
SIGNALS

Rockwell
Collins **Amateur Radio Club**

Monthly Newsletter of the

Volume 30 Issue 1

Web Site <http://www.w5rok.us>

October 2008

RCARC
Membership Meeting
Thursday 23 October 2008
1700 Social 1730 Meeting
Rockwell Collins Building 462
Dallas Conference Room
Subject: PropNET

other club funds and they are used primarily for maintaining our refreshment supplies, both for the meetings and in the RC Emergency Communications Center (our club radio station).

So where does the 50/50 come in? The donations collected at each meeting are divided in half, with half going in to our club's refreshment fund, and half going to the winner of that meeting's ticket random drawing. So this fund raising is a WIN / WIN situation for both our members and our guests. You cannot lose. By donating to the 50/50 drawing you have just paid for the refreshments you have enjoyed at the meeting!

But that is not the end of it. As a consolation, we have additional donation ticket drawings as a consolation prize for those who did not win the first cash drawing. These prizes are usually pretty nice! For example, new radio books, etc.

This quarter we have a **SPECIAL DRAWING** to encourage regular meeting attendance. Instead of throwing the tickets away after each meeting, they are kept for a final drawing to be held in December. So the more meetings you attend between now and December, the better your chance of winning in this drawing. What are the prizes in this special drawing? We are still working on that, but so far they include a modern crystal radio receiver kit (donated to our club by Tony Spiegel KC8UR), a battery charger / rejuvenator kit (donated to our club by John Champa, K8OCL), and there is more to come, so try not to miss any of our club meetings and SAVE THOSE DRAWING TICKETS!

Thanks for all your loyal and dedicated support to the club and to the club's role in the company's emergency response planning.

Local Club News

Meeting Notice The program this month is on PropNET. PropNET is a PSK31 based ad-hoc 2-way communication network originating on RF and reported on the Internet. Amateur innovation is certainly alive and well! As participants periodically ID and exchange data, they report their activity to an Internet data-collection hub for presentation through <http://www.PropNET.org>. PropNET engenders real-time RF communication in many ways. It is so unlike other systems, newcomers are amazed. For more details see the Activities Corner in this newsletter.

RCARC 50/50 Drawing (Important Announcement!) *By John Champa, K8OCL and Jim Skinner, WB0UNI*

Our club's monthly 50/50 drawing has become an integral part of every meeting.

The purpose of the drawing is to make available at every meeting fresh coffee (both regular and decaffeinated), water, and some snacks for those who come directly from their work area to the Dallas Conference Room. This includes all members and their guests, or other employees who may be interested in the evening's technical program. All employees are always welcomed to attend our meetings. Club membership is desirable but absolutely not required. As you may know, we also make our club's programs available live via the company's audio / telephone conferencing bridge to RC employees, both active and retired, anywhere in the world! However, it is difficult to get the coffee and snacks to those folks (HI).

Here is how it works: Raffle tickets are given out to all attendees in return for a club donation of \$2 per ticket, or 3 tickets for a \$5 donation. These denotations are accounted for separately from

Annual Officers Election Results The annual election of officers took place at the September meeting. Each position had only one candidate as of the meeting date. All members present agreed that the club should proceed with the election at this meeting. The following officers were elected by acclamation:

- President: Bob Kirby, K3NT
- Vice President: Ross Terry, K5SRT
- Secretary: Dwight Ramsey, KE5SAS
- Treasurer: Jim Gaston KD5GYD
- Activities Director: John Champa K8OCL

Meeting Place Change Don't forget that our regular monthly radio club meetings have been moved to a new location **We now meet in the Dallas Conference Room**

Club Meeting Talk-In Each month, on the night of the membership meeting we have a Talk-In on the club repeater. The Talk-In is from 1645 to 1730 hours, prior to the meeting.

RCARC OFFICERS

<p>PRESIDENT Bob Kirby K3NT 319.360.0500 k3nt@arrl.net</p>	<p>VICE-PRESIDENT Ross Terry K5SRT 972.705.3667 k5srt@arrl.net</p>
<p>SECRETARY Dwight Ramsey KE5SAS 972.705.1841 suhermano@tx.rr.com</p>	<p>TREASURER Jim Gaston KD5GYD 972.705.3369 jrgaston@rockwellcollins.com</p>
<p>ACTIVITIES CHAIRMAN John Champa K8OCL 972.705.1531 460-100 k8ocl@arrl.net</p>	<p>WEBSITE MANAGER Wayne Hughes WA0TGH 972.705.1406 461-258 wa0tgh@arrl.net</p>
<p>STATION TRUSTEE Steve Phillips K6JT 972.517.3332 k6jt@arrl.net</p>	<p>NEWSLETTER EDITOR Jim Skinner WB0UNI 214.535.5264 wb0uni@arrl.net</p>
<p>CLUB STATION 972.705.1349</p>	<p>W5ROK 461-290</p>

