory, even though the test was multiple guess by then, I really had learned to draw every schematic and try to understand how circuits worked ! Enjoy and add your Novice license story here if you ever held that grade license.

http://novice.bappy.com/index.html

73, Dennis Vernacchia N6KI
ex - WN2JDW - May, 1963 - NNJ

July Meeting Goodie Givers

KK6BO Ed

KG6RCW Tom

K0CDV Sue

Thank you for making our meetings so sweet!

Minutes
Palomar Amateur Radio Club
Board of Directors Meeting
July 9th 2008

The meeting was called to order at 7:04 PM by President Steve Early AD6VI. The meeting was held at the home of Al Donlevy W6GNI. Present at the meeting were:

President Steve Early AD6VI
Vice-President Dennis Baca KD6TUJ
Secretary Loren Hunt AD6ZJ
Director #1 Tom Martin KG6RCW
Membership Al Donlevy W6GNI
Director #2 Paul Williamson KB5MU via Land Line
Scope Editor Michelle Thompson W5NYV via Land Line
Repeater Site Mike Pennington K6MRP
Guest Conrad Lara KG6JEI, Field Day Chair
Guest John Kuivinen, WB6IQS, Field Day Safety officer
Guest Wild Bill WB6BFG, Field day 15M, 40M band captain

Treasurer's Report
Steve AD6VI distributed the report. Total Assets are $15,269.67. The prepaid dues are $6,198.00.
A motion to accept the report was made by Dennis KD6TUJ and seconded by Tom KG6RCW. Motion was carried.

Secretary's Report
Loren AD6ZJ presented the Secretary's report. A motion to accept the report was made by Tom KG6RCW and seconded by Mike K6MRP. Motion was carried.

Discussion Items
1. Field Day Lessons Learned
-Check out equipment before field day. Avoid using new untested equipment.
-Set all rotors to North before field day.
-Search for field day site and find by January.
-The field day email reflector worked but needs to get started earlier.
-A message board should be added to the PARC website to disseminate field day data.
-There is no excuse for not having every station on the air by 11:00 AM whatever it takes.
-Greeters and information specialists need to be available during the operation.
-GOTA needs to be on the air Friday night and available at all times for our guests to get on the air.
-No raising of towers after dark. No exceptions.
-Have "plan B" wire antennas ready to go for all bands
-Any tower being used must be in good mechanical condition. Rust bucket towers should be sold for scrap and replaced.
-Plan on a work party in March to test and tune antennas
-The PARC General meeting topic for July should be Field day follow up
-Check early for field day theme so every station can make an effort to emphasize the theme.
-Band pass filters need to be fully tested and ready to go by May

2. Technical committee meeting – Open to all BOD members
-Will be held at the home of Art KC6UQH on Sunday, July 27th
-Will be planning repairs, upgrades, control operators and other repeater site details.

General Meeting: August topic: Radio Mobile presented by Jerry AK6QJ.

Membership Report: Presented by Al W6GNI
Current club membership is 364.

Repeater Site Report: Presented by Mike K6MRP
-Painting of the towers is still awaiting a painter.
-The camper shell is still on site. We need to ask if the buyer still wants it
-Next work party will be Sunday August 10th.
-The documenting of the repeater site layout has begun.
-The installation of a replacement 730 machine by Art KC6UQH has improved performance.
-New Electrical conduit is still being routed to the various buildings.
-Paul KB5MU and Dennis KD6TUJ installed the vent in Building #2
-The old battery building needs careful dis-assembly

OLD Business:
1) Retention of first year members – what are we offering to keep members? More presentations geared towards new hams, more classes
2) Pay-Pal for website donations – No progress

continued on page 4

continued from page 3
3) PALBBS – Need to replace batteries – Wild Bill WB6BFG will check on availability of replacements

New Business:
1) PARC Picnic – San Dieguito Park – 24th August – Tom KG6RCW will reserve the site.
2) Any interest in Lifetime memberships for the club?
3) Need to get more members involved in learning the technical side of ham radio.
4) Field day donations amounted to $90.00

Place of next Board Meeting: Home of Al Donlevy W6GNI

Motion to adjourn made by Tom KG6RCW and seconded by Mike K6MRP. Motion carried.

Palomar Mountain Amateur Radio Club Technical Committee Meeting Minutes

recorded by Michelle W5NYV
27 July 2008
11:06 start time

6m Repeater
6m repeater problems were brought up by David Doan KC6YSO in an email sent to the board.

When it was built, it was thought that ARES would use it. ARES has had several turnovers since then, and it is not listed in their most recent communications plan. N6PIG was designated control operator for this machine.

Advantages to 6m propagation include a terrain-hugging aspect, which, in theory, should allow a greater range than 2m. It has never been realized, however, in practice. As David Doan KC6YSO mentioned in his email, antenna durability has been a challenge. Possibly using a ¾ wave antenna turned upside down and captured on the bottom was proposed as a solution. It doesn't have to be 1/4 wave off the TOWER, not off the ground, in order to get (most of) the desired directionality. But with close spacing, the impedance starts to change. A mitigation for that is to use a folded dipole element. Then you can get back the gain by using two of them. Someone needs to get innovative, make a model, and see if it works.

Action Item: David Doan KC6YSO and Bill Bennett N6PIG to look into power problems with 6m repeaters.

David Doan KC6YSO is unable to monitor this repeater with any consistency, but is interested in helping.

Packet Repeaters
John Kuivinen WB6IQS volunteered to continue being the RF technician on the packet repeaters.

Action Item: Dean Jacobson W6DBJ, volunteered to take on more responsibility with this system. This included becoming control operator for the packet systems.

Bill Bennett N6PIG asked "Are we are a little island of packet and not connected to the rest of the world?" Dean Jacobson W6DBJ described the packet topography in San Diego as "insular." Paul Williamson KB5MU said that we had "No outbound connectivity (from San Diego) at this time."There is a packet node available. There is interest in gaining a connection north-south to re-establish a link to Los Angeles.

John Kuivinen WB6IQS is making a standing offer – complete service monitor (Cushman CE6) that covers all of our frequencies. As long as someone wants to pick up the pieces it's a
donation to the club and keep it at their house. It might not last on the hill.

146.700
John Kuivinen WB6IQS built this and is the technician for it. Dean says it "works great". Dean says he would like to learn how to maintain it.

145.05
John Kuivinen WB6IQS remains technician and provides some maintenance.

146.730
Art McBride KC6UQH announced he is looking for someone to take this repeater over as technician. The repeater was recently swapped out. The current radio is a mobile Micor that has been modified (solid state switching). It's standalone with its own controller. This was a spare tx/rx because there were parts in it that

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continued from page 4
failed, including audio squelch. Art McBride KC6UQH put in a new final. It doesn't have the original Micor mobile finals. This radio originally came from Long Beach Police Department. Controller board was placed in an external box. The system is powered from a 20A Astron supply. The original 73 is under repair. Control Operators Mike K6MRP, Art McBride KC6UQH, John Kuivinen WB6IQS as a backup.

The question of how often a repeater must be monitored was asked by David Doan KC6YSO. The answer from Paul Williamson KB5MU is that it is considered under automatic control, unless it has autopatch. Or, as Art McBride KC6UQH added, unless the FCC changes your automatic control status, on a case by case basis, if there has been a complaint or problem or there exists a particular situation.

David Doan KC6YSO asked about whether or not we are going to keep our PL tone on or off. There was some interference, but it was coming from inside the repeater cabinet. When the repeater was recently swapped out, the interference went away. It is a useful and positive thing to have one repeater in town that is open and doesn't have a PL tone. All of our voice repeaters generate the PL and send it out.

Paul Williamson KB5MU brought up complaints from the membership about the long ID'er. This would require a change to the EPROM. We don't have to have a long ID if we don't want to. Voice ID has been talked about, but remains controversial.

Action Item: Reducing the length of the ID'er was remanded to the board for consideration.

147.075

Art McBride KC6UQH as technician but would be happy to pass it on. This is a GE repeater with our controller card in it. Repeater belongs to MARA. Mike K6MRP, Art McBride KC6UQH, John Kuivinen WB6IQS as a backup for control operators. Loren offered to be assistant technician for 147.075 along with Bill Brooks KG6VVP.

David Doan KC6YSO recommends that the delay timers, that include a relay, should be taken out because they are no longer necessary.

147.130

This repeater is the same type radio as the 146.700. It's a Motorola base station type. John Kuivinen WB6IQS would like to be backup technician for this box as well as the 146.700. Bob Wickord, W6RHW built this one up.

Packet backbone link

John Kuivinen WB6IQS handling RF side of this system. Brian WB6CYT and Paul Williamson KB5MU originally developed this system. They circumvented the audio filter to modify it. It works but there is nobody for it to talk to now. Dean Jacobson W6DBJ asked if we could use this as a packet node? Paul Williamson KB5MU answered that it was possible but not encouraged. The original idea was that it was a backbone, that user terminals would not use this frequency. It would have different access frequencies. Our system is working, however all other nodes seem to be down. PAL BBS is another Metronet node. This is valuable in terms of emergency communications. Bill WB6DGR is off the air. He had a Metronet connection. There were three or four at the most, ever. We have been completely successful in not having very many backbone nodes. Another node on some other mountain would be nice. The old 220 backbone that went into Riverside has been off the air for years. It sounds like there might need to be a study on what to do with the packet system in San Diego County. Is SANDRA interested in putting packet gear back on the air? Is packet worth the effort? 145.010 node on Otay.

Action Item: Michelle W5NYV and Dean Jacobson W6DBJ will do a study on what to do and whether to do it.

447.000

Desense on 447.000 has been reported. Probably needs a separate 9v regulator. When you come up it takes less signal to bring it up. After about 10 seconds it takes more signal to hold it.

Action Item: Technicians Art McBride KC6UQH, Loren, Bill Brooks KG6VVP to investigate and repair.

Mike Pennington K6MRP, Art McBride KC6UQH, John Kuivinen WB6IQS as a backup for control operators.

continued on page 7

Club Classified Advertisements

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 SCOPE@PALOMARARC.ORG.

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

(7.28) Hi-quad by Higain. New in the box except partially assembled at field day 2008. New and never used but about 25-30 years old.
Don Johnson (760) 613-5154 WD6FWE. Make me an offer. Proceeds to be used to get new field day antenna.

(7.28) Kenwood TS830S complete 6 piece station, collector quality. Call for details.
Swan 350-needs work. Heil Mike and stand-perfect in original box. 12 V DC to 110VAC inverter. 400W continuous, 800W intermittent. New in box.
Above items from estate of Rod, AC6V. AEA MM3 Morse Machine. Like new.
Ultimate memory keyer, trainer, simulator. $225.
Ron K2RP 760 436 8109 K2RP@ARRL.NET

(6.8) Wanted: Cushcraft R7 vertical multiband antenna for HF use. Contact
Mickey 760-744-2034 or mickeykc@juno.com.

(5.1) Complete 5-watt portable 20- meter QRP CW station. Oak Hill Research OHR-100A professionally wired and aligned. Built-in Iambic keyer, battery supply. Custom "Old Timer" wood case with calibrated vernier dial. Complete with field kit with mini-keys, 20 meter "Gusher" dipole and many accessories. Like new condition

PRICE REDUCED to $100.
Kirt KK7QT (760) 994-0127

continued from page 5
Some discussion of the control boards followed. Example control boards were showed around. See page 10 for a diagram of a repeater control board.

1241.25 ATV repeater
The link was removed on the Santiago site because someone needed it for one of their repeaters on Mt. Wilson. Therefore, we are no longer linked to ATN. We were not informed. We may not want to be involved in the future. We may want to become involved with the METS (Microwave Experimenters TV System). Bill Smith originally built the ATV system. There is no documentation for it.

New Projects
John Kuivinen WB6IQS has offered the club an LCD display NTSC/PAL with two cameras with pan and tilt and electric "doorbell", SDRAM card. It saves pictures. It has a PIR motion sensors and can starts recording upon detection of motion.If someone wants to pick this up as a project, then this would be a good headstart. Art McBride KC6UQH recommends dome camera for durability.

Action Item: Conrad Lara KG6JEI interested in heading up the towercam effort.

Lunch 12:00pm-1:00pm.

Art McBride KC6UQH has a VHS tape from 1996 of Stan giving a tour of the site.

METCON Battery Monitor
Where are we, what are we doing with it, does it work? It is not hooked up to the 48volt. It needs some adjustment in order to make it work with the new batteries. Input to the voltmeter and power to the voltage to frequency converter have a common negative terminal. You need a small 12v floating power supply to power the voltage to frequency converter. It needs something like a wall wart.

Action Item: Loren Hunt AD6ZJ might have a wall wart that would work.

However, Mike Pennington K6MRP says that there is going to be a voltage converter from 48 to 12 volts (floating). Floating power supply avoids ground loops. Regulated 12v 1A wall warts would be ok. Loren Hunt AD6ZJ to provide two wall warts to Mike Pennington K6MRP so he could have them on hand. Plug it into the inverter. Or 48-to-12 volt, or 12v-to-12v converter.

Something needs to be done to provide power for the METCON Battery Monitor in order for it to work with the new battery system. Michelle W5NYV asked was there any interest in starting up a project to design a new battery monitoring system?

Action Item: David Doan KC6YSO to write specification based on Mike Pennington K6MRP's requirements.

PAL BBS offsite BBS system linked via 146.700
Action Item: Paul Williamson KB5MU and Dean Jacobson W6DBJ and John Kuivinen WB6IQS will get together and repair this system. Dean Jacobson W6DBJ is willing to be control operator as well. John Kuivinen WB6IQS is willing to be technician.

Control receiver and preamp.
Control receivers (2) were built up years ago. There is another box with 80s technology that John Kuivinen WB6IQS put together DTMF decoder with hardwired sequencer. This controlled autopatch and still controls digital repeaters (05, 439, 700) through an on/off relay controller. You could selectively turn things off, but when you wanted to turn things back on, everything was turned back on. It was a reset function. The control box in the packet building is a slave to the control rx in the main repeater shed. Audio from the main control rx is distributed to both buildings and decoded locally.

Documentation
Documentation has been requested and the reason for this was explained. Documentation improves management of the site and allows club members to more easily participate and experiment at the site.

Action Item: Michelle W5NYV and Bill Brooks KG6VVP to continue to work on documentation.

Equipment Assignment per Inverter
Assignment of equipment per inverter was proposed. The strategy could be having two tiers of priority, and the two tiers being assigned to the two inverters. Or,

continued on page 9

PARC and PARC Affiliated Repeaters

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Sunday	2045	147.075	MARA	Glenn Jones KG6JDF@amsat.org
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Monday	2100	146.730	Microwave Net	Kerry B.
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Tuesday	2100	146.730	Off-Road Net	Dick Wilimek KA7AYTrwilimek@cox.net
Thursday	2000	147.075	SATERN	tomcarmody@cox.net
Thursday	2100	146.730	Ham Help Net	Lin Robertson kj6ef@amsat.org
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Repeater Tech - Mike Pennington	K6MRP	760-749-8888 k6mrp@amsat.org
Membership - Al Donlevy	W6GNI	760-630-3096 w6gni@amsat.org

[1] The 146.730 repeater transmits a CTCSS tone of 107.2, but does not usually require any tone for access. When necessary, an access tone of 107.2 can be enabled.

continued from page 7
assign everything to each inverter, depending on how loaded down the inverter would end up being. Inverters may be more efficient when they are fully loaded.

