

SCOPE

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

Palomar Amateur Radio Club will celebrate its 75th anniversary in February of 2011. Please send in stories and pictures (with description and names if possible) for inclusion in the SCOPE. Old-timers please help, newer members send in things also.

October Meeting

The club's annual auction will be held on October 6, 2010 (the first Wednesday of the month) at 3096 Harding Street in Carlsbad. Sellers arrive at 6pm, buyers arrive at 6:30pm, auction starts at 7:00pm. Please see page 4 for complete details.



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/>

YL DXpedition

At the August 2010 PARC meeting, Gayle K6GO announced a YL DXpedition to Curacao, planned for March 17-22, 2011. There are eight participants so far and we are welcoming more! If you are a YL and would love to come to Curacao, please contact Gayle at gayle_olson@sbcglobal.net.

Save the Date

Club Meeting 6 October 2010

Come to the annual club auction. Buy and sell some treasures - get inspired for a new project!

Board Meeting 13 October 2010

Palomar Amateur Radio Club board meeting at 7:00pm at KB5MU QTH

Club Event November 2010

We're planning another operating day at Double Peak Park.

Club Membership for October Edition

New Members Joining PARC:

KJ6KGH, KJ6KDM, KJ6JUS, and K6JQE.

Be sure to greet these new members when you see or hear them on the repeaters. In addition, 5 reinstated their membership. Thank you.

Here is the list of members receiving the SCOPE on the web, that "expired" in the last month or so. Please check this list, and get your renewal checks in the mail! Please!!!

N2DKO, KG6ETI, KI6GD, WB6MEI, W6CDU, KI6ZLG, KI6THI, K6DRH, KD6FY, K6MHG, KG6NDX.

It costs about one dollar for us to print and mail the SCOPE now, and it was only 47 cents early last year. We are looking for ways to reduce this cost!! Those that chose to receive the SCOPE on the WEB represent a nice cost saving per issue!! (And you see the photos in color, and receive the SCOPE the same day it goes to the printer). Why not check out the web site, and see if receiving the SCOPE there would work for you! Think - Palomar amateur radio club dot Org. (www.palomararc.org)

The problem for the club is to get membership renewals - especially from those that get the SCOPE on the WEB. (There isn't the monthly reminder on the label for your renewal date! See the above list!)

AI W6GNI

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Palomar stocks a wide variety of cores and beads. Our RFI Tip Sheet is free on request.

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Model BA-8 (for RG-8, RG-213, 9913 and similar cables up to 1/2" dia.) \$16.50+tax+\$8 S&H/order.

See catalog at www.Palomar-Engineers.com

Please check our complete ads in **QST**, **CQ**, and **WorldRadio** magazines.

Upcoming General Meeting Topics

October - Annual Club Auction - bring your cash!

November - Gayle K6GO "160m Antenna"

December - Social

January - Michelle W5NYV "Antenna Modeling"

July Fold & Staple Crew
W6GNI AI & Kathy
WA5ACE Sonny
KB6YHZ Art & Janet
KB6NMK Jo & Toby

Advertisements are free for members

Have items that need to find a new home? Advertise here! Send your ads to scope@palomararc.org

For Sale



This is a Hewlett-Packard 3577A with the 35677A S-Parameter test set and all interconnect cables.

With an open – short – load you can calibrate out transmission lines and take antenna measurements up on the tower.

I am looking for \$3000 or best offer.

Mike-lebo@gmail.com

For Sale

Item	Price
YAESU FT-1000	\$2,500.00
Kenwood TS-950 S	2,500.00
FT-2500 M	350.00
Kenwood SWR/PWR Meter, Model SW-2000	50.00
TR-7330 2 M	150.00
Astro PS7 A	25.00
Cubic Astro -150 A-10-80M Transceiver	250.00
Ten-Tec Centurion amp 1kw	1,500.00
Ten-Tec Titan amp 1kw	2,500.00
FLUKE Meter Model 77	65.00
SHURE Microphone Push to talk Model 444	30.00
3-500 tubes	100.00 ea.