VE SESSIONS

Dallas tests are held 4th Sat of each month at 10:00. 13350 Floyd Rd. (Old Credit Union) Contact Bob West, WA8YCD (972) 917-6362

Irving tests are held 3rd Sat. of each month at 09:00. 5th and Main St. Contact Bill Revis, KF5BL 252-8015

McKinney VE test sessions are held at the Heard Museum the first Sunday of the month. The address is 1 Nature Place, McKinney TX. The time of the testing is 14:30, ending no later than 16:45. **Note: no tests given on holiday weekends.**

Garland testing is held on the fourth Thursday of each month, excluding November, and begins at 1930 sharp. Location is Freeman Heights Baptist Church, 1120 N Garland Ave, Garland (between W Walnut and Buckingham Rd). Enter via the north driveway. A HUGE parking lot is located behind the church. Both the parking lot and the Fellowship Hall are located on the east side of the church building, with big signs by the entrance door. Contact Bill Reynolds, K8DNE, 972-475-3854.

Plano testing is on the third Saturday of each month, 1300 hrs at Williams High School, 1717 17th St. East Plano. Check Repeater 147.180+ for announcements.

Greenville testing is on the Saturday after 3rd Thursday, 1000 hrs at site TBA, contact N5KA, 903.364.5306. Sponsor is Sabine Valley ARA. Repeater 146.780(-) with 118.8 tone.

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President's Message

Welcome to the new RCARC FY2009 elected officers. Secretary Jim Gaston, KD5GYD, moved to the Treasurer's office replacing Jim Skinner, WB0UNI. Dwight Ramsey, KE5SAS, took over the Secretary's office and Ross Terry, K5SRT, replaced Dennis Cobb, WA8ZBT in the Vice President's office. Please provide your full support to the new officers. Also remember to support your newsletter editor, activities chairman and fellow club members.

Last month's big club event was our company wide special event for the 75th anniversary of Collins Radio. Thanks to all that operated or provided support to this important effort. Ross Terry, K5SRT, needs help with the 75th SE verification QSL cards. Please help out if possible.

The clubs 441.875 Mhz UHF repeater (W5ROK) and our 145.01 Mhz VHF packet BBS station (W5ROK-1) is in need of some general preventative maintenance along with a replacement rack cabinet. System grounding, receiver, transmitter and antenna measurements need attention. A new antenna needs to be installed for our packet BBS station. Our current four-foot high 19" rack cabinet is too small; it lacks proper shelving, grounding, and our UHF duplexer is sitting outside and on top of it. The cover of our UPS needs to be secured. The area has a lot of dead bugs, dirt, and cobwebs requiring a good cleaning. If you can help, please contact any club officer.

Our club also needs antennas for the WARC bands (12, 17, 30 and 60 Meters). If this is your area of interest, please get a design and work party together and advise the officers of your progress.

RCARC digital modes (PSK-31, RTTY, AMTOR, PACTOR, Packet, etc.) are being installed in the W5ROK station. If this is your cup of tea, please contact Bob, KC4UAI. I am sure he would like your help.

In August, a request and proposal for an additional contest grade HF transceiver was made. At the September meeting the club voted to purchase a Elecraft model K3 transceiver. This new radio has been placed on order with a three-month lead-time.

Is your RCARC membership due for renewal? A reminder to return your completed membership form with any changes, such as a new e-mail address, along with your dues to RCARC.

Two members (Ross, K5SRT & Bob, KC4UAI) have been spotted learning CW (Morse code). Please join or support them if you have an interest. There are CW learning programs on the club computers.

I was advised that a member spilled a beverage onto the rug in the club station and failed to clean it up. Accidents do happen. Please make every attempt to alert a member of maintenance or a club officer should you require assistance in keeping the club room clean.

If you have any input for the annual RCARC report, please send it along. Thanks.

September RCARC Activities:

- 75th Anniversary of Collins Radio Special Event
- Meeting Refreshments Setup Volunteer – Jim Skinner, WB0UNI (**more helpers please**)
- RCARC Marketing – Joe Wolf, N5UIC; Mike Hollingsworth, W5QH

- New Member Station Tour - Dennis Cobb, WA8ZBT; Bob Kirby, K3NT
- RCARC Digital project - Robert Diepenbrock, KC4UAI; Bob Kirby, K3NT
- Another Great SIGNALS Newsletter—Jim Skinner, WB0UNI
- Treasurers Report – Jim Skinner, WB0UNI
- Club Librarian - Stephanie Keese, AC5NF
- Website Updates - Wayne Hughes, WA0TGH
- September Program - John Champa, K8OCL
- RCARC Membership Applications & Database - Joe Wolf, N5UIC
- Secretary Report –Jim Gaston, KD5GYD
- Station Trustee – Steve Phillips, K6JT
- Member Profile Responder – No response this month
- CARC (W0CXX) - Club News

Also see the news items from our Rockwell Collins Sister Clubs, W0CXX and W4CRC in this newsletter.