Open Question: What are the priorities of the equipment? What emergency groups, if any, will have or already have priority?

David Doan KC6YSO asked about efficiencies of the inverters. Mike Pennington K6MRP estimates in the 80s. Inverters are on standby while on commercial power. They come on within 50mS. They are only on when we lose commercial power. David Doan KC6YSO asked about the generator and the transfer switch. This means that either commercial or generator power is provided to inverter. This means that the batteries cannot be charged off the generator.

Open Question: How long do the batteries last? About 2 weeks? Can we test this?

The chargers are ferroresonant and draw about 10A a piece. The generator sources18.8A at 240. Charger input is sensitive to frequency drift, so connecting current chargers to a generator might not be a good idea.

Action Item: Paul Williamson KB5MU to establish a Control Operators mailing list where control operators post updates about control actions. This list includes all the technicians for each repeater, and is intended to coordinate and inform.

Mike Pennington K6MRP gave an explanation of the blown breaker for the failed fan that caused a power failure at the site.

Does ARES still rely upon the 220 repeater for any use?

Action Item: 220 question remanded to board.

Mike Pennington K6MRP and Michelle W5NYV discussed cleanup, painting the buildings, and painting the tower.

<u>New Projects</u>
New battery monitoring system. Straw man requirements by David Doan KC6YSO.

Some way of physically shutting off the repeaters could be designed and built as well as a remote start system for the current generator.

Future use of the frequencies coordinated for the retired autopatch. We have coordinated duplex frequencies 420 430. We could run something on these frequencies.

Action Item: Michelle W5NYV to find out how they are coordinated.

Action Item: Michelle W5NYV to find out about coordination for 919.25 VSB (AM) and 927. Someone had planned to do something with these at some time, possibly a digital repeater for users. A bunch of old Motorola equipment coming out of service was originally intended to be set up for this pair.

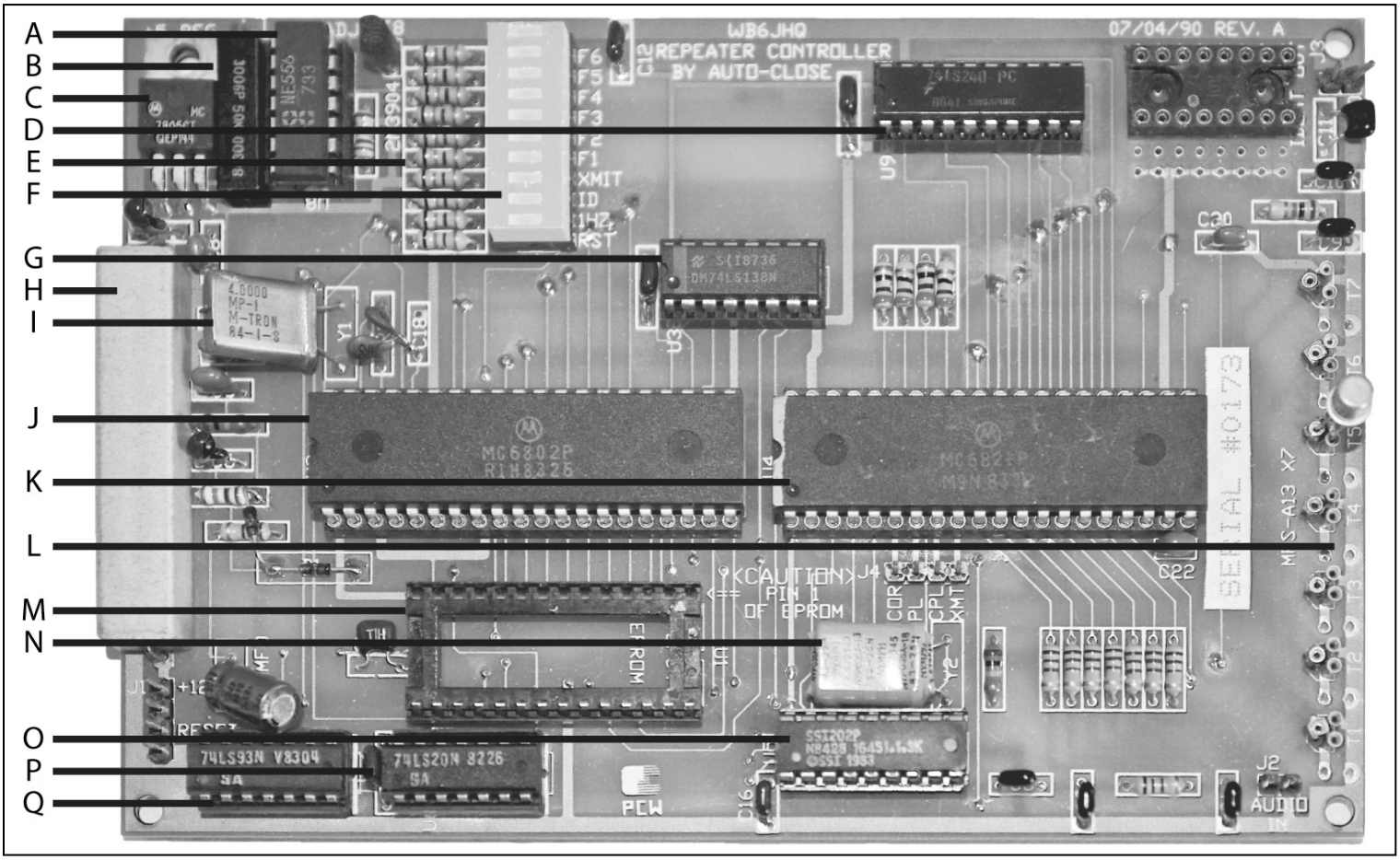
<u>Power management</u>
Don Johnson WD6FWE will take this project on. There is a need for more switching converters for the repeaters that don't currently have switching power supplies. Requirements for power supplies 1) reliable 17A (12.6 -13.8V) 2) quiet 3) comparable to the Astron SS18.

John Kuivinen WB6IQS has a large sized box of coax cable connectors. 7/8 1/2 and lightning arrestor items. John Kuivinen WB6IQS suggested that the club consider paying for gas for people that make regular trips to the mountain to work at the repeater site.

John Kuivinen WB6IQS asked if the connectors he bought are working out ok. They are according to Mike Pennington K6MRP reports that we are doing well so far with the supply. John Kuivinen WB6IQS will make more upon request. These connectors consist of AT standard female reverse polarity connectors and are being used for the emergency power system.

Open Question: Are we going to go into the freezer building with the inverted power or not?

Meeting ended at 3:00pm



Here is one of the WB6JHQ repeater controller circuit boards that we use on the Palomar Mountain repeaters.

A. An NE556 dual timer circuit, which I imagine generates the Morse code identification tone (in one timer) and code speed (in the other timer).
B. A 50k ohm trim potentiometer, which is probably part of the NE556 circuit and allows for adjustment of the code speed or pitch.
C. A 7805 three-terminal voltage regulator takes the supply voltage of nominally 12 volts DC and drops it down to the +5 volts required by the circuitry.
D. A 74LS240 octal buffer/driver drives eight of the status LEDs.
E. Ten resistors limit current to the ten status LEDs.
F. Array of ten status LEDs.
G. A 74LS138 address decoder.
H. A big honking power resistor to help the voltage regulator dissipate the difference between the +12V input supply and the +5V regulated voltage.
I. 4.000 MHz crystal for the microcontroller's built-in clock generator.
J. MC6802 microcontroller. That's a MC6800 with a built-in clock generator and a whopping 128 bytes of internal RAM. This chip design dates from 1977.
K. An MC6821 peripheral interface adapter adds two 8-bit output ports and four interrupt inputs to the microcontroller.
L. Sockets for 7 output transistor drivers. Only one transistor is installed on this board.
M. The EPROM containing the microcontroller's firmware goes here. All the default operational parameters for the repeater, such as the repeater's callsign, have to be burned into the EPROM before installation.
N. 3.579 MHz crystal for the DTMF (touch-tone) decoder.
O. SSI202 DTMF decoder chip listens to the audio from the common control receiver, decodes the touchtones it hears, and sends them as serial characters to the microcontroller.
P. A 74LS20 dual 4-input NAND gate.
Q. A 74LS93 dual 4-bit counter.

The IC socket in the upper right was added in the small prototyping area on the circuit board. It's used as a connector to facilitate getting all the required signals in and out of the board.

Paul Williamson KB5MU

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Submissions: scope@palomararc.org
Questions? Ideas? Comments? W6NWG@amsat.org

This month's General Meeting will be held on 6 August, 2008 (The first Wednesday of each month) at the Carlsbad Safety Center. This month the program features Jerry Kostro talking about Radio Mobile. Talk-in on 146.730 MHz repeater. Technical Committee meeting starts at 19:00. General meeting starts at 19:30 but show up at 19:00 for setup and visiting beforehand. Ridesharing and coordinating for dinner beforehand often occurs on the repeater on Wednesday afternoons. Everyone is welcome! 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, 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 (past president of PARC)

SCOPE September 2008 ❄

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

Club Meeting
3 September 7:30pm at the Carlsbad Safety Center
Cecil WD6FZA presents a program on D-STAR digital radio
Repeater Site Work Party
6 September Meet at Mother's Kitchen 10am
Board Meeting
10 September 7:00pm at W6GNI QTH

Palomar Amateur Radio Club Annual Picnic Report

By Paul KB5MU

Superb weather, good food, and radio demonstrations were plentiful at the annual club picnic, held August 24 at San Dieguito County Park. About two miles from the beach in Del Mar, this well-maintained grassy park has favored our picnic with nice weather for the last several years. Dennis KD6TUJ and Tom KG6RCW showed up early to set things up. A pop-up shelter provided shade for two complete HF radio stations, which were operated casually by many members throughout the picnic, despite lousy band conditions, using a dipole strung between trees and antennas on a push-up mast. Tom fired up the charcoal and had hot dogs and hamburgers ready to eat by the time people started arriving around noon. Spicy sausage links and chicken breasts rounded out the hot food offerings, along with a vegetable dish brought by Preston W6ASP. The pot luck table featured lots of fruit, salad, cookies, and other delights.

Cecil WD6FZA and DaveW9BOI set up ICOM D-STAR digital voice radio stations and demonstrated them throughout the picnic. Art KC6UQH set up a combined microwave and ATV station and demonstrated both modes. Loren's AD6ZJ box kite flew nicely but didn't carry any antennas -- this time. Ron K2RP brought out a beautiful vintage Heathkit rig to supplement the HF stations.

Conrad KG6JEI keeps track of participation points earned by club members attending meetings, participating in work parties at the repeater site, working on Field Day, etc. At the picnic, those points are exchanged for tickets in a prize drawing. This year, the prizes were gift certificates from local companies (and SCOPE advertisers!) Ham Radio Outlet and Ham4Less. I'm sure this year's winners will make good use of them. Every club member who attended the picnic started the year with a participation point toward the drawing at next year's picnic.

Steve AD6VI and Al W6GNI survey the buffet for delicious comestibles, while Tom KG6RCW continues to grill in the background. Photo by Paul KB5MU.

Membership Report

Just a reminder, according to the bylaws, everyone starts all over again collecting "Participation Points", Starting July 1, 2006. Those that attended the picnic picked up a point for this year (2008 - 2009).

New Members Joining PARC are W5UFZ, KI6SAT, WD6DUX, K6SML, KI6SAU, and A. Boersma (No call yet!) 14 members reinstated their membership! And WA7TCD and W6BGK each sent $100 for 5 years!! Thank you!

Please be sure to check your SCOPE mailing label each month. Avoid the dreaded red "Last Issue" on your label. "Last Issue" means your membership expires in a few days, OR has expired as you received the SCOPE in the mail.

We get a number of new members that download the membership application form from the club web site. This is great, and the web site is a good way to tell potential members about the club. Do you know our web address? Palomararc.org Think - Palomar A-mateur R-adio C-lub dot Org.

Al
W6GNI

August Issue Fold & Staple Crew

KB6NMK Jo
W6GNI Al & Kathy
KI6LLC Roni

We could use one or two more on the list of Fold & Staple folks. Stop by the membership table and volunteer. A social work exercise, and get a participation point too.

Licensing and 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 at the Carlsbad Safety Center.

http://www.kiloxray.com/vec/

Test sessions may be cancelled if no one pre-registers.

EARS Testing is in Escondido on the last Saturday of the month at 9:00 am at the LDS Church.

The address is 1917 East Washington Avenue, Escondido , 92025.
Contact Harry W6YOO (760) 743-4212 or W6YOO@amsat.org.

Radio Club Resources

Check out these great local radio clubs on the web at the following addresses.

http://www.fallbrookarc.org/
http://www.sddxc.org/
http://www.earsclub.org/
http://roars.net/
http://www.wa6bgs.org/
http://n6six.50megs.com/

Show And Tell

PARC welcomes members to bring items to the meetings for a "show and tell". These items could be projects in progress or completed old and/or restored equipment, short items of interest, or unusual items, and happens 5-10 minutes prior to the evening's presentation.
Contact Dennis KD6TUJ at (760)802-2573 or email at KD6TUJ@amsat.org to coordinate.

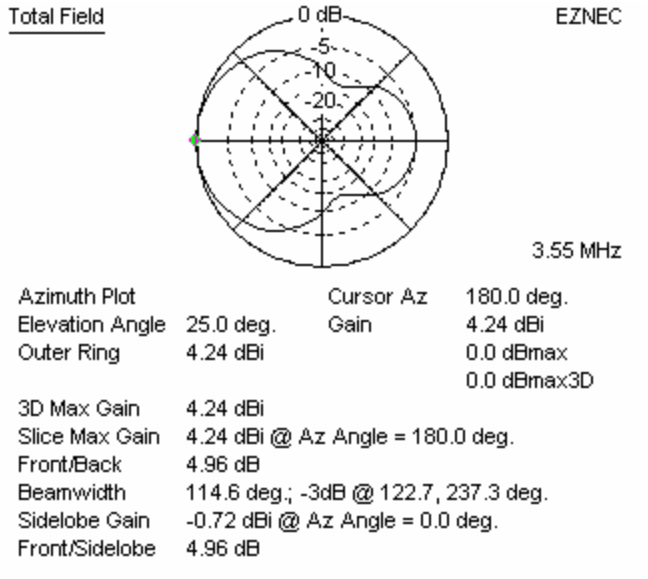
Do you have a story about a recent exciting contact? Contest? Special event station worked? Funny story? Know of a San Diego area amateur radio group that is worth mentioning? Send it in to the SCOPE!

