
SIGNALS

Rockwell
Collins **Amateur Radio Club**

Monthly Newsletter of the

Volume 29 Issue 06

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

March 2008

RCARC Membership Meeting

Thursday
27 March 2008
1700 Fellowship
1730 Meeting
Rockwell Collins
Cafeteria

*Subject: Local RACES Activities, by
Ian DiFranco, KE5FOM*

Local Club News

Meeting Notice All club members are strongly encouraged to attend!

When John Champa, K8OCL, our Activities Chairman, contacted our special guest speaker, Ian DiFranco, KE5FOM, about this month's meeting and Ian's background with the company, here is what Ian had to say:



I am married, and have two daughters. My wife is a professional photographer.

My eldest daughter is a freshman in college working towards her teaching degree. My youngest daughter is a freshman in high school. We live just east of Dallas in the city of Rowlett, Texas.

I was born in Erie, Pennsylvania and went to college in Columbus, Ohio. I received my Bachelor of Science degree in engineering in 1985 and moved to Southern California to start work at Rockwell International that same year.

My first job was as a System/Software Test Engineer working on the navigation systems for the Fast Attack and Fleet Ballistic Missile submarines. I continued as a test engineer working on navigation and missile programs all the way until 1993.

In 1993, I followed the program I was working to Richardson, Texas and shifted to software engineering working on Scope Command. I have had the chance to work similar radio systems for Germany and Singapore.

Around 2000 I took a management position over a research and development program and then move to a similar position over a portion of the software for the JTRS (Joint Tactical Radio System) program.

In 2005, I moved in to my current role as department manager over Network Applications.

Club Meeting Talk-In Each month, we have a Talk-In on the club repeater before the membership meeting on the night of the meeting. The Talk-In is from 1630 to 1730 hours, prior to the meeting.

First Monday Sprint W5ROK operated in the First Monday Sprint on

March 3, 2008. W5ROK operated with 5 watts and made 15, 2 way contacts with other stations running 5 watts or less. These contacts were made in about a 20 minute period of operation.

Welcome New Members The following Amateurs have recently joined RCARC:

George Deprez	KE5SAQ
Glen Gray	K4AZO
Ron Miller	KK6BM
James Pellegrino	KE5SAR
Ross Terry	KE5SZJ

Missing QST CDs The QST CDs that cover the years 1970-1974 have been missing from the Radio Room for several months. If someone has borrowed the set and forgotten to return them, please return them as soon as possible so others can enjoy them.

Upcoming Events and Public Service Ops



Admission Tickets & Flea Market Tables Now On Sale!

If you haven't visited the Ham-Com web site at www.hamcom.org, please do so to get the latest event information.

Admission tickets and flea market tables (indoor and outdoor) went on sale February 1. Online tickets can be purchased at a discount through May 30, 2008. Please note that tickets purchased online ARE NOT mailed. Tickets are valid for both days of the event and can be picked up at the admission desk. (Cont on page 6)

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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

Greetings my fellow RCARC members. The past month has once again been one of increased growth and activity for our club with help from those both inside and outside the club. I proudly thank each and every one of you for your active participation.

- New Members – Glen Grey, K4AZO; Randy Dunning, KC5QHH; Jim Pellegrino, KE5SAR; Ron Miller, KK6BM; Ross Terry, KE5SZJ; George Deprez, KE5SAQ
- YAESU FT-2000 Operator's Manual added to members only area- Wayne Hughes, WA0TGH
- Updated ARRL Affiliated Club Information - W5ROK
- Updated W5ROK Telecommunication – Ross Terry, KE5SZJ
- Meeting Refreshments Setup Volunteer – Jim Skinner, WB0UNI
- 1000VA UPS donated for W5ROK Repeater/Packet BBS – John Champa, K8OCL
- Submitted Newsletters Articles- Dave Jaksa, W0VX; Steve Phillips, K6JT
- RCARC Marketing – Joe Wolf, N5UIC; Mike Hollingsworth, W5QH
- New Member Station Tour - Dennis Cobb, WA8ZBT; Robert Diepenbrock, KC4UAI
- Yet Another Great SIGNALS Newsletter – Jim Skinner, WB0UNI
- Treasurers Report -- Jim Skinner, WB0UNI
- Website Updates - Wayne Hughes, WA0TGH
- RCARC Membership Applications & Database - Joe Wolf, N5UIC
- Secretary Reports – Jim Gaston, KD5GYD
- Station Trustee – Steve Phillips, K6JT
- Member Profile Responders – Dave Jaksa, W0VX
- Special Member Support – Kathy Cobb
- Home baked cookies, February meeting – Cindy Kirby

Member Liz McFadden, K5LIZ, has had knee surgery and will be recuperating at home for awhile. LIZ has requested contacts, so please see the roster, should you wish to call or send a card.

Be sure to read the well-written article "Using the W5ROK Packet Radio Node and BBS- Part 1" by RCARC Member Steve Phillips, K6JT, in this issue. Not only will you learn the basis of this digital mode but also the important role your clubs packet BBS plays in the ARRL NTX national traffic system.

In addition, a second well-written article "Logbook of The World" by RCARC Member Dave Jaks, W0VX, is also in this month's issue. Dave presents a great economic case for using LOTW to save on raising QSL costs. Dave provides a good short tutorial of LOTW along with where and how to get it for your station. Having completed the process for K3NT, I can tell you it is a relatively easy task. I would be interested to know what logging program you are using, your comments and if you also use LOTW. Here at K3NT, I am looking at Ham Radio Deluxe or Logger 32 for my computer logbook.

RCARC has learned that John Champa, K8OCL, may have a few sample copies of **CQ VHF HAM RADIO** quarterly magazine to pass out at the March meeting. Speaking of John, a bullet above stated his donating a 1000VA UPS for W5ROK Repeater/Packet BBS. Know this was a rather expensive unit and RCARC thanks John for his generous donation.

