



Vol. 52

September 2002

No. 9

Club Meeting Location Changed Permanently

A majority of the members present at the August club meeting voted in the affirmative to move the regular meetings to the Colorado Springs Utilities Leon Young Service Center, 1521 S. Hancock Expressway. Effective with the September 2002 meeting, all meetings will be held at this new location, unless otherwise specified in the Ø-Beat. The other choice presented was the El Paso County Office of Emergency Management, 305 S. Union. There were a number of considerations presented by the membership during discussion, most notably the ease of access for the handicapped and the ability to bring food/drink into the meeting area.

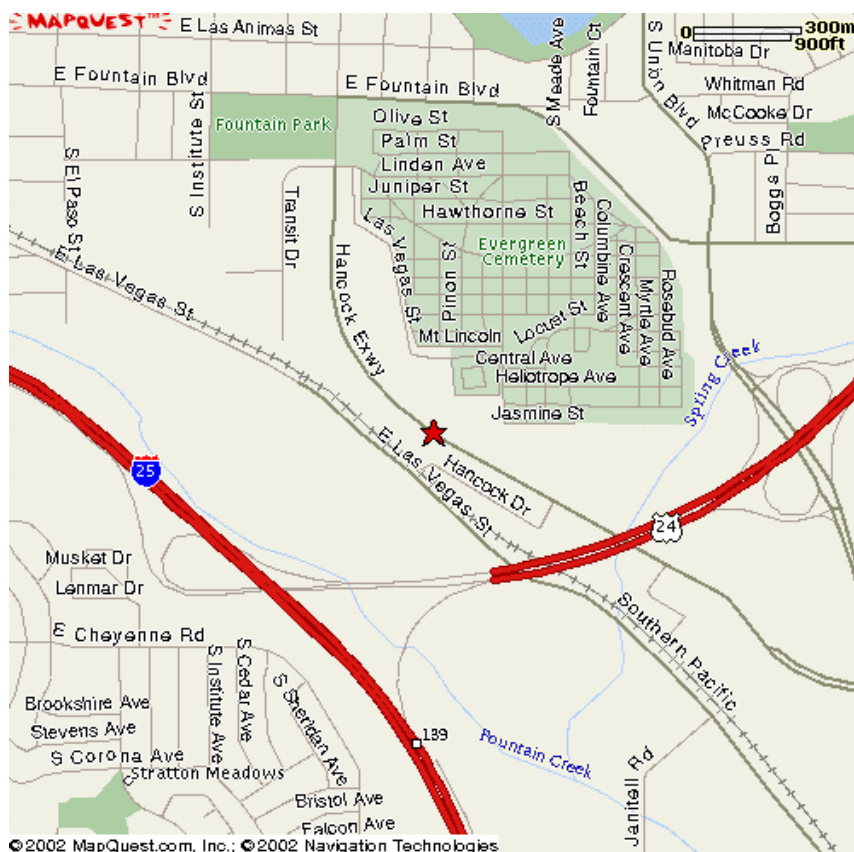
The PPRAA extends its gratitude to the Mount Calvary Lutheran Church for hosting the club meetings over the past several years. The PPRAA also thanks Jim Mesite of the El Paso County OEM, who has graciously provided the OEM auditorium for hosting the club meetings during the past months.

Directions to Our New Meeting Place

From The East: Take Fountain Blvd to the Hwy 24/Martin Luther King (MLK) Bypass; go west on the bypass to Union Blvd. Turn left (south), proceed a short distance to Hancock Expressway. Turn right (west) onto Hancock. The building is on the right after you pass under the expressway.

From I-25: Exit 139 (the Martin Luther King US Hwy 24 bypass). Take the expressway east to Union Blvd. Turn right (south) at the ramp, and proceed south to Hancock Expressway. Turn right onto Hancock Expressway, and go north. The building is on the right after you pass under the expressway.

From Downtown: Take Wahsatch south to Fountain Blvd. Turn left (east) at Fountain. At Hancock, turn right (south). The building is on the left before you go under the MLK Expressway.



September Program: The September program is a club auction! Bring your auction items and some cash! Ron NKØP is our auctioneer! See Page 3 for rules!

Meetings Our monthly meetings are normally held on the 2nd Wednesday of each month at 7 pm at the Leon Young Service Center, 1521 Hancock Parkway, just north of the US 24 (Martin Luther King) Bypass. Our Annual meeting is in October. Check the web site for any changes.

Regular License Exam Sessions

Our ARRL VEC test sessions are on the 2nd Saturday of even numbered months at 0900 at the Denver Technical College, 3245 International Cr, across from Memorial Park. Contact Erik KGØXE for details.

Examinees need to bring (1) \$10, preferably a check or money order payable to ARRL/VE; (2) picture ID; (3) the signed original and a copy of your current amateur radio license and CSCEs you have (we keep the copies); and (4) a pen, pencil, and calculator if needed. Memory calculators will be checked.

PPRAA Web Page See it at <http://www.qsl.net/ppraa/>. Thanks to Lee Inman KØQED for maintaining these pages.

Get on the PPRAA E-mail Reflector Stay on top of new or short-fused developments. Subscribe at <http://mailman.qth.net/mailman/listinfo/ppraanet>. Thanks to John Wishart KCØJFH for maintaining this list.

PPRAA Simplex Net All amateurs are invited to join us on Thursday evenings at 1900 on 146.58 MHz simplex for our club net. Get the latest club and regional happenings!