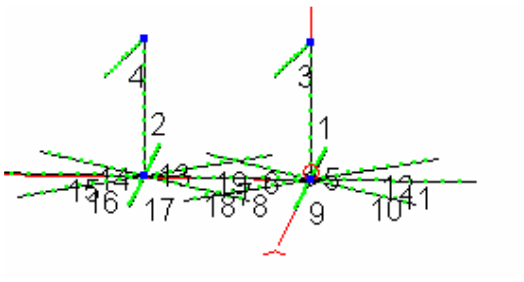
A Two-Element 80M Field Day Special

By Loren Hunt AD6ZJ

I have been experimenting with antennas for several years now, and it is an enjoyable part of my amateur radio experience. One thing I lack is yard space to try out low band antennas. I also enjoy the California QSO Part (CQP) and have operated as a county expedition or mobile each of the last 3 years. I had been modeling a 2 element vertical array for 80m with the intent on using it during this year's CQP. I thought Field Day would be a great time to try it out so I volunteered it as the antenna for our 80m entry. Paul, WN6K agreed to try it so all was set. We would have an inverted-V as in the prior years and would have a 2 element 80m array to compare it with.

The antenna was going to use two telescoping fiberglass poles going up 57 feet each with a small inverted "L" for top loading. It modeled out just fine with EZNEC5.0 so I ordered the materials.





The helpful salesman at Maxgain Systems thought it not wise to get those last two sections of fiberglass and recommended that I go no higher than 43 feet even with plenty of guy lines. I ordered the last sections in spite of the recommendation thinking I could always use ¼" and ½" fiberglass elsewhere if it didn't work.

At the PARC field day site I got off to an early start on Friday afternoon. First I used my 300m tape to measure out the best place to put the verticals leaving room for radials. The direction would be to the north east and with 2 elements at ¼ wavelength spacing the beam width would be wide enough to cover just about everything but OR and WA. I put out 32 radials of 24 AWG insulated wire at each base. I had color coded guy ropes so even if things got tangled I could sort it all out from the ground.

With everything else set I began the process of raising the telescoping poles. Once I got above 20 feet or so I knew I would need some help so I called in the helpers. There was a mild breeze and in no time I was glad I had plenty of help and that I had color coded rope. Putting up the driven element was not going well at all. It was just too flimsy and floppy up at the top and even with 3 sets of guy ropes and 8 or 9 assistants it became evident that I should have heeded the recommendations from MaxGain.

After about 45 minutes despite plenty of great help (and a few hecklers) I decided it wasn't going to work. I lowered the poles, sent the helpers away and started on plan B.

Plan B was to discard the last 14 feet of fiberglass and extend the inverted "L" the required amount to make up for the shorter vertical. This turned out to work

well and with a few helpers we had the driven element up in about 15 minutes. The antenna was nearly straight and deemed to be close enough. The passive reflector went up in about the same time. Tuning the antenna took a bit more time than expected but we did get a good match after 30 minutes of tinkering. The antenna was all set with a 1.5:1 or better match from 3.50 to 3.55 MHz, just right for the CW portion Paul would be working in.

As the sun was starting to set on the horizon it was finally time for an on air test. The 80m CW station hadn't been setup yet so Paul disconnected his ATAS120 screwdriver antenna and hooked his mobile FT857D to the two-element array. Now Paul had the 857 sitting on 6m because the band had been open earlier, when he connected the array we could suddenly copy a loud station on 6m. A quick check confirmed a decent match on 6m so we had a bonus band. As Paul tuned around I walked over to the Road-Kill Café where Tom KG6RCW was cooking up some great burgers and such. About the time I was filling up the plate for seconds Paul walked over and reported the 80m antenna works on 80m as well as 6m. We never did put up the inverted-V for an A-B comparison and decided one antenna was enough but we were now ready for field day and I went home to get some rest.

Fast forward to Sunday at 11:00. Field Day 2008 on air activities are in the books and it was time to see how we did. Paul reported that the array had managed to snag just a few more than the prior year so the Earth shattering performance I was hoping for didn't happen. On the other hand, who knows for sure since we didn't do the A-B test. Tear down was quick and painless and the whole 80m setup was down and packed in my truck in about an hour. I still plan to use this antenna for the CQP but have decided to bring some extra help to the ranch for setup. Look for AD6ZJ as a Multi-Single County Expedition this year.

San Diego Microwave Group

A brief introduction to a great local resource

18 Aug 2008

Michelle W5NYV

On almost every Monday evening at 9pm, the Microwave Net meets on the 146.730 repeater. The group began over ten years ago, and has provided inspiration, information, and camaraderie to the amateur radio microwave community in San Diego ever since. On the third Monday of the month, there is a gathering at the house of Kerry Banke N6IZW. Over snacks and in between discussions, explanations, demonstrations, and a bit of show and tell, the group does an in-person round-table of what each person in attendance has been up to in amateur microwave.

The highlights from the August 18th meeting included KG6SMT, who is new to microwave and interested in learning more. It was recommended that he participate in the 10GHz and up contest to find out more. This contest was held the previous weekend and has a second session September 16-17th. Ed W6OYJ gave a report on his participation in the 10GHz and up contest. Mt. Soledad was active and operators were worked into the south end of Central Valley, Tehachapi Range and Ventura. Five operators went up Mt. Laguna on Sunday. At about 6100 feet, they pointed east and tried to contact Flagstaff Ridge in Arizona. While that attempt failed, another operator at a higher altitude was successfully worked. These contacts were all CW except for Art KC6UQH, who worked SSB. Dan K6NKC followed with another SSB contact.

The day of the contest was windy, but few in the group were expecting what happened next. A dust devil picked up Ed's dish when sudden high winds swept through the operating location, leaving the IF hanging by its formerly rigid coax. Fortunately, the rig was undamaged.

Rod WI6M reported about building and experimenting

with pipe cap filters. Lee KD0IF demonstrated his Firefly software-defined radio. I gave an update on the work done on the Microwave Engineering Project, and described our adventures with video codec licensing investigations and feed development. N6IEF discussed transmitting voice within a 100Hz bandwidth. Dan K6NKC described a promising new location for microwave activity during contests. Art KC6QH shared his progress on a 10GHz project, and WB6IGP is rewiring a 10GHz amplifier. His grandchildren filled the amplifer with sand and dirt and planted flowers in it. He hosed it out, fearing the worst, but it worked just fine once it dried out. He's working on another 10GHz radio based on surplus Qualcomm amplifiers. Ron AE6QU is spending the summer in San Diego and reports progress on several projects and a lot of activity.

The meeting before the 10GHz and up contest is usually a "range party", where microwave stations are tested and measured. The two specifications that are measured are minimum discernable signal, which lets the operator know how sensitive their receiver is, and effective radiated power, which is a measure of transmitter performance. Participants bring their rigs and set them up to point at a remote sensor/source, which is about 200 feet away.

Here are the stations assembled for testing at the 2008 range party. Photo by Paul KB5MU.

Ed Munn W6OYJ described the test procedure in an email sent out to the San Diego Microwave Group mailing list. An excerpt is below.

To join the list, write him at remunn@earthlink.net

Ed writes, "The test starts with the reception of a signal, peaking up your antenna position, then listening until the signal level is incrementally reduced until you can just barely hear it well enough for a cw contact to be possible. That level will be recorded. It is labeled as your Minimum Discernible Signal (MDS).

"Then you will be asked to go into the transmit mode, key down at full power, and a reading will be taken of the power level as received by the distant sensor. That level will be called your Effective Radiated Power (ERP).

"This is a great way to compare your system performance to others with antennas of the same size. It quickly tells you if you have an unsuspected problem, in time to make repairs before the 2008 summer contests begin."

Here is Kerry N6IZW in his lab. The meetings usually begin in the garage, move to the back yard, and then end up at one of several group seating areas for the roundtable discussion.

Exploring amateur radio microwave bands is much more enjoyable with such a supportive and active community of fellow operators. All interested amateurs are invited to check into the Monday evening net at 9pm, and encouraged to attend the group's meetings on the third Monday of the month.

Club Classified Advertisements

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 SCOPE@PALOMARARC.ORG.

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

(8.24) FOR SALE : AMERITRON AMPLIFIER AL-80B 1 KW OUTPUT Linear Amplifier 70 % Efficient with 3-500 ZG Tube 60 thru 10 Meters Very clean no scratches 120 or 240 VAC INPUT $800.00 OBO Call Bayard K6GAO at 858-755-5507.

(8.24) FOR SALE : Kenwood TH-K2AT 144 MHZ FM Transceiver Like new Priority Scan, 100 Memory Channels, Weather Alert. 5 Watts, Rec. 136.000 MHZ to 174.000 MHZ , TX . 144 to 148 MHZ. Double Super Heterodyne Receiver. Charger and book. Asking $75.00 OBO Please Call Bayard K6GAO 858-755-5507.

(7.28) Hi-quad by Higain. New in the box except partially assembled at field day 2008. New and never used but about 25-30 years old.
Don Johnson (760) 613-5154 WD6FWE. Make me an offer. Proceeds to be used to get new field day antenna.

(6.8) Wanted: Cushcraft R7 vertical multiband antenna for HF use. Contact
Mickey 760-744-2034 or mickeykc@juno.com.

6m Special Request

Do you or someone you know have an interest in or knowledge about 6m? We're looking to replace our 6m antenna on the mountain, and would appreciate some advice on what to do. The antenna needs to be able to stand up to ice and wind loading. Palomar Mountain antennas can and do get an inch or more of ice. The 6m antenna is on its own mast, and is not attached to the main repeater site tower. Please contact the SCOPE at scope@palomararc.org if you have any ideas or advice.
Thanks! –Michelle W5NYV

(5.1) Complete 5-watt portable 20- meter QRP CW station. Oak Hill Research OHR-100A professionally wired and aligned. Built-in Iambic keyer, battery supply. Custom "Old Timer" wood case with calibrated vernier dial. Complete with field kit with mini-keys, 20 meter "Gusher" dipole and many accessories. Like new condition

PRICE REDUCED to $100.
Kirt KK7QT (760) 994-0127

Annual Club Picnic

Photos By Paul KB5MU

Dave W9BOI and Cecil WD6FZA demonstrate D-STAR digital voice (foreground) while Art KC6UQH demonstrates ATV and microwave voice.

Dennis KD6TUJ, Conrad KG6JEI, and Steve AD6VI use an MFJ antenna analyzer to adjust an old-school Drake antenna tuner to a good match.

Hot dogs, hot links, hamburgers, and chicken breasts were the main course, courtesy of Tom KG6RCW.

Art KC6UQH tunes in a microwave voice contact, while using the handheld for liaison

WD6FZA Cecil demonstrates ICOM D-STAR digital voice.

PARC and PARC Affiliated Repeaters

Frequency	Tx	Tone	Call Sign	Remarks
52.680	–	107.2	W6NWG	
146.730	–	107.2	W6NWG	See note 1
147.075	+	107.2	W6NWG	
147.130	+	107.2	W6NWG	
447.000	–	107.2	W6NWG	
224.380	–	107.2	KK6KD	Americas Unidos
224.900	–	107.2	WD6HFR	Convair/220 ARC
224.940	–	107.2	KK6KD	Sharp Hospital Coverage
446.140	–	123.0	WB6FMT	Vista
146.175	+	107.2	N6FQ	Fallbrook ARC; linked to 445.600
445.600	–	107.2	N6FQ	Fallbrook ARC; linked to 146.175
145.050	(s)	None	W6NWG-1	Packet node; linked to Metro 9600 net
146.700	–	None	W6NWG-4	Packet duplex repeater; Duplex; PALBBS use OK

PARC also conducts the following ATV (amateur fast-scan television) operations:
ATV in: 915 MHz WBFM, 2441.5 MHz WBFM
Intercom: 146.415 MHz NBFM simplex (tone 79.7)
ATV out: 1241.25 MHz AM

Regular Nets Sponsored by PARC

Day	Time	Frequency	Name	Manager
T/Th/Sa	2000	146.730	NTS Traffic Net	Marvin KD6YJB KD6YJB@arrl.net
Sunday	0830	146.730	ARES Net	Jo Ashley KB6NMK@amsat.org
Sunday	1900	147.130	Handi-Hams	Marcia De Runtz KG6FIX
Sunday	2045	147.075	MARA	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 tthompdson@sdarc.org
Tuesday	2100	146.730	Off-Road Net	Dick Wilimek KA7AYTrwilimek@cox.net
Thursday	2000	147.075	SATERN	tomcarmody@cox.net
Thursday	2100	146.730	Ham Help Net	Lin Robertson kj6ef@amsat.org
Friday	2100	146.730	Hiker's Net	Ed KF6DXX@juno.com

Board of Directors Contact Information

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Secretary - Loren Hunt	AD6ZJ	
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Scope Editor - Michelle Thompson	W5NYV	858-229-3399 w5nyv@amsat.org
Repeater Site - Mike Pennington	K6MRP	760-749-8888 k6mrp@amsat.org
Repeater Tech - Mike Pennington	K6MRP	760-749-8888 k6mrp@amsat.org
Membership - Al Donlevy	W6GNI	760-630-3096 w6gni@amsat.org

[1] The 146.730 repeater transmits a CTCSS tone of 107.2, but does not usually require any tone for access. When necessary, an access tone of 107.2 can be enabled.

August Work Parties

10 August, 16 August Reports
By Michelle W5NYV

Mike K6MRP, Michelle W5NYV, Paul KB5MU, Art KC6UQH, and Conrad KG6JEI met on the 10th of August for a work party at the repeater site on Palomar Mountain. Work was done on the ATV system, an attempt to install the donated service monitor was made, removal of some currently unused gear to storage was completed, and camper demolition was accomplished. Piles of wood, aluminum, and fiber glass (boxed) were ready for removal from the site. Some work on the power distribution system was done as well.

Mike K6MRP, Michelle W5NYV, Paul KB5MU, Jim W6SST, Dean W6DBJ, Norm (not sure of callsign), David KC6YSO met on the 16th of August for a work party at the repeater site. After a hearty breakfast and a wide-ranging discussion about WinLink and emergency communications, the group departed Mother's Kitchen for the site, and proceeded to cut down a tree growing too close to the new battery building, fixed a problem with the packet system, and installed explosion-resistant lighting in the new battery building.

Above, Dean W6DBJ makes the initial wedge-shaped cut in the tree trunk. Below, Norm, Jim W6SST, David KC6YSO, and Michelle W5NYV pull the dragline to guide the fall of the tree in the correct direction.

Once the tree was down, the limbs were removed and the trunk was cut up into firewood-sized pieces.

Photos by Paul KB5MU

The Friday Lunch Bunch

By Tom Ellett W0NI

I recently made my way down to the Texas BBQ on Miramar Road on a Friday to join what has been dubbed the "Lunch Bunch". Every Friday for over 10 years an informal group of hams have been meeting in and around the UTC area to chat about the newest rig or antenna project. “It all started with just me Tom W0NI, Harv K6QK (SK) and who ever could join us,” explained Ted Storke KD6AKT.

I would talk it up on the 146.730 machine and some times we'd have 5 or 6 hams join us. Soon I would get the question "Where’s lunch this Friday?"

“We realized a lot more folks would join us if they had some notice where we'd be meeting,” said Tom Ellett W0NI. So, about 7 years ago I put the lunch bunch on-line on my web site KA6K.com and now www.W0NI.com.

You can just submit your call sign and you'll be added to the list (no user IDs or password needed). The very next Wednesday you'll get an email from me as to where the Friday lunch will be that week. We rotate around to 8 different restaurants within a 5 mile radius of Sorrento Valley where many of the hams in the group work. Now with Ted talking it up on the air and the email reminder we often have over ten people join us.