Please note again this month **we will meet at 5PM**. Mr. Champa tells me there will be refreshments. Jim Skinner will be making his world famous coffee. Additional potluck refreshments are encouraged and welcomed. Please plan to arrive early to meet and greet RCARC members and guests. Our business meeting will start promptly at 5:30 PM with the USA pledge of allegiance. Don't forget the 50-50 raffle. Tickets are \$2 each, 3 for \$5 and 7 for \$10. The proceeds are used to help support club activities such as refreshments at our meetings.

Thank You RCARC Members

Best Regards (73),
Bob Kirby, K3NT
K3nt@arrl.net
<http://w5rok.us>

Secretary's Report

Bob Kirby, K3NT, opened the meeting at 1730 (Feb. 28th 2008), in the RCI Cafeteria. Present at the meeting were:

Bob Ashby	K5JHR
John Champa	K8OCL
Dennis Cobb	WA8ZBT
Forest Cummings	W5LQU
George Deprez	KE5SAQ
Bob Diepenbrock	KC4UAI
Loney Duncan	W0GZV
Bill Fell	KK5PB
Jim Gaston	KD5GYD
Wayne Hughes	WA0TGH
George Huling	K5GH
Jon Jacobson	K5XRF
Dave Jaks	W0VX
Doug Kilgore	KD5OUG
Bob Kirby	K3NT
Val Martin	AD5EP
John McFadden	K5TIP
Ron Ray Miller	KK6BM
Jim Pellegrino	KE5SAR
Steve Phillips	K6JT
Ken Piletic	W9ZMR
Dwight Ramsey	KE5SAS
Dave Russell	W2DMR
Chuck Samuel	K7NWM
Steve Schmitt	KE5SZK
James Skinner	WB0UNI
Jim Sturges	KC5Q GK
Ross Terry	KE5SZJ
Charles Williams	WD5IRX
Joe Wolf	N5UIC

The following business was conducted:

1. Officer Reports

- President's Report:* Bob Kirby, K3NT, summarized the meetings agenda.
- Vice-President's Report:* Dennis Cobb, WA8ZBT, was not able to attend but did want to report that some of the antennas which were recently damaged by high winds have been repaired. Other project opportunities remain which include additional antenna work, UPS installation, and a new 1.2 GHz repeater system.
- Treasurers Report:* Jim Skinner, WB0UNI, summarized the treasurer's report. The treasurer's report was accepted. The club has not yet received this year's annual support contribution

- Station Trustee's Report:* There was no Station Trustee Report.
- Activities Chairman Report:* John Champa, K8OCL, reviewed next month's programs. Ian DiFranco, KE5FOM, a Rockwell Collins Executive, will be discussing the local communities RACES organization and supporting governmental activities, plus his recommendations for a "Go Kit". Everybody, all adults, but especially Radio Amateurs, should always maintain a "Go Kit". This is something you can grab and exist for at least 48 hours anywhere. Items such as water, food, RX, flashlight with extra batteries, change of underwear in water-proof bag, first-aid supplies, maps, etc. Members were reminded that the club has a signed Memorandum of Understanding (MOU) with Rockwell Collins in regards to providing liaison with local area ARES and RACES efforts, plus full support for the RC Facility Emergency Response Team (ERT).

2. Old Business

- There was also a discussion about the need for the club to recruit additional YL (Young Lady) members/operators.
(http://www.w5rok.us/yl/w5rok_yl_page.htm).

3. New Business

- Fifty/Fifty Drawing:* The Fifty/Fifty drawing winner was one of our new Radio Amateurs: Jim Pellegrino. KE5SAR. He said he was going to use the money to help buy a new radio.
- Upcoming DSTAR Presentation:* Doug Kilgore, KD5OUG, wanted to inform everyone that next Monday (March 10th) the Richardson Wireless Club will have a presentation on DSTAR. See the Richardson Wireless Club's web site (www.k5rwc.org) for more information.

Bob Kirby, K3NT, closed the business meeting at 1815.

John Champa, K8OCL, introduced the evenings program: "DXing From a City Lot" presented by Dean Straw, N6BV, Senior Assistant Technical Editor, ARRL.

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

Field Day Help Needed Now! The club is planning to have a Field Day station this year. We will operate from the our normal station location but will be using an emergency generator placed outside the building. So far, two fine individuals have stepped forward and volunteered their help: Bob Diepenbrock, KC4UAI and Jim Sturges, KC5QGK. If you are interested in this exciting activity, you should contact Dennis Cobb, WA8ZBT, as soon as possible @ 972-705-1464. You can count on having fun!

Another entertaining and educational program for our March Club Meeting! The RCARC has a signed memorandum of understanding with Rockwell Collins, Inc. to provide emergency communications support and liaison with local RACES / ARES organizations. Accordingly, our guest speaker for our March meeting is a Rockwell Collins executive, and one of the leading RACES volunteers for our local area: Ian DiFranco, KE5FOM.

Special Note: All club members are strongly encouraged to attend this meeting and presentation!

What is ahead? What does the acronym APRS mean? If you said "Automatic Position Reporting System", you are wrong! The April 2008 Club Program will be an exciting presentation by "The Father of APRS", Bob Bruninga, WB4APR. Bob is on the faculty of the Annapolis Navel Academy and the topic of his presentation is *A General Overview of the APRS System*. You won't want to miss this one!

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 Member Profile This month we are pleased to profile William E. Overacker, W4TJN. Bill is an active member and lives in Colleyville, Texas.

How did you get started in Amateur Radio? I was in high school (13 years old) and became interested through an acquaintance, W4TM (SK). He owned a radio retail store in Jackson, TN and kept our tube radios working throughout WWII!. I had two hobbies: radio and flying. I learned to fly at age 15, soloed at 16, and along with ham radio, these two hobbies formed my life's pleasures and my life's work. I learned the code on my own and spent around 90% of my time on CW. I still prefer it today.

