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!

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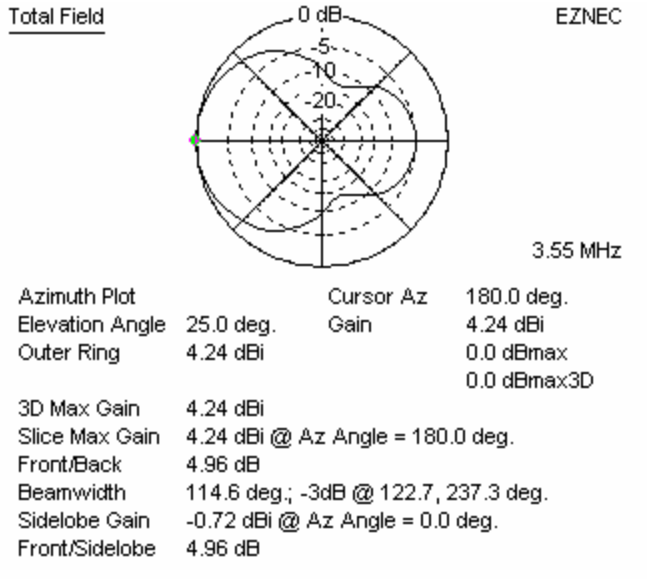
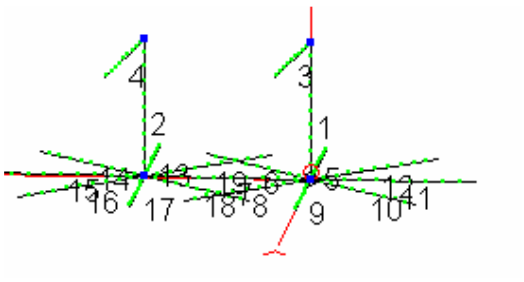
A Two-Element 80M Field Day Special

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

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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

President - Steve Early	AD6VI	619-461-2818 ad6vi@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.

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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Scope (USPS #076530) is published monthly by the Palomar Amateur Radio Club 1651 Mesa Verde Drive, Vista, CA 92084. POSTMASTER: Send address changes to SCOPE, P.O. Box 73, Vista, CA 92085. Periodicals postage paid at Vista, CA 92084. Dues are $20 per year or $35 per year for a family. Dues include a subscription to Scope. Editor: Michelle Thompson W5NYV.

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*