Left to Right – Michael KF6HCL, Joe KB9MWO, Ted KD6AKT, Harvey K6QK, Dave KC6YSO, Paul KB5MU, Dan KF6NHS, and Fred K6ISS

Where else can you sit down and have lunch with 10 experts on your favorite subject? Somebody in the group will have the answer to whatever problem you’re trying to solve or get you some good advice on which rig to go for. So, if you meet someone new to San Diego tell them about the lunch bunch and direct them to www.W0NI.com.

Left to Right – Bruce KQ6B, Dan KF6NHS, Paul KB5MU, Tom W0NI, Ted KD6AKT, Harvey K6QK, Paul NN6X, and Michael KF6HCL

The Restaurant Rotation List
(1) Texas BBQ - Miramar Road
(2) Denny's - Miramar Road
(3) Super Buffet - Miramar Road
(4) Crazy Buffet - Miramar Road
(5) Taste of India - Miramar Road
(6) UTC Food Court - UTC Shopping Center
(7) Spices Thai - I-56 @ Carmel Creek Road
(8) Souplantation - I-56 @ Carmel Creek Road
(9) Fuddruckers - Mira Mesa Blvd @ Camino Ruiz
(10) Callahan's Pub - Mira Mesa Blvd @ Camino Ruiz

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Submissions: scope@palomararc.org
Questions? Ideas? Comments? W6NWG@amsat.org

This month's General Meeting will be held on 3 September, 2008 (The first Wednesday of each month) at the Carlsbad Safety Center. This month the program features a program about D-STAR. Talk-in on 146.730 MHz repeater. General meeting starts at 19:30 but show up at 19:00 for setup and visiting beforehand. Ridesharing and coordinating for dinner beforehand often occurs on the repeater on Wednesday afternoons. Everyone is welcome! Founded in 1936, PARC endeavors to serve the amateur radio community in San Diego County through various events and assets. Starting with monthly club meetings, weekly nets, and annual events (such as Field Day), PARC has a place for just about everyone. Our nets include the traditional NTS traffic net, emergency service nets such as Palomar, MARA, SATERN, and the Red Cross, and a number of special interest nets, such as Handi-Hams, Microwave, Off-Road, Ham Help, Hikers, and Facetious Group nets. With repeaters high upon Palomar Mountain, we are able to serve the local community under almost any condition, and particularly in times of need. Come by and visit with us on the first Wednesday evening of each month at the Carlsbad Safety Center.

See you there, *Steve Early, AD6VI, President*

SCOPE October 2008 ❄

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

Club Meeting
1 October 7:00pm at the Carlsbad Safety Center
Annual Club Auction
Board Meeting
8 October 7:00pm at W6GNI QTH

President's Message

August was a very busy month for me and September is promising to be the same.

The September 3rd program featured a revisit of D-Star, presented by Ken Cohen (KI6HRH) and Cecil Casillas (WD6FZA), which brought us up to speed on what has happened in the last year. The October 1st program will be the annual PARC Auction. And yes, we have contingency plans in the event that our regular room is not available this year. Because of the expected duration, the door will open to sellers around 6:00pm and to buyers around 6:30pm. The auction will start 7:00pm. Also on October 1st, PARC will announce this year's nominating committee.

Like our great nation, PARC with have a new president next year. I have served for four years and I believe that I have done what good I can and it is time for a new person to lead the PARC charge. Our board of directors has done a great job for that last four years, maintaining membership when most other clubs have declined, providing a mix of good monthly presentations and four very well-attended Field Days.

Our board of directors has worked diligently to keep cost down and the club solvent. More importantly, they kept your president on an even keel when "colorful" personalities made unreasonable demands regarding PARC assets and/or attempted to include PARC in their personal disputes.

I would like to publicly thank each and every PARC board member that has served with me, for a job well done. In doing so, though, I must remind and admonish you that it is the PARC membership that will decide who will lead and administer the club for the next year. I ask you to look amongst yourselves to determine who has continually participated and supported the club and who has only talked about it. Ask yourself whom has been a diligent steward of the club and whom is merely critical. Seek out the steward and encourage him or her to stand and lead PARC for the next year. Then let the PARC nominating committee know.

On November 5th, nominations will be made for the elected PARC board positions: President, Vice President, Secretary, Treasurer, Director #1 and Director #2. On December 3rd, PARC members will hold a vote for any contested offices. At the end of the meeting, we will have a new PARC President.

Also on October 3rd, 4th and 5th, the Amateur Radio Emergency Service (ARES) will be needing volunteers for the Miramar Air Show. Contact acting Section Emergency Coordinator Steve Early (me), AD6VI, at 619-461-2818 or ad6vi@arrl.org, if you think you can help. I hope to see you on October 1st. Bring a friend!

Steve Early, PARC President.

Membership Report

New Members Joining PARC:
KI6SMT, KE7TQ, K6SML, KI6SAU, and N6KTC.
Be sure to greet these new members when you see or hear them on the repeaters.
In addition, 5 reinstated their membership;
and N6PIG and KI6LLC each renewed for 5 years.
Thank you, thank you.

We get a number of new members that download the application form from the club web site. This is great, and the web site is a good way to tell potential members about the club. Do you know our web address? Palomararc.org Think - Palomar amateur radio club dot Org.
Al
W6GNI

Goodie Givers for September

KG6RCW Tom

September Issue Fold & Staple Crew

Last Month's Fold & Staple Crew
KB6NMK Jo KD6TUJ Dennis
W6GNI Al & Kathy
WA5ACE Sonny

We could use one or two more on the list of Fold & Staple folks. Stop by the membership table and volunteer. A social work exercise, and get a participation point too.

Licensing and 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 at the Carlsbad Safety Center.

http://www.kiloxray.com/vec/

Test sessions may be cancelled if no one pre-registers.
EARS Testing is in Escondido on the last Saturday of the month at 9:00 am at the LDS Church.
The address is 1917 East Washington Avenue, Escondido , 92025.
Contact Harry W6YOO (760) 743-4212 or W6YOO@amsat.org.

Radio Club Resources

Check out these great local radio clubs on the web at the following addresses.

http://www.fallbrookarc.org/
http://www.sddxc.org/
http://www.earsclub.org/
http://roars.net/
http://www.wa6bgs.org/
http://n6six.50megs.com/

Show And Tell – November Meeting!

PARC welcomes members to bring items to the meetings for a "show and tell". These items could be projects in progress or completed old and/or restored equipment, short items of interest, or unusual items, and happens 5-10 minutes prior to the evening's presentation.
Contact Dennis KD6TUJ at (760)802-2573 or email at KD6TUJ@amsat.org to coordinate.

Since the club auction will take up all our time for October, please plan on bringing your show and tell to the November meeting instead.

Do you have a story about a recent exciting contact? Contest? Special event station worked? Funny story? Know of a San Diego area amateur radio group that is worth mentioning? Send it in to the SCOPE!

California CQP Contest Announcement

by Rick "The Rhino" N6RNO
@Tehama for California QSO Party,
October 4-5, 2008
Where will you be?

Get you and your station tuned up for the start of the next contest season. Join me (N6RNO the new chairman) in the premiere state QSO party, the California QSO Party.

This is a ton of fun and has great rewards: real lumber plaques, wine, certificates and for just 100 QSO's and some cash you can have the ever popular CQP T-shirt. For you county hunters, this is a great chance to complete the WACC (Worked all California Counties)

...and the whole WORLD will be looking for CA stations !!!

Key Information
When:1600 UTC October 4, 2008 to 2159 UTC October 5, 2008
Where: 160m, 80m, 40m, 20m, 15m, 10m, 6m, 2m
Modes: CW, SSB
Logs Due: November 15, 2008
Website: http://www.cqp.org

"The Victorian Internet" by Tom Standage

A Book Review by Charlie NN3V

This book is a must read for any ham radio operator.

From the confirmed DX champion, to the dyed in the wool CW contester, or the newest tech licensee, everyone will find amusement and wonder in this book's pages describing the incredible impact Morse code and telegraphy had on the world in the mid 1800s.

Mr. Standage takes the reader on a jargon-free, can't-put-the-book-down amusing narrative on the triumphs and foibles among many early inventors who contributed to the development of telegraphy and the codes and ciphers that led directly to today's internet wired world.

Starting in 1746 (yes, the mid-eighteenth century) with French monks who painfully demonstrated the instantaneous transmission of electric current along a one mile pair of electric cables, the book describes the amazing interconnection of European cities using optical telegraph towers, many located on high ground points that retain the name "Telegraph Hill" to this day.

Pioneered by the French, the optical telegraph systems permeated everyday living, giving rise to the first commercial distance communication efforts. But it was not until 1832 that Samuel B Morse, then a portrait painter by trade, happened upon the inspiration for telegraphy while discussing distance communications with a fellow steamship passenger returning from Europe. Years earlier Morse had suffered the late receipt of news of his wife's death (news from his home town of Boston took five days to reach Washington DC where was staying). The discussion of electromagnetic phenomena for distance effects with the fellow steamship passenger sparked Morse's interest in developing a "code" and the means to transmit news to distant locations. As they say, "the rest is history".

The book describes the many parallel efforts that transpired simultaneously with the development of the earliest telegraphs. Morse's apparatus was far simpler than European versions, however competition was fierce. In England, Cooke's system was adopted by the railroad companies at first, eventually to be nationalized into the British Post Office service.

Fascinating account is given of the effort to connect Europe to North America using telegraph wires. The pioneer effort of Wheatstone (for whom the Wheatstone bridge is named) nearly sank the effort due to Wheatstone's incompetence. Fortunately cooler heads prevailed, and in August 1857 the two continents were connected with the first transatlantic cable. The frenzy that ensued soon had the world interconnected to such an extent that diplomats toasted one another with the expectation that wars and strife would become a thing of the past thanks to instantaneous communications!

The book presents lively chapters dedicated to "Codes, Hackers, and Cheats" describing how for every idea of useful telegraphy use, a scam soon followed (sound familiar?). "Love Over The Wires" describes how amorous encounters and weddings were arranged via telegraph, and how the family of

continued on page 4

continued from page 3
telegraph operators became an eclectic and highly paid stratum of society in mass demand for their code skills. "War And Peace in the Global Village" recounts the beginning use of telegraphy to deceive and confuse military and commercial competitors, giving rise to the era of disinformation!

As the use of telegraphy mushroomed, interconnecting countries, businesses, and even families, Morse, Cooke, and others started looking for ways to automate telegraphy and improve the efficiency of information transmission. The era of bandwidth expansion ensued, the system became automated, and the family of telegraph operators lamented the loss of skills among the newcomers to the code transmission business!

The last two chapters of the book, "Information Overload" and "The Legacy of the Telegraph" describe how the advances of telegraphy paved the way for the telephone, FAX, and the modern day means of communications. For example, Henry Baudot pioneered the electronic optical scanner for one automatic telegraph system, and in the process created the Baudot code on which the ASCII protocol for modern day internet communications are based.

Many anecdotal references are present throughout the book. For example, professional telegraphers in the major telegraph offices referred to lesser operators in rural offices as "hams". A "ham" was considered an inferior code transmitter!

The book closes with a vivid description of the demise of telegraphic service in the United States when Western Union ceased all telegraph service in 2006, and then paints a vivid contrast between the Victorian Internet and our current internet wired world. In essence, all that is old is new again!

"The Victorian Internet" by Tom Standage is a 200 page eminently readable paperback that lists for $14.95, is available from Amazon.com for $10.17, and can be purchased used online for $7.61. The book is a fun, fast read, full of fascinating information about a technology near and dear to the amateur radio hobby, and will complement any serious library of technology information. I rate it a "must read". 🕸
73 de NN3V

Minutes
Palomar Amateur Radio Club
Board of Directors
September 10th 2008

The meeting was called to order at 7:09 PM by Vice-President Dennis Baca KD6TUJ. The meeting was held at the home of Al Donlevy W6GNI. Present at the meeting were:

President Steve Early AD6VI
Vice-President Dennis Baca KD6TUJ
Secretary Loren Hunt AD6ZJ
Director #1 Tom Martin KG6RCW
Membership Al Donlevy W6GNI
Treasurer Bob Birch KG6RGI
Scope Editor Michelle Thompson W5NYV
Repeater Site Mike Pennington K6MRP
Guest Conrad Lara KG6JEI, 2008 Field Day Chair

---Treasurer's Report
Bob KG6RGI distributed the report. Total Assets are $14,107.72. The prepaid dues are $7,029.00. The Scope ad fees need to be billed to the advertisers. Bob KG6RGI will call Jo KB6MNK and see about it. A motion to accept the report was made by Loren AD6ZJ and seconded by Dennis KD6TUJ. Motion was carried.

Secretary's Report
Loren AD6ZJ presented the Secretary's report. A motion to accept the report was made by Tom KG6RCW and seconded by Mike K6MRP. Motion was carried.
Discussion Items
1. Annual Auction
- Runners – John WB6IQS, Tom KG6RCW and Conrad KG6JEI
- Auctioneer – Art KC6UQH
- Bob KG6RGI will record
- Setup at 5:30, seller door 6:00, buyers door 6:30 meeting starts at 7:00 with brief announcements and auction starting at 7:15
- EARS and Six Shooters nets have been announcing the event to their members
- Tom KG6RCW will bring a generator and lights in case we get locked out (like last year)
2. General Meeting: Annual Auction.
Future Topics:

continued on page 5

continued from page 4
-Need to include more HF and DX topics and less repeater topics
- Auction is set for October what will be November? December is the party
Membership Report: Presented by Al W6GNI
Current club membership is 361.
Repeater Technical Report: Presented by Mike K6MRP
- Building #4 (old generator) has been wired and 3 of the repeaters have been wired into it.
- The lights are working in the cargo room but needs a switch
- The lights are on now working in the battery building
- We need to replace the 12V 20A power supplies- Loren will check on availability and will provide one 42A open frame supply to Mike to test
- Need 42" tall 19" rack, with slide outs would be preferred
Repeater Site Report: Presented by Michelle W5NYV
- Conrad KG6JEI was the only one who made it to the last work party. We need to do a better job communicating availability for work parties.
- We still have a Site Chair vacancy and need to find someone to fill the role that has some construction experience.
- Painting of the green building will be on the list for the November 9th work party
- We need to come up with a list of priorities of items of things to be done before winter sets in.
- Tower painting needs to commence soon but the one quote for painting was deemed too high, required the purchase of much more paint (overspray) and lacking detail. Steve, AD6VI will check his sources from work as they regularly paint with two part epoxy. Tom KG6RCW will check a local paint shop to find qualified painters.
- Stripping off unused cables and antennas will need to be handled as time permits but likely separate from the painting at this point.
- Guy cables still need to be re-tensioned
- We need a PSA at the club meeting or in the Scope or both about proper repeater usage, specifically Kerchunk type activity that is caused by sitting on the PTT button.
New Business:
1) Nominating committee
– Needs to be announced at the October meeting
– Michelle W5NYV will ask at the Friday Lunch Bunch and get names of volunteers
– We have incoming QSL cards and blank PARC QSL cards. Loren AD6ZJ will act as the W6NWG QSL manager for FD.
Place of next Board Meeting: Home of Al Donlevy W6GNI

PARC Annual Auction

By Loren AD6ZJ

If you have never been to the annual club auction you are probably wondering how on earth an auction of old ham gear is fun and exciting. You may also be thinking of staying home that night as you don't need any more stuff cluttering up your garage or your shack. Let me try to persuade you otherwise.

