S I G N A L S

Rockwell Collins

Monthly Newsletter of the

Amateur Radio Club

Volume 29 Issue 08   Web Site **http://www.w5rok.us**   **May 2008**

RCARC
Membership Meeting

Thursday
22 May 2008
1700 Fellowship
1730 Meeting
Rockwell Collins Cafeteria

Subject: Hand-On RC Aircraft Building and Flying by Ed Kettler, of the Richardson Radio Control Club and Larry Kerns, KA5TGP

Local Club News

Meeting Notice All club members are strongly encouraged to attend this months meeting! The program will be A HANDS-ON PROGRAM on the many aspects of building and flying radio controlled aircraft. Pending the availability of evening light, flight demonstrations are planned. See the President's Message and the Activities Corner for more information. Try to arrive at 1700 for the social time. There will be coffee and snacks available. The main meeting will start promptly at 1730.

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 1700 to 1730 hours, prior to the meeting.

Welcome New Members The following Amateur has recently joined RCARC:

Jon Jacobson   K5XRF

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

It's Ham-Com's 30th Anniversary! This is one Ham-Com you don't want to miss!

Join us at the Plano Centre, Friday and Saturday, June 13 and 14, 2008. Be sure to purchase your ticket online before midnight on May 30 to get a $2.00 discount. Admission at the door will be $10.00 (family members $8.00). Students K-12 and Scouts in uniform receive FREE admission. Visit www.hamcom.org to purchase admission before the deadline!

To help celebrate our 30th anniversary, Ham-Com will give away a Yaesu FT-857D HF-UHF multi-mode transceiver each day at 5:00 p.m. And, every hour, a ticket will be drawn for an Alinco DJ-V17T 2-meter HT. A total of 18 Alinco HTs will be given away during the two-day event.*

Ham-Com has sold every commercial space in the exhibit hall and then some. Visit www.hamcom.org to see a list of the 40 exhibitors and commercial vendors signed up for this event. The expanded indoor flea market with 60 tables is com-

pletely sold out. There is still space available in the outdoor flea market and there are 60 spaces allocated for the tailgate market. Visit www.hamcom.org for more information about space in one of the outdoor markets.

Ham-Com will host the ARRL West Gulf Division Convention and there will be over 80 hours of speakers, workshops and interest group meetings. Click here to see a program list. Be sure to visit www.hamcom.org on May 19 to download your full-color copy of the "Ham-Com Flyer."

The Lone Star DX dinner still has tickets available! This year's DX dinner speaker is Eric Scace, K3NA, co-leader of the VP6DX Ducie Island DXpedition. The DX dinner will be held at the Holiday Inn Express, Ham-Com's headquarters hotel. The prize list for dinner participants is phenomenal! Visit www.hamcom.org to purchase DX dinner tickets before the event is sold out!

Parking space has been increased at the Plano Centre. We've done everything possible to make parking more convenient including providing over 40 spaces next to the building (on the west side; hang tag or special plates are required to access this area) for people with special needs. We also moved the tailgate market closer to the building.

Featured speakers this year include Ward Silver, N0AX, author of "Ham Radio for Dummies," long-time DXer and contributing editor to QST. He has been licensed since 1972 and has received two QST cover plaques for his contributions to the magazine. He was the 2003 recipient of the Bill Orr Technical

R-CARC OFFICERS

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461-290

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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.

President's Message

Fellow RCARC members. Our member Bob Coulbourne, W4FTD, is in recovery from a heart attack and resulting triple bypass surgery that occurred at the end of April. Bob was released from the hospital the first of May and will start rehabilitation 14 May. Bob says it will be about two months before he can expect to regain about 85% of his original stamina. Request that you remember both Bob and his family in your prayers.

 Last months presentation on APRS was well attended both on-site and via teleconference. If you were not able to attend, you will find both the presentations PowerPoint and thanks to Ken, W9ZMR, the audio in .mp3 format in the 'members only' presentations section of our website: http://w5rok.us/   Rockwell Collins Fun Days, May 14th/15th with RCARC demonstrations and the third class orientation/demonstration, May, 20th will have taken place. Thanks to all that worked so hard to make them happen. If possible, consider teaching one of the classes. Thanks to those working on and volunteering for W5ROK 2008 Field Day, June 28,29, 2008.

Special Event - 50th Anniversary of the Collins S-line July 12- Special Event - 75th Anniversary of Collins Radio September 20-26 See more details in this issue.

- New Member – Welcome Jon Jacobson, K5XRF
- Record & convert to MP3, April APRS presentation – Ken Piletic, W9ZMR
- PM the W5ROK Collins S-Line Station – Bob Ashby, K5JHR
- W5ROK Telecommunications/LAN – Ross Terry, KE5SZJ, Robert Diepenbrock, KC4UAI
- Meeting Refreshments Setup Volunteer – Jim Stevens, WB0UNI (more helpers please)
- Submitted Newsletters Articles- Steve Phillips, K6JT, Tom Vinson, NY0V
- Submitted Newsletter Tips, Tricks & Info – George Huling, K5GH
- RCARC Marketing – Joe Wolf, N5UIC; Mike Hollingsworth, W5QH

- New Member Station Tour - No report this month
- RCARC Antenna Repair – Dennis Cobb, WA8ZBT
- Yet Another Great SIGNALS Newsletter – Jim Skinner, WB0UNI
- Treasurers Report – Jim Skinner, WB0UNI
- Club Librarian - Stephanie Keese, AC5NF, with John, K8OCL assisting
- Website Updates - Wayne Hughes, WA0TGH
- May Program - John Champa, K8OCL; Jon McFadden, K5TIP, Ed Kettler
- RCARC Membership Applications & Database - Joe Wolf, N5UIC
- Secretary Report –Jim Gaston, KD5GYD
- Station Trustee – Steve Phillips, K6JT
- Member Profile Responder – Stephanie Keese, AC5NF
- CRARC (W0CXX) Apr 25th Special Event , Take your kids to work day-John Champa, K8OCL, Ross Terry, KE5SZJ

Be sure to read the well-written article "Using Packet Radio Part 3 – Winlink" by RCARC Member Steve Phillips, K6JT, k6jt@arrl.net in this issue. This third technical installment introduces you to WINLINK 2000, a collection of Mailbox station nodes (termed PMBOs) that are all interconnected via the Internet, running special software that allows messages to be routed anywhere in the system to and from any node. Winlink 2K includes the following functions. Radio and Internet mail with multiple recipients.