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

For Sale

Crank-up tower, 4 sections (collapsed length=12' 9"), triangular- 18" bottom to 10" top. 3' top bolt on tapered section with rotor head and thrust bearing installed + 6' of pipe above the taper. Base plate 22" x 22" with 3 studs to set tower on. Lifting winch had a motor at one time but now gone, leaving a spline shaft sticking out of the worn gear box to which a handle or motor can be grafted. Located in Poway, weight 400+/- lbs for tower alone and 150+/- lbs for the top piece, base plate and winch - \$250. Gary 858-748-6076 wb6gsn@gmail.com

For Sale: HUSTLER 6BTV High Performance HF Vertical Antenna system, 80/75/40/30/20/15/10 m, complete with 250ft spool 14 ga wire and all precut radials, SS Tilt base and SS Radial plate. Used one year. Bought new at \$400, will sell for \$200. contact: Rich Ortloff KE6DUG 760-861-1406

For Sale: 6BTV Vertical Antenna. Crank up Tower with rotor and 3 El Yagi. Must be taken down and removed. Call Lee, (760) 726-1097

Annual Club Auction

by Michelle W5NYV

It's almost October, and that means it's auction time. Come to the General Meeting on October 6th and join the fun!

Where: 3096 Harding Street, Carlsbad CA

Any radio item new or used, working or not (boat-anchors included) will be tagged with the seller's information. Both buyers and sellers will register prior to the meeting. Please plan on arriving early to get a look at the auction items. Hams interested in bidding on items will be given a numbered card to hold up on items they would like to place a bid on. Any further questions can be directed to: board@palomararc.org

A suggestion heard at the September 2005 meeting: put those address labels you get in the mail to good use by bringing them to the auction. Instead of writing your name over and over, use the stickers instead.

If you have a wagon or other wheeled cart, please consider bringing it in order to transport items more easily into the building. The club will provide one wheeled cart for transporting equipment in and out of the building.

Art KC6UQH will be the auctioneer for the evening. Start planning now for the treasures you'll want to bring and the treasures you'll be sure to

find.

Room set-up starts at 5:30pm. As soon as the room is set up, sellers sign in and tag equipment. Bring your stuff early! 6:30 to 7:00pm buyers are registered (required!) and may view the offered equipment.

If you have questions about an item, this is the time to ask it. Inspect equipment before the auction so you know what you are bidding on (write its auction number down!) Auction begins at 7:00pm.

PARC Auction Schedule

Room Setup	5:30pm
Sellers Allowed In	6:00pm
Buyers Allowed In	6:30pm
Auction Starts	7:00pm
Auction Ends	9:00pm

PARC receives 10% of the sale price and there is no other fee for buyers and sellers. Donations to PARC are accepted. All monies are paid to PARC. Seller(s) may set a written minimum bid on their items. Seller is responsible for removing any item(s) not sold. PARC does not guarantee the condition of any item sold.

You don't have to be a PARC member to participate in the auction, so invite your friends to join in on the fun. Sellers will not be paid their money until all monies have been collected that evening, so bring a Self Addressed Stamped Envelope if you want the check mailed to you the next day, or pick it up at the next club meeting.

In previous years, the auction has been held outdoors (in a surprise move due to a conflict in room reservation), in the smaller EOC meeting room, and in the larger EOC meeting room.

HAM RADIO OUTLET

Jose XE2SJB
Jerry N5MCJ
Joe N6SIX

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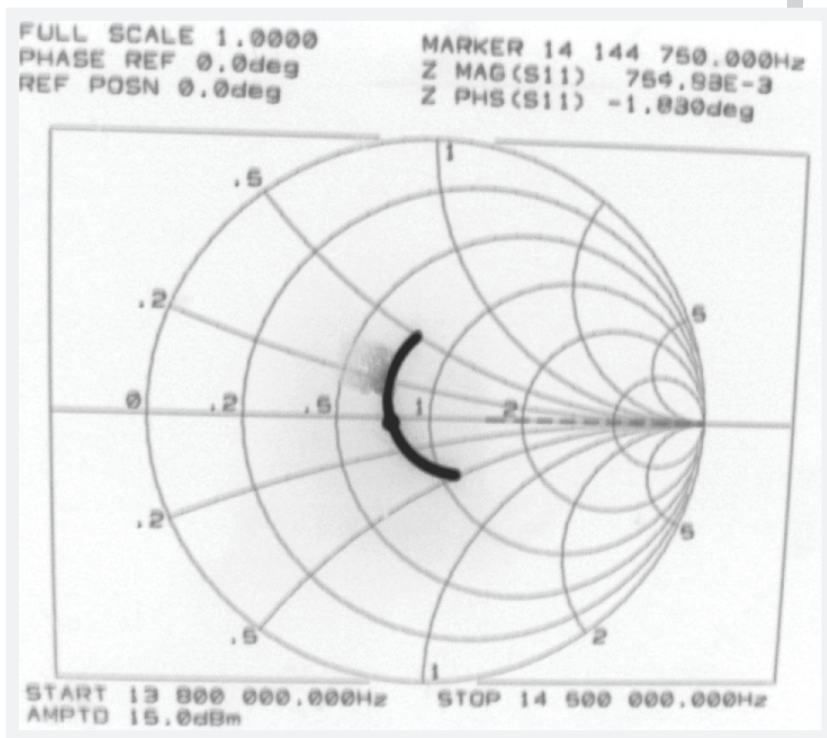
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Directions: On 163, take **Clairemont Mesa Blvd.** off ramp to East. Stay in right-hand lane. Turn right at stoplight. As you are turning right you can see our beams in this shopping center. Travel 100 yds. On Kearny Villa Rd. and U-turn back to shopping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