Yes it is true there is a lot of old "junk" at the auctions but as they say "one ham's junk is another ham's treasure". There are also lots of good bargains to be found even if you don't know what you're looking for. For instance, at the 2001 auction there was a box of partial spools of 22 gauge insulated wire that had no bids. Eventually KC6UQH, the auctioneer spoke the words I have come to love "will anyone give me a dollar?" and I raised my number and won the box. To this day I am still using that wire for ground radials and portable antennas and I still have about 1500 feet remaining! Speaking of Art, he runs the auction like no other. He is not a fast talking auctioneer but instead will dive into great detail about various auction items as the night progresses. It is truly an entertaining experience and Art makes it worthwhile and fun to come to the auction even if you have no intention of buying or selling.

Some auction items seem to like the auction as much as club members. There is an ancient oscilloscope that has been to the auction five years in a row. It goes home with a new owner every year. Will it be back again this year? I usually don't know exactly what I'm bringing to the auction until just a few days before. I start setting stuff aside that is taking up space or might have value to others. Sometimes the stuff I win inspires me to build something. One year I purchased a used power triode and during the course of the following year tried to build an HF amplifier around it. By the following auction I had lost interest in that project and took the partially finished amp to the auction. Who know but one year I might find a completed amp built from those parts!

Club Classified Advertisements

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 SCOPE@PALOMARARC.ORG.

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

(10.1) Switching Power Supply, MFJ-4225MV, 25 amps, continuously variable voltage. Dual panel meters for voltage and current. NO HASH! $50

Dual Band VHF-UHF antennas. Mini-mag mount, window mount and HT mount $15 (for all 3)

Assorted Coax adapters of all sorts. All new. Estimated value over $85. Asking $25

SWR meter High-Tech mini-size with panel meter. (no power reading) $5

"Hear It" Noise eliminating Speaker by GAP. Works great on H.F. noise, Adjustable $50
Kirt Salisbury KK7QT
Phone: 760-994-0127

(8.24) FOR SALE : AMERITRON AMPLIFIER AL-80B 1 KW OUTPUT Linear Amplifier 70 % Efficient with 3-500 ZG Tube 60 thru 10 Meters Very clean no scratches 120 or 240 VAC INPUT $800.00 OBO Call Bayard K6GAO at 858-755-5507.

(8.24) FOR SALE : Kenwood TH-K2AT 144 MHZ FM Transceiver Like new Priority Scan, 100 Memory Channels, Weather Alert. 5 Watts, Rec. 136.000 MHZ to 174.000 MHZ , TX . 144 to 148 MHZ. Double Super Heterodyne Receiver. Charger and book. Asking $75.00 OBO Please Call Bayard K6GAO 858-755-5507.

(7.28) Hi-quad by Higain. New in the box except partially assembled at field day 2008. New and never used but about 25-30 years old.
Don Johnson (760) 613-5154 WD6FWE. Make me an offer. Proceeds to be used to get new field day antenna.

(6.8) Wanted: Cushcraft R7 vertical multiband antenna for HF use. Contact Mickey 760-744-2034 or mickeykc@juno.com.

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09/24/2008

A MILESTONE RECEIVER: DRAKE 1A

by Ron K2RP

In the mid 1950s, the big metamorphosis in amateur radio was the rapid growth of SSB, and the beginning of the decline of AM. Obviously, great changes were needed in transmitters. There were a few adapters made that enabled the use of some AM transmitters to SSB, but most of the SSB stations used transmitters made specifically for the new mode.

It is less obvious that a new breed of receiver was required to optimize operation on SSB, too. While nearly any receiver with a BFO could be used to receive sideband signals, new designs were required to utilize this mode efficiently. Better stability, better filtering to isolate each sideband, improved AGC action with BFO present, and product detectors were required for a receiver to be used effectively for the new mode.

By the mid to late 50s, the major manufacturers were producing receivers that incorporated these features, and performed at least adequately, and in some cases superbly on SSB. Collins, of course, set the standard in 1955 with the introduction of the 75A4. Hallicrafters was a bit earlier with their SX88, followed by the SX96, SX100, (all general coverage), and SX101 (ham band only.) Hammarlund offered the HQ170 and others, National had the NC 300 and NC 303. Heathkit even had an entry, the RX 1 Mohawk. There were other receivers capable of SSB reception produced by these and other manufacturers. They were also designed to be used for AM and CW as well.

The R.L. Drake Company was not yet in the amateur radio market, but had been in business since 1943 making military equipment and accessories. Bob Drake felt that the time was right to make major improvements in the receiver field. He thought there was a market for a receiver designed strictly for SSB use that would incorporate the stability, selectivity, AGC, and response characteristics optimized for SSB service. Including unneeded features such as AM detector and narrow CW filter added cost, complexity, and size. In fact, the front panel is labeled "Drake 1A Sideband Receiver."

Legend has it that he first offered his design to National and Hallicrafters, who showed no interest, so he decided to build it himself. It was first offered in 1957.

The Drake 1A was unique in several respects. It had no way to turn off the BFO, so AM reception was only possible by zero beating the carrier. The AGC was always on, and although CW is easily copied, there is no provision for a narrow bandwidth filter. For stability, the HF oscillator is crystal controlled and a tuned IF is used in a triple conversion circuit. Tuning is done in the second conversion stage, and a bandpass control is used to select the sideband. The BFO is set to the proper frequency, and as a result the frequency shown on the dial is the suppressed carrier frequency if the voice sounds "normal."

Although many features of the circuit are innovative, the most striking aspect is the packaging of the unit. It is only about 7 inches wide and 15 inches deep, and weighs less than 18 pounds. Compare this to the popular Hallicrafters SX101, which was 20 inches wide and 16 inches deep, and weighed a breathtaking 70 pounds! The Drake weighed a quarter of the SX101, and took up less than a third of the "real estate" on the operating desk. On SSB, the performance was comparable. The power consumption was a miserly 45 watts, less than half that of the others. At an introductory price of about $300, it was more affordable than the $400 or so that an equivalent Hallicrafters, National, or Hammarlund receiver cost. The Heathkit was about the same price, but of course it required assembly. The Drake unit, (after the first production run) also included an internal speaker, which was extra cost (and space) on all the others. Including the tuning control, there are only 6 controls, compared to about 15 on the competitors, making it easy to use. Everything unnecessary has been eliminated.

In the "Recent Equipment" product review in QST for November, 1957, the author remarked that "it will be interesting to see what its acceptance is in the amateur market."

Measured by the production figures, the acceptance was not great! I can only speculate why this was so. Perhaps most hams were not ready to give up the flexibility of being able to use the station receiver for

continued on page 9

PARC and PARC Affiliated Repeaters

Frequency	Tx	Tone	Call Sign	Remarks
52.680	–	107.2	W6NWG	
146.730	–	107.2	W6NWG	See note 1
147.075	+	107.2	W6NWG	
147.130	+	107.2	W6NWG	
447.000	–	107.2	W6NWG	
224.380	–	107.2	KK6KD	Americas Unidos
224.900	–	107.2	WD6HFR	Convair/220 ARC
224.940	–	107.2	KK6KD	Sharp Hospital Coverage
446.140	–	123.0	WB6FMT	Vista
146.175	+	107.2	N6FQ	Fallbrook ARC; linked to 445.600
445.600	–	107.2	N6FQ	Fallbrook ARC; linked to 146.175
145.050	(s)	None	W6NWG-1	Packet node; linked to Metro 9600 net
146.700	–	None	W6NWG-4	Packet duplex repeater; Duplex; PALBBS use OK

PARC also conducts the following ATV (amateur fast-scan television) operations:
ATV in: 915 MHz WBFM, 2441.5 MHz WBFM
Intercom: 146.415 MHz NBFM simplex (tone 79.7)
ATV out: 1241.25 MHz AM

Regular Nets Sponsored by PARC

Day	Time	Frequency	Name	Manager
T/Th/Sa	2000	146.730	NTS Traffic Net	Marvin KD6YJB KD6YJB@arrl.net
Sunday	0830	146.730	ARES Net	Jo Ashley KB6NMK@amsat.org
Sunday	1900	147.130	Handi-Hams	Marcia De Runtz KG6FIX
Sunday	2045	147.075	MARA	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 tthompdson@sdarc.org
Tuesday	2100	146.730	Off-Road Net	Dick Wilimek KA7AYTrwilimek@cox.net
Thursday	2000	147.075	SATERN	tomcarmody@cox.net
Thursday	2100	146.730	Ham Help Net	Lin Robertson kj6ef@amsat.org
Friday	2100	146.730	Hiker's Net	Ed KF6DXX@juno.com

Board of Directors Contact Information

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Secretary - Loren Hunt	AD6ZJ	
Treasurer - Bob Birch	KG6RGI	
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Repeater Tech - Mike Pennington	K6MRP	760-749-8888 k6mrp@amsat.org
Membership - Al Donlevy	W6GNI	760-630-3096 w6gni@amsat.org

[1] The 146.730 repeater transmits a CTCSS tone of 107.2, but does not usually require any tone for access. When necessary, an access tone of 107.2 can be enabled.

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AM and CW. Perhaps the size did not inspire confidence. Also, Drake did virtually no advertising that I was able to find in QST or CQ in those years. Reportedly only slightly more than 1000 units were made, and very few have survived. I am fortunate in owning serial number 799, and it is in excellent physical and electrical condition, with the original manual. I have never seen another one, and don't know of anyone else who has one! It is by far the rarest radio in my collection.

Even though not a sales success, the 1A ended the longstanding trend of building ever larger and heavier receivers. If the ham community did not recognize that bigger wasn't necessarily better, the other manufacturers did! It wasn't long before the famous Collins S line was introduced, succeeding the 75A series that began in the 40s. The last of that line had 22 tubes, was 17 by 15 inches, and weighed 35 lbs. The 75S1, which replaced in 1958, weighed only 20 lbs, and had 10 tubes plus some solid state devices. Heathkit soon came out with the SB300 line, similar in size.

Drake itself quickly followed with the 2A and 2B models, which were very successful. An AM detector was back, in addition to variable bandwidth filters for CW and AM use, as well as other more traditional features. Even though there were more features and controls, these units were even smaller and lighter than the 1A, although an external speaker was required. Drake continued with a line of very high quality receivers, transmitters, and transceivers throughout the 60s and 70s, many of which are still in use.

So the first (and possibly only) receiver designed strictly for SSB use was not a commercial success, but was a milestone in other ways, inspiring the equipment we use today.

Digital speech within 80 Hz bandwidth A Project Proposal

By Michael E. Lebo

Objective

To modify and write code needed to convert analog voice into narrow band digital modulation.

Why do this?

The bandwidth of voice is about 2400 Hz. When speech could be reduced to 80 Hz, the gain would be 14.8 dB (30X). Processing gain by a computer is cost free. This project receives weak signals 11 dB (12.6X) below SSB (Single Side Band) noise floor of the radio.

Generating of the transmit phonemes

A phoneme is to speech as the alphabet is to reading or writing. Since each person sounds different from another, it is clear that the computer must recognize the unique phonemes used by only that person while operating this software. The software must be able to teach itself the phonemes so that it can recognize that person's voice, which is done by reading words shown on the monitor into the microphone while holding down the space bar of the keyboard.

The code used

The 45 phonemes are represented by a code made up of 1's and 0's. The code is similar to a court recorder typing out steno, which can be read back. All code groups start with 1 and end with two or more 0's.

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Since phonemes are grouped by the shape of the mouth, tongue and lips, the codes used in one group of phonemes should be as different as possible from other groups. Some phonemes are longer than others and they should have a longer code. Of the 53 codes, only 45 are used with eight as spares. This code is exactly the same Varicode used in PSK-31, (Phase Shift Keying with 31 Hz bandwidth).

100, 1100, 10100, 11100, 101100, 111100, 1010100, 1011100, 1101100, 1110100, 1111100, 10101100, 10110100, 10111100, 11010100, 11011100, 11101100, 11110100, 11111100, 101010100, 101011100, 101101100, 101110100, 101111100, 110101100, 110110100, 110111100, 111010100, 111011100, 111101100, 111110100, 111111100, 1010101100, 1010110100, 1010111100, 1011010100, 1011011100, 1011101100, 1011110100, 1011111100, 1101010100, 1101011100, 1101101100, 1101110100, 1101111100, 1110101100, 1110110100, 1110111100, 1111010100, 1111011100, 1111101100, 1111110100, 1111111100

As shown, the code is the fastest speed for each phoneme. By adding one or more extra 0's to any code, the length of that phoneme is stretched by increments of 1/80 of a second. This is very important because voice speed is constantly changing. The original 45 phonemes are expanded to many new phonemes.

The software summary

Voice received through the computer's microphone is converted into numbers, amplified to a constant level, converted into 16 bands of frequency, cut into three parallel 37.5ms sections of time, compared in a two-stage process to a library of 45 phonemes that have been made by the operator of the radio, converted to a digital code, stretched to fit the operator's real speech, and sent to the radio in a way similar to QPSK-63 (Quadrature Phase Shift Keying with 63 Hz bandwidth) to be transmitted.

The modification of the WinPSK program

This software is modified from the QPSK-63 software. Moe Wheatley, ae4jy, has done an outstanding job on his open source WinPSK program and his documentation of the software. Please read the PSKCore.DLL (Dynamic-Link Library) Software Specification and Technical Guide at http://www.moetronix.com/ae4jy/winpsk.htm. The new QPSK-80 (Quadrature Phase Shift Keying with 80 Hz bandwidth) is a modification of the QPSK-63 software that is now being used over-the-air. It has a built-in error correcting code that corrects for one out of five digits being wrong. Before installing this QPSK-80 software, make sure your radio, interface and computer are working by testing the WinPSK program with PSK-31 over-the-air.

The transmit sequence

The transmit sequence starts with the pressing of the space bar on the computer keyboard and continues until the space bar is released. The computer speakers' D/A (Digital to Analog) converter is forced to zero. The AGC (Automatic Gain Control) is un-frozen.

The 400 ms synchronizing alternating series of ones and zeros is sent to the transmit section of the WinPSK program. This 80 Hz BPSK code is used by the other computers' receiver section of the WinPSK program to re-synchronize the 80 Hz clock. This insures that the receiver section of the WinPSK program is sampled in the middle of each code digit and is not sampled during the transitions.

The sampling 66,000 Hz clock starts the A/D (Analog to Digital) converter from the microphone input of the computer. Each clock cycle makes the A/D output a 16-digit signed number. Each number goes to the AGC (Automatic Gain Control) array and the AGC level adjustor.

The AGC is used to amplify the weak signal from the microphone to about 90% of the maximum value for the 16-digit signed number. This is done by TBD (To Be Determined) method. It will use the normal fast attack and slow decay, but it will be frozen when the space bar is not pressed.

The project description continues at: http://docs.google.com/View?docid=dggwnj3m_37fmwkfkhz

At this time I have not succeeded in learning any version of C++. Without help modifying and writing code, this project ends at this paper! Would you be interested in working on this project? Please contact me at mike-lebo@ieee.org or 858-278-5851 or Skype (Michael E. Lebo).