Hope to see or hear you at the meeting,
 Best Regards (73),
 Bob Kirby, K3NT
K3nt@arrl.net
<http://w5rok.us>

Secretary's Report

Jim Gaston, KD5GYD, opened the meeting at 1740 (Sept. 25th 2008), in the Dallas Conference Room. Present at the meeting were:

Charles Beis	K5UWD	John Champa	K8OCL
Don Eichenberger	K0LKX	James Gaston	KD5GYD
Mike Hollingsworth	W5QH	John McFadden	K5TIP
Steve Phillips	K6JT	Mike Schmit	WA9WCC
James Skinner	WB0UNI	Joseph Wolf	N5UIC

1. Officer Reports
 - a. *President's Report:* The President and Vice President were unable to attend.
 - b. *Vice-President's Report:* The President and Vice President were unable to attend.
 - c. *Secretary's Report:* The Secretary's report was not available.
 - d. *Treasurers Report:* Jim Skinner, WB0UNI, reviewed the club's financial statement.
 - e. *Station Trustee's Report:* There was no Station Trustee's report.
 - f. *Activities Chairman Report:* There was no Activities Chairman report.
2. Old Business
 - a. There was no old business.
3. New Business
 - a. *50 / 50 Drawing:* The 50/50 drawing raised \$26 for the club. This goes to support refreshments at the meetings and other club activities.
 - b. *Officers Election:* The previous newsletter and special bulletins requested that candidates identify themselves for a vote by the general membership at the September Meeting. All present members agreed that the club should proceed with the election at this meeting. The following officers were elected by acclamation:

President: Bob Kirby, K3NT

Vice President: Ross Terry, K5SRT
 Secretary: Dwight Ramsey, KE5SAS
 Treasurer: Jim Gaston KD5GYD
 Activities Director: John Champa K8OCL

- c. *Elcraft K3/100 for the W5ROK Shack:* A motion was made to approve the expenditure of up to \$2600 for the Elcraft HF rig described in Bob Diepenbrock's, KC4UAI, proposal which was circulated during the last meeting. The motion was seconded, voted upon, and approved.

John Champa, K8OCL, introduced the evenings program "ALE for Amateur Radio – Emergency / Disaster Relief Communications" presented by Bonnie Crystal, KQ6XA. Bonnie called into the meeting from Hong Kong where she is working on the development of additional ALE capabilities in a commercial venture. Her presentation covered the fundamentals of Automatic Link Establishment and how it is being used to create global networks for amateur use as well as providing reliable emergency communication infrastructure. She reviewed common equipment and software used in amateur ALE, SMS and email interoperability features, modulation characteristics, and several recent real-world applications including emergency communications following the Katrina Disaster.

ARRL Membership Benefits

There are "fringe" benefits for RCARC when our members join or renew through the following process.

Renewing By Check—After filling out the form, return it to RCARC with your check. Note the definition of New or Renewing Member at the top of the form. If you have previously been a member of ARRL but have let that membership lapse for 2 or more years then you are considered a new member and the club would get a \$15 commission. If you are renewing a current membership or one lapsed for less than 2 years, you are considered a renewing membership and would get a \$2 commission. Do not deduct the \$15 or \$2 commission—make the check out to RCARC for the full renewal amount.

Renewing By Credit Card—If you wish to CHARGE the renewal to a credit card note the special instructions (Box on right side of form) which indicate that you would then pay the \$15 or \$2 directly to RCARC. Your credit card would be charged for the full amount minus the appropriate commission. In this instance the check should be made out to the RCARC for the appropriate commission amount.

In both cases, return the application to RCARC regardless of payment method in order for RCARC to get credit. **The application is now available on the RCARC website!** Mail to the following address:

RC Amateur Radio Club
 Attn: Treasurer
 MS 461-290
 PO Box 833807
 Richardson TX 75083-3807

RCARC Membership Renewal

It's that time of year again. Your continued membership in RCARC is greatly appreciated. If you haven't re-upped yet, please bring your renewal form to the meeting on Thursday 25 September. If you haven't received your form, please contact Joe Wolf, N5UIC, @ X1388

News From our Rockwell Collins Sister Clubs W0CXX & W4CRC

Special Event—75th Anniversary of Collins Radio

Sept 20-26 As reported by Jerry Buchheit, KD0DYZ, the operators at W0CXX were Al Butler, Gregg Lind, Bill Caldwell, Joe Spinks, Jerry Buchheit, David Lucas, Ron Luse, Joe Hetrick, Tim Schoenfelder, Al Tupker, and Richard Machacek with total operating time of 52 hours making 605 QSOs. The countries logged include; Canada, England, Chile, Dominican Republic, France, Mexico, Puerto Rico, Portugal, Australia, Spain, Panama, and Brazil.