Radio and e-mail message attachments allowing binary file transmission. On-demand Internet downloads of over 600 help, info, marine and land weather, radar, and satellite photo bulletins. Steve's article is an introduction of to how to use the system here in the Collin County / North Dallas County area.

The second excellent article, "A Tale of Two Towers", was submitted by Tom Vinson, NY0V, ny0v@arrl.net from our sister club in Cedar Rapids, IA. It's a tale of the demise of Tom's 50' antenna system and the construction of his new 64' tower and antenna system. As Tom's story unfolds he walks us through the

process of lessons learned and teaches us about some important considerations for a radio tower and large beams project. The other item that stands out is the outstanding help received from his local amateur community. We have a great technical pursuit and interest with Amateur Radio that often results in others sharing their time and knowledge. If you enjoyed these articles, please take a minute and e-mail your comments and thanks to the authors.

I had an interesting chat with Member Lou Svach, N5VFO in Morgan, TX. Louis is a volunteer fireman and the folks were setting up for a Catfish fry. They expected 300-400 people. Sure wish I could have attended. Lou lives very close to the fire hall and had just finished moving the fire trucks to his place to make room for the gala. Lou also reports he has been busy helping the local folks with computer repairs and doing some training on Excel and Word. Good stuff Lou. In the radio department, his TS-850 has developed a blank display problem that makes it rather hard to set the frequency. Since I had performed a repair on a Kenwood with a similar issue, was able to point him to the likely suspect area for a fix. Good luck to Lou in performing a successful repair.

A few members asked about the storm damage in my area last month. Here is a picture shot shortly after daylight that morning at the corner of Parker and Custer in West Plano. Some folks in the area are still performing repairs.

TEXAS STAR PARTY (Friday May 30st through Saturday June 7th, 2008)

Member George Huling, K5GH passed along this interesting information. TSP hams operate a fixed station, W5TSP (Whisky Five Texas Star Party), at the

Prude Ranch, site of the week-long Texas Star Party event. This station has a Mosley PRO-96 and various VHF/UHF antennas mounted to a Rohn 70' SSV tower installed by TSP staff. The station operates 40 meters through 70cm.

On-The-Air operation of the TSP Prude Ranch Station continues Saturday May 31st through Saturday June 7th, 2008. Due to other responsibilities of the TSP ham radio staff and the availability of attending hams, operation may be spotty. Remember, this is a star party and the emphasis is staying up when it is dark to pursue the wonders of the night sky, and sleeping the morning away.

Mobile Operations
Amateur Radio Operators are invited to communicate with TSP Ham Radio Staff and other Hams traveling to and from the TSP. While TSP Staff will be traveling Friday May 30th and Sunday June 8th, other Hams will be travelling thoughout TSP week. This will be informal operations among TSP staff amateurs. All hams traveling to attend TSP as well as all other Hams are invited to participate. While traveling, TSP Staff will be operating HF and VHF:

HF mobile operating frequencies and (informal) schedule is:

7.215 (alt 7.218, 7.221, 7.224) – On the hour

14.215 (alt 14.218, 14.221 and 14.224) - 10 Minutes after the hour

Listen for TSP Staff: W5TSP, K5GH, WB4GHY, K5WUL, NG5V, K5NCH, W5SOG, N5BFB, W5CWO, AB5ZR and others.

Follow this link for more information: http://www.texasstarparty.org/tspham.html

RCARC February Meeting (Follow-up)
Sunday, May 4, 2008

To: Bob, K3NT,
At the Visalia DX Convention last weekend talked to Dean Straw, N6BV, Senior Assistant Technical Editor, ARRL, and told him you didn't tell people he wasn't going to be there in person, but remote feed.

The club had a great turnout that night. He thought that was funny. (Dean's great

RCARC presentation was "DX'ing from a City Lot" *Bob*)
73,
George, K5GH
George, K5GH & Force 12 antennas.

Dean Straw, N6BV at the Visalia DX Convention (Photo by George, K5GH)

RCARC APRIL MEETING (Follow-up)
Following thank you was sent to Bob Bruninga, WB4APR.

Bob,
On behalf of the entire Rockwell Collins ARC in Richardson, TX. Thank You for a most informative and educational session on the many uses of APRS. Each of our attending members, both local and via the tele-conference now have a good basic understanding of the Automatic Position Reporting System. We all learned that its capabilities reach far beyond tracking moving objects, we do not need to have a GPS unit attached, it is just what the doctor ordered for tactical digital communications, situational awareness and two way information exchange using amateur radio. Your explanations of practical APRS applications in public service, search and rescue, fox hunting, on-line e-mails, mobile to mobile global messaging, weather data exchange, spreading the word on local events, and efficient multi-user LEO Satellite communication without the need for a computer and keplerian elements were well presented and understandable to our group.

This basis has set the stage for our members to further explore APRS knowledge-base via your informative website. Sure you will be receiving additional questions and we have passed along these answers to the group.

Again, thank you for a great program and presentation. It may be of interest to you that almost 90% of the audience stayed for your entire presentation. Jolly good show.

Best Regards,
Bob Kirby, K3NT
k3nt@arrl.net
President, Rockwell Collins ARC, W5ROK
http://w5rok.us/

Robert Bruninga WB4APR responds to member Gregg Lind, KC0SKM, APRS questions.
1. What are the APRS message(s) that people should send for the "social networking aspects" - Bob gave a talk on this at Dayton last year that discussed this.

Anything going on in ham radio now,live. Put out an APRS object or bulletin announcing it so people nearby can learn about it...

2. So I was trying to figure out what messages I should send beyond the standard position data and

what message should my TNC look for from the Kenwood and other stations.

First, put your monitroing frequency or favorite repeater into your TNC's beacon text. Use the format shown on this web page:
http://www.ew.usna.edu/~bruninga/localinfo.html

And then the new kenwoods can tune it in with the press of the TUNE button.

3. I was wondering what messages should I send (since I don't have one of these new Kenwood APRS/TNC" rigs)

You can put it into any TNC beacon text and they will receive it properly...