Officers and Directors

| | | | | |
|------------------|---------------|--------|----------|------------------------|
| President | Rick Brown | KØSU | 531-9423 | k0su@arrl.net |
| Vice-President | Kate Ellis | KCØEGJ | | |
| *Secretary | Mike Allen | NØMIK | 594-4896 | n0mik@arrl.net |
| *Treasurer | Ron Deutsch | NKØP | 593-8352 | nk0p@arrl.net |
| Board Member | Bob Wogaman | KBØB | 531-0511 | kb0b@worldnet.att.net |
| *Board Member | Jerry VerDuft | ADØA | | verduftj@earthlink.net |
| *Board Member | Tom McDaniel | NØNTX | 570-1465 | n0ntx@amsat.org |
| Board Member | Aaron Pelouze | KD6FLM | | |
| **Past President | Sid White | K4ARM | | |
| Ø-Beat Editor | Rob Roller | N7LV | 282-0204 | n7lv@amsat.org |

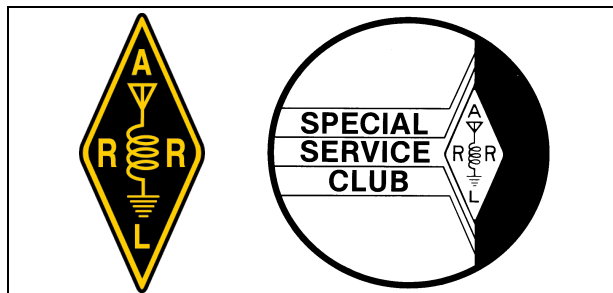
* Indicates this Director's two-year term ends next month ** Term ends next month

Committee Chairs & Other Contacts

| | | | | |
|---------------------|-------------------|--------|----------|---------------------|
| Activity | VACANT | | | |
| Auditing | Kate Ellis | | | |
| Asset | Mike Stansberry | | | |
| E-Mail Reflector | John Wishart | KCØJFH | 481-2439 | john.wishart@hp.com |
| Historian | VACANT | | | |
| Interference | Bill Petty | NØNJX | 532-1439 | |
| Membership | Les Borst | KCØNC | 634-3995 | |
| Programs | Rick Brown | KØSU | 531-9423 | k0su@arrl.net |
| Publicity | Roger Foust | KE6ZOT | 538-8866 | ke6zot@arrl.net |
| Public Service | Mike Stansberry | KØTER | | |
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| Technical Education | Linda Hedges | KBØRKW | 683-7828 | kb0rk@juno.com |
| VE Testing | Erik Mugele | KGØXE | | ve@teuton.org |
| Video Librarian | Rhoda Anderson | KB2BZY | | wv7t@aol.com |
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| AMSAT Coordinator | Tom McDaniel | NØNTX | 570-1465 | n0ntx@amsat.org |
| ARES EC | Wes Wilson | KØHBZ | | |
| ARES Liaison | Mike Stansberry | KØTER | | |
| ARRL Section Mgr | Jeff Ryan | KØRM | 260-6826 | k0rm@arrl.net |
| CCARC Liaison | Moe Pierce | WBØRTF | | |
| RACES Officer | Tony Dal Lago | KC4VMB | 575-8400 | kc4vmb@arrl.net |

Upcoming Club Programs

| | |
|-----------|---------------------------------|
| Sep | Auction! Auctioneer is Ron NKØP |
| Oct | TBD |



Articles for the Ø-Beat Deadline for articles or ads for the Oct issue is Sep 23. Submit articles by e-mail, US Mail, telephone or in person to the editor. Editor reserves right to edit for readability, grammar, spelling, punctuation and length.

Nonprofit Organization The PPRAA is a federal 501(c)(3) nonprofit organization and welcomes all contributions. Your contributions/donations may be tax-deductible.

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Club and Local News

"What'll Ya Gimme? What'll Ya Gimme? ... Sold!!"

By NKØP Ron Deutsch, Auctioneer

Rules for September Club Auction

The September program will be a club auction. We have done this several times in the past and will follow the same rules.

- **Buyers:** You must register and get a number to be able to bid on an item. We will have a table set up prior to 7 PM and at the break for you to get a number. There is no charge for your buyer's number. To bid on an item hold your number up and the auctioneer will recognize you by number and repeat your bid. If you win the item we will repeat your number and the winning price. After the auction is over we will have a table set up for you to pay for your items. Please bring cash or if you are a club member we will accept your personal check with your call sign on it.
- **Sellers:** To sell an item you must register and get a lot number assigned to each item. This is a separate number from your buyer's number. This is a NO RESERVE auction. This means you must be willing to sell your item for whatever it brings on the auction floor. After the auction we will have a table set up for you to cash out for all item sold. A 10% donation to the PPRAA will be deducted from ALL lots. If you have an item you wish to donate to PPRAA 100% of the selling price will go to PPRAA.
- **General rules for all:** An auction can be chaotic at times so please pay attention to the auctioneer. The Auctioneer settles any disputes.
- You MUST remove all items by the end of the meeting. This includes all unsold items.
- We won't set any limits on how much you can bring but please be reasonable. We will have approximately 30 min to run the auction. We have to stop by about 8:45 in order to be out by 9:00. It can take time to add up the numbers and get everyone cashed out. If there are a large amount of items the Auctioneer may not be able to get everything sold.

If you have any questions call me or e-mail me before the meeting. So start cleaning out those boxes and drawers!!

73, Ron Deutsch, NKØP nk0p@arrl.net 593-8352

Auctioneer for a nite, but not giving up my day job!

Picnic Report

By N7LV Rob Roller

Considering the fact that there was at least one other ham radio event going on, the turnout at the picnic was pretty good. Mike Allen NØMIK walked away with the Astron switching power supply. Mike, with all that reserve power you now have, you need to buy several radios to make sure that your amperes don't get wasted! And that doesn't mean keeping them off of drugs! Apparently it was Rick KØSU's birthday, too. Someone made a cake for Rick. Thanks to all that helped, especially to Ron NKØP for the planning, Rosie WAØMNL for the sloppy joes, Rhoda KB2BZY for setting up and cleaning up, and Kate KCØEGJ for handling the door prize.