What are some of the most interesting memories or QSOs? I made boyhood friends through ham radio. We moved to Georgia, I finished high school there, and formed some of my best friendships there. Some of my best memories are QSO's, late at night with high school friends, later college friends, and some hams who were serious CW advocates. I love emergency nets and rag chewing---almost no contesting or DX activities. I have had lots of great net activities including MARS. Phone patches for military at sea and overseas and support of emergency operations required due to storms and disasters.

The Texas City Explosion and coastal hurricane operations in the late 40's and 50's were some of the most interesting.

Have you been a builder? If so, what were your projects? No, the building bug never really got to me, so most of the projects were simple ones to fill a need such as an audio preamp to put on the front end of my Viking I so I had sufficient microphone gain!

Do you belong to the ARRL? Yes and have most of the time. During early years I couldn't afford it, but have been a member for many years now.

Read any other Ham magazines, like CQ? 73, CQ, and of course ARRL pubs. I used to read 73 and Wayne Greene a lot, but always thought him a little outrageous!

What are your current Ham Radio interests? I am pretty inactive right now, but my interests are rag chewing, CW operation, and lately digital. I was fairly active on HF AMTOR, but not on the air right now.

What are your other hobbies? Flying and photography, both on the inactive list right now. Along with work activities, I enjoy computer activities. I continue to work for RC (part time) even though I am now 74!

Are you active on any of the HF or VHF bands, Nets? Not right now. My health and my wife's health pretty much keep me occupied right now. I have a hand held 2M (no PL) and an older 2M base station. My HF rig is at Air Force Village so am not on HF right now. When I was travelling, I used to ham at Cedar's station at night. Better than watching TV!!! I have not spent much time at the station here, but used to do a little PSK and cw here several years ago.

Just talking about it makes me want to get back on the air. Unfortunately, don't believe I can right now, but I appreciate your asking. Yes, just talking about my 58 years in ham radio really brings back some memories. More later.

73,
Bill, W4TJN

Logbook of The World

By Dave Jaksza, W0VX

The ARRL's Logbook of The World (LoTW) has been up and running for over 4 years but many active hams are still unaware of it. That is a little surprising considering that there are well over 160 million QSOs already uploaded to LoTW. This article provides an overview of what LoTW is, how it works, and why you should be using it. Complete information can be found at <http://www.arrl.org/lotw/>.

LoTW in simple terms is an online data



base that matches your log QSO data with that of other LoTW participants. If your log data for a QSO with JA1XYZ matches JA1XYZ's log data, you get confirmation credit without having to have the paper QSL card. The confirmation credit is currently valid for the ARRL's most popular DX Century Club (DXCC) and Worked All States (WAS) awards. It will soon be expanded to include VHF/UHF Century Club (VUCC) and eventually the CQ magazine Worked All Zones (WAZ) awards.

In essence LoTW goes through the same process as you would when you get a paper QSL request. When you get a paper QSL you check your log for the call, date, time, band, and mode. If the information on the received QSL is correct you fill out one of yours confirming the QSO and drop it in the mail. LoTW does the same kind of checking but it does it in a matter of a few seconds and issues a virtual confirmation. Since not everybody's UTC (GMT) clock is accurate, LoTW gives a +/- half hour window on time. If your clock is a little off you will still get the confirmation assuming the rest of the data is correct.

LoTW has built in protection to insure that you are who you say you are and you are the person uploading your logs. This

protection takes the form of a secure digital certificate that you use to sign (encrypt) your ADIF format logs before they are sent to the ARRL. Signing (encryption) is accomplished using the free Trusted QSL (TQSL.exe) software and is a simple process. Virtually all logging programs will export an ADIF format log file suitable for LoTW signing.

Getting a secure digital certificate is a 2 step process. A certificate request is made using the Trusted QSL software package. About a week later you will receive a postcard that has the additional information necessary to validate your certificate. This postcard will be sent to your address on file with the FCC so make sure your address is current in the FCC database. Once you enter the postcard information you are good to go and can begin signing and uploading your logs. The complete process for obtaining a certificate, signing a log, and uploading it is covered on the LoTW page at <http://www.arrl.org/lotw/> by clicking on Getting Started.

By now you are probably asking why go through all that trouble just to get a confirmation. Cost and speed are the big reasons. Uploading your log to LoTW is free. It only costs between 15 and 25 cents per QSO, depending on how many credits you buy, if you want to use a LoTW confirmation for credit towards your DXCC or WAS awards. Considering that the cost of obtaining a paper stateside card is about \$1.00 and getting a DX card is over \$3.00, 15 to 25 cents is a good deal.

Here is how the cost of getting a direct paper QSL cards breaks down. To get a domestic QSL card rough costs are 10 cents for your QSL, 41 cents outgoing postage, 41 cents SASE return postage, and 10 cents for nested #9 and #10 envelopes. That is \$1.02 and you have no guarantee that you will get a card back. And, domestic postage goes to 42 cents in May so call it \$1.04.

For DX QSL cards the costs are 10 cents for your QSL card, 90 cents for outgoing postage, \$2.00 for an International Reply Coupon to pay for postage back to you, and 20 cents for nested metric C6 and E6 size airmail envelopes. That's \$3.20 and again you have no guarantee that you will

get a card back. Also in May, that 90 cent stamp will cost 94 cents and the IRC will cost \$2.10. Compare that to spending 15 cents to get a guaranteed confirmation credit. Remember, it costs nothing to use LoTW unless you want to use an already confirmed QSO for DXCC or WAS credit.

It is true that you can use the QSL bureau to get the DX cards. But, be prepared to wait 1 to 3 or more years to get a card back. My last bureau mailing contained a DX QSL card from a 2001QSO. Many foreign hams do not belong to their national association and can't use the bureau so your response rate will be lower than direct cards. Using the bureau isn't free either. It currently costs \$5.00 per half pound of cards (about 75 cards) to use the ARRL outgoing bureau plus postage to mail the cards to ARRL headquarters and you must keep envelopes and postage on file with the ARRL incoming bureau to receive cards. The required 6x9" envelopes with one unit of postage (good for 5 to 7 cards) currently cost 60 cents each at the W5 bureau.