4. I was interested in installing my PC and the BYONICS TNC and have it send the freq I am monitoring and some other data...

Ah yes, that is good. Also each time you go to a meeting. Put a MEETING object on th emap at that location. Then passer's by can see the meeting and maybe drop in. If there is a local net

going on. Send out an APRS message that announces it. It wil flash on the front panel of APRS radios...

SO that is the idea. If something is happening, put it out on APRS so that nearby mobiles can get the alert.

Bob,WB4APR

RCARC MAY MEETING
Special Guest Program-- Ed Kettler, of the Richardson Radio Control Club, and Friends are presenting A HANDS-ON PROGRAM on the many aspects of building and flying radio controlled aircraft. He will discuss the R/C hobby and the many applications: Sport Flying, Combat, Electric, Helicopter, and Pattern (to name a few). You will see foam construction methods which reduce the building time -- and increase the ruggedness -- of his combat aircraft AND pending the availability of evening light, FLIGHT DEMONSTRATIONS ARE PLANNED. Mark your calendars for May 22, 2008 and plan to attend this exciting presentation.

All Rockwell Collins employees and guests are cordially invited to attend. RCARC membership is not required for this presentation and there is no admission fee. Per Rockwell Collins security policy, an active company employee or contractor must escort all guests.

Please note again this month **we will start gathering at 5PM**. Mr. Champa advised there would be some snacks. Jim Skinner will again 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. We will fire up the Tele- conference line around 5:15 PM for our remote members. 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. Last month, some additional small-donated prizes were added thanks to John, K8OCL. Thanks John! Understand his wife was happy to see a few good items find a good home. Would encourage others to follow their lead.

JUNE MEETING
As you may be aware RCARC is an American Radio Relay League (ARRL) affiliated club. Our West Gulf Division Director is Coy Day, N5OK. Coy lives in

Union City, OK and is scheduled to be our guest speaker for the June 26th 2008 meeting. Bob started out as a short wave listener in about 1949. He is a very experienced radio operator with DXCC #1 HONOR ROLL, 8 Band DXCC, numerous ARRL International DX Contest Certificates, numerous CQWW DX and CQ Prefix Contest Certificates.

Suggest all members visit http://www.westgulfdivision.org/ to learn about our ARRL division and generate your list of questions for Coy. Feel free to send yours to me and we will batch them together for Coy to address at the June meeting.

Hope to see or hear you at the meeting.

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

Secretary's Report

Bob Kirby, K3NT, opened the meeting at 1730 (April. 24th 2008), in the RCI Cafeteria. Present at the meeting were:

Bob Ashby	K5JHR
Charles Beis	K5UWD
Brad Browning	
John Champa	K8OCL
Dennis Cobb	WA8ZBT
Kathleen Cobb	
George Deprez	KE5SAQ
Robert Diepenbrock	KC4UAI
Randy Dunning	KC5QHH
Hernando Garcia-Vasquez	KC5FDW
James Gaston	KD5GYD
Bob Kirby	K3NT
Gregg Lind	KC0SKM
John McFadden	K5TIP
Steve Phillips	K6JT
Ken Piletic	W9ZMR
Dwight Ramsey	KE5SAS
Juan Riojas	KE5SAL
Andrew Robinson	KE5SAK
James Skinner	WB0UNI
Jim Sturges	KC5QGK
Lou Svach	N5VFO
Ross Terry	KE5SZJ
Paul Veenstra	

The following business was conducted:

1. Officer Reports
   a. *President's Report:* Bob Kirby, K3NT, summarized the meetings agenda and outlined some of the upcoming events. John Champa, K80CL, has donated a signed copy of the new ARRL's VHF Digital Handbook, First Edition to the club. He wrote chapter 7 on High Speed Multimedia (HSMM) Radio. This book will be available in the club's shack.
   b. *Vice-President's Report*: Dennis Cobb, WA8ZBT, reported that the repeater is still having some problems and that the rotor is also in need of repair. We also are working on a license for the 1.2 GHz repeater system.
   c. *Secretary's Report*: The meeting minutes published in last month's newsletter were accepted.
   d. *Treasurers Report*: Jim Skinner, WB0UNI, summarized the treasurer's report.
   e. *Station Trustee's Report:* Steve Phillips, K6JT, reported that last Saturday Dennis Cobb, WA8ZBT, rechecked some of the cables and reset the controller. The repeater is now operating but the audio levels are still abnormally low. The club needs volunteers to help repair and test the repeater.
   f. *Activities Chairman Report:* John Champa, K8OCL, reviewed next month's program which will cover HAM operated UAV's (Unmanned Aerial Vehicles) or Remote Control Aircraft. There will be demonstrations of Fixed and Rotary Wing Crafts both Gas Powered and Electric. John McFadden, K5TIP, actively builds and flys remote control planes and John described some of the aerial maneuvers that we might see.

2. Old Business
   a. There was no old business to conduct.

3. New Business
   a. *Field Day:* Field Day is coming up on June 28-29. Several Members have already made plans to participate. The club will need some volunteers to help step-up and operate.
   b. *Rockwell Collins Fun Days:* The Company's Fun Days are coming up on May 7th and 8th and the club will want to participate. Club members are encouraged to come and get involved in the operating demonstrations.
   c. *Collins Radio Anniversaries:* July will mark the 50th anniversary of the Collins S-Line and September will be the 75th anniversary of Collins Radio. To commemorate these milestones there will be several events involving all the Rockwell Collins clubs including Cedar Rapids, Tuscan, Melbourne, and France. The Cedar Rapids club has purchased the WriteLog software for use by all Collins Radio clubs. This will allow all the sites to log contacts in a common package. (More information on the Write-Log application can be found at http://www.writelog.com/)
   d. *Upcoming HAM Radio Class:* John Champa, K8OCL, reported that additional classes are planned but have not yet been scheduled. Right now 4 people have expressed interest. (For more information on the class can be found at: http://w5rok.us/ham_classes/2007_nov_dec_ham_class_announcement.htm)
   e. *Fifty/Fifty Drawing:* The 50/50 drawing raised $25 for the club. This goes to support refreshments at the meetings and other club activities. The winners were:
   Jim Skinner, WB0UNI, $25
   Charles Beis, K5UWD, Variable Gain Video Amplifier
   Juan Riojas, KE5SAL, MultiTool
   Jim Gaston, KD5GYD, CQ VHF Magazine
   R. Ashby, K5JHR, Travel Bag
   George Deprez, KE5SAQ, Log Notebook
   Andrew Robinson, KE5SAK, Travel Case

John Champa, K8OCL , introduced the evenings program "A General Overview of the APRS System" presented by Bob Bruninga, WB4APR. Bob provided a terrific overview of the Automatic Packet Reporting System and provided numerous illustrations of its use which go far beyond position reporting. Bob presentation also covered many common radio and software features used with APRS. DF, satellite operation, and alternative power sources were also discussed. (See http://eng.usna.navy.mil/~bruninga/aprs.html for more information)

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

Get off your duff!