Happy picnickers enjoying food and friends. Mike NØMIK (left) enjoys a sloppy joe with Tom NØNTX and Bob KBØB, while Doug WØMHP chats in the background. Is that a new power supply, Mike??

2002-2003 Elections Coming Up in October

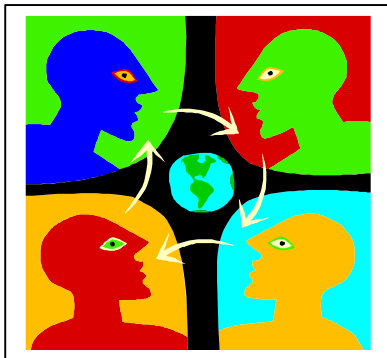
By N7LV Rob Roller

Every year about this time, our each of our club members will find themselves entering a period of quiet concentration and reflection. Members will spend hours each day considering what significant effects they can have on the club as a whole, as they ponder whether to take office or not. This is a very important time, and club members do not take this period lightly. Members have been known to fast for days on end, to study the stars, lunar phases and horoscopes, wondering how will they ever convince their spouse to grant their wish to provide unfailing service to the club.

However, only four of you will have the honor of being elected to serve the membership for the next two years. And it is an honor to serve. (The other four board members were elected last year, and continue on for one more year.) All officer positions are reelected each year. Board members serve two years. If you've never served on the board, then there is no better time than now to consider this. (Take a look at the list of past directors on the web page to see the company you'll have.) Part of the reason I'd like you all to consider this is because the club needs new faces, new ideas. Not that there's anything wrong with my face or any other board members' face. Okay ... forget the faces. We always need new ideas. That's how we make ourselves better. We need your new ideas, and what better way to bring them to the club than as a board member. Please consider running for a position. Seriously. Thank you.

General Meeting Minutes

By NØMIK Mike Allen, Secretary



President Rick Brown KØSU called the meeting to order at 7:00 PM. Fifty-four members and guests signed the attendance book. After introductions, a motion to accept the minutes of the last meeting was made and passed with

one correction. The minutes of the last meeting should have read, "There was much discussion centered on the

Leon Young Service Center and the *El Paso County* OEM auditorium sites."

The Treasurer's report, given by Ron Deutsch NKØP showed an income for July of \$49.50, and expenditures of \$205.61, leaving a balance of \$ 3624.68 in the club's checking account and \$2609.22 in savings. \$502.14 remains in the account used for public service, training, etc., and must be spent by next swapfest.

Committee reports began with an announcement by Rick that the Historian and Activities Chairman positions are empty and are in need of a volunteer to take on those activities. Membership chairman Les KCØNC noted that as of the meeting, all club members were current in their dues, which is the first time this has happened in a long time. He credited it to the annual renewal date for everyone now being the first of the calendar year. Rick then gave a rundown of the coming programs, which are Lessons Learned from the wildfire supports at this meeting, and the club auction in September. Ron NKØP listed the rules for the auction; 10% of the proceeds would go to the club, payment must be made the evening of the auction, there will be no reserve price, and the owner of the items being auctioned must remove them if they are not sold. VE chairman Joe KQØS announced that all 5 of the people taking exams passed, with one passing the CW test, and two passing their Extra exam. AMSAT chairman Tom NØNTX told us that AO-7 is working fine, when it's in sunlight. The uplink is on 70 cm, and the downlink is on 2 meters. The ARES EC, Wes KØHBZ mentioned the ARES support to 6 or 7 public service events as well as the Colorado Springs Weapons of Mass Destruction exercise between now and September. Rick mentioned the RACES meeting on the 15th of August, and the net control station operations training being presented by Jeff KØRM. John KCØJFH mentioned that the club reflector has 139 on the mailing list as of the end of July.

Announcements began with Rick stating the August Board of Directors meeting would be held after the picnic on August 25th. Moe WBØRTF announced that the Lunch Bunch would be meeting Friday at the Hometown Buffet in the Mall of the Bluffs, 3650 Austin Bluffs at around 11:30 AM. She and Bill KDØJU hosted a Colorado YL meeting at their home and had about 25 attendees. Moe also mentioned that ADØA had called to tell her his wife Joanie KCØGMI had lost her father last Sunday. Ben NØLNW gave us the details of a group purchase of Arrow J-pole antennas. They will be \$26.00 plus tax, if any, and should be delivered in about 3 weeks. Orders are closing this weekend, and some assembly will be required. Mike WV7T is looking for operators who want to work with him in multi op contests. He also said Frank KAØYPX was looking for

a ride to the picnic, that he had recently worked his 50th state for WAS QRP, and that he and Rhoda had been married for 23 years as of tonight. Congratulations Mike! Bob KBØB announced that the club shirts and jackets are in. Shirts are \$15.15, and jackets are \$31.00. Jeff KØRM announced two EOSS balloon launches to be held starting around 6:30 AM on Saturday August 17th. The first launch is a rather large balloon with a NOAA payload. At around 9:00 AM, the second, smaller balloon will be launched. Both launches will be from Meadow Lake Airport.

Old business began with a review of the discussions regarding a change of meeting site. There was further discussion regarding the two potential sites; the El Paso County OEM auditorium and the Leon Young Service Center. A ballot vote by club members only was taken and the Leon Young Service Center won by a wide margin. The club picnic was the next topic. Rosie WAØMNL will supply sloppy joes and there will also be cooked hot dogs. The raffle prize has been obtained and will be an Astron switching power supply, and the winner must be present to win. The picnic will begin with a tailgate swapfest at 11:00 followed by the picnic at noon and the board meeting after that. A motion was made by Jeff KØRM and seconded by Pat KCØMIR to write letters of appreciation to the El Paso County OEM for the use of their auditorium this summer. The motion passed unanimously. A motion was made by Ron NKØP and seconded by Jim NØTUI that the secretary destroy the ballots. The motion passed unanimously.