So how do you measure the gain of a 20 meter beam?

By Mike Lebo N6IEF

The answer is that you can't. So what is the practical solution to the question? You design a beam, calculate the gain and SWR, build the antenna, and measure the SWR with a vector network analyzer over the antenna bandwidth. If the measure SWR is very close to the calculated SWR, then the antenna gain should be close to the calculated gain. See the figures below.



Upcoming Program

Interested in antenna modeling? The PARC program for January 2011 will be about the art and practice of mathematical models, with an emphasis on antenna modeling for amateur radio.

Also, PARC has a team that will model proposed designs for an upgrade of the club's 6m antenna on Palomar Mountain. See page 11 for details.

Minutes

Palomar Amateur Radio Club Board of Directors
August 11, 2010

The meeting was called to order at 7:21 by Gary Kent, W6GDK, who then yielded to Ron K2RP who then yielded to Dennis KD6TUJ who was late in arriving.

President Dennis Baca KD6TUJ
Vice President Ron Pollack K2RP
Treasurer Georgia Smith KI6LAV
Secretary Gary Kent W6GDK
Director #1 Paul Williamson KB5MU
Director #2 Conrad Lara KG6JEI
Membership Al Donlevy W6GNI
Scope Editor Michelle Thompson W5NYV

Treasurer's Report The treasurer's report for July presented by KI6LAV. Total assets as of 7/31/2010 are \$13,446.09. Income was \$843.02, Expenses were \$959.93. Motion to approve both reports by KB5MU, second by K2RP. Approved

Secretary's Report- Minutes of the July meeting were presented by W6GDK. Motion to approve by KI6LAV, second by W6GNI. Approved

General Meeting: September meeting will be by Robert Todd KJ6RET on Solar Power for Amateur Radio. October is the annual auction at the Harding Community Center in Carlsbad. November is Antenna Modeling by W5NYV

Membership Report: Current membership is 287.

Repeater Site/Technical Report: There will be a work party on August 15. Meet at Mother's Kitchen and leave there at 10 AM for the site. Still need a new Technical Chairman

NEW business:

Nash Williams, W6HCD will be celebrating his 95th Birthday. N6KI wants the club to get Nash a new two meter antenna. K2RP moved that the club donate \$50.00 to Nash's Birthday Fund. Second by W6GDK. Approved.

Annual picnic is scheduled for August 29, at 9:30 AM. A discussion about awarding participation points was held. K2RP moved that we allocate \$300.00 for the raffle prizes. Second by KI6LAV. Passed by 6 Aye, 1 Nea.

W6GDK moved that we approve a food budget not to exceed \$200.00 for the picnic. Second by K2RP. Approved.

The Palomar water department wants us to vote with a proxy vote. No action at this time.

It was also noted that we need to renew our Raffle permit with the state. No cost is involved.
OLD Business:

The generator conversion for propane still needs to be done.

On February 26, 2011 the club will celebrate its 75th Birthday. Discussion of plans was held. No decisions.

Motion to adjourn at 9:12 PM by W6GDK, second by K2RP. Approved

Next meeting will be at home of Paul Williamson KB5MU on September 8, 2010 starting at 7PM. Address is 5371 Carmel Knolls Drive.