Frank Helsell reports that the operators at N0CXX were Arlo Meyer, Bruce Steele, Charlie Snodgrass, Dale Svetanoff, Daniel Leon, Dave & Linda Lucas, Frank Helsell, Jack Rector, Jim Sliney, Joe Spinks, John Clemens, Juan Segal, Larry Kerr, Lawrence Robinson, Mark Kovalan, Randy Hollingsworth, Tim O'Hara, and Tom Vinson, with an estimated operating time of 59 hours total during the week.

Robert Lombardi reports that W4CRC (Melbourne) had a total of 222 QSO's.

I am interested in club member desire to continue activities like this. What is the desire of the club to participate in special event stations, or is there a desire to participate in contesting? These are two different types of activities - Is there any particular contest that people feel the club should operate? If so, which ones are of interest. I am more than willing to help get the club organized to support a contest or two over the next year. From what I understand this was the most activity seen in the club station for sometime. So it is up to the club if we wish to continue this type of activity and what is the desire going forward? We can only do so many special events and then also look at other activities to get club participation for activities such as contesting. Gregg Lind, grlind@rockwellcollins.com

Billboard Antenna Coming Down! The last HF antenna in the Collins antenna farm on C Ave (Cedar Rapids) came down the first week in October. After the successful inauguration of services from the new location, the Billboard antenna is coming down. The construction company wants to complete grading and parking lot work prior to winter, so they are in a bit of a rush. Wednesday morning, a crane and small crew was starting the demolition. There is no attempt being made to preserve the antenna; it is all becoming scrap metal. The crane was attached to the driven element pointing 30deg, the guys were cut and a torch taken to the bottom. At noon, the 30deg driven element was on the ground. Given the pace of getting the first driven element down, the others may go at a rate of 2-3 per day. It will be a challenge to get the crane to some of the sections as the pond and the parking lot may interfere. The reflector screen and towers will be another challenge if they plan to take them down cautiously. It may be fun to watch. Barry, W0IY

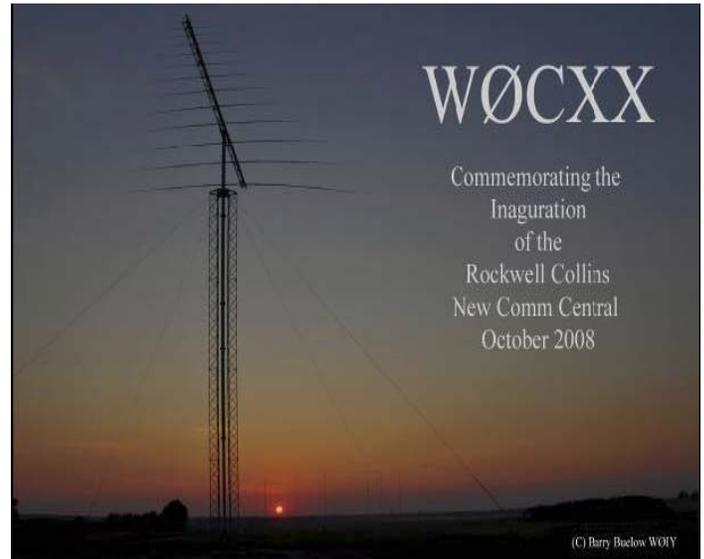
The new antenna farm consists of the following:

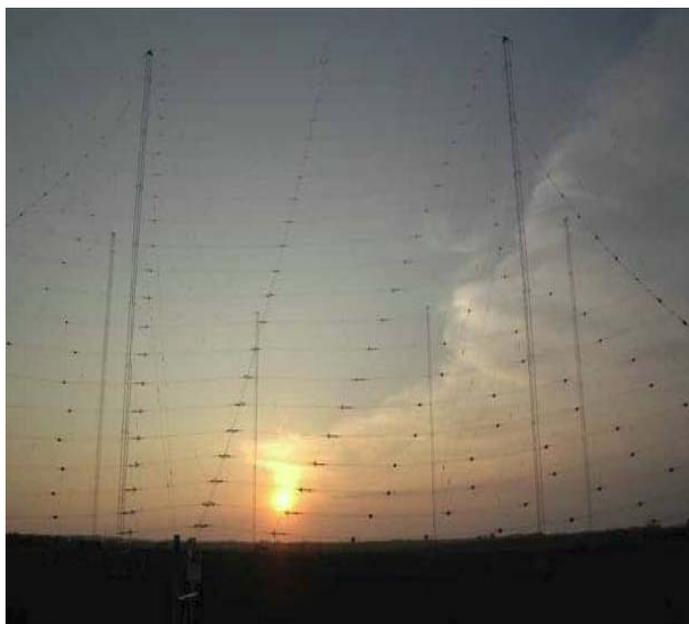
2 ea. *Collins 237B-1 Rotatable Log Periodic Antennas* covering 6.5 to 30 MHz with about 10 -12 dBi gain (these were removed from Building 120, refurbished, and reinstalled at the new site). Antenna height is 105-feet.