After the break and door prize drawing, Wes KØHBZ, Dean KAØPII, Rob N7LV, and Mike NØMIK presented lessons learned from the Iron Mountain and Hayman Wildfire support efforts. The meeting adjourned at 9:08 PM. *de Mike Allen NØMIK, Secretary*

Board Meeting Minutes

By NØMIK Mike Allen, Secretary



The August 25, 2002 PPRAA Board of Directors (BOD) meeting was called to order by President Rick Brown, KØSU at the picnic site on the grounds of the US Air Force Academy. BOD members present were Kate KCØEGJ, Mike NØMIK, Ron NKØP, Bob KBØB, and Tom

NØNTX. Mike WV7T served as proxy for Rob N7LV.

Rick began by stating the club has the Leon Young Service Center reserved for meetings until January 2003, and that he will write letters of appreciation to both the Mount Calvary Lutheran Church and the El Paso County OEM for the use of their facilities.

Discussion began on a potential slate of candidates for the coming elections. Potential candidates are Bob KBØB for Treasurer, Kate KCØEGJ for President, and Tom NØNTX for Vice President. Candidates for Secretary and two Board positions have not been identified. Rick reiterated that anyone who is a member could run for any office or BOD position.

The next item of business was donated equipment. The club has donated equipment of the "boat anchor" style, and not really suitable for donating to a school or club, so Rick will look into selling it. The equipment will be offered to club members first through a running auction lasting 3 months. Pictures of the items for sale may be posted on the club website.

The Christmas party was the next topic and Rick asked the board to begin thinking about where to hold it. He will ask for a party chairman at the next club meeting in September.

The picnic raffle made \$88.00 and the picnic itself cost \$95.00.

The meeting adjourned at 1:54 PM. *de Mike Allen NØMIK, Secretary*

Membership Report

By KCØNC Les Borst, Membership Chairman

Please welcome these New Members

RALPH HARMON KCØFNQ

Members who need to see the Treasurer

DOUGLAS WOLFF KE6TWH

Total Number of Members

191

PPRAA Reminders ... Don't forget ...

► ... we're looking for a new chairman to take over the planning and production of next year's hamfest. Bob

KIØGF wants to step down from that position which he's been doing (excellently, I might add) for several years. Planning needs to begin this fall, so *NOW* is the time to step forward, lest we have no 'fest!

- ... to check in to our weekly PPRAA simplex net on Thursday evenings, 146.58. Thanks to Ron KCØGLP for holding down the net for Ryan. Ryan KCØGLQ has resumed NCS now that school is back in session.
- ... the club offers a variety of ways you can show your support for the club, including club patches, club jackets and shirts, official club name badges, and a 20-yr collection of the *Ø-Beat* on CD. Contact any board member for details.

First All-Electronic Ø-Beat

By N7LV Rob Roller, Ø-Beat Editor



What I mean by that is the August issue was the first *Ø-Beat* produced completely in an electronic form. For the first time since I've been doing this job, and I would suspect since the *Ø-Beat* was first

created, no trees have been harmed in the production of the original copy of the *Ø-Beat* provided to the printer. I produce the *Ø-Beat* using Microsoft Word. Photos are either provided digitally via e-mail, or sometimes I'll scan them in if they aren't available digitally. Once it's ready, I now e-mail the *Ø-Beat* to X-Press Printing, where John then prints it out directly onto 11" x 17" paper.

No longer do I have to print black & white copies, tape them together in the right order, and drive down to the printer. Gone are the days of paste-up boards and glue. I still have to pay a visit to X-Press to pick up the final copies though, but it's great to save a trip to the printer, especially if I'm in a time crunch.

Some Club History

By N7LV Rob Roller

- **10 Years Ago This Month:**
 - AI N2IWZ is looking into setting up a ham radio demo at the East Library.
 - Bylaws were amended to include requiring 96 hrs notice for additional meetings, adding "unacceptable behavior" as a reason for expulsion from the club, adding the Past

President to the board, adding that a board member can be dismissed for missing two successive meetings without notice, limiting the spending by the board to \$500 without club authorization, reorganizing the committees, and stating rules for property distribution if the PPRAA ceases to exist.

➤ 20 Years Ago This Month:

- The club picnic will be held at the Black Forest Regional Park off of Shoup Road. The club will furnish the beer, pop, potato chips and charcoal. (*Beer?! Why wasn't I a member back then?*)
- The September meeting will include an RFI seminar by Mr William Nelson, who has over 30 years experience in engineering.

➤ 31 Years Ago This Month:

- Three PPRAA Members Provide Communications for Pikes Peak Marathon: Bill King WØLKD, Doug Wilson WAØVSL and George Kowalski WØGCH provided communications for the Pikes Peak Marathon August 15. Bill and Doug worked from the top of the Peak and George provided communications from the start and ending of the Marathon at the foot of the Peak. "Communications, as usual, were successful,," reported George. "However we found too late that we could have used cycles and spotted stations along the route of the Marathon, which would have resulted in a more complete coverage in communications in case any participant had an accident or needed a bit of help or some kind enroute."

Ham Etc News Briefs

- More congressional cosponsors sign on to HR 4720, the house bill that will require homeowner associations to reasonably accommodate ham radio communications, similar to what PRB-1 does for states and city codes. [*Ed: Note that although we recommend everyone write to their representative, we've found that Joel Hefley simply returns form letters stating what appears to be his total non-support for this issue.*] (*Source ARRL Letter*)
- In five years, the FCC will stop requiring cell phone providers to provide analog phone service to the nearly 20 million remaining analog users. Eighty-five percent of users are now using digital phones. (*Source AP News*)

Colorado Connection Notes

By WBØQMR Paul Shackelford

08-24-2002

This month has been full of activity. Our super tech team of John N5EHP and Dave KAØYDW have been hard at work. The Eagle County UHF hub failed and required a new transmitter. They also took a 2 day trip to Wolf Creek Pass and Salida to turn our 145.310 link on the pass into a full fledged repeater and it works great. We must replace the antenna soon but for now it is a working repeater that brings us much closer to Durango. Thanks, guys.