The club will operate national Field Day from our normal comfortable station location but will be using an emergency generator placed outside the building. Contact Dennis Cobb, WA8ZBT, as soon as possible @ 972-705-1464 and join in the fun.

Be an Elmer!

We are seeking additional instructors for our new Radio Amateur Licensing Classes. It is great fun and all materials are provided. All we need is YOU!

Contact John Champa, K8OCL, Lead Instructor. Volunteer to teach a class or two. Twenty fellow employees have gotten their tickets, including a few Extra Classes, via our club-sponsored course. You will love it. We train the trainers, so join us now. Call 972-333-9478 or write k8ocl@arrl.net

Another entertaining and educational program for our May Club Meeting!

UAVs! Unmanned Aerial Vehicles. John McFadden, K5TIP, arranged this fine presentation on using Amateur Radio to remote control (RC) model aircraft.

RCARC Member Larry Kerns, KA5TGP, and Ed Kettler, of the Richardson Radio Control Club, and Friends are presenting HANDS-ON PROGRAM on the many aspects of building and flying radio controlled aircraft. They will discuss the R/C technology and its many applications: Military, Law Enforcement, Sport Flying, Combat, Electric, Helicopter, and Pattern (to name a few). You will see foam construction methods, which reduce the building time -- and increase the ruggedness -- of model combat aircraft.

Pending the availability of evening light, FLIGHT DEMONSTRATIONS ARE PLANNED. We hope that you will make plans to enjoy this fun meeting.

Refreshments will be available thanks to the efforts of Jim Skinner, WB0UNI.

The 50/50 Drawing will be further enhanced with additional prizes for runner-up winners including a FREE subscription to CQ Magazine, a $40 value.

What is ahead for the June Meeting?

We are honored to have Coy Day, N5OK, our American Radio Relay League (ARRL) West Gulf Division Director and member of the ARRL Board address us regarding the significant issues facing Radio Amateurs in the months ahead. Here is your chance to ask that question you have had in your mind! No more of that "If THEY would only….etc." Now the "they" will be here with us, so get your questions and concerns ready, write them down, and then come to this important meeting.

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 member David M. Jaksa, W0VX. Dave is a retired member that lives in Garland, Texas. He is a very proficient operator active in Dis-

tance (DX) and contesting. Dave is also the author of the SIGNAL March 2008 article, "Logbook of The World".

How did you get started in Amateur Radio?

Was a SWL in grade school using a super regen receiver. Got my Novice (WN9CVI) and General (WA9CVI) tickets in rapid succession my sophomore year in high school in the Chicago area. Had to give up my 9 call and was issued WA0VDX when I went to work for Collins Radio and moved to Cedar Rapids. That got shortened to W0VX in 1976.

What are some of the most interesting memories or QSO's

Many of my DX QSOs were memorable. Can't really pick one out as more memorable than the rest. Father Marshall Moran 9N1MM and Roy Neal W6DUE, (both now Silent Keys) are a couple I can recall. Unusual and unpredicted propagation paths like a VU7WCY (Lakshadweep) opening on 20 meters at 1:00 PM local time were always fascinating.

Have you been a builder? If so, what were your projects?

Always have built stuff. Most recent projects were an SO2R (Single Operator 2 Radio) control box that switches headphones, mic, PTT line, Foot Switch, keyer, and antennas between the 2 contest radios. The other recent project is a band decoder box that automatically switches to the right antenna as I change bands on the FT-2000D radio.

Do you belong to the ARRL?

Yes, Life Member.

Read any other Ham magazines, like CQ?

Yes, I read both QST and CQ.

What are your current Ham Radio interests?

DXing and contesting on 160 through 6 meters.

What are your other hobbies?

Woodworking.

Are you active on any of the HF or VHF bands, Nets?

I am very active on 80, 40, 30, 20, 17, 15, 12, 10 and 6 meters. I'm somewhat active on 160, mostly in the ARRL and CQ 160 meter contests.

Using the W5ROK Packet System Part 3
By Steve Phillips, K6JT, W5ROK Trustee

The first 2 installments of this series dealt with getting on packet, using the W5ROK (and other) BBS stations, and using Nodes to extend your geographic reach. This one deals with using the Winlink 2000 system.

This system has been in operation, as the name implies, since around the year 2000. Older versions of Winlink also exist. Basically, it consists of a collection of Mailbox station nodes (termed PMBOs) that are all interconnected via the Internet, running special software that allows messages to be routed anywhere in the system to and from any node. This article will not deal with the details of the Winlink system; rather, it is an introduction to how to use the system here in the Collin County / North Dallas County area. For more information, and to register to use the Winlink system, go to http://www.winlink.org/

For an introductory presentation on the system and information about the software packages needed to implement the mailbox nodes, go to http://www.qsl.net/w5vv/Winlink_2000.ppt and download the PowerPoint file created by Jon, WB5KSD, who lives in Farmersville. He operates a PMBO on the system, on HF. There are both HF and VHF PMBOs, so Winlink can be reached from nearly anywhere in the world (via PMBOs around the world on HF). This article will deal only with VHF access using the N5BYL-10 PMBO, run by Bruce, N5BYL, the EC of Collin County. Besides his station in Parker, there are other stations in Collin county that are interconnected with him and the system. I normally use KI5FU-10, who is located just a couple miles away from my QTH so has a very strong signal. I can also connect directly with N5BYL when needed.