2 ea. *Antenna Products, Inc. CMV-330 Conical Monopole Antennas* covering 3.0 to 30 MHz with about 2 dBi of gain vertically polarized and omni-directional. Antenna height is 80-feet.

6 ea. *Antenna Products, Inc. LPH-0506 Horizontal Log Periodic Curtains* covering 3.0 to 30 MHz with 12 dBi of gain. These curtains are on six 170-foot towers arranged in a hexagon thus giving 360-degree azimuth coverage with the six antennas pointed on 60-degree increments.

All antennas are fed with Andrews 1 5/8-in Heliax buried in the ground. Barry Buelow has provided some pictures of the new farm.

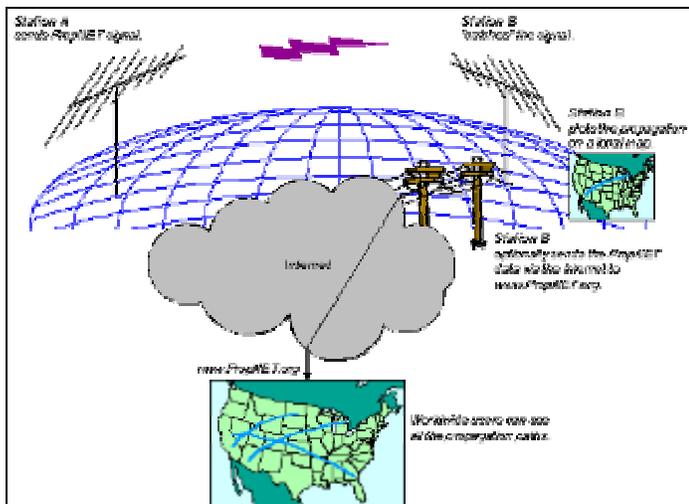




Activities Corner *By John Champa, K8OCL, RCARC Activities Chairman*

What is PropNET? PropNET is the name given to an innovative project that uses PSK31 to create an RF-based digital peer-to-peer network. Participants simply download PropNetPSK (a Windows program); enter a few station-specific parameters in order to take part.

Most PropNET participants automatically identify themselves over-the-air, typically a few times an hour and pass traffic to other participants. If a receiving PropNET station “catches” (decodes) the transmission, the details are logged locally and the event is plotted on a local map. If the receiving station is connected to the Internet, the “catch” is also reported to a globally accessible website (<http://www.PropNET.org>). The process repeats over time, resulting in a significant amount of network-exchanged information that can be used for many purposes, including the observation of ones own transmission quality (see the FAQ on IMD).



On what frequencies is PropNET activity found? The following frequencies are in MHz and refer to the transceiver frequencies, USB:

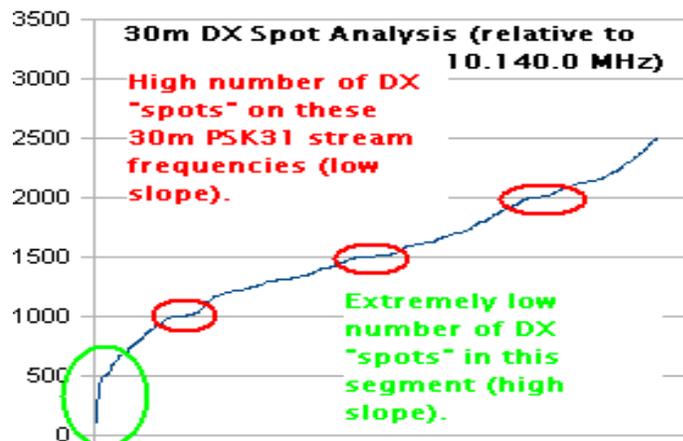
- 1.9982 3.5982 7.1032 **10.1389** 14.097 **18.105** 21.098 **24.924**
28.131 **50.291** 144.288 432.300

Participants are encouraged to anchor on one of the frequencies in bold rather than spreading out across multiple bands. The PropNET concept works best with long-term and constant participation on a particular band. Activity engenders additional activity.