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Submissions: scope@palomararc.org
Questions? Ideas? Comments? W6NWG@amsat.org

This month's General Meeting will be held on 1 October, 2008 (The first Wednesday of each month) at the Carlsbad Safety Center. This month the program features the annual auction. Talk-in on 146.730 MHz repeater. Usually, our general meeting starts at 19:30 but members show up at 19:00 for setup and visiting beforehand. Because it's the auction, doors will open at 18:00 for sellers. Ridesharing and coordinating for dinner beforehand often occurs on the repeater on Wednesday afternoons. Everyone is welcome! Founded in 1936, PARC endeavors to serve the amateur radio community in San Diego County through various events and assets. Starting with monthly club meetings, weekly nets, and annual events (such as Field Day), PARC has a place for just about everyone. Our nets include the traditional NTS traffic net, emergency service nets such as Palomar, MARA, SATERN, and the Red Cross, and a number of special interest nets, such as Handi-Hams, Microwave, Off-Road, Ham Help, Hikers, and Facetious Group nets. With repeaters high upon Palomar Mountain, we are able to serve the local community under almost any condition, and particularly in times of need. Come by and visit with us on the first Wednesday evening of each month at the Carlsbad Safety Center.
See you there, *Steve Early, AD6VI, President*

NOVEMBER 2008

the

SCOPE

A newsletter by and for the Palomar Amateur Radio Club

SEE AND SUBSCRIBE TO THIS NEWSLETTER IN COLOR (VIA EMAIL) AT WWW.PALOMARARC.ORG

Nominees for the 2009 Board of Directors to be Announced at the November 5th Meeting

Elections will be held at the December general meeting, which is also our Holiday Social. I would like to recognize the nominating committee for their volunteerism. Your service to the club is needed and appreciated. Thank you!

The 2009 nominating committee includes Ron K2RP, Jo KB6NMK, Jim W6SST, and Mark KI6FVH.

Save the Date!

Club Meeting

7:30pm 5 November 2008

"Lessons Learned from Hurricane Charley"

presented by Wayne Barringer, KB6UJW

Board Meeting

7:00pm 12 November 2008

W6GNI QTH

Members welcome to attend.

November Sweeps!

The November Sweepstakes marks the beginning of the contest season. CW is the first full weekend in November (Nov 1-3) and phone is the third full weekend in November (Nov 15-17).

The contest begins 2100 UTC Saturday and ends 0300 UTC Monday. An operator may operate for no more than 24 of the 30 hours of the contest.

As 2008 is the 75th running of the November Sweepstakes, the ARRL is offering special prizes to help celebrate this Diamond Anniversary of the premier domestic contest.

For example, any station that submits a SS log with 75 sections worked will receive a special commemorative magnet free of charge!

Annual club auction.
Photo by KB5MU

Photo by W6SST

Photo by AK6QJ

Noble Canyon 50k

Amateur Radio provides quality public service to many events. This article describes how amateur radio supported the Noble Canyon 50k Race.

The 2nd Annual Noble Canyon 50K was a tremendous success. An "ultra run", the course included 20 miles of single-track trail down and up Noble Canyon, and also included 10 miles of trail over sections of the Pacific Coast and Big Laguna Lake Trails. Held on September 27th, 2008, the race began at 7:00am. The time limit for finishing was 9 hours. This year's winner, Eric Clifton, aged 50 years, completed the race in 4 hours, 44 minutes. 92% of those that began the race finished it.

A key component of this event's success was communications support provided by amateur radio volunteers. Jerry Kostro AK6QJ, Larry Plummer AE6AV and Georgia Smith KI6LAV served as Net Control. Three operators, Justin Pitcairn K6PPG, Miles Pitcairn KI6MHX, and Dave Ochs KI6LKP, had never done race communications before. Dave's wife Debbie, who does not have an amateur radio license, helped with logging and aid station work.

Another ham new to race communications was Conrad Lara KG6JEI, who staffed a water-only station called 1A (pictured at right).

Two aid stations had double duty. Penny Pines aid station had runners going out and coming back in at the same time. Two teams of three communications volunteers, Gary Kent W6GDK, Len Fulbright K5WFW, Tom Myrick N6JOJ, Paul Cookson KI6FIF, Dave Ochs KI6LKP and Debbie Ochs, ran it flawlessly.

Big Bend Aid Station, due to its position on the course, was the first and last aid station. Mike Oberbaurer KG6TDP helped our new recruits Justin Pitcairn K6PPG and Miles Pitcairn KI6MHX do an outstanding job in the hot sun at Big Bend. All the equipment had to be carried in and out by hand on a narrow trail for ¼ mile. This station was the first to be set up and almost the last to be taken down.

Although in the past most of the volunteers for the event have come out of the Palomar Amateur Radio Club, Paul Schmidt K6PKS, Larry Plummer AE6AV, Mike Oberbauer KG6TDP, Tom Myrick N6JOJ, Len Fulbright K5WFW and Paul Cookson KI6FIF of the El Cajon Radio Club volunteered this year, providing an almost even split between the two clubs. The increase in diversity provided opportunities

Photo by Mike O.

Photo by W6SST

Above left, a runner approaches an aid station. Photo by Mike O.

Above middle and right is Larry AE6AV as net control and on the FRS radio to the Finish Line. Photos by AK6QJ.

for the volunteers to meet new people and form new friendships, and plans are in motion to expand recruiting to the many other local amateur radio clubs for next year's event.
Another amateur radio operator, Rich Beisigl N6NKJ, who was monitoring the traffic as a radio spectator, stepped in and provided volunteer assistance by relaying messages when communications were temporarily troubled between several aid stations and Net Control. Rich Beisigl N6NKJ is also an El Cajon Amateur Radio Club member.
Paul K6PKS, who like many volunteers does not like to be singled out, has a combination of experience in the sport of ultra running, physical education training and amateur radio that makes him a key volunteer for races like the Noble Canyon 50K. Paul freely shares his knowledge and passion for these events. While he would describe it as a team effort, anyone that gets a chance to work with Paul "is in for a treat," according to Jim Egerton W6SST.
Jim, the amateur radio communications director for the event, recruited, organized, prepared, and coordinated all of these volunteers. From an interest list and previous volunteers, he developed a team, made sure that people new to public service communications were teamed with experienced operators, and provided guidelines, contact information, and instructions in advance of the event.
Jim stated that the combined efforts of the communications volunteers helped each and every runner meet their goals. Each runner had a great experience and a terrific day, and the excellent communications provided by the

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News Note

North County Fire Chief Bill Metcalf acknowledged the following as providing valuable help during the Rice Fire.

• Fallbrook Amateur (Ham) Radio Club: "They put people in our emergency operations center and helped us communicate. We are currently looking at ways to strengthen their involvement. This is a great group of community volunteers who function behind the scenes."

Club Reports

Membership Report

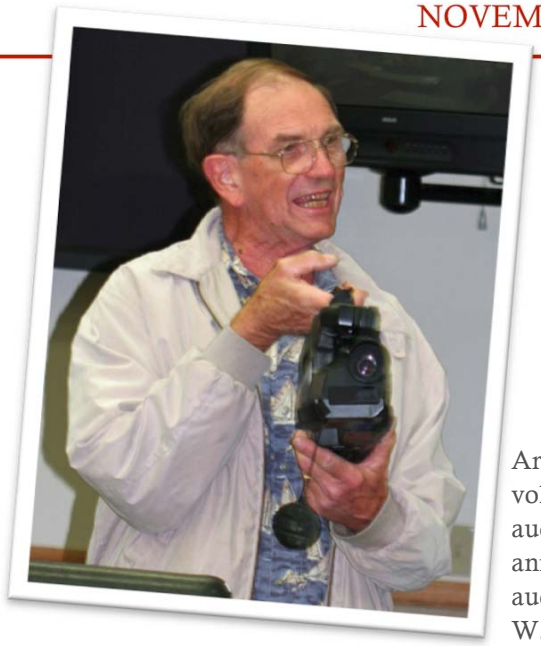
New Members Joining PARC:

KI6BTP, and KI6TEH. Also, three members reinstated their expired memberships. Let's welcome all members!

Check your mailing label!! Watch for the colored "Please renew now" and avoid the dreaded Red "Last Issue" on your SCOPE label. "Last Issue" means your membership expires within a few days, or has expired very recently.

As most know by now, your investment in repeaters, batteries, etc. has paid off again with the 2008 Fire Emergency. You and the ham radio community can rightfully be proud; hopefully proud enough to maintain your membership in PARC!

Al Donlevy W6GNI



Art KC6UQH volunteering as auctioneer at the annual club auction. Photo by W5NYV.

Fold and Staple

Last month's fold and staple team was KB6NMK Jo, W6GNI A & Kathy.

We need a few more. Drop by the membership table at the general meeting to find out more about this fun way to participate in the club.

Club Auction Success!

The annual club auction was held in Room 1 and 2 at the Carlsbad Safety Center on October 1st. Funds were raised and a good time was had by all. Pictured at right are Bob Birch KG6RGI and Dennis Baca KD6TUJ. Among others, they worked the registration table where items were accepted and tagged.

Photo by KB5MU.

The Auction Process

The auction begins with sellers arriving early to register and drop off items for sale on tables in the front of the room. Potential buyers get a number and raise their number when bidding. Highest bidder wins! Pictured at left is Loren, successfully bidding for one of the many interesting items for sale.

Photo by W5NYV.

Club Reports

Contest Report
CA QSO Party

Call: N6KI
Operator(s): N6KI, N6OX, NN6X
Station: N6KI

Class: M/SFixed HP
QTH: SDIE
Operating Time (hrs):
21.7

Summary:

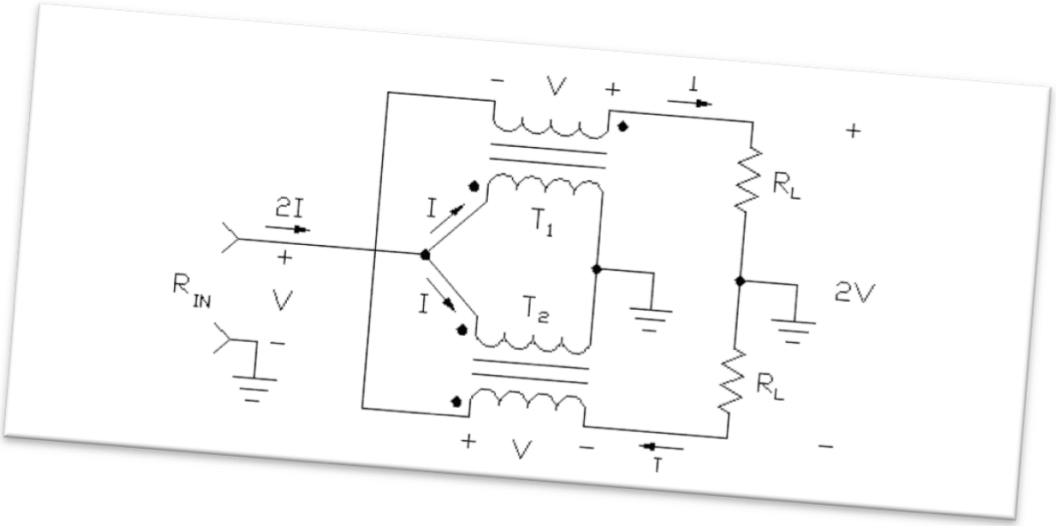
Band	CW Qs	Ph Qs
160:	5	4
80:	147	134
40:	173	280
20:	303	469
15:	26	7
10:	3	3
6:	1	1
2:	0	0

Total: 658 898 Mults = 58
Total Score = 218,660

Club: Southern California Contest Club

Comments:
Managed to get a team together just late Friday and unfortunately missed the first 4 hours of the contest due to no starter Op Saturday morning. CT for DOS was really screwed up for CQP so may have to bite the bullet and get WinTest on Board for next year! Worked several Dozen DX stations on 20 and finally found a small opening on 15m Sunday afternoon. 80 was "drop a pin" quiet and almost though we were on 40 with all the stations we worked (277 ! . Needed only 2 mults by Saturday eve and the NT and AK finally cane by Sunday for a sweep.
SteppIR MonstIR at 72 ft, Coaxial Stub Inverted V at 72 ft apex, 160 wire.
IC-7800, ACOM 2000A
73, Dennis N6KI

Proposed New Transmitting Loop Antenna for 40m



Above is the "improved 4:1 current balun" circuit for the antenna Chris N7ZWY has described as a new transmitting loop antenna for 40 meters. In particular, Chris explains a new tuning method that does not involve a series capacitor or gamma matching.

This would be handy for portable (and possibly mobile) contest operation where a full-sized antenna would be impractical.

http://www.home.earthlink.net/~christrask/Transmitting%20Loop%20Antenna.pdf

73, Dennis N6KI

A critique of the Chris' design can be found at

http://www.w8ji.com/balun_single_core_41_analysis.htm.

October Board Meeting Minutes

The meeting was called to order at 7:09 PM by Vice-President Dennis Baca KD6TUJ. The meeting was held at the home of Al Donlevy W6GNI. Present at the meeting were:
President Steve Early AD6VI
Vice-President Dennis Baca KD6TUJ
Secretary Loren Hunt AD6ZJ
Director #1 Tom Martin KG6RCW
Director #2 Paul Williamson KB5MU
Membership Al Donlevy W6GNI
Treasurer Bob Birch KG6RGI
Scope Editor Michelle Thompson W5NYV
Repeater Site Mike Pennington K6MRP
Guest Conrad Lara KG6JEI, 2008 Field Day Chair

---Treasurer's Report

Bob KG6RGI distributed the report. Total Assets are $14107.82. The prepaid dues are $7029.00. Property taxes are coming up and they are $244.30. A motion to accept the report was made by Loren AD6ZJ and seconded by Mike K6MRP. Motion was carried.
Paul KB5MU made a motion to authorize the property tax payment. Seconded by Al W6GNI. Motion carried.

Secretary's Report

Loren AD6ZJ presented the Secretary's report and addendum with the October 1st special meeting minutes. The October special meeting minutes will be sent to Michelle for inclusion in the November Scope. A motion to accept the report was made by Tom KG6RCW and seconded by Mike K6MRP. Motion was carried.

Discussion Items

General Meeting: November topic: Wayne Barringer Lessons Learned from Hurricane Charlie. Meeting will be held in room 3 of the Carlsbad safety center.

Future Topics:
December is the social and elections
January Ron Pollock K2RP on vintage HF rigs radios
April Old Broadcast Repeaters – Lin Robertson on old time radios.

Special Board Meeting Minutes

The meeting was called to order at 8:14 PM by Vice-President Dennis Baca KD6TUJ. The meeting was held at the PARC repeater 147.130. Those present on the air were:
Vice-President Dennis Baca KD6TUJ
Secretary Loren Hunt AD6ZJ
Director #1 Tom Martin KG6RCW
Membership Al Donlevy W6GNI
Treasurer Bob Birch KG6RGI
Scope Editor Michelle Thompson W5NYV
Repeater Site Mike Pennington K6MRP

Discussion Items

1. **Tower Painting quote**
   - Dennis KD6TUJ opened continuing discussions on the Destiny Painting Tower Quote now that the insurance papers had been corrected
   - AD6ZJ – No Questions on the quote
   - KG6RGI – Was the spelling error corrected – Yes per the PDF
   - KG6RCW – No questions
   - W6GNI – No questions
   - W5NYV – No questions
   - KD6TUJ made a motion to accept the painting quote 2nd AD6ZJ

The motion went for a vote with the following results:
KG6RGI Bob – Affirmative,
W6GNI Al - Affirmative ,
AD6ZJ Loren – Affirmative,
KG6RCW Tom - Affirmative,
W5NYV Michelle - Affirmative
K6MRP Mike - Affirmative
The motion carried – unanimous

- KD6TUJ Dennis will contact Destiny painting as to the timing and coordination of the painting

KG6RCW Tom made a motion to adjourn seconded by Mike K6MRP. Motion carried at 8:22

October Board Meeting Minutes

Membership Report: Presented by Al W6GNI
Current club membership is 367.