Eric KBØYDN was kind enough to man our table at the hamfest in Loveland this last month. He reports that many of you stopped by to donate or just to chat. We really appreciate your input at these gatherings and it really helps us to plan the future of the system. Thanks for all of your hard work, Eric.

It has come to our attention that many of you who provide communications for public service events avoid using The Connection for fear of tying up The State Wide System. In many cases The Connection can be the best system for events that are larger than the area that any one repeater may cover. The use of the system helps us to test the equipment and coverage areas and train new users on the protocols required to make it work smoothly. For these reasons we on The Connection Board Of Directors invite you to make use of The Connection repeaters. All we ask is that you submit a request via email to kb0vjj@colcon.org or by mail to P.O. Box 22134 Denver, CO 80222 with as much advanced notice as possible and we will get a reply to you very quickly. We have a set of guidelines for use of the system posted on our web page for your review and they may be printed out. The web site is www.colcon.org and touring the site will lead you to most all information. If you have any questions please email us at the above address or check into our weekly net at 8:00pm Mountain time every Thursday night and someone will be there to help.

Have a fun time using Your Connection. 73 from the Colorado Connection Board Of Directors.

Ham Radio Pulls Through in Boating Mishap

By KØSRW Steve Williams

On Thursday, 7/4/02, one of the young adults on our houseboat vacation to Lake Powell, Utah was riding in an inner tube-like device behind our rented ski boat. We had two tubes behind the boat, and the kids were having a really fantastic time trying to hang onto the tubes over the waves and wakes, as the boat driver tried (within reason) to dump them. Marcia (not her real name) had been in a car accident several weeks prior to this, and had received a pretty stiff neck/back as a result, but was feeling just fine on this particular day. To make a long story short, the kids hit a pretty big wave at high speed, and Marcia went flying out of her tube. Usually a fun event, but this time, she landed strangely in the water. She was in quite a lot of neck pain, and had very limited mobility in her neck and back. She complained of a lack of feeling on her left side, and exhibited possible neurological issues in not being able to apply equal pressure to squeezed objects in her left vs. right hands.

If you are familiar with Lake Powell in Utah (<http://www.visitlakepowell.com>), you know that it is 186 miles long and has almost 2,000 miles of shoreline. It also has 96 major canyons (think of them as fingers of the lake) some of which are 15 to 20 miles in length. The marine radio which our rented houseboat was equipped with, simply didn't cut it due to lots of canyons and lots of distance. CB and FRS obviously doesn't work in this circumstances either. Cellular service is pretty-much non-existent at the lake level, though with several hours of climbing, you can reach the tops of some mesas from which cellular service can sometimes be obtained.

I had my Yaesu FT-900 and Outbacker tri-split already set up on the houseboat, but we were having electrical generator troubles, and the houseboat lighting batteries were simply too weak to even allow the rig to operate. So, after Marcia's injury, we moved the rig to the back of the houseboat, and tapped directly into the separate engine starting battery. Success!

In scanning around on 20m, I came upon the very strong signal of Len Kersch, W8VRT in Ann Arbor, MI on 14.178 MHz. He was taking part in a net, which I interrupted for our emergency traffic. I

explained our situation, and provided a phone number to Lake Powell's Bullfrog Marina. Len then placed a call to the Marina, and they connected with the National Park Service (NPS). Karl Williams, KD5AW in Oklahoma City, assisted in the communications too, relaying information between W8VRT and myself when QRN and QRM came up.

About 25 minutes after my initial contact to W8VRT and KD5AW, and armed with additional location data given to the NPS by my wife and a friend who had by this time arrived by boat at Hite Marina, a medical helicopter and NPS boat arrived at our location and attended to Marcia. The helicopter landed about 30 yards from our houseboat. The EMTs decided to airlift Marcia to the hospital at Grand Junction CO, and off they went. There was no room in the helicopter for Marcia's parents, so they were whisked away on an NPS boat for the 60 minute speed run to Bullfrog Marina. Needless to say, this was all very dramatic, and all very important. Marcia's parents then began the 4 hour drive from Bullfrog to Grand Junction.

Marcia's airlift was accomplished by a great outfit called Classic Lifeguard (www.classiclifeguard.com). We are deeply indebted to pilot Tom Caldwell (KC7BPK), flight nurse-paramedic Rick Jones, flight paramedic John Bingham, and National Park Service medic Steve Luckesen. All of these fine individuals provided excellent and understanding care.

As they drove, Marcia's parents received a report by cell phone from the Grand Junction hospital that Marcia's x-rays had been normal, and that there was no reason to believe that a permanent injury had resulted. All indications were that the EMTs decision to airlift her to the hospital had been precisely correct based on the injury, the history, and what was known at the time. The prognosis of "no permanent injury" was absolutely great news to Marcia's parents, and was a huge relief and comfort as they drove through the night to be with their daughter. Along the way, Marcia's Dad contacted my good friend John Gavan WØGAV in Colorado Springs, with the good news, and asked him to attempt to relay this information to me with hourly contact attempts on 14.320 MHz.

John worked long and hard at trying to contact me, but we simply couldn't make contact until around 6 pm the next day. At that time, Mike Sanford

KØCCP in Pine Bluff, AR heard John calling for me, and heard me calling for John. Mike observed that neither of us could hear the other, but that he could hear us both. Mike stepped in to relay the good news between WØGAV and myself. Needless to say, this was a moment of great joy on our houseboat!