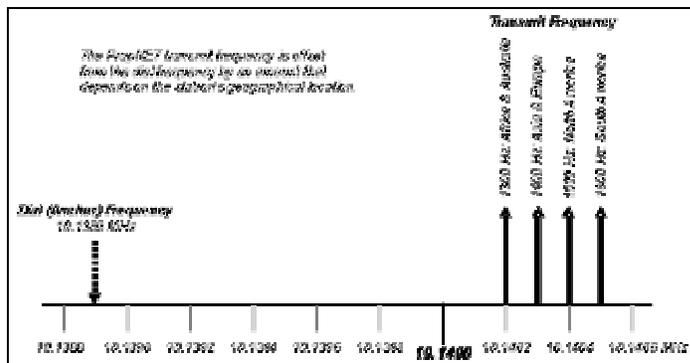
Please note the 160-meter frequency that is underlined above. The 160-meter band has no USA allocation for Automatically Controlled Digital Station operation. If operating there, a control operator must be present at all times.

These frequencies are called “Anchor frequencies”. They are the frequencies to which one tunes their transceiver (USB). The PSK31 stream occurs above that, in accordance with a participant’s continental assignment.

For example, for the 30m band, the table shows that you need to set the radio to 10.1389MHz USB. Then, if you live in North America, you configure PropNetPSK to use a PSK31 stream frequency of 1500Hz. The on-air transmit frequency will then be the sum of these two frequencies; i.e. 10.1389 + 0.001500 = 10.1404MHz.



Note that although you set the radio to a frequency just below 10.140MHz, the on-air signal actually appears just above 10.140MHz. This means that the signal falls inside the United States allocation for automatically controlled digital stations (10.140-10.150MHz) and is therefore legal.



How does PropNET settle upon its operating frequencies? Participants in the PropNET project apply the “good amateur practice” of researching spectrum segments that permit automatically controlled digital operations, then they spend a considerable amount of time listening and scanning for other regular on-air operation by others in those segments. Using 30 meters as an example, in addition to these strategies, the PropNET community ran a study of “DX Cluster spots” to identify the segments of the band that are least used for “DX chasing”. The result of that study is that the PropNET Anchor frequency moved into a less-used segment!

Because PropNET uses PSK31 as its mode of operation, we attempt to find spectrum at the edge of existing PSK31 operation if possible.

When a “best possible” segment is identified, a pilot contingent of PropNETers will establish operation and await the outcome. Since the preamble includes web site information and the payload includes the call signs of the PropNET participants in plain text, PropNETers are easily reached should their operation be problematic in any way.

With the absence of insurmountable negative feedback, an “anchor” frequency is established and communicated.

How do I find out more about PropNET? The quickest way to discover how PropNET works is to try it! Download the PropNETPSK client, follow the very informative Help file included with the client, and you’re there.

You might also subscribe to the PropNET-Online Yahoo group (<http://groups.yahoo.com/group/PropNET-Online>). There you will find all kinds of active discussions and helpful advice on how to use PropNET.

If you have any special feedback or suggestions on how to improve PropNET, send an e-mail to PropNET-Online-Owner@yahoogroups.com

What is the difference between PropNET and PropNetPSK? PropNET is the name of the “project” - the network formed by participants.

PropNetPSK (also known as PNP) is the name of the Windows-based client that is used by PropNET participants. It can be downloaded from this web site.

What are some of the key features of a PropNET software client? Key features of PropNET “sanctioned” software focus on the ability to make control-operator like decisions and to support (and be sensitive to others’) on-air communication in one way or another. It is with particular pride that we can say that it includes an anti-QRM feature that is a new concept to the digital world: “listen before ID”. This strategy makes it impossible for PropNET participants to interfere with other transmissions on the frequency (provided they can be heard by the PropNETer, of course).

Another function of interest is that of scanning for other stations that may be calling them. If a return call is decoded, a PropNET client should be able to invoke a “QSO Alert” that will alert the operator that someone just called them. The PropNET station can then engage in a keyboard QSO, if they’re so inclined.

If connected to the Internet, participant stations will directly report their activity to a central data collection hub for casual observation by “anyone in the Internet universe”!

How often do PropNET participants ID themselves?

On HF frequencies, it is recommended that participants ID no more than six times per hour; however ID rates of up to 15 times per hour are allowed. The station owner is responsible for setting this parameter to a reasonable value.

Are IDs time slotted? No time slotting takes place by design. Each participant is stand-alone and autonomous in its operation. Normal differences in computer clock time and time keeping will cause participants to wander into and out of “sync” with others over time. This is a good thing as it offers some natural randomization.

What rules govern the PropNET service? PropNET is considered an international service. However, radio-licensing regulations differ from country to country, so it is important for PropNET participants to know and abide by the rules of their own licensing authority.

In practice, PropNET operates in a very similar way to APRS (<http://www.aprs.net>). Like APRS, PropNET stations form a network for sharing information, just like people in an SSB roundtable. This means that the rules governing PropNET are essentially the same as those governing APRS in your country.