Submitted by Gary Kent W6GDK

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Repeater Site Report

On Sunday September 5, 2010 Art KC6UQH, Don WB6FWE, Conrad KG6JEI, John KJ6DPR, and Dennis KD6TUJ went to the PARC site to continue maintenance on the 146.730 machine. Art and Conrad went to work on the 673 replacing the power injector for the pre-amp changing sensitivity from -84 dBm to -130 dBm. Quite a difference. Next they went to the 075 machine and traded out the PA unit with a replacement started by Loren AD6ZJ and completed by Conrad and Art. The 6m box was also checked. A history of contacts becoming dirty has lowered power out in the past so it was suggested to wiggle the contacts clean. Art also used "blue stuff". The result was an improvement upwards of 5 watts from 1.5. I also cleaned and adjusted the receive helical resonators on the 075 in hopes of solving the intermittent receive sensitivity. Also removed the two diodes in series to lower the 12 volt battery supply on the 6m.

John was given a tour of the site. Don and Dennis found the tension meter and checked the guy lines. They varied from 45 pounds to 110 pounds. All were adjusted to 85 pounds. Thanks for the lesson Don. The batteries are still holding water well and did not need topping. We, as a group decided to find the 12V DC source. Surprised us all that there is a drawer under the 48V charger that has the 12V DC system in it. A 12V charger into two 6 volt golf cart type batteries.

For our next trip we should bring up some roof patch and again seal the seam covering the 6m repeater. Also we should print a copy of the current club license for on site posting.

PACIFICON

The American Radio Relay League Pacific Division & the Mt. Diablo Amateur Radio Club Present PACIFICON 2010

Ham Radio Convention Returns to the San Francisco Bay Area October 15-17, 2010, San Ramon Marriott Hotel San Ramon, California
For Event Schedules, Latest Updates and Ticket Sales go to: www.PACIFICON.org
Call the Marriott Hotel Reservations Desk at 1-800-228-9290 before October 1, 2010, to ask for the special Pacificon rate of \$90/night.

PACIFICON 2010 Events Include

- ** Friday All-Day Antenna Seminar
- ** Friday Legal Seminar
- ** Friday Evening Open MDARC Meeting
- ** Saturday Keynote Breakfast
- ** Saturday Evening Banquet
- ** Outstanding Technical Forums
- ** Ham Equipment Exhibitors
- ** Great Swap Meet
- ** Daily Radio Prize Drawings
- ** ARRL Forum
- ** Transmitter Hunt
- ** ATV Forum
- ** HFpack & QRP Activities
- ** Ham License Exams
- ** Saturday All-Day Technician License Class
- ** Boy Scout JOTA

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Club Picnic Report

by Dennis KD6TUJ

On Sunday, August 29, 2010 The Palomar Amateur Radio Club held it's annual picnic for the membership at San Dieguito County Park.

Upon arriving with the antenna trailer (Conrad, Greg, and Dennis) we noticed Rick N1OW arrived just prior to us and was already setting up shop. Conrad actually parked the trailer in the far corner. I wanted to bring it closer to the table areas so the coax would reach. After setting the trailer closer, it was pointed out that above the spot was 10,000 volt power lines. Not a good choice. I then moved it across the lot to the far side for assembly. By this time Rick was almost done setting up. The antenna assembly went well. Setting the tower upright we noticed a little angle to the beam. Instead of being flat to the ground (90 degrees), it was about 70 degrees. Oh well. Some members started showing up. Looking back toward Rick, he had started cooking and was going full out.

Bringing out an ICOM IC_735 Tom KG6RCW tuned up 20 meters and dialed around. Greg KI6RXX and Conrad KG6JEI got the supplies together to place 2 t-hunt radios. Checking back on the HF I found a strong station at 14.246.9 and contacted TF8GX. Iceland. Other contacts made included W9IMS, Indianapolis Motor Speedway, W9Y at an airshow, and KC7YRA in Casper, Wyoming.

Conrad and Greg made radio checks for the hidden transmitter hunt radios and ended up bringing one back as it was not working right. It showed it was transmitting, but it could not be received. Ron K2RP brought a Heathkit HW 101 Plugged it in and made a few more contacts. Rick then called for the feed. A great spread was put out.