It is possible to use the N5BYL PMBO using only a "dumb terminal" program on the computer, the same as you would use for the W5ROK BBS. However, the interface is clumsy and limited in what you can do. It uses a "Telnet" link over the Internet to connect with master Mailbox stations, such as Rick, KN6KB, and Steve, K4CJX, principle developers of Winlink 2000. The following shows a sample session with KI5FU-10, doing first an "i" command for Info and then an "h" command for help:

```
cmd:c ki5fu-10
cmd:*** CONNECTED to KI5FU-10
KI5FU-10 Telpac v1.2.7
KI5FU-10 Winlink 2000 TELPAC node. Allen,Tx (EM13pb)
Type H for Help, I for Info Telnet Logon OK

[WL2K-3.1.3-B2FIHM$]

Thanks for using the N5BYL Collin County ARES EmComm
PMBO!

K6JT VIA KI5FU-10 DE N5BYL >
i
Updated Dec 19, 2003
•
•You are connected to K4CJX Winlink 2000 Telnet Server
•
•Limited keyboard commands are supported by WL2K for
very simple terminals.
•Normally to access the system you use AirMail,
(available for download at www.airmail2000.com)
```

```
•or Paclink (available for download at
www.winlink.org/Client.htm)
•
•BBS forwarding (HF, VHF Packet, UHF Packet, TELNET)
is available via standard FBB forwarding protocol.
•
•The system supports ASCII only TNCs and keyboard con-
nections with reduced functionality (no attachments).
•
•Summary of WL2K System features:
•
Radio and Internet mail with multiple recipients.
Radio and e-mail message attachments allowing binary
file transmission.
On-demand Internet downloads of over 600 help, info,
marine and land weather,radar, and satellite photo
bulletins.
Message mirroring for mobile stations at multiple WL2K
MBOs.
Internet forwarding of inter WL2K MBO traffic
Standard FBB interface (Radio or Telnet) to other non
WL2K MBOs.
Position Reporting and distribution via radio, Inter-
net and WWW APRS server for mobile users.
User set attachment limits, status, and auto forward-
ing to Internet.
User web access to WL2K for on line mail send and re-
ceive
•
•
•TELNET PORT:
AirMail 3.x settings and Paclink settings to Access
the K4CJX telnet Server:
•Remote Call sign  :  K4CJX
•Remote Host:  k4cjx.no-ip.com   (note! no "@' sign in
this domain name)
•Port:  12001
•Timeout: 30
•Local call sign: (your normal WL2K call)
•Password: WL2KTELNETCLIENT    (all caps)
•Protocol: B2 (WL2K)
•
E-mail addresses:
 k4cjx@winlink.org or k4cjx@comcast.net
•Fax: (775) 490-1399

K6JT VIA KI5FU-10 DE N5BYL >
h
Updated Feb 17, 2005
•
WL2K is designed for automatic message transfer using
standard FBB BBS<>BBS protocolbut accepts limited key-
board commands as part of WL2K's Telnet server and
Telpac gateways. Input from keyboard is case insensi-
tive and will be prompted by a ">".
•
Supported keyboard commands:
•
H or HELP gives you this file
•
I or INFO gives you info about the system features and
specifics about this station.
•
LM lists all traffic pending for your call. Shows MID,
date, size, from and subject. Does NOT include mes-
sages SENT by you.
•
K <MID>  e.g. K 1234_KN6KB Marks the pending message
delivered. Message may still be read for 3 days using
the R <MID> command.
•
KM Mark all messages read as delivered. Message may
still be read using R <MID> for 3 days.
•
B, BYE, QRT, LOGOFF, or LOGOUT Forces a disconnect of
the link.
•
R <MID> e.g. R 1234_KN6KB   Read the specified MID.
Only MIDs addressed to your call, bulletins, or origi-
nated by you may be read. No attachments.
•
```
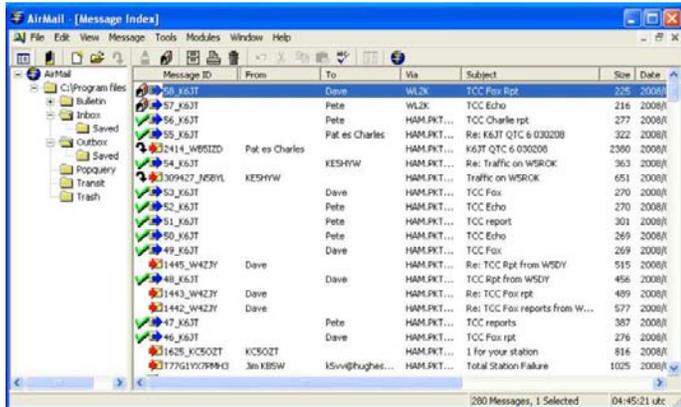
```
RM Read all pending unread messages to your call sign.
•
SP <Destination(s)> Send a personal text message to
the destination(s) indicated. Destinations may be a
Radio callsign (w/wo Hroute) or "SMTP:<email_address>"
(NOTE! be sure to include the colon after the SMTP!).
Multiple destinations should be separated by ";" or
",", e.g.  SP
W4ABC;SMTP:Johndoe@aol.com;W1AW;SMTP:president@whiteho
use.gov
•
You will be prompted for a subject of the new message:
And then prompted for the message body:
For the message body enter any text. use CR for multi-
line. End with /EX on a separate line.
•No attachments.
Acceptance of the message will be confirmed. You will
receive a notice if the message cannot be delivered.
•
•Sysop: Rick Muething  KN6KB
•E-mail: KN6KB@winlink.org  or rmuething@cfl.rr.com

K6JT VIA KI5FU-10 DE N5BYL >
lm
No messages pending
K6JT VIA KI5FU-10 DE N5BYL >
b
*** DISCONNECTED
```
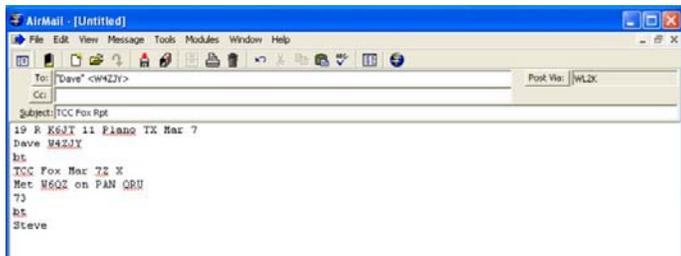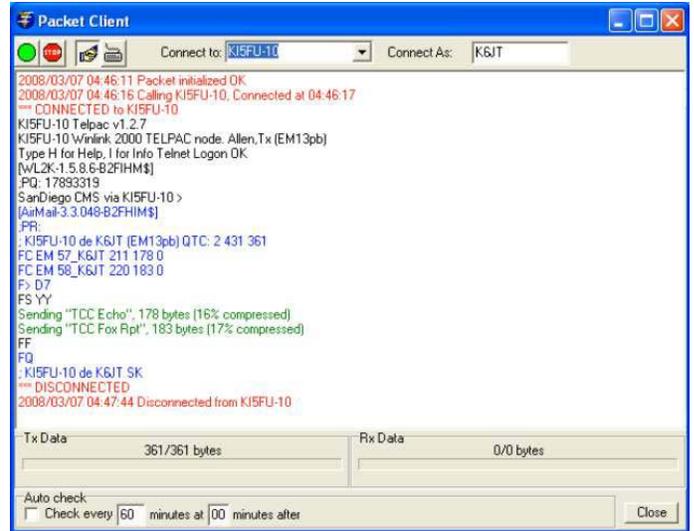
There you go – they did all the work for me in telling you about how to use the system using only a simple interface. But the best method of using the system is with the AirMail program, mentioned in the Info given here. That is what I use. An alternative is PacLink, but I have never investigated it. The AirMail main interface is shown in the following picture:

Looks a lot like Outlook Express or other E-Mail programs, doesn't it? In fact, you create messages very much like using the Internet. The following picture shows a message that I created earlier (it is number 57 in the message index above):

Once a message is created and "send" is clicked, access the "Modules" menu item for the "Packet Client". That brings up a window like the one shown next where I actually sent the 2 messages at the top of the previously shown message list:

This shows a connection to KI5FU-10, followed by some system info and then the actual message transfer. AirMail compresses messages for transmission, so if you see them being sent by someone while using an ASCII terminal program, they have lots of strange looking control characters in them. The night this was sent, N5BYL was not in operation, so KI5FU went to a backup server, evidently located in San Diego, California, per the info given.

Setting up AirMail does take a bit of learning and work, but the directions in the user manual and built-in help make it tolerable. You essentially have to enter your callsign and the type of TNC you are using, along with the PMBOs you want to connect with. The program "knows" about most Kantronics TNCs, and the KPC-3 selection also works with the KPC-2 (an older version) as well as most of the other Kantronics products. There is support for the MFJ and AEA TNCs that are no longer made as well as some very expensive Pactor units. The program can handle both Packet and Pactor protocols and automatically sets up the TNC, assuming it is supported, so all you do is start it up.

That's all there is to it. With a bit of research, software downloading, and configuration, you too can be part of the action using Winlink 2000. Note that E-Mail can be sent to and from Internet addresses (such as K6JT@MYISP.NET), so it is very useful. Send me a Winlink message when you get all set up – just use K6JT as the address.

Rockwell Collins Amateur Radio Special Events

50th Anniversary of the Collins S-Line

What: The various facilities of Rockwell Collins' amateur radio clubs announce a special event: The 50th Anniversary of the introduction of the Collins S-Line special event will take place in July 2008.

When: Commencing 0001z 12 July 2008 and running through 2359z Sunday, 20 July 2008

Who: Look for the following stations on the bands:

W0CXX: Cedar Rapids, IA – South Campus, HQ Station

N0CXX: Cedar Rapids, IA – North Campus

W5ROK: Richardson, TX

W4CRC: Melbourne, FL

W6CXX: Tustin, CA

F6KNZ: Toulouse, France

Where: (+/- QRM)

CW (kHz): 3550, 7050, 10115, 14055, 18085, 21050, 24900, 28050

SSB (kHz): 3885, 7285, 14285, 18155, 21385, 24955, 28455

How: Operators will announce when they are QRV via Packet Cluster.

QSL: Via www.qrz.com for each different facility station. Please include a large #10 envelope SASE with enough postage or funds for first class return of QSL. No eQSL's

Special Certificate: Collect four (4) or more QSL's from 4 different facilities and mail them to: W0CXX. Collins Amateur Radio Club ● 400 Collins Rd. NE ● Cedar Rapids, IA ● 52498

A special certificate and your QSL's will be returned to you.

Info: http://w0cxx.us/   http://w5rok.us/

Questions? Contact: w0cxx@rockwellcollins.com

75th Anniversary of Collins Radio

What: The various facilities of Rockwell Collins' amateur radio clubs announce a special event: The 75th Anniversary of the incorporation of Collins Radio. The special event will take place in September 2008.

When: Commencing 0001z 20 September 2008 and running through 2359z 26 September 2008

Who: Look for the following stations on the bands:

W0CXX: Cedar Rapids, IA – South Campus, HQ Station

N0CXX: Cedar Rapids, IA – North Campus

W5ROK: Richardson, TX

W4CRC: Melbourne, FL

W6CXX: Tustin, CA

F6KNZ: Toulouse, France

Where: (+/- QRM)

CW (kHz): 3550, 7050, 10115, 14055, 18085, 21050, 24900, 28050

SSB (kHz): 3885, 7285, 14285, 18155, 21385, 24955, 28455

How: Operators will announce when they are QRV via Packet Cluster.

QSL: Via www.qrz.com for each different facility station. Please include a large #10 envelope SASE with enough postage or funds for first class return of QSL. No eQSL's

Special Certificate: Collect four (4) or more QSL's from 4 different facilities and mail them to: W0CXX. Collins Amateur Radio Club ● 400 Collins Rd. NE ● Cedar Rapids, IA ● 52498

A special certificate and your QSL's will be returned to you.

Info: http://w0cxx.us/   http://w5rok.us/

Questions? Contact: w0cxx@rockwellcollins.com

A TALE OF TWO TOWERS No, this is not a tale of Isengard and Mordor for you Lord of the Rings fans. It's a tale of the demise of my 50' antenna system and my new 64' tower and antenna system. It begins last May when I was on a business trip in New Zealand when I was informed by my XYL that my tower and antenna system had fallen over. Evidently there was some rather strong wind that night that was just a bit too much for the system. I called Bryan McCoy, KA0YSQ and asked him to see if he could tell the failure mechanism. The next day I had a few jpg pictures from Bryan that told the sad story.