I have uploaded my logs to LoTW monthly since September 2003 and currently have 30,857 QSOs and 6,240 confirmations in LoTW. That is a confirmation rate of a little over 20%. I only uploaded my logs back to 2000 which is when I started using computer logging. I have toyed with the idea of converting my paper logs that go back to 1962 but the size of the data entry task makes me break into a cold sweat!

So, how well does it really work? For me, it works very well. Looking **ONLY** at my QSOs uploaded to and confirmed in LoTW, I could have qualified for the following awards:

Mixed DXCC – 211 Countries
 SSB DXCC – 145 Countries
 CW DXCC – 183 Counties
 DXCC on 40, 20, 15, and 10 meters
 753 band countries toward DXCC Challenge
 Mixed, SSB, and CW WAS
 Basic 5 Band WAZ award

Of course my actual totals, adding in my boxes of paper QSL cards, are higher than that.

For comparison purposes, consider getting those 211 mixed mode DXCC confirmations using direct paper cards at \$3.20 each. That is \$675 for the paper cards versus \$31.65 to use 211 of the 15 cent LoTW credits. If you use my XYL W0JJ Judi's logic, that means you saved about \$645 that you can now spend on new radio gear.

I like and use LoTW. It has some great benefits. It is a fast, cheap, and easy way to add to your DXCC, WAS, and soon VUCC and WAZ totals. However, I will also continue to collect and answer paper QSL cards. The paper cards are colorful, fun to look at, and have a great deal of nostalgic value.

Aussie team claims 5Gbps wireless breakthrough *By Joel Hruska | Published: February 22, 2008*

Faster transmission speeds, low power usage, and significant range are the trifecta of results that all wireless standard companies are chasing with a vengeance. The WirelessHD consortium released the final version of its own standard back in early January, while the startup company Pulse-LINK debuted its own next-generation wireless chipset back in December. The new WirelessHD specification defines a device that operates in the 60GHz spectrum and is capable of transferring up to 4Gbps over 10 meters, while Pulse-LINK claims its new chipset can deliver up to 890Mbps at close range (8 feet/2.4M) and 120Mbps at 40 feet/12M). If a team from Australia's NICTA (National ICT Australia) is accurately representing their own advancements, however, both these standards are about to be exceeded. The group from NICTA, lead by Gigabit Wireless Project team leader Prof. Stan Skafidas, is claiming to have developed a CMOS-based chip capable of transferring up to 5Gbps at up to 10M—a 25 percent improvement over the WirelessHD specification.

That's a substantial achievement in and of itself, but NICTA's new "GiFi" transmitter is supposedly loaded with a host of other goodies. GiFi is small, at just 5mm per-side (25mm sq.), it's built using CMOS, uses a 1mm antenna, costs less than \$10, uses a built-in power amplifier that's only a few microns wide, and draws around 2W of power. That much power

consumption means we'll not be seeing GiFi in any mobile devices anytime soon—not unless NICTA can cut the chip's power draw by an order of magnitude—but the rest of the claims made for the nascent standard paint it as the ultimate solution for high-speed, close-range wireless networking. Professor Stafidas, at least, seems to think this is likely. He claims to have spent over a decade designing GiFi, and states that he believes the chip will one day be found "in every consumer device."

According to Stafidas, NICTA will spin out a startup corporation later this year to market and commercialize the design. He estimates that his team needs about a year (and \$10 million) to finish R&D and begin production of GiFi transmitters. NICTA is working with the IEEE to ensure GiFi meets standard specifications as defined by IEEE 802.15.3c, and plans to have prototype GiFi's built by the end of the year.

If GiFi seems a little too good to you, you aren't alone. NICTA is essentially claiming to have leapfrogged the competition, and is representing its product as the only real solution for this type of transmission moving forward. That's enough to raise anyone's skepticism level, and the optimistic cost projections and time-to-market estimates don't help much. It's possible that NICTA has actually made fundamental advancements that will speed deployment of short-range, ultra-high-speed networks—but it seems more likely that the organization has drunk a bit too much of its own Kool-Aid.

Further reading: <http://www.theage.com.au/news/technology/10-chip-puts-australia-on-the-fast-track/2008/02/22/1203467349733.html>

Cool New Ham Radio Site This was received from our sister club, W4CRC in FL. This looks like a pretty neat idea, and hopefully they make it as a business. It is not supposed to be "open" as of Saturday, March 1. Here is the website: <http://www.cqoogle.com/>

Talking Dog for Sale During a recent trip my wife and I were on we drove around the back woods of East Texas. On one back road I saw a sign in front of a broken down shanty (*Cont on page 10*)

Upcoming Events and Public Service Ops

(*Cont from page 1*) There are still some indoor flea market tables available. More space has been made available on the main exhibit hall floor and the total number of tables has been increased to 60.

The program list will be posted in March along with the Lone Star DX Association dinner information. The DX dinner can accommodate over 200 at the Holiday Inn Express, the Ham-Com 2008 HQ hotel. There are special rates being offered at the Holiday Inn Express, Best Western and the Ramada Inn Express. Please visit the web site and click on the "Hotels" tab for complete information.

We're looking forward to seeing you at Ham-Com 2008!