A portable extendable J-pole type 2m antenna was brought out to demo but only displayed as a piece

was not there to finish the project. It will extend to 19 feet, collapse to 38 inches and store into the base section of 43 inches, and is UPS shippable. When finished at home it carried a .8 to 1.2 SWR across the 2m band. (W2IK's quick-stic) Plans were brought to try a halo antenna project, but they would not display on the computer brought. (KR1ST halo antenna) Waiting for the 2:00 drawing I decided to check the problem with the t-hunt radio. Turned it on. Batteries seemed good. Transmit light shows it was transmitting. I dialed up the frequency on another hand held, nothing heard. Checked the frequency again. 145.570, Yep, on frequency. Looked at the Tx radio and DUH. The ICOM 2AT was dialed at 570. When the frequency was changed to 145.560 it must have lost a digit. Resetting to 557 brought the radio to life (reception).

Bringing us to the raffle for participation points, there were over 250 tickets distributed. Prizes are gift certificates to HRO. Winning are N6KI \$100, KB6NMK \$50, K2RP \$50, W6GNI \$25, W6YOO \$25, KC6V DX \$25, KJ6RET \$25. Also a wifi adapter was won by W6GDK.

An ICOM IC V-82 was also brought out for a raffle. Enough sales were made for a drawing. The winner is Eugene, a friend of Dick and Rusty. After the drawings some more fun was had before finishing the day.

After the trailer was parked back at TOWizard it was noticed that the stay bolt for the tower in the up position was missing. Small loss but easily replaced. Guess what? On Tuesday I noticed a bolt just like the one used for the stay bolt in the middle of the intersection of hiway 76 and Benet. Less than two miles from storage.

A random drawing of those who found the hidden

Make sure you're on the right frequency! This is good advice for any and all amateur radio activities.

Photos by Dennis KD6TUJ.



transmitter was to be held after the picnic. Only one eligible entrant was received.

At the September meeting KG6HSQ Ron Patten received 5 raffle tickets towards the next IC-V82 raffle for his diligent efforts in locating the hidden transmitter.

Hopefully next year more people will find where we hide them. Keep an eye out for tools of the trade at swap-meets, gatherings, and of course the club auction and build up that DF toolbox!

Statement of Ownership, Management, and Circulation (From PS Form 3526)

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Signed: A.L. Donlevy Publisher
09/20/2010

20m Field Day Antenna Rooftop Installation

by Mike Lebo N6IEF





August work party. Above, concrete that surrounded the inspected bolt. Above right, tower footing covered back up with fresh concrete. Below left, fresh concrete being applied. Thank you to all who helped with the August work parties! Photos by Paul KB5MU.



SWAT!

Six-meter Wildass Antenna Team

by Michelle W5NYV

At the August work party, the Palomar Amateur Radio Club kicked off an effort to redesign the 6m antenna. The existing antenna has suffered some damage and hasn't been at its best over the past few years.

Several club members decided to do something about it, and have organized a SWAT (with apologies to Preston W6ASP) with the goal of completing the modeling, design, construction, installation, and testing of a new 6m antenna. Designs for the new antenna will be unveiled at the January 2011 club meeting as part of the Antenna Modeling program presented by Michelle W5NYV.



SWAT invites any and all interested club members to participate. There are two requirements. You must come up with a fancy title. Browse the list of SWAT members for inspiration. The second thing that you need to do to participate is to model a 6m antenna suitable for use on Palomar Mountain.

There is a variety of modeling software available for free. One does not have to spend a lot of money to begin antenna modeling.

SWAT succeeds if a diverse variety of designs are submitted for consideration. If you have been mulling over antenna modeling, or casting about for a reason to play with modeling software, then this may be the perfect project.



*Here we are!
Join us and
have some fun
fixing up the
6m antenna for
PARC!*

SWAT Members as of October 2010

Captain Cynthia KJ6HCT

Colonel Rob KJ6RET

Empress Michelle W5NYV

<your name and title and call here!>

Palomar Mountain has ice during the winter, so durability is a primary concern. The mast that supports the antenna is raised and lowered by hand-operated winch. It's a steel tubular telescoping crank-up mast with a tilt-over base, and is about 25 feet tall.

To participate, mail a quick note with your name and SWAT title to board@palomararc.org and we'll be in touch with you to assist and collaborate. This is an opportunity for fun and learning. Any level of experience with antenna modeling is welcome.