So, all is well and we joined up with Marcia and her parents in Grand Junction on our way back home to Colorado Springs, and had a wonderful time of celebration together. Everyone is back home safe-and-sound, though perhaps not quite as relaxed as we'd planned, but definitely even more grateful God's protection in the tough moments earlier in the week.

We'd like to express our most sincere appreciation to Len Kersch W8VRT, Karl Williams KD5AW, John Gavan WØGAV, Mike Sanford KØCCP, the Classic Lifeguard staff, and the National Park Service for their most important help in this matter. This is what ham radio is all about...this is what we train for. We are grateful for your help! *Blessings, Steve Williams, KØSRW*

DON'T FORGET THE CHANGE OF MEETING LOCATION. WE'RE NOW MEETING AT THE LEON YOUNG SERVICE CENTER AT 1521 HANCOCK EXPRESSWAY!

| Chart of Frequency Bands | | |
|--------------------------|-----------------|---------------------------|
| Band | Range | Name |
| VLF | 3 – 30 kHz | Very Low Frequency |
| LF | 30 – 300 kHz | Low Frequency |
| MF | 300 kHz – 3 MHz | Medium Frequency |
| HF | 3 – 30 MHz | High Frequency |
| VHF | 30 – 300 MHz | Very High Frequency |
| UHF | 300 MHz – 3 GHz | Ultra High Frequency |
| SHF | 3 – 30 GHz | Super High Frequency |
| EHF | 30 – 300 GHz | Extremely High Frequency |
| HDHF | 300 GHz & Up | Hoo! Datsa High Frequency |

Public Service & Emergency Communications

The PPRAA is an ARRL Special Services Club, but it is not an emergency services club itself. The PPRAA supports all amateur radio involvement in public service and emergency communications in any way it can, including reporting activities happening in the region. These columns are based on available knowledge of the editor, and the opinions expressed are not necessarily the opinions of RACES, ARES, Skywarn or any other organization, or their leadership. Logos used with permission.

RACES



<http://www.qsl.net/epcraces/>

VHF Net Tuesdays at 1930 on 146.76 MHz
CMRG repeater

Tony Dal Lago KC4VMB, RACES Officer

The August training was on net control procedures, presented by Jeff KØRM. The September training should be on HF mobile operations, presented by Doc WØMCT, followed by a tour of the El Paso County Mobile Command Post. Although summer officially ends this month, now is the time to prepare for the winter. Not only your vehicle, but your communications readiness. Make sure your equipment and antennas are in shape for the winter weather.

ARES



<http://www.qsl.net/ppares/>

VHF Net Tuesdays at 1900 on 146.97 MHz
PPFMA repeater

Wes Wilson KØHBZ, EC

August was a very busy month in terms of public service. At this writing, the Balloon Classic and the ADT marathon still have yet to happen, and that'll wrap things up for the summer. Lots of lessons learned and after action reports to be reviewed. Take a look at the web site over the next month or so as these reports are completed and posted.

Antenna System Gain

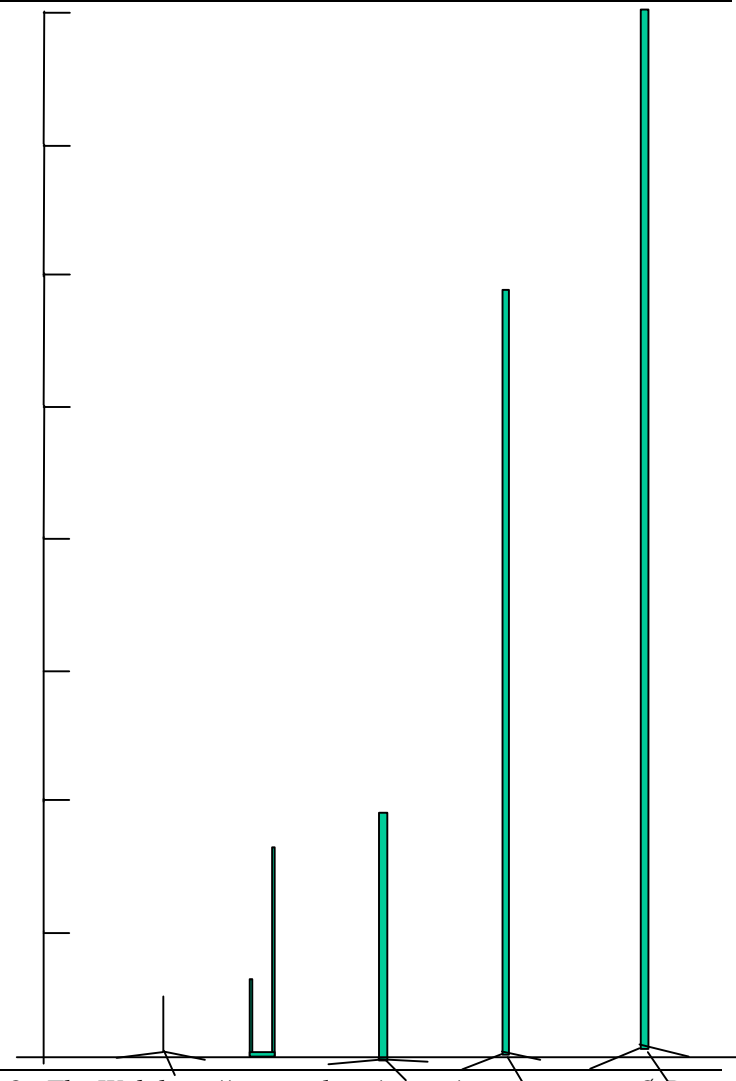
There's no doubt about it: bigger is better when it comes to antennas. But bigger in size usually means bigger in cost too.