73

Bill Nelson, AB5QZ
Fred Varian, WD5ERD
Barry Goldblatt, WA5KXX

14-16 June 2008: ARRL June VHF QSO Party The object of this event is to work as many amateur stations in as many different 2 degrees X 1 degree grid squares as possible using authorized frequencies above 50 MHz. Foreign stations work W/VE amateurs only. The event is the second full weekend of September. Begins 1800 UTC Saturday and ends 0300 UTC Monday (14-16 June 2008). More info at <http://www.arrl.org/contests/calendar.html>

28-29 June 2008: ARRL Field Day The object of this event is to work as many stations as possible on any and all amateur bands (excluding the 60, 30, 17, and 12-meter bands) and in doing so to learn to operate in abnormal situations in less than optimal conditions. A premium is placed on developing skills to meet the challenges of emergency preparedness as well as to acquaint the general public with the capabilities of Amateur Radio. Field Day is **always the fourth full weekend of June**, beginning at 1800 UTC Saturday and ending at 2100 UTC Sunday. **Field Day 2008 will be held June 28-29, 2008. More detailed info at <http://www.arrl.org/contests/rules/2008/fd.html>**

Using the W5ROK Packet Radio Node and BBS

by Steve Phillips K6JT, W5ROK Station Trustee

This will be the first in a short series about using the W5ROK packet radio system and packet radio in general. This installment provides information about what packet radio is, how to get on the air with it, and how to use the W5ROK bulletin board system. Future installment(s) will deal with using your packet station for far-away node access (using the ROK node for relay) and Winlink 2000 communication (which does not use the W5ROK station).

As most of you know, the Rockwell Collins Amateur Radio Club maintains a packet radio Bulletin Board System (BBS) that operates on 145.01 MHz. The system consists of a Kantronics KPC-3 Plus Terminal Node Controller (TNC), an old 25 watt 2 meter transceiver, a 13.5 Volt power supply, and an antenna. This equipment is housed in the same "Penthouse" as the W5ROK repeater.

If you don't know anything about Packet Radio, there are many good books available and quite a bit of "free" information on the Internet. Just do a Google search for "Packet radio". It has been around since the 1960's, but did not make it to the ham bands until around 1978. The Tucson Amateur Packet Radio (TAPR) club was instrumental in getting things started, including supplying low-cost kits for basic TNCs back then. Since I've been using packet radio since the early 1980's, I have seen it swell in popularity and wane again as higher speed digital modes and the Internet became available for use.

Packet radio uses a protocol called AX.25, which is an adaptation of the IEEE "standard" X.25 protocol set, tailored for amateur radio use. This protocol defines the format of the data packets (hence the name "packet" radio) that are sent and received by the TNCs. This is a "bursty" mode, in that a burst of data is sent, then an acknowledgment is received, before the next burst is sent. It is an error-free protocol since checksums are used and each packet (burst) must be acknowledged as received correctly.

It is useful for both HF and VHF communication, although the speeds are quite slow by today's standards. HF packet is limited to 300 bits per second (bps) while 144 MHz packet is limited to 1200 bps. At higher frequencies (i.e., 432 MHz and above), the allowed maximum data rate is 9600 bps, which is still a fraction of the 56 kbps rate that even dial-up Internet access modems can use.

It was originally intended and used for ham-to-ham direct communication, much like PSK31 and RTTY are still used today. It was not long, however, before firmware (the program that makes a TNC run) was added to turn it into a "store and forward" messaging and bulletin board system. The BBS is now built into all TNCs being made. There were also many other additions to the basic TNC firmware such as NETROM and other "overlay" protocols to support the automatic relay of properly-addressed packet messages. Interconnections were also made to the Internet from many packet stations around the country. At that time,

with 1200 bps modems the standard for dial-up Internet, the speeds were quite reasonable.

Packet radio reached its peak in the early 1990's, where VHF packet systems proliferated, allowing nearly complete continental U.S. coverage via relays and various networking "add ons" to the basic AX.25 protocol, as mentioned above. They slowly started to disappear as other modes such as Pactor and, later, PSK31 became available for use along with much higher speeds for Internet connections. Today, there are only a few isolated packet stations in use, Winlink 2000 having supplanted the majority of the original uses for packet radio. There are still quite a few "DX Cluster" packet stations in operation to keep DX'ers all around the country apprised of where and when rare stations are available for communication. This series will not deal with them, since the W5ROK station is not connected with those systems. Contact Dave, W0VX, for more information on the use of the packet clusters if you are interested in them.

The W5ROK BBS is still used on a daily basis for formal national traffic system (NTS) messages between the Texas CW Net (of which I am manager) and the Dallas / Ft Worth local nets (DFW) on 2 meter FM. Herman, KESHYW, the manager of the DFW nets and also the new Section Traffic Manager for North Texas, along with a few other stations and myself use the BBS for this traffic exchange. You are also welcome to do so, whether you have outgoing messages for distribution via the NTS or wish to take some of the local traffic that shows up there for delivery. Garland RACES also uses the W5ROK BBS for emergency training.

There was some use of the BBS during the Katrina / Rita disasters both for outgoing inquiries into the NTS and for incoming health and welfare status messages. If you would like to learn more about the NTS, and you are proficient with CW (at least 15 to 20 wpm), you are welcome to check into the TEX net, which meets on 3552 KHz at 7 and 10 PM every night. There is also a Texas Slow Net that meets at 7:45 PM, also on 3552, if your CW is more in the "below 12 wpm" category. More information about them and also traffic handling is on the TEX website: <http://k6jt.home.att.net/>. If you only have VHF capabilities, you can still participate via the DFW local nets, which also meet nightly. The first session is at 6:30 PM on the Dallas ARC repeater (146.88, PL 110.9), and the second session is at 10:30 PM on the Irving ARC repeater (146.72, PL 110.9). More information about them is on <http://www.dfwtrafficnet.com/>.

We now return from our "commercial interruption" ☺ So what do you need in order to operate packet radio? Basically the same thing as is used in the W5ROK station plus a personal computer running Windows, Linux, or the Mac OS connected to the TNC. There are very few manufacturers of TNCs remaining, although used gear is still available at hamfests. Kantronics is the primary supplier of medium-priced TNC units, which can also work on other modes including APRS. Prices are pretty high for new units – over \$300 – since the demand has dropped so much (remember your econ classes about supply and demand and prices?). Hamcom might be a good place to look for a used TNC. Any of the Kantronics models (KPC-2 and up, along with

KAMs) will work fine. You might also run across some older MFJ TNCs or even one of the TAPR TNC-2 units. They will also work with the W5ROK BBS, but setting them up may be difficult without a manual since cabling information and software is no longer readily available (but may be on the Internet for some units) to do the configuration automatically for you. I have purchased some of these used TNCs in the past and had luck with some, but others were basically “dead”, so be careful.