What rules govern the PropNET service in the United States of America? Radio amateurs in the United States are bound by the requirements of the FCC Part 97 rules. (www.fcc.gov/Bureaus/Engineering_Technology/Documents/cfr/1998/47cfr97.pdf). The PropNET network was designed with the rules governing Automatically Controlled Digital Stations in mind. Of course, the operator will start PropNetPSK manually, but thereafter it is under automatic control, and the Part 97 rules that are specifically applicable to PropNET include §97.3(6) and §97.221(b).

I don’t see PropNET stations communicating with other stations. This seems more like a “beacon” than it does a “network”, doesn’t it? PropNET stations communicate with other PropNET stations using unconnected datagrams. This is similar to APRS’ UI-frame packets and UDP in the computer world. Communication is taking place between PropNET stations even though it is unacknowledged (no ACKs).

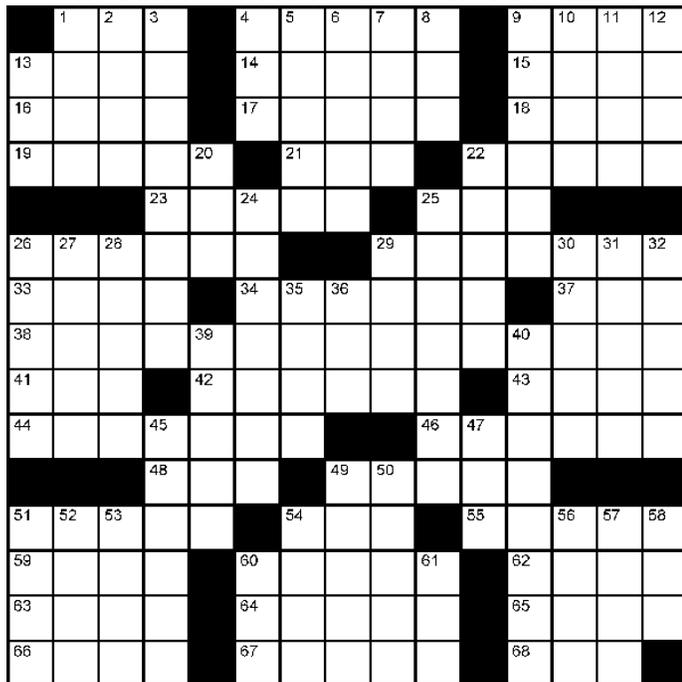
As a further differentiation from “beacon operation, non PropNETers can attempt to “break in” to the network by transmitting a PropNETer’s callsign a few times on its transmit frequency. This could invoke a “QSO Alert” that signals the operator. It could potentially start a keyboard QSO. Of course, the operator may choose to ignore your “break”, in which case you could QSY to a clear frequency to call CQ yourself, secure in the knowledge that the band is indeed open for communication.

How does PropNET fit in with other band users? Proudly, PropNET was designed to be a non-exclusive, frequency sharing friendly, band co-user. A significant amount of strategic effort has been expended to ensure that the PropNET Project participants’ stations automatically observe “good amateur practice” in their operation.

Are you curious now about PropNET? Be sure to attend the meeting on 23 October and find out more about PropNET. Hope to see you there!

Vy 73, John K8OCL

The Amateur Radio Crossword Puzzler



Across

- 1. Siemens, before 1971
- 4. Word with in or out of
- 9. Burn soother
- 13. Bearing
- 14. Connector
- 15. With 63-across, a multiband kind of 38 across
- 16. A W5, maybe
- 17. "QSL"
- 18. EA crazy?
- 19. Match type
- 21. Queue before Q
- 22. They hold up 38 across
- 23. Young winged hunter
- 25. FD bed, perhaps
- 26. Popular kind of 38 across
- 29. Least tight
- 33. Horse coloring
- 34. F CULs
- 37. QSL routing word
- 38. This puzzle's theme
- 41. Photo, esp. digital
- 42. Maximum
- 43. Implore
- 44. Troop formation
- 46. Storm, with nor-
- 48. Non-OMs
- 49. F capital
- 51. Equipment maker Millen
- 54. Modern VFO comp.
- 55. HA composer Franz
- 59. Like AM or SSB communication