The diagram here shows the relative size between some different antennas. Specifically, these are looking at 2m/70cm antennas. On the far left is the lowly $\frac{1}{4}$ wave ground plane antenna. Sizewise, it's very small, and is usually considered to be a 0 dB gain antenna, or an antenna having no gain. Ten watts in means ten watts radiated. At the other end of the scale, the antenna represents a top-of-the-line Diamond antenna, the X-700 antenna. (I chose Diamond and Arrow for no particular reasons other than to compare some similar antennas, and they are well-known.) Its gain is about 10 times more than the $\frac{1}{4}$ wave. That's like saying 10 watts in equals 100 watts radiated.

| Antenna | Height (ft) | 2m Gain | 70cm Gain | Cost |
|---------------------------------|-------------|---------|-----------|-------|
| $\frac{1}{4}$ wave ground plane | 1.6 | 0 | 0 | <\$5 |
| Arrow J-Pole | 4.8 | 3 | 5 | \$39 |
| Diamond X50A | 5.6 | 4.5 | 7.2 | \$110 |
| Diamond X500HNA | 17.8 | 8.3 | 11.7 | \$260 |
| Diamond X700HNA | 24 | 9.3 | 13.0 | \$426 |

(Approximated gain for the Arrow antenna)

The other factor in your antenna system is your transmission line. There are different kinds of transmission lines, such as coaxial cable, ladder line,



and waveguides. Probably the most common, and certainly very easy and convenient to use, is coaxial cable, or simply "coax". Coax comes in varying sizes and qualities. Coax also varies in performance based on the frequency that you're using it on. Low quality coax will perform reasonably well in the HF frequencies, but it can be too lossy if you try to use it on 2 meters or 440 MHz.

| Cable type | Loss at HF | Loss at VHF | Loss at UHF |
|------------|------------|-------------|-------------|
| RG-58 | 2.9 dB | 6.0 dB | 12.0 dB |
| RG-8X | 2.0 dB | 4.5 dB | 8.2 dB |
| RG-213 | 0.9 dB | 2.7 dB | 5.1 dB |
| 9913 | 0.8 dB | 1.6 dB | 2.8 dB |
| LMR 400 | 0.7 dB | 1.5 dB | 2.5 dB |

(Approximate losses are per 100 feet of coax)

The better quality coax you buy, the better your overall antenna system will be. To get the most out of your system, buy the best you can afford.

Here's a quick lesson on dB's. A dB or decibel, is a number representing a comparison, or ratio, between two things. In this case, it's between effective radiated power (ERP) of one antenna over a reference antenna. A few numbers to remember are: 0 dB means no gain, 3 dB gain is approximately twice the power, or gain, and 10 dB is approximately 10 times the power. A 3 dB loss is half the power, and 10 dB loss is 1/10 the power.

So if you have a 5 watt HT, and use an antenna with 3 dB gain, then your ERP is 10 watts, or twice the power. If you use a 10 dB gain antenna, you'll have an ERP of 50 watts. Not bad for an HT!

So does your antenna amplify the signal? No, it simply radiates the power more in one direction than another. If you've ever used a Maglite flashlight, and you know what it's like to rotate the flashlight head to change the shape of the beam, well, you're doing something similar to increasing the gain of the light beam. If you make the beam wide (lowering the gain), you'll see that it's covering a larger area, but it's not as bright. If you focus it into a narrow beam (higher gain), then not as much area gets light, but the area that does is really bright. No change in batteries or bulbs, you're just effectively radiating more light into a smaller area.

Similarly, that's how antennas work, but you just can't see the radio frequency energy. For vertical antennas, more of the energy is being radiated at the horizon, and less upwards into space. So since you usually talk with other terrestrial stations, you want more effective power to go along the horizon, and less out into space.

So why use dB's at all? Why not just watts? When talking about gains in antennas and losses in coax, the dB's add or subtract to give you an overall system gain

in dB, which is less complicated than the math for watts, and you can do it in your head. And you don't have to convert the watts into dB, but we will for this example.

Take a 45W mobile radio, hook it up to a 6 dB gain vertical VHF antenna, using 100 feet of RG-213 coax. What's my effective radiated power?

First we have to get the 45 watts converted into dB so we can add the antenna gain and subtract coax gain. Since dB represents a relative number, we're going to relate the 45 to a single watt. Our transmitter is 45 times stronger than 1 watt. So we're going to find out what 45 watts is in the dBW units, or dB relative to 1 watt. Here's where you'll need a calculator.

First, take the log of 45. This calculates to 1.65. Then multiply by 10 to get 16.5. This is the dBW for 45 watts. 16.5 dBW.

The general equation is: $dBW = 10 \log P$ where P is your power in watts.

Now add the dB for the antenna:

$$16.5 \text{ dBW} + 6 \text{ dB} = 22.5 \text{ dBW}$$

Then subtract the dB loss from the coax. (Another nice thing about dB's: the loss is proportional to the length of cable. Fifty feet has only half the dB loss of 100 feet of coax.)

$$22.5 \text{ dBW} - 2.7 \text{ dB} = 19.8 \text{ dBW}$$

Now we have our system gain of 19.8 dBW, but need to convert it back into watts to get an ERP. So, divide the dBW by 10:

$$19.8 \text{ dBW} / 10 = 1.98 \text{ dBW}$$

and take the antilog of 1.98, which is the same as taking 10 to the power of 1.98.

$$10^{1.98} = 95.5 \text{ watts}$$

The general equation is: $\text{anti log} \frac{dBW}{10} = P$

The Easy Way: You could have done this in your head quite easily. Note that 95.5 watts we ended up with is about 90 watts, which is double the initial 45 watts. A 6 dB gain antenna is the same as doubling your power twice, since dB's add. Once (3 dB) would be 90 watts, twice (3 more dB) would be 180 watts. Now take away 3 dB for the feedline (that's 2.7 dB rounded up). A 3 dB loss is the same as halving the power, so 180 watts halved is 90 watts. See? We're back to 90 watts, which is so very close to 95.5 watts that you can't tell the difference.