Interfacing to the TNC requires both a radio cable for audio in and out along with push-to-talk and a computer for RS-232 input / output at speeds from 300 to 9600 bps. With a manual (the club has one available that is OK for most Kantronics units) to tell how to wire up a cable to the radio, you should not have too much trouble. Some pre-made cables are available from Kantronics and even MFJ for some popular radios. The RS-232 interface is standard, and most USB to RS-232 adapters work fine with Windows and Linux. The Mac has more problems with this sort of interface, at least for OS 10, although OS 9 and below (older computers) can handle it fine as-is. Since I have all Macintosh computers, I actually run Windows XP on the newer ones to use the USB to Serial converter and software such as the supplied HyperTerminal program. Configuring the serial ports and HyperTerminal can be somewhat of a pain, but experimenting will normally allow you to eventually succeed.

The radio side is straightforward as far as cabling is concerned. You can run the transmit audio and PTT line into the microphone connector of most radios and you can get the receive audio out of a real-panel headphone jack on most of them, too. Some radios (such as my Yaesu FT-7800R) have a rear-panel connector just for packet radio use so you can leave the mic and earphone connectors alone (although fixed receive audio level is not generally good and it is better to use the earphone connector while adjusting the volume and squelch so the TNC “receive” light just comes on with a received signal).

It can be a little tricky to set the transmit audio level, too. The TNCs have a way to adjust this, and it may be necessary to do so to keep from over-deviating or under-deviating. Generally deviation of 3.5 KHz is sufficient. I set the transmit audio levels using a 2nd receiver and try to match the “loudness” of my own received signal with that of a strong nearby packet node if no other means of checking deviation is available.

Finally, the radio must be able to switch between transmit and receive in less than about 250 ms (as I recall) for packet chit-chat to work properly. All newer radios can do this, but older ones may have trouble. The TNC also has optional commands that will allow it to work with slower switching radios, in some cases. I have a very old, crystal-controlled IC-22, 10 watt 2 meter radio that I have used on packet with success. It is my “backup” radio even now. Since packet is on fixed frequencies (145.01, .03, .05, .07, and .09), and I have all the crystals for those, it works fine.

The operating manual for your particular TNC will usually have enough information for you to connect the radio and computer sides and get them working fine. The “default” TNC settings must be changed only to enter your callsign. Most of the TNCs will then “remember” that. There are many other possible set-

tings for packet use, but the defaults will generally get you up and running with a minimum of fuss. Again, the TNC manual will have all the needed information if you really want to tweak things and understand more about how it all works.

Now, assuming you have cabled up everything and can put out a signal, try to connect to W5ROK. The connect command is standard across all TNCs adhering to the TNC-2 protocols and is simply a “c” followed by the callsign. For our station, enter

```
cmd: c W5ROK
```

You will be greeted with a “connected to W5ROK” message from the TNC and a welcome screen from W5ROK as our TNC automatically routes you to the W5ROK-1 BBS. The dash numbers are for various uses such as BBS, direct communication, nodes, etc. Don’t worry about them for now.

It will look something like this on your computer screen (but without the line wraps due to this newsletter formatting):

```
cmd:c w5rok
cmd:*** CONNECTED to W5ROK
W5ROK - Rockwell Collins Club Richardson TX (ROK)
W5ROK-1 PBBS, ROK Node, ROK Digipeater
[KPC3P-9.1-HM$]
78456 BYTES AVAILABLE IN 5 BLOCK(S)
THERE ARE 3 MESSAGES NUMBERED 2-1025
Welcome to the Rockwell Collins Club Packet BBS,
W5ROK-1
ENTER COMMAND: B,J,K,L,R,S, or Help >
```

At this point, you can experiment with the commands available (which are summarized in the B,J,K,L,R,S, or Help line):

Try h for help and you will get:

```
h
B(ye)          PBBS WILL DISCONNECT
J(heard)       CALLSIGNS WITH DAYSTAMP
J S(hort)      HEARD CALLSIGNS ONLY
J L(ong)       CALLSIGNS WITH DAYSTAMP AND VIAS
L [x[y]]{;}    LIST MESSAGES x THRU y YOU CAN READ
L <|> call    LIST MESSAGES FROM OR TO CALL
LB            LIST BULLETINS
LC [cat]       LIST CATEGORIES
LL n [;]       LIST LAST n MESSAGES
LM(ine)        LIST UNREAD MESSAGES ADDRESSED TO YOU
LO [+|-]       LISTING ORDER
LT            LIST TRAFFIC
LTn           DISPLAY LOCATION TEXT n=1-4
NL n          SET PAGE SIZE WHEN READING MESSAGES
K(ill) n      DELETE MESSAGE NUMBER n
KM(ine)        DELETE ALL READ MESSAGES ADDRESSED TO YOU
R(ead) n      DISPLAY MESSAGE NR n
RH n          DISPLAY MESSAGE n WITH HEADERS
RM(ine)        READ ALL MESSAGES ADDRESSED TO YOU
S(end) call   SEND MESSAGE TO callsign
S[B|P|T] call SEND BULLETIN, PRIVATE, or TRAFFIC
U(sers)       DISPLAYS EVERYONE CONNECTED TO BBS
ENTER COMMAND: B,J,K,L,R,S, or Help >
```

That pretty well describes what you can do with the BBS. Most commands are a single letter, as shown, with optional text in parentheses. There are many categories for listing messages and for sending messages (P for private, B for bulletin, T for traffic). Only you and the addressee can read “private” messages while everyone can read bulletins and traffic.