Repeater Technical Report: Presented by Mike K6MRP
- Starting to prepare site for winter. Some of the winterizing needs to wait until after the tower painting is complete.

Repeater Site Report: Presented by Mike K6MRP
Still working on getting the tower painted – see old business. Bob KG6RGI would like to get started on painting buildings at the repeater site on the weekend of the 8th and 9th. Tom KG6RCW made a motion to let Bob purchase paint not to exceed $100.00 the motion was seconded by Mike K6MRP. The motion carried. We need a picnic table at the repeater site. Michelle W5NYV will put an add in the scope.

OLD Business:
- Mike K6MRP made a motion to accept the proposal from Destiny painting for painting the tower. The motion was seconded by Al W6GNI. There was further discussion about insurance riders and if we need one or not. Bob KG6RGI will check on insurance Thursday morning to get an answer on insurance from our carrier. Dennis KD6TUJ will contact Destiny painting to have the PARC site added to their insurance. An on air meeting will take place Thursday evening at 8:00PM on the 130 machine. The motion will be tabled until the Thursday night on air BOD meeting.

New Business:
-Ed Lincoln wishes to donate his ham equipment to PARC. John WB6IQS and Tom KG6RCW will coordinate and go visit. Al W6GNI will call John to set it up.
- Auction report – There were only 70 lots at this years auction. The clubs profit in total was $154.30, almost $100.00 dollars less than last year.
- Need more Scope articles.
Place of next Board Meeting: Home of Al Donlevy W6GNI

Motion to adjourn made by Tom KG6RCW and seconded by Loren AD6ZJ. Motion carried at 8:24PM.

PARC Special BOD Meeting October 9th on the 147.130 repeater
The meeting was called to order at 08:00PM
The following board members on frequency for the meeting:
Vice-President Dennis Baca KD6TUJ
Secretary Loren Hunt AD6ZJ
Director #1 Tom Martin KG6RCW
Treasurer Bob Birch KG6RGI
Repeater Site Mike Pennington K6MRP

Item up for discussion:
Tower painting quote from Destiny Painting
Destiny Painting has insurance to 4 stories. The PARC tower is the equivalent of 8 stories
It will take several days for a rider to be added and show proof.
K6MRP recommends tabling the discussion until proof of insurance can be obtained.
Dennis will continue to contact Destiny by phone and email

Loren AD6ZJ made a motion to table discussion until proof if insurance can be obtained. Mike K6MRP seconded.
Discussion: Dennis will follow up with Destiny painting on proof of liability and workman's comp insurance and on the PARC rider on the policy. Motion carried.

Serving as an Instructor

by Peter Singer W2PWS

In 2003, I took a General license course given by Jim Cooper, NE6O. As a result of Jim's assistance, I succeeded in achieving my General ticket. Last December, I took a similar Amateur Extra course offered by Steve Early, AD6VI. As a result, I was successful at advancing to ham's highest level. One of the things that struck me was the dedication of these volunteer instructors and their willingness to offer their spare time to others.

In an effort to "give back" and advance our hobby, I decided to offer a similar class to wannabe Techs. So on October 18th, I ran a one-day Tech preparation class at the Scripps Ranch library. I had arranged for a SANDARC VE team, headed by Harry Hodges, W6YOO, to join us at the end of the day to administer the exams. (In addition to our class session, I provided materials and aids in advance and encouraged the students to start studying.) I am happy to report that of the 18 students in the class, all but one became new hams that day. In fact, one immediately moved on and passed the General exam as well.

Putting on this class was actually easier than I had anticipated. For all who have benefited from the assistance of Elmers and/or others who selflessly volunteer their time to this hobby, I encourage you to do the same. Not only is it rewarding, but it is also good for Amateur Radio!

Slow Speed CW Practice Net

By Bob Grunic NC6Q

There is a new Slow Speed CW Practice Net on HF to encourage the use of Morse code and to provide an opportunity to practice CW operating skills for hams in the greater Long Beach area. It meets Friday nights at 7:30 P.M. (except on the 1st Friday of the month). This Net meets on 28.130 MHz (plus or minus QRM)—open to all class licenses. It is a slow speed net of around 12 wpm with lots of extra space between characters and words. All stations are welcomed no matter what (slow) speed.

We are happy to slow down to accommodate you. There is no membership requirement, no dues, no club affiliation, no meetings, no problems. Check in when your schedule permits.

This Net is sponsored by the Associated Radio Amateurs of Long Beach (ARALB). Rules and procedures can be found on the club website at www.aralb.org in pdf format and at www.nc6q.com for easy download and printing. Please become familiar with the Net rules before checking in. They're simple but require some forethought.

So, dust off your key, put up a 10 meter dipole, and check it out. Please direct questions or comments to Bob Grubic, NC6Q, nc6q@arrl.net.

Dennis N6KI writes, "A new Macintosh CW training program called "Morse Trainer" has been released by AD5RX and may be downloaded free from Source Forge. The program simulates QRM and QSB and it allows the user to control effective speed and actual speed settings.

In addition to those basic features, it offers the ability to set the number of stations QRMing and the ability to read the code back to you (in English) to check your written (or typed) transcription. (Thanks, John W4PAH)"

http://sourceforge.net/projects/morsetrainer/

Noble Canyon 50k

continued from page 3

volunteer team were an integral part of positive evaluations of the event. Scott Mills, the race director, shared the following email from a participant in order to illustrate how well the runners felt they were supported.

"Yesterday's 50k was my first distance beyond 26.2. I wanted to thank you, as race director, for putting together such a fabulous event. You thought of everything! From the mid-race snacks to the post race feast. Coca Cola never tasted so heavenly to me! The volunteers? Oh my gosh. They were like angels! Priceless. I love them all. They were so helpful and at the top of their game. They filled my camel pack! What a treat! Someone ran up the course to hand me Advil from his own car. I could have kissed the guy who squeezed cold water on my hands 4 miles from the finish. Amazing people out there to help us all. What a great bunch of people. Fellow runners were equally inspiring and encouraging the entire distance. It's a whole little community of cool people."

Jim described one of the communications support stations that highlights the qualities desired in public service events such as the Noble Canyon 50K.

"There was an aid station called the Rat Hole. It was manned by two of the best hams I know, just not from the formidable radio expertise but from their extensive record of community service. Bob Birch KG6RGI (Really Good Information) is a 35-year plus volunteer with the American Red Cross and board member of the Palomar Amateur Radio Club (PARC). Tom Martin KG6RCW is a also a board member of PARC and one of those go-to guys when you really need someone with his unique skills of leadership. Their calm demeanor and kind words provide compelling reasons for putting them on any communications team."

Jerry Kostro, who served as Net Control, strongly agreed with Jim's assessment of the

continued on page 10

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Printed October 2008 issue of SCOPE
(Mailed Sept. 2008)
Signed: A.L. Donlevy Publisher
09/24/2008

Noble Canyon 50k

continued from page 9

success of the communications support.

Jerry wrote, "Thanks to the Race Director Scott Mills, Jim W6SST and Paul K6PKS, the event went very well. First and foremost, it was a safe race with only a few minor cuts and scrapes. Race staff and communicators worked well together, and information flowed between the various stations quickly and accurately. At no time during the race did we "lose" anybody - we had a pretty good idea where everyone was on the course at all times.

"Larry AE6AV and Georgia KI6LAV did great in keeping up with the paperwork and the many varied requests that came in over the net.

"Both runners and volunteers were well supplied with food and drink. Nice breakfast in [the morning] and an excellent sandwich bar in the afternoon. Desert (extra large cookies) was especially appreciated!"

Jerry continued with a description of the only significant problems encountered by the communications support team.

"As the sun came up and the heat increased, communications became increasingly scratchy between Net Control and the various aid stations. Once we correctly diagnosed the problem, reliable communications was restored. The radio operators at the aid stations did an outstanding job of getting traffic through until we solved the problem."

The solution was to make an adjustment at Net Control by changing to a more effective antenna.

Repeater glitches and batteries running low in the afternoon were dealt with quickly and proficiently. The last counts of the participants are critical as they are made to make sure everyone made it safely to the finish line.

Pictured to the right are "two of the best" at The Rat Hole aid station, Bob Birch and Tom Martin.

Communications keeps everyone safe. These long-distance running events require an enormous effort from the participants and require a long recovery time. A commonly cited rule of thumb is that one day of recovery time for every mile run is required. So, for a 50K race, about 30 days is required to completely recover. For a 100-mile race, at least three months is usually needed in order to back in top form. Participants in these events often do 30 to 50 miles of training runs a week. These are long, difficult events where safety concerns range from dehydration, heat exhaustion, musculoskeletal injuries, getting lost, or the obstacle of unexpected desert weather.

Repeater glitches and batteries getting low in the afternoon were problems to deal with during the critical last count to make sure everyone is back to the start finish line. These challenges were dealt with quickly and proficiently.

"We need more young operators to come and see how much fun this can be," Jim said in closing. "We also need more non-hams that can log runners and help at the aid stations. Come on out next running season and let's do it again!"

The third annual Noble Canyon 50K trail run is tentatively scheduled for September 26, 2009. The Bad Rats Running Club sponsors the event and has an informative website at http://www.noblecanyon50k.com.

Photo by W6SST

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Editor: Michelle Thompson W5NYV
Submissions: scope@palomararc.org
Questions? Ideas? Comments? W6NWG@amsat.org

Featured Program

"Friday, Aug 13, 2004: Hurricane Charley slammed the West Coast of Florida, changing the landscape of ocean-facing shores and completely destroying oceanfront properties as it headed to Punta Gorda in Charlotte County. The fully staffed Emergency Operations Center lost its roof in the storm, the local airport was completely destroyed, along with the electric and communications infrastructure…"
Hear more at the November 5th Meeting!
Presented by: Wayne Barringer, KB6UJW

Hurricane Charley photo courtesy of NOAA

DECEMBER 2008

the SCOPE

A Newsletter by and for the Palomar Amateur Radio Club

Photos by W5NYV.

Our Nominees

I am pleased to announce the nominees for the 2009 Board of Directors for the Palomar Amateur Radio Club. Elections will be held at the Club Meeting on the 3rd of December.

President Dennis Baca KD6TUJ
Vice President Terry Runyon K3PXX
Secretary Loren Hunt AD6ZJ
Treasurer Georgia Smith KI6LAV
Director #1 Paul Williamson KB5MU
Director #2 BALLOT
Conrad Lara KG6JEI
Steve Jensen KI6JEX

Please join us for our Holiday Social and Elections. We will have food, fun, and fellowship. Set aside some "dessert room" for holiday goodies, as many club members bring treats of every type.

Call To Action

The City of San Diego, which is currently suffering through a severe financial crisis, seems have time and money to spend on new restrictive regulations against Amateur Radio.

If these new regulations are enacted, you can be sure that it will become extremely expensive and almost impossible to install a new antenna in San Diego.

Read about the proposed new regulations and what you can do to help on page 2.

Save the Date!

Club Meeting
3 December 2008
Holiday Social

2009 Board of Directors Elections

Skywarn Recognition Day
6 December 2008
0000-2400 UTC
80m-2m phone

Board Meeting
10 December 2008
7:00pm at the QTH of W6GNI

How To Help

Comments should be titled "Draft Amateur Radio Communication Amendments" and submitted to dsdldc@sandiego.gov no later than January 2, 2009.

Summary of New Regulations

In a nutshell, new antennas will require

1. An expensive "Process Three Site Development Permit"

2. Installation on an expensive retractable tower and retracted when not in use.

3. Location in the least visible location on the site from adjacent public rights of-way and adjacent properties.

4. The quality of being reasonably screened from adjacent public rights-of-way and adjacent properties.

5. It to be removed if not used for 2 years.

Possibility of Retroactive Enforcement

There is also a good chance that they might retroactively attack existing antennas on the location, screening and retraction issues.

These new restrictive regulations are not needed. The current regulations work and do not need modifications.

Take the time today to write a short, polite, firmly-worded email about this issue and help amateur radio in San Diego. The best way to make an impact is to speak up about the negative effects of a proposed regulation. Hearing directly from as many different members of the affected population as possible is vital to affecting the outcome of the proposed regulations. Comments should be titled "Draft Amateur Radio Communication Amendments" and submitted to dsdldc@sandiego.gov no later than January 2, 2009.

President's Message

The November Meeting included nominations for the elected PARC board positions: President, Vice President, Secretary, Treasurer, Director #1 and Director #2.

Only one nominee was presented for each of these positions, except Director #2, so there will be an election for Director #2 at the December 3rd meeting.

The November meeting was "Lessons Learned from Hurricane Charley", presented by Wayne Barringer, KB6UJW.

It was very informative on what is expected of amateur radio operator volunteers during such events.

Also in November, the PARC board took the steps necessary to have the tower at our repeater site sealed with epoxy paint and to add additional paint to the buildings.

The idea is to help our facilities last at least another 25 years, for our use.

The December 3rd Meeting will be our annual elections and Christmas Social. Per PARC Bylaws, at the end of this meeting, PARC will have a new president.

I am thankful for the opportunity to have served the club and I am pleased with that have been nominated to lead PARC next year. I hope that you will join me in supporting them to the best of each of our abilities for the next year.

I hope to see you on December 3rd.

Steve Early, PARC President

New Ham Radio Antenna for Elfin Forest

By Mickey Cross

On November 6, Tom Martin, KG6RCW, and Jim Egerton, W6SST, helped install a Diamond X-50 2 m / 440 Dual Band antenna on the roof of the Elfin Forest Fire Department.

Up to this time, the fire department did not have a ham radio on premises, but thanks to a grant from the Elfin Forest Community Foundation, Mickey Cross, KI6CSY, was able to purchase the antenna along with a 2 m/440 dual band Yaesu FT-7800 and power supply.

During the 1996 Harmony Grove fire, all of the communications equipment in Elfin Forest did not work due to overloaded or burned lines: land lines, cell phones, and fire department radios.

Although fire department communications radios have improved, Mickey felt it was important to have back up communications.

The residents of Elfin Forest want to express their appreciation for all of Tom's preparation work and the items he donated and for the time that he and Jim spent getting the antenna set up.

Good Amateur Practices, Revisited

Some eighteen months ago, I wrote an article for the Scope, titled: What is "Good Amateur Practice", and how can it affect us?

The Scope Editor liked it so much that it ran as the Presidents' Message rather than my usual submission.

What I wrote then is just as valid today, but recent events in the regional Amateur Radio Community have caused me to reflect on this topic again.

At the time, I wrote about how we conducted ourselves off of the air, and how the general public might perceive that.