Free Antenna Modelling Software To get you started

Download free version of Expert MININEC Classic by following the link at <http://www.emsci.com/>

Free version of EZNEC (limited to 20 segments) available at <http://www.ez nec.com/>

Have a Mac? Try the free cocoaNEC 2.0 <http://homepage.mac.com/chew7ay/cocoaNEC/Contents/Downloads.html>

Or, embrace your inner geek and run raw NEC. It's free. Read more about it at <http://www.nec2.org/>

Trailer Installation

by Paul KB5MU

Michelle W5NYV and I (Paul, KB5MU) recently bought a 23' travel trailer for Burning Man and other adventures. We purposely selected an older well-used model, so we wouldn't feel bad about cutting holes and radically redecorating. Of course, the first order of business was to install a convenient ham radio station for HF, VHF, and UHF.

As with any mobile installation, the key questions were where to put the antennas, where to put the radios, how to run the coax between those two places, and how to hook up the radios to a clean source of power.

Antennas first. There's plenty of room on the roof of the trailer, but the roof is already pretty high, so any significant antennas mounted up there would have to be folded down before driving. What's more, the trailer is roofed like a cheap shed, with no access between the ceiling and roof, and no really good way to



The base is in two parts: the horizontal platform provides a standard 2" trailer hitch receiver, and the vertical tubing is welded to a square tube that fits inside it. The cardboard you can see sticking out of the vertical tube (from a 12-pack of Coke) is to protect the surface of the telescoping mast from being damaged by the screws in the base.



seal up any new holes. The roof isn't metallic, so it's no use as a ground plane, either. After struggling with these issues for a while, I finally realized that there's actually no reason to permanently mount antennas on the trailer. Nobody is in there to operate when it's in motion. The typical usage pattern is to drive somewhere, park it, and set up to stay for a while. A temporary antenna that's easy and quick to set up would be just as good as an installed antenna that has to be deployed from a folded position on the roof. Maybe better, since it can be higher.

With that insight, the plan came together quickly. I picked up a lightweight telescoping mast about twenty feet tall (see photos), and installed a bracket at the top of the type intended to clamp to a truck's mirror bracket. For VHF/UHF, I bought another copy of my favorite mobile antenna, a Diamond NR770. This is a dual-band (2m and 70cm) half-wave vertical design, so it works fine floating in air with no ground plane in sight. Stuck on a 20' mast, it should outperform most mobile antennas. That same mast can also support an HF wire antenna of whatever type is convenient for today's RV parking place, be it a dipole or a random wire or whatever. One catch is that the lightweight mast really needs to be guyed if fully extended, if strong winds are a possibility. (At Burning Man, strong winds are a certainty.)

A good base for the mast makes it sturdier and much easier to deploy, so while at HRO I also bought a clever aluminum base (see photo). You plop it down on the ground and drive one wheel of a vehicle onto its side platform, pinning it to the ground quite securely. In our case, we put it under one tire of the trailer. This is a convenient location for coax routing, and also permits the tow vehicle to leave the campsite without dismantling the antenna. This base doesn't fold over, which would be useful with a heavier mast or bigger antenna, but is not necessary with our lightweight choices.

Inside the trailer, there are a couple of different

places to sit down, so it's not immediately obvious where the radios ought to be. That's where the question of power comes into play. In this particular trailer, the main AC and DC power distribution, circuit breakers, and fuse panel are centrally located near floor level below the sink. That location is on the opposite side of the hall from the main kitchen table. Bringing power across from one side of the trailer to the other would be easy -- in the factory. But in the field, there's no non-destructive access to the insides of the walls or below the flooring or above the ceiling. It wouldn't be pretty. Luckily, there's a little auxiliary side table that folds out next to the sink, facing a sofa. That would be our operating position.

The sink in an RV is plumbed pretty much like your kitchen sink. That means there are big awkwardly-shaped pipes below the sink that render that compartment pretty useless as storage space (see photo). But the inside surfaces of the cabinet are available. That compartment is just inches away from the main DC distribution panel. Miraculously, an unused fuse position was available in the DC panel, so hooking up to trailer power was as simple as wiring up to the existing terminal strips and installing

a new fuse. For power distribution within the ham radio station, I installed a small Rigrunner with Anderson Powerpole connectors. There are extra Powerpole outlets for future additions, and I can also choose to hook up a separate battery for the radios to avoid running down the trailer's main power.