Let’s try each command on the prompt line. First J:

```
j
TYR          02/11/2008 12:19:55
W5HCS*      02/12/2008 22:54:01
W5NGU-8     02/20/2008 20:15:56
```

```

KB5A      02/23/2008 10:08:33
W5BII     02/25/2008 11:46:10
DISABL    02/25/2008 11:56:09
K5JRN-15  02/26/2008 22:47:16
WD5RP     02/29/2008 01:07:37
DENTON    03/01/2008 00:34:13
W5NGU-1   03/02/2008 02:13:48
K5TYR     03/02/2008 12:53:18
KE5HYW    03/03/2008 03:11:26
N5VUC     03/03/2008 19:30:15
N5DMT     03/03/2008 20:48:00
IPCQU     03/04/2008 01:04:25
WB5NZV-7* 03/04/2008 01:18:24
W5NGU-4   03/04/2008 01:27:53
K6JT      03/04/2008 01:30:05
ENTER COMMAND: B,J,K,L,R,S, or Help >

```

This shows the list of the last several stations that were heard by the TNC. Note the list goes way back in time. It will show the date and time the station was last heard and the list will add stations until the internal TNC limit is reached for storage of the data.

Next, let's try sending a message:

```

sp k6jt
78416 BYTES AVAILABLE IN 5 BLOCK(S)
SUBJECT: Test message
ENTER MESSAGE 1027--END WITH CTRL-Z OR /EX ON A SINGLE
LINE
This is a test
/ex
MESSAGE SAVED
ENTER COMMAND: B,J,K,L,R,S, or Help >

```

Let's get a list of the messages on the BBS. The welcome message said there were 3 messages and we just added a 4th:

```

1
MSG# ST SIZE TO FROM DATE
SUBJECT
1027 PN 28 K6JT K6JT 03/04/2008 01:30:35
Test message
1025 T 289 76051 K6JT 03/03/2008 03:28:12 QTC
Grapevine TX
661 B 181 GRACES N5TIM 05/27/2007 04:07:05
Training
2 B 234 ALL W5ROK 08/28/2005 22:24:11 Na-
tional Traffic System Node
ENTER COMMAND: B,J,K,L,R,S, or Help >

```

So there is our new message (number 1027) along with some traffic for Grapevine that has not yet been picked up and a couple bulletins, one from N5TIM for Garland RACES (GRACES) and the other from W5ROK for everyone. Note the date on that one. The TNC was put into service in August of 2005 and has been running continuously since. Over 1000 messages have been handled in that time.

To read our test message, enter "r" and the message number:

```

r 1027
MSG#1027 03/04/2008 01:30:35 FROM K6JT TO K6JT
SUBJECT: Test message
PATH: W5ROK

This is a test

ENTER COMMAND: B,J,K,L,R,S, or Help >

```

There it is, just as we entered it along with the timestamp. Once a message is read, it should be "killed" to make room in the TNC memory for more. The "k" command does this:

```

k 1027
MSG#1027 03/04/2008 01:30:35 FROM K6JT TO K6JT
MESSAGE DELETED
ENTER COMMAND: B,J,K,L,R,S, or Help >

```

To disconnect from the BBS, use the "bye" command:

```

b
*** DISCONNECTED
cmd:

```

The "cmd:" is the prompt from my local TNC to enter another command such as connect again.

So there you have it – how to get on packet and use the W5ROK BBS. The next installments will cover how to use the ROK node built-in to the TNC to connect to some of those other stations seen above in the "j" command response as well as more advanced topics such as "digipeating" versus "node", and how to get on Winlink 2000 using your TNC.

Talking Dog for Sale (Cont from page 6) style house: "Talking Dog for Sale." Well I needed a break so I stopped to see what the deal was. I went into the backyard and see a nice looking Labrador retriever sitting there.

"You talk?" I asked.

"Yep," the Lab replies.

Well after I got over the shock of hearing a dog talk, I asked "So, what's your story?"

"Ah shucks there ain't much to tell. Is that a VUU screwdriver antenna on your truck out there?"

"How did you know that," I asked?

The Lab looks up and says, "Well, I'm a ham radio operator. I got my Ticket when I was a young pup and in no time at all I had my 5 band DXCC in Phone and CW. The CIA heard about me and asked me to do some spy work for them. I would hang around the communications centers and with my keen hearing I could copy the transmissions. Because no one figured a dog would be eavesdropping, I was one of their most valuable spies for eight years." Copying high speed CW all day really tired me out and I knew I wasn't getting any younger. So, I decided to settle down. I retired from the CIA (8 dog years is 56 CIA years) and joined a ham radio club. In fact I won first place in the Oklahoma QSO Party two years in a row. Then I had a mess of puppies and got away from Ham Radio for a while. I sure miss my radio. Why don't you buy me and I'll be your CW operator in the Texas QSO Party.

I said "let me see what I can do."

I went back in and asked the owner what he wanted for the dog.

"Ten dollars," the guy says.

"Ten dollars? This dog is amazing! Why on earth are you selling him so cheap?"

"Because he's a liar. He never did any of that stuff. He's just a No Code Technician class."

The 2008 BCRO Superfest

“The warm-up for Dayton”

Saturday, April 26th, 2008 8:00 AM to 2:30 PM

The Jones Center for Families

[922 East Emma St. Springdale, Arkansas 72764](#)

N 36° 11.174 W -94° 07.073

Web: <http://www.jonesnet.org/>

Talk-in: 145.290 - offset with PL 110.9

Admission: \$3:00 per person in advance

\$5:00 per person at the door

Tables: \$5:00 each if reserved in advance

\$6:00 if purchased at the door

New Vendor Special: \$5:00 Unlimited amount of tables.

To reserve a table: [download and mail in this form.](#)

Set-up times: Friday April 25th from 6:00 PM until 9:30 PM and Saturday April 26th from 7:30 – 8:00 AM.

Plenty of Free Parking

Food and Drinks will be available

Vendors Attending:

[Clear Signal Products](#)

[D&L Antenna Supply](#)

K&E Electronics

[All-Star Name Tags](#)

[Ozark Thread Works](#)

[Razorback Radio](#)

Great Bargains at the Flea Market

Forums:

ARES/RACES - Karl Bullock WA5TMC

ARRL Forum - David Norris K5UZ

ARRL in Washington DC - Amy Bullock N5TBB

Weather - Steve Gibbs

VE Testing – Starts at 1:00 PM. Walk-ins are welcome.