In a QST article, Riley Hollingsworth was quoted:

"Good amateur practice is a hard thing to define… I'd have to say it's operating with the realization that frequencies are shared, that there's going to be occasional interference and that's no reason to become hateful and paranoid."

This article pretty much said that good amateur practices amount to being a good neighbor when on the air and gave several good examples.

Recently, it was brought to my attention (by a number of operators, both young and old), that some of our seasoned veterans have decided that newer operators should look elsewhere for a home, rather than with PARC or PARC repeaters.

These self appointed vigilantes have an apparent habit of making off-color personal comments, and in some cases have flat-out told the newer hams to look for other repeaters.

Their actions have painted PARC with a broad brush, giving the message that PARC does not welcome new operators.

As President for the last four years, I can assure you that PARC leadership has worked long and hard to communicate a very different message.

The PARC Message should be "Everyone Welcome".

I would like to cite the patient example of Rod Dinkins AC6V (SK), who would greet all new hams on our repeaters, and work with them to be better operators. Rod in particular, and others, in general, would go out of their way to help new operators feel welcome and improve at the same time.

Why has this changed, and what can we do about it?

Well, for the most part, it has not changed. Most of us welcome new hams openly.

However, there are few grumpy old men that need to reconsider their positions on the next generation.

I think that we can all help by welcoming new operators and provide encouragement for them to join PARC, learn our protocols, and become better operators.

On the other side of the equation, we can each take the grumpy old men aside and encourage them to be better operators as well. If they decide that they don't have to be friendlier, then perhaps PARC Leadership may invite them to find other repeaters on which to be grumpy.

Regardless, your help is needed in making PARC a friendlier place.

That kind of help is a major part of Good Amateur Practice.

Steve Early AD6VI

Can You V-F-T-O-M?

by Wayne Barringer KB6UJW

The topic of radio operator proficiency frequently surfaces at some very predictable times throughout the year. Unfortunately, many of the times, the focus is a repeat topic from past years.

I'm sure it doesn't happen everywhere, but it certainly seems to be a popular focus of discussions during annual exercises, training or any time radio operator proficiency is anticipated.

For example, take passing messages between radio operators during a scheduled exercise. It seems as if every year, "someone" has to be reminded (usually on the air during the drill) to "slow down" (does this also happen in your area, too?)

Why does it seem to be so hard to remember we can speak much faster than we can write?

Or how about the topic of being able to program your own radio! Is it only where I live, or does that also happen repeatedly where you live? I wonder, why is it so many of "them" seem to wait until the day of exercise to "test" out their skills levels...only to bring a renewed level of frustration or embarrassment to other participants who are prepared, ready and wanting to be professional?

Why does there always seem to be one or two radio operators who are willing to "show up" and ask others to program the radio they bring to the exercise?

Field Day is months away. As it gets closer, the radio airways will become very "busy" as local groups enter the fray and try to "beat" the competition...well, in "points" anyway!

Maybe this is a good time to pass on a simple reminder that each of us is individually responsible for our own preparedness, and how we conduct our radio operations.

Got a new radio recently? Or, maybe you've again discovered an old rig in the garage and want to test it out during Field Day?

Here a simple "self-test" you can use to evaluate your own operator proficiency before you ever walk out the door.

V-F-T-O-M stands for:

1. **Select the [V]FO mode**
2. **Program the desired [F]requency**
3. **Select the [T]one option**
4. **Program the offset, either "+" or "-"**
5. **Save it into [M]emory**

V-F-T-O-M is an easy way to evaluate your familiarity with your own equipment "before" you even leave the house.

Either way, learning and practicing V-F-T-O-M will go a long way to reducing the chance that you will be the one to show up, carry your radio up to the group, and ask, "Does anyone know how to program my radio?"

Be safe. Stay ready.

Above, Wayne Barringer KB6UJW gives a presentation on Lessons Learned from Hurricane Charley at the November 2008 Palomar Amateur Radio Club general meeting. Photo composite edited by Paul KB5MU from Dennis KD6TUJ's video.

Club Classified Advertisements

Personal equipment ads are free to members and will run for at least one month.

Send your ad to scope@palomararc.org

Commercial ads are $2 per column inch per month. We will adjust your ad copy to conform to the number of inches bought.

(9.23) Yaesu FT-301D HF transceiver. Club Donation. 160 - 10 meters, SSB, AM, FSK, CW modes. Full power output 100 watts and RX sensitivity is very good. Red digital LED display down to 100 Hz. With mobile microphone, external +12V power supply and factory manual. $200. See WB6IQS John at club meeting or e-mail at WB6IQS@att.net.nospam.

(9.23) This radio, pictured below, belonged to my father, John Wesley Budd MD. He retired at the end of WWII with the rank of Commander in the Medical Corp. He was attached to a Marine Air Wing and he took the radio all over the South Pacific with him during the war. He was involved in the Battle of Guadalcanal and others in the Solomon Is. After retirement from his medical practice, in 1970, he learned Morse Code and was active in Ham Radio. His call sign was WA6BTM. He probably went under the name of 'Bud'. He passed away in 1994 at the age of 89. I know he would be very proud to pass the radio and speaker on to whoever could make use of it. They may need a bit of tuning up.
- Joanna Budd Bravender

Contact board@palomararc.org if you would like to adopt and refurbish this radio.

WW6E Silent Key

Dennis N6KI reports, "About 10 years ago, mas o menos, Buck was a "Notorious" character and fixture on the 73 repeater. He spoke with a heavy "Okie from Muscogee" accent and was always wheeling and dealing ham gear. He was always there to help anyone needing any kind of help."

He and his XYL Mary WW6C (formerly N6NOG) had moved back to Joplin, MO

Buck passed away on August 20th at 4:30am in Joplin, MO. Services were August 25th at 10:00am in Joplin, MO. He was buried in Tipton Ford, MO at the Spring Valley Cemetery. He was 66 years old.

Help Mataguay

Ernie Cowan writes, "Hi there…I am trying to assist in acquiring VHF equipment to set up a station at the Mataguay Boy Scout Camp near Warner Springs. My son is the resident ranger/caretaker there and they only have telephone communication. During a fire, there are concerns that phone lines might be down.

"I am hoping we could find equipment that people might be willing to donate, including base unit, ht's, mobile, power supply and antennas so that a good system could be set up at the camp. It could also make a great club project.

"The equipment would be donated to the Boy Scouts of America, so it would be tax deductable. Perhaps you can help spread the word and have anyone interested in helping contact me at (760) 518-8050.

"Best regards,
Ernie Cowan KE6GGP"

PARC Anniversary

The club began in February 13,1936 as North San Diego Radio Club. The name changed to Palomar Radio Club prior to the June 1936 publishing of QST. Association with ARRL began on May 8, 1937. February 2009 marks our 73rd anniversary. Two more years will be our 75th and we would like to do something very special.

- First, we would like a volunteer to lead the 75th anniversary organizational effort. We would like to see events throughout the year take advantage of our anniversary theme.

- Second, we would like to hear from all of you that may have any stories, memorabilia, documents, photographs, and other items that could be presented and shared at our 75th anniversary events.

Please contact board@palomararc.org or any officer at a meeting to help with making our 75th anniversary year special.

Thank you for your participation and support.

Dennis KD6TUJ
Michelle W5NYV

The First Transceivers

Virtually all HF "radios" manufactured and in use today are "transceivers." We take for granted that when we push the microphone "push to talk" or activate the VOX, we're transmitting on the same frequency that we're listening on, unless we have the "split" mode activated. This was not always the case!

Until the advent of the transceiver, we used separate receivers and transmitters, typically with no common components. Usually, the same antenna was used, and switched between the units by a relay or electronic TR switch. This meant that the received frequency and transmitted frequency were determined independently.

Before World War II, most transmitters were crystal controlled and receivers were tunable. Each ham had a handful of crystals for each band worked, and was restricted to those frequencies. Some transmitters had multiple crystal sockets with a switch to select the desired transmit frequency without plugging and unplugging crystals. For example, my 1950 vintage Viking I has ten switch-selected crystals, while my 1956 vintage Heathkit DX 35 has three. The receivers were tunable, and many, if not most, contacts were conducted on two different frequencies. As a holdover from those days, we sometimes still hear an "old timer" finish his CQ with his call followed by "and tuning." The practice, after calling CQ was to tune up and down from the transmitting frequency listening for replies.

Following the war, the VFO, or Variable Frequency Oscillator, became common. A number of manufacturers, including Hallicrafters, Heathkit, Johnson, Meissner, WRL and others offered outboard VFOs that could plug into the crystal socket of a transmitter, sometimes with minor modifications, and allow the operator to choose any frequency in the band. (The first Novice licenses, beginning in 1951, were restricted to crystal control. This restriction was in place for many years.) Some manufacturers, notably Collins, began incorporating VFOs into their transmitters.

The technique of adjusting the transmit frequency to the receive frequency was known as "zero beating." Most operation in those days was on CW and AM, and the procedure was as follows. To match an AM signal, the VFO only (no amplifier) was activated, and the frequency tuned until a heterodyne (a loud whistle) was heard. The frequency was adjusted slowly until the pitch of the heterodyne became lower and lower and eventually became inaudible. At that point, the transmit and receive frequencies were the same. On CW, the BFO was turned off, and the VFO adjusted similarly until the CW signal was heard, as the VFO acted as the BFO. Again, the frequency was adjusted until the beat frequency disappeared, or "zero beat" was achieved. Of course, this was a somewhat cumbersome procedure, but having both stations on the same frequency was a great advantage in reducing QRM.

During the 1950s, SSB became more and more popular, and most of the commercial SSB units used a heterodyne type of frequency determination so that the SSB signal could be generated at one frequency and mixed with the VFO frequency to provide output in the desired band. In 1957, Collins introduced the KWM-1 transceiver, the first to offer "automatic zero beating." Since the same VFO was used to control the transmitter and receiver, the user was automatically transmitting on the receive frequency. Although this is the norm today, it represented a great advance in terms not only of operating convenience, but also in size, weight, and cost. As the state of the art advanced, not only was the VFO shared, but audio, IF, filter, metering and power supply functions were shared as well. The original transceivers, the Collins and the others we'll discuss, were aimed at the growing mobile market. Ease of

operation and size were most important to mobile operators. The KWM-1 was restricted to the 10-11-15-and 20 meter bands (note that 11 was still a ham band until 1958!). It was a great success, and is much in demand on the collector market today. However, with a mobile power supply, speaker, and mounting bracket, the cost of the installation was upwards of $1100! Although Collins quality of production and engineering was legendary, the cost of a mobile setup could equal or exceed the value of a decent used car it was mounted in!

Shortly thereafter the KWM-1 was superseded by the KWM-2, which added 80 and 40 meter coverage. It was still expensive, but was a popular choice in that era. I believe these were the first of the "true" transceivers. There were some rigs made that combined a transmitter and receiver on the same chassis, but had few if any common circuits except the power supply. These were not transceivers in the sense that operating circuits were not shared.

In the early 60s, some other manufacturers jumped on the bandwagon and introduced their own transceivers, again aimed mostly at the mobile market, although they could be used as fixed stations. Two typical early transceivers are shown here.

Collins had perhaps the most advanced development and production facilities, so it's hard to believe that perhaps the next transceiver to hit the amateur market was built in a garage in Benson, Arizona. In 1961, Swan introduced three small SSB only transceivers, the SW 120, 140, and 175. These were single band units, operating on the 20, 40 and 75 meter bands respectively. They were meant primarily for mobile service, and only 12-volt power supply was offered. In contrast to the pricey Collins, each transceiver cost only $275, plus another $100 for the power supply. Instructions were included for using the radio on other AC powered supplies. The tube complement was 14 tubes, including a 6DQ5 final, which ran about 125 watts PEP input.

These became immediately popular, and inspired generations of small, moderately powered and moderately priced SSB transceivers by Drake, Hallicrafters, National, and others. By 1963, Swan had moved out of the garage and relocated to Oceanside, right in our backyard. Many of our older members remember the factory and know people who worked there. Talk to our older club members, and you'll hear some oral history! At this time, The Swan 240 was introduced. For only a few dollars more ($320), the buyer could enjoy three bands of coverage: 75, 40, and 20 meters. An AC power supply was offered at $95, which was compatible with the earlier single banders. The legendary Swan 270, 350, 400 and 500 followed, all during the 60s.

It wasn't long before Heathkit, the leader in electronic kits, made their offering. In 1963 the HW12, HW22, and HW32 (75, 40 and 20 M) single band SSB transceivers were introduced, and the astounding low price of $120 each. For less than half the price of the SW series, the buyer was rewarded with a similar receiver, but 200 watt PEP input using 2 6GE5 tubes, built in VOX, optional crystal calibrator, switching for external linear, among other features. Matching power supplies for AC and DC (mobile) were offered. The HP 13 mobile supply listed at $60, while the HP23 AC supply was only $40.

Perhaps this series accounted for the tremendous increase of SSB activity in the early 60s. A beginning ham, or more experienced one, who might not have been convinced that SSB would supplant AM could "get his feet wet" on one band, with power supply, mike, speaker and transceiver and get change from $200! For comparison, the Heath Apache, a 150 watt AM transmitter only was about $250. Note that this is for a transmitter only, while the HW12 series was a transceiver. The Apache was a complicated kit to build, while the new transceivers were built on one circuit board.

These proved to be enormously popular, and

there are many that survived. There were even a couple of kits made by other vendors to convert their single banders to three-band operation. In 1966, some slight improvements were made, and an "A" version replaced the originals. Production continued until 1974, making an 11-year run with no substantive changes.

Of course, there were some disadvantages to transceivers. These early ones had no provision for CW operation, and in fact the receivers only covered the phone portion of the bands. Now, of course, the phone bands have been greatly expanded, so that now they don't even cover the entire phone bands. There was no possibility of "split" operation, which is so important in DX work today. The receivers, while quite good, lacked the notch filters, variable selectivity, noise limiters, and other features that were common on the better receivers of the day. But for the price, they couldn't be beat, and thousands were made. Even more importantly, they provided a foundation upon which was built the modern transceiver of the day. By 1968, Heathkit was offering the HW100, a transceiver covering 80 thru 10 meters, had CW capability, and other significant improvements. I'll write an article in the near future highlighting the HW100 and its successor, the HW101.

The units pictured here are both 40 meter models. They are very usable in today's conditions, and those who attended the Palomar and Golden Triangle picnics this year saw the Heathkit in action!

November Fold and Staple

KB6NMK Jo KB6YHZ Art
W6GNI Al @ Kathy

Membership Report

New Members Joining PARC:
KI6TTU, KB0AUP, and KI6PGI. (And before the ink dried, KI6TTU became K0DHE!)
And we received two reinstatements.

Above is the good news. Now for the bad news. The club membership decreased 11 last month.

We have been sending out reminders to all those that let their membership expire in 2008. If you are reading this on the web, and get one of those reminders, PLEASE renew!

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Editor: Michelle Thompson W5NYV
Submissions: scope@palomararc.org
Questions? Ideas? Comments? W6NWG@amsat.org

2006 Holiday Social.
Photo by W5NYV

Featured Program

Our annual holiday party will be held 3 December 2008 at 7pm at the Carlsbad Safety Center. Bring food to share. Several board games and children's games will be available for loan during the evening.