Yes, the IC-7000 can also do VHF and UHF, but I wanted to be able to monitor VHF and UHF FM continuously while also tuning around on HF. A separate VHF/UHF rig makes this possible. The FT-8900R also supports 6m and 10m; these bands don't add much to the price and might come in handy someday.

tuner from LDG Electronics. This tuner is designed to be remote controlled by the Icom transceiver, so it can stay hidden in the cabinet. With the tuner, we hope that nearly any kind of HF antenna we can throw up will be usable. A small hole drilled in the side wall of the cabinet provides routing for the cables to the control heads, which are mounted on the cabinet wall just above the little folding table (see photo). The IC-7000's control head isn't as deep as the FT-8900's, so I installed a couple of small wooden blocks to bring it out to a convenient position (see photo). The FT-8900R's microphone connector is conveniently located on the control head, but the IC-7000's is on the main



body. Another hole in the cabinet wall provides access for that microphone (not shown). The internal speakers are, of course, in the main body on both radios, so a couple of speakers are mounted on the wall nearby. The inexpensive MFJ-281 is fine for



August and September are the months of the annual ARRL 10GHz and Up contest, which is a highlight of the year for microwave amateur radio.

Above, Paul KB5MU helps set up "Hello Giggy" for operation from Las Flores Vista Point, located on the 5 freeway in North County. The tripod supports the box containing the transverter,

oven-controlled crystal oscillator, relays for transmit and receive coordination, power supplies, battery, microwave dish, microwave feed, and IF radio. As you can see, there is slightly less need for a compass rose from this particular location.

Upper left, a failure in the power supply connectors can be seen held in my left hand. These are Anderson Power Pole connectors, and sometimes the crimp pulls out. Fortunately, we had tools to fix this particular failure. Unfortunately, the rig failed again in similar fashion to Mt. Laguna after a few contacts at Las Flores. In both cases, the rig simply stopped responding. Power supply voltages were present and the OCXO was still operating, and could be heard at its frequency of 105.6 MHz. The problem is suspected to be related to a particular can in the local oscillator chain. When the screw is turned, the rig often starts working again.

At left, Kerry N6IZW helps investigate Hello Giggy in his garage lab.

Photos by W5NYV and KB5MU.





the wall. These wires had to be repaired before I could proceed with the installation. The plate was sealed to the outside wall of the trailer with plenty of goo (see photo). One of these days I'll clean off the excess.

this purpose.

That leaves coax routing. The nice thing about a small trailer is that every wall is an exterior wall. The back wall of the compartment behind the sink plumbing is such a wall, and not very far away from the left front tire, where the antenna base is to be deployed. I obtained a nice scrap of aluminum plate from Industrial Metal Supply (a very inspirational place, stay away if you don't want to start any new projects). I marked off four holes in the plate, thinking to install four coax connectors. I drilled the corresponding locations in the side of the trailer. Oops! One of the holes ended up dead center on a framing stud. That hole was reallocated for a grounding and mounting bolt, and the other three holes were enlarged with a hole saw to allow plenty of room around the SO-239 bulkhead connectors (see photo). Oops again! One of the other holes ended up drilling into some wires that were inside



With the coax feedthrough panel right in the same cabinet with the main bodies of the radios, a short coax jumper is all that's needed to hook the radios up to outside antennas. The connectors remain accessible from inside the trailer, too, so if there's a new configuration it will be easy to change things around. On the outside of the trailer, we just hook up the coax from the NR770 to one of the SO-239 connectors on the panel (see photo) and we're on the air. The HF part of this scheme has yet to be tested in practice.

Nothing here is rocket science, or even innovative in any particular.

We just took the easy, simple path, but with some careful forethought about our requirements and desires. Many of the parts we purchased new could have been home-brewed for less money. Your mobile installation will be different, but it won't be rocket science, either. Figure out what will work best for you, and find a way to make it happen.



Here is the antenna deployed at Burning Man 2010. The HF conditions were severely impacted by electrical noise generated by the participants. Electroluminescent wire and a wide variety of generators combine to almost completely blank out the HF bands. However, VHF and UHF communications are common. The daily noon ham net was fun, and KB5MU served as net control at least once.

The open-source cellular software project Papa Legba attended in 2010, but we were unable to connect to their cellular system.

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Featured Program:

The club's annual auction will be held on October 6, 2010 (the first Wednesday of the month) at 3096 Harding Street in Carlsbad. Sellers arrive at 6pm, buyers arrive at 6:30pm, auction starts at 7:00pm. Please see page 4 for complete details.