Pikes Peak Region Ham Radio Event Calendar

September / October 2002 -- Please see Page 2 for Points of Contact

| Sunday | Monday | Tuesday | Wednesday | Thursday | Friday | Saturday |
|-----------------------|--|---------|-----------------------|--------------|-----------------------------------|-------------------------|
| 1 PSE Balloon Classic | 2 PSE American Discovery Marathon PSE Balloon Classic | 3 | 4 | 5 | 6 | 7 MARC VE Test |
| 8 | 9 | 10 | 11 PPRAA Mtg Auction! | 12 | 13 Lunch Bunch TAPR Conference | 14 TAPR Conference |
| 15 TAPR Conference | 16 Board Mtg | 17 | 18 MARC Mtg | 19 RACES Mtg | 20 | 21 |
| 22 | 23 ZB Deadline | 24 | 25 | 26 | 27 | 28 |
| 29 BARCFest | 30 | 1 | 2 | 3 | 4 | 5 |
| 6 | 7 | 8 | 9 PPRAA Mtg Elections | 10 | 11 Lunch Bunch | 12 PPRAA VE Test |
| 13 | 14 Board Mtg | 15 | 16 MARC Mtg | 17 RACES Mtg | 18 | 19 RMRL Hamfest JOTA |
| 20 JOTA | 21 | 22 | 23 | 24 | 25 | 26 |
| 27 | 28 ZB Deadline | 29 | 30 | 31 | | |

Questions about any event on this calendar? Something missing? Try our web page, or contact a Board Member!

| Membership Application for the Pikes Peak Radio Amateur Association, Inc. P.O. Box 16521, Colorado Springs, CO 80935-6521 | |
|--|--|
| Date: _____ <input type="checkbox"/> New Member <input type="checkbox"/> Renewal Name: _____ Address: _____ City: _____ State: _____ Zip: _____ Call: _____ Class: N T + G A E Phone: _____ Mbr of ARRL? <input type="checkbox"/> Yes <input type="checkbox"/> No E-mail: _____ Additional Family Members to Join/Renew: Name: _____ Call: _____ Class: _____ ARRL? _____ Name: _____ Call: _____ Class: _____ ARRL? _____ Name: _____ Call: _____ Class: _____ ARRL? _____ | In which activities would you like to participate? Field Day <input type="checkbox"/> Demonstrations <input type="checkbox"/> Nets or round tables <input type="checkbox"/> Organize activities <input type="checkbox"/> Teach ham classes <input type="checkbox"/> Full Member \$15: <input type="checkbox"/> Family Membership \$18: <input type="checkbox"/> Over 65 \$10: <input type="checkbox"/> Over 65 Family \$12: <input type="checkbox"/> Associate \$12: <input type="checkbox"/> Ø-Beat Only \$12: <input type="checkbox"/> Donation to Club: \$ _____ Total Enclosed: _____ <u>MAKE ALL CHECKS PAYABLE TO "PPRAA"</u> |
| Please indicate how you'd like your Ø-Beat delivered: <input type="checkbox"/> Standard hardcopy via U.S. Mail (Defaults to standard hard copy in the event that NO check boxes are checked) <input type="checkbox"/> As a PDF file attachment via e-mail, to help save a few bucks <input type="checkbox"/> I'll save the club a few bucks and download it from the Web! | |
| Circle your interests ⇒ HF / V/UHF / FM / SSB / Digital / DX / Contests / Technical / Hardware / Other _____ | |
| New and renewing members must submit a completed application form along with your check to the Treasurer. Please Type or Print Clearly! | |

ALL NEW MEMBERSHIPS AND RENEWALS WILL BE PRORATED TO EXPIRE IN DECEMBER!!

RadioActivities!

Lunch Bunch



The next **Lunch Bunch** is September 11 at the Home Town Buffet, Academy & Austin Bluffs Pkwy, 1130-1300. (*Always the **Friday** following the club meeting.*) Call Moe WBØRTF with any questions!!

Hamfest Horizon & More

- **Sep 13-15:** TAPR/ARRL 21st Annual Digital Conference, Denver. Get up to speed on the latest research in packet and digital modes. \$70 for both days; \$40 single day. Visit their web site for details <http://www.tapr.org/tapr/html/conff.html>
- **Sep 29:** Boulder ARC Hamfest, Boulder County Fairgrounds, Longmont. \$5 admission fee. VE testing & more. Talk-in 146.700. barc50@arrl.net. <http://www.thisistrue.com/barc.html>
- **Oct 19:** Rocky Mountain Radio League hamfest, Jefferson Co. Fairgrounds, Golden, 0800-1400. \$5 admission. Talk-in 145.22 MHz. VE testing, prizes, food. POC Ron Rose NØMQJ (303) 985-8692 n0mqj@attbi.com. <http://rmrl.hamradios.com/>

- **May 30 – Jun 1, 2003:** Rocky Mountain Division Convention (HamCon), Estes Park. Visit the web site at <http://www.hamconcolorado.org> Contact Jerry VerDuft ADØA, 719-634-8066, ad0a@arrl.net.

Dits & Bits

- **For Sale:** Diamond 1.8 to 200 MHz wattmeter/SWR meter 200W. Like new. \$75. I bought a wider range meter and no longer need this one. Dave Hamilton, KØDMH, 337-8177.

Jess Miley

KØTAA

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for 55th Wedding Anniversary!

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Colorado Springs, CO 80935-6521 USA**

First Class Mail

To:

Very Important! Permanent Meeting Location Change! See Pg 1!