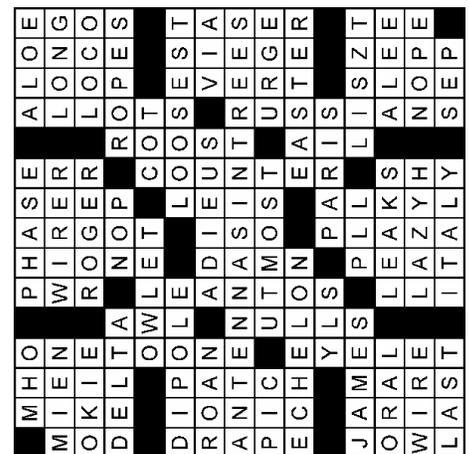
- 7. Trickle
- 8. Flub
- 9. Apportions
- 10. Quad part
- 11. Story starter
- 12. They can be inflated
- 13. Ckt. alteration
- 20. Piercer
- 22. It's for the birds
- 24. Simple dwellings
- 25. Turns measurer
- 26. Hang
- 27. Charged
- 28. Word with cable or panel
- 29. KH6 loops?
- 30. 7x F-Open winner
- 31. attack
- 32. Stun gun
- 35. Condemn
- 36. Prefix with -tropic
- 39. Radiation pattern features
- 40. Most UA1's
- 45. Place for a lace
- 47. Be sick
- 49. Town square
- 50. Methyl, ethyl, e.g.
- 51. Cheek
- 52. Diva's solo
- 53. E-M cup target entity
- 54. ___ moss
- 56. Gin flavor
- 57. End-fed 26-across
- 58. Coax fitting
- 60. 75A-1 maker's middle
- 61. Short

- 60. What an old capacitor does, sometimes
- 62. Away from the wind
- 63. See 15-across
- 64. Slacker antenna?
- 65. "Uh-uh"
- 66. Zulu's position
- 67. Begali's entity
- 68. VHF QSO party mo

Down

- 1. 2-down's product
- 2. Audio Bob
- 3. Match maker's goal
- 4. Part of PA, abbr.
- 5. Possible Hispanola prefix
- 6. Hamspeak, for example

This month's Puzzler Solution



Upcoming Events and Public Service Ops

1-3 November 2008 ARRL November Sweepstakes

(CW): The object of this event is for stations in the United States and Canada (including territories and possessions) to exchange QSO information with as many other US and Canadian stations as possible on 160, 80, 40, 20, 15 and 10 meter bands. **Date and Contest Period:** November 1-3, 2008. Begins 2100 UTC Saturday, ends 0300 UTC Monday. More info at <http://www.arrrl.org/contests/rules/2008/novss.html>.

15-16 November ARRL International EME Competition:

The object of this event is two-way communications via the earth-moon-earth path on 50 MHz through 1296 MHz. **Date and Contest Period:** full weekend 48-hour period (0000 UTC on Saturday through 2359 UTC Sunday). More info at <http://www.arrrl.org/contests/rules/2008/eme.html>.

15-17 November 2008 ARRL November Sweepstakes

(Phone): The object of this event is for stations in the United States and Canada (including territories and possessions) to exchange QSO information with as many other US and Canadian stations as possible on 160, 80, 40, 20, 15 and 10 meter bands. **Date and Contest Period:** November 1-3, 2008. Begins 2100 UTC Saturday, ends 0300 UTC Monday. More info at <http://www.arrrl.org/contests/rules/2008/novss.html>.

Rockwell-Collins

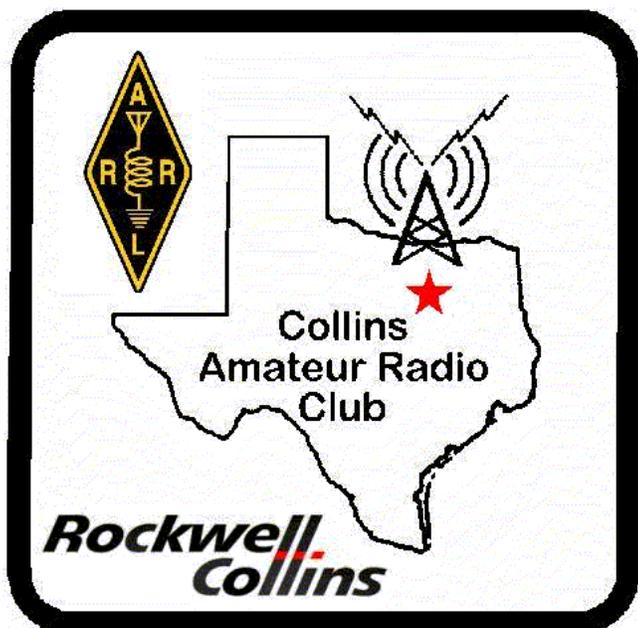
Amateur Radio Club

Mail Station 461-290

P.O. Box 833807

Richardson, TX 75083-3807

TO:



CLUB STATIONS

(972) 705-1349

W5ROK REPEATER

441.875 MHz +5 MHz Input

131.8 Hz PL - RX and TX

W5ROK-1 PACKET BBS ROK Node

145.01 MHz

MEETING

Thursday 23 October 2008

1700 Fellowship

1730 Meeting

Rockwell Collins Building 462

Dallas Conference Room

NEXT SIGNALS DEADLINE:

17 November 2008