When I erected the HDBX 48, I placed 4" drainage tubes around the legs, like what you might place on a small tree you're trying to protect. That worked for about 20 years. However, unbeknownst to me, dirt had migrated under the tubes and settled in around the base stubs. Over time, the oxidation occurred that weakened the base stubs so that they finally could not withstand the strong winds. Fortunately, no one was hurt and the system actually laid over into some large fir trees about as gingerly as one could hope for. In the end, the tower was in excellent shape and just a few elements of the KT34XA were bent up. It was then that I decided that I either had to dispense with the 40 meter beam, or procure a more substantial tower. I decided on the latter!

NY0V's HDBX48, KT34XA and S402 after the wind storm in May 2003. Can you find the 40m beam in this picture?

The new tower is a Trylon T600 64' self supporting tower. You can purchase Trylon's from places like Texas Towers and Champion Radio here in the States. I think Jeff Davis, N0DY, got his from a Canadian firm. What I found was that while Texas Towers was priced less for

the tower, the shipping was substantial, like $800. I saved $400 by going to Champion. So lesson #1 is to obtain the tower and the shipping prices together!

I chose the T600 64' for a couple of reasons. One is that Linn County wants the tower to be erected for 100 mph winds, not 80 mph. Another is that the specifications for antenna loading are shown by Trylon to be with no ice loading. That loading can be significant here in Iowa! Given the negligible performance difference between 64' and 72' when I live on a 110' hill, I felt more comfortable going conservatively with the 64' tower for 100 mph wind with ice loading for this antenna system.

Since I planned to have over 15 sq ft of antennas mounted on this tower, I decided to add another rotor plate to the tower that mounts into the second section down from the top section. This provides more stability for the mast and antenna system that has to stick out 12 feet above the top of the tower. Of course, that meant that I needed a larger mast (20ft) than what I had on hand! As an aside, these three triangular plates come without any predrilling. You have to drill your own rotor bolt pattern and thrust bearing pattern in the plates.

Second thrust bearing detail. Note the hole drilled through the side near the base for a pin in case the rotator has to be removed for service.

The extra rotor plate also enabled me to install two thrust bearings, one Rohn TB3 on the top plate and a second one, a Delhi thrust bearing, on the second plate down in the tower. The Delhi thrust bearing was mounted with Nylock's so the thrust bearing itself floats. I didn't want to cause the mast to bind by hard-bolting in the middle thrust bearing. In the picture be-

low, you can also see that I drilled a hole through the base of the Delhi bearing. I did this in case I have to remove the rotator for service, I can pin the mast so the antenna system doesn't weathervane. That would wreck havoc on the feedlines!

Since I live in Linn County (LC), I had to obtain a building permit to put up the new tower. Recall it had been 20 years since the first tower was erected on my property next to my house. A few years ago, our LC Board of Supervisors (and the city of Cedar Rapids) enacted tower ordinances. (This was done in response to a commercial tower falling over on the SW side during a tornado. The tower hit a building and ended up killing one person.) In order to obtain a permit for a tower in Linn County you must have: 1) A tower registration form filled out; 2) A set of specifications for the tower and the foundation; 3) A site plan scaled at 1" = 50' that meets the regulations for tower citing; and 4) a check book.

You might as well decide right off to build the foundation to the manufacturers' recommendations. It just isn't worth the hassle to prove that the manufacturer is too conservative on the numbers. For instance, Trylon has the foundation for the T600 specified the same as their 96' system. I had Steve at Champion Radio run the numbers given our softer 2000 psi clay soil here (Trylon uses 4000 psi). The analysis showed the foundation could have been a foot smaller on each side even in softer soil. The LC engineer wanted the numbers, but he didn't want me to deviate from the specifications!

I also found that I could not put the new tower up where the old one came out! The unfortunate part about this is that I learned this *after* Rod Blocksome, Bryan McCoy, Ron Luse and I spent the better part of a day making the old hole bigger! The new regulation states that a tower is a principle structure and therefore must meet the set back from your house of 10'. This meant I needed to "move the hole" away from the house and away from the old hole due to structural concerns. When I asked the reason for the 10' setback they said that it was for emergency vehicles. It just so happens I have a large bridal bush on the side of the house that wouldn't allow a vehicle to get between them anyway.

The second issue I faced was that now that the tower was 10' from the house, it was only 40' from my lot line. The County said I had to be 50' from the lot line! This meant that I would have to apply for a variance and appear before the LC Board of Adjustment. That meeting was over a month away. It also meant that I'd have to pay $100 for the privilege too! I proceeded to pay the $100 fee and write up a three page letter, complete with a detailed map explaining why the tower had to be sited where I had it on my site plan. A day later I got a call back from the LC Planning Department. They had read the letter and said that because my driveway was on the east side of my house, they considered the west side of the house to be my "backyard". Therefore, they required the 50' lot line set back. I told them that the west side is my "side yard" because my front door is on the north and my drive way goes into the side of my house. In the end, I went back downtown and formally declared the west side of my house to be my "side yard", with the south side of my house to be my "back yard" (which I had always said it was). They gave me my $100 back, tore up the Request for Variance and issued my permit on the spot!

At this point I was not going to ask my fellow ham buddies to spend another day digging yet another hole! I found that Jeff Davis, N0DY and Rich Heinrich, N0YY both had LC Concrete did their holes and pour the concrete. I did the same. It isn't cheap, but they did a super job. They had the hole dug, with rebar in one morning and poured it the next. By the way, they put the "new hole dirt" into the "old hole"!

A big hole in the ground for a 64' tower. Note the bell shape flare at the bottom.

After plumming the tower, just add seven yards of concrete.

For grounding the tower, I just happened to find a scrap commercial electrical power strap complete with copper plate and grounding cable at Rockwell Collins special sales. I seeped an 8' long 1" diameter copper pipe into the ground next to the tower and then bolted the fat strap to one of the tower legs.

Shown above is the ground strap and plate found at special sales!