Hourly door prizes and a terrific grand prize

(do not have to be present to win grand prize)

Plan now for the ARRL 2009 Arkansas State Convention to be held here.

For More Info Contact:

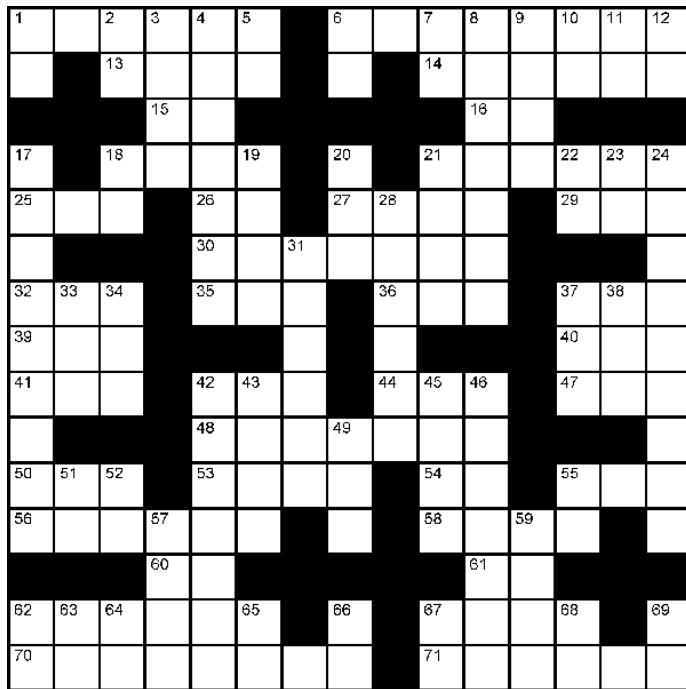
Jay Harrison, KC0CNB

Phone: (479) 631-7727

Cell: (479) 644-6646

E-mail: Texgun19@cox.net

The Amateur Radio Crossword Puzzler



Across

- 1. Impassive
- 6. Spurious splatter
- 13. Makes molecules
- 14. Here I am!
- 15. Telephone (CW abbr)
- 16. Province for VO1 (abbr)
- 18. Searched with "Vista"
- 21. Adjustments
- 25. Tease
- 26. CW for "Stand By"
- 27. Around the world or off the moon
- 29. Transfers data on the Internet
- 30. Nevertheless, it moves!
- 32. Capacitor loss factor
- 35. Partner to WPA section
- 36. Unwanted products
- 37. Digital voice equipment maker
- 39. What's left over from gross
- 40. Type of phono connector
- 41. First all-transistor logic family
- 42. Wipes out the HF bands
- 44. See ya!
- 47. Universal method (abbr)
- 48. Tool
- 50. Unrecorded contact (abbr)
- 53. Forever (abbr)
- 54. Engineer that signs tower drawings (abbr)
- 55. World time
- 56. Halves of the day (three words)

force

- 5. Radio wave (abbr)
- 6. CW for double dash
- 7. Unlicensed radio service
- 8. Japanese radio maker
- 9. Reduced prices
- 10. Prefix of equatorial country
- 11. Band watcher
- 12. Home state to Ten-Tec
- 17. Uses the prefix LU
- 18. Province for VE6's
- 19. Right away (abbr)
- 20. Province for VY2
- 21. Not us
- 22. Continent for Zone 37 (abbr)
- 23. Nautical speed (abbr)
- 24. 6-meter propagation mode (two words)
- 28. How the ham gets to the antenna
- 31. Has rungs
- 33. Another name for radio equipment
- 34. Preceded 41 Across
- 37. Abbreviation for ham radio
- 38. Base-8 (abbr)
- 42. Holds something up
- 43. Something
- 45. Wobbly knees on the tower
- 46. Prefix meaning "electrical"
- 49. Mobile antenna mount
- 51. Quick Internet texting
- 52. One input to a mixer
- 55. Prefix meaning "not" or "reverse"

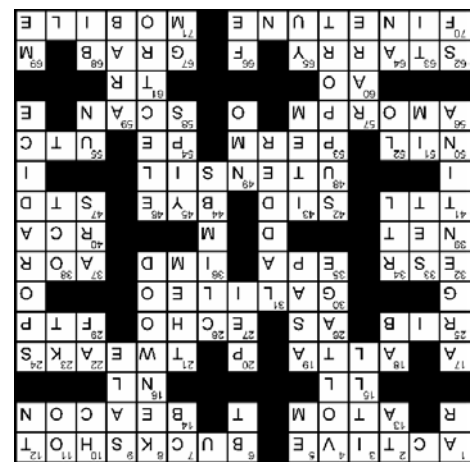
- 58. Video line
- 60. AMSAT designator
- 61. Antenna switching relay (abbr)
- 62. Clear night
- 67. Take quickly
- 70. Small frequency adjustment (two words)
- 71. Rover operation

Down

- 1. CW for "End of Message"
- 2. Volunteer experts on technical subjects (abbr)
- 3. Common contraction
- 4. Electromotive

- 57. Hard to work
- 59. Inhabitant of A4, A6, A7, and A9
- 62. Western ARRL section (abbr)
- 63. Tough, brittle metal (chemical symbol)
- 64. Coldest continent (abbr)
- 65. Parent of S5, 9A, E7, and Z3
- 66. Magnetic metal (chemical symbol)
- 67. CW greeting early in the day
- 68. Prefix meaning "two"
- 69. Northeasternmost state (postal code)

Solution to this month's Puzzler



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 27 March 2008

1700 Fellowship

1730 Meeting

Rockwell Collins Cafeteria

NEXT SIGNALS DEADLINE:

17 April 2008