After bolting together the remaining tower sections, mast, rotator and assembling the refurbished KT34XA and S402, it was time to stand them up. On Tuesday, September 16th, Anderson sent out their 50 ton crane. With the fine help from Bryan McCoy, KA0YSQ, Gary Toomsen, K0GT, Doug Byal, W0SML, Terry, W0AWL, and Steve Sawyers, NA0IA, we started into work. Niles the crane operator had us assisting him with the leveling, locking out the jib and getting the crane set up completed.

Once that was done, we strapped on the 56' tower section and mast and hoisted it up. This was probably the hardest part of the entire tower erection. The T600 has U channel type legs that line up very closely. We found that they must be hammered and levered into the channel

when the crane has the tower held at a bit of an angle. For awhile we could get one or two legs to fit, but always had to push, lever and pound on the other channels to get them to slide down into the top legs of the bottom section.

Standing up the next 56' piece of the T600

Attaching the tower to the first section proved to be the hardest part.

That finally accomplished, we raised and attached the KT34XA first with no issues. Bryan and Tom went top side and waited for the KT to be lofted by Niles.

For the 40m beam, we decided to use the two man cage and just carry it up to the top of the mast at 75'. This was a very quick way to get the beam up there. What Bryan and I soon found out was that it was difficult to torque ourselves into position with the mast as we were not fixed to any structure to where we could get some leverage on the antenna. The laws of physics had us turning an equal and oppo-

site direction to where we were trying to turn the beam! In retrospect, we should have had a large pipe wrench or clamp to attach to the mast so we could turn ourselves more easily.
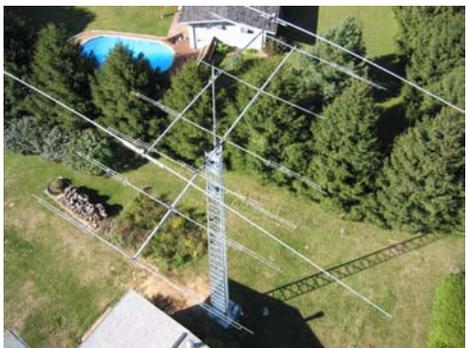

Bryan, KA0YSQ and Tom, NY0V getting ready to set the KT34XA

Locking the KT34XA to the mast went smoothly.

Once we had the 40m beam in place, I had Niles take us up for an over-flight of the antenna system. Now that was fun!

A view from the top looking down through the antenna system

It took two hours from the time the crane arrived to when we had Niles packed up. I invited Niles to have a cup of coffee with us. It was then that I realized that that cup of coffee probably cost me $35! We found that Niles had been doing this for 40 years and was the one who set the new dome on the old capitol building in Iowa City.

The view of my "backyard" with the new antenna system

At this writing I still have not gotten the coax's and rotator cables etc hooked up. But, I can't wait to get back on the air for the winter DX season!

A big "thanks" to Bryan, Gary, Doug, Terry and Steve for their help in installing the tower.

Tom Vinson, NY0V

Upcoming Events and Public Service Ops

Ham-Com *(Cont from page 1)* Writing Award. Ward stays busy as a member of the ARRL's Contest Advisory Committee and as a director of the YASME Foundation. He was a member of the 2005 Kure Island K7C DXpedition. Also joining us this year is Gordon West, WB9NOA, noted author and teacher. He has authored numerous training texts and multi-media materials used by thousands of new Hams and licensees upgrading to General and Extra class tickets.

So, don't miss our 30th anniversary celebration. For complete information about the event visit www.hamcom.org.

* You must be present to win a Grand Prize or any of the hourly prizes.

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
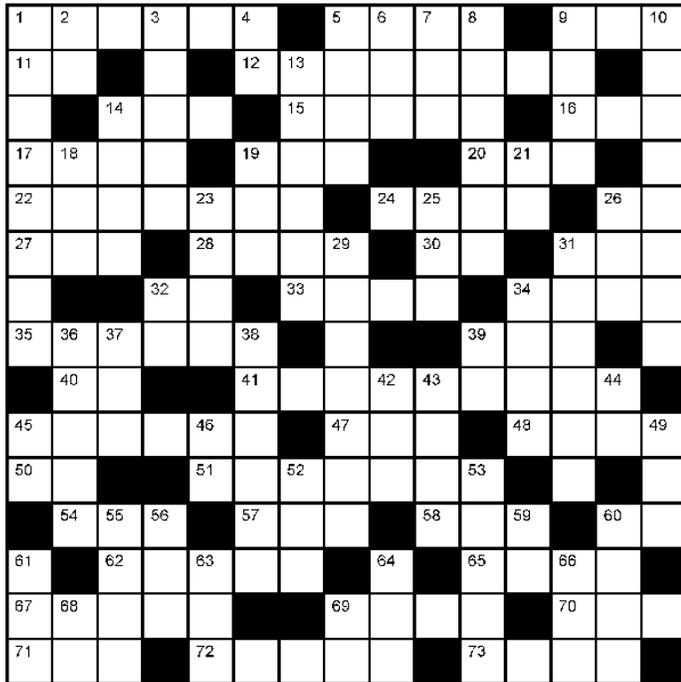
RCARC Member Profile *(Cont. from page 6)* I hold 7 Band DXCC, the DXCC Challenge 1500 award, and am on the DXCC Honor Roll. I do not operate nets.

73,
Dave Jaksa, W0VX

If you enjoyed reading this Member Profile, please consider sending in your answers to these questions. Sure others would enjoy learning a little about you. Bob, K3NT, k3nt@arrl.net

The Amateur Radio Crossword Puzzler

Across

1. Directs data on a network
5. SK notice
9. Vehicle often used for roving
11. CW for "and"
12. Made it myself!
14. Nesting insect
15. Fred's wife
16. Promotional announcements
17. Start from the beginning (abbr)
19. Skyhook (abbr)
20. A poobah (abbr)
22. Something someone will buy
24. Too long here and you'll miss the fun
26. Common orientation of crystal slice
27. Early solid-state logic family
28. Most important part of the operator
30. Load current (abbr)
31. Type of fuse, a ...-blo
32. One thousandth of a liter (abbr)
33. Haze of polluted air
34. What a "cold 807" refers to
35. Tickets are sold for this at the hamfest
39. Conducting hole between PCB layers
40. Not heavy (abbr)
41. Put out to alert buyers
45. Hold on to this at the hamfest
47. Between liquid and solid
48. The best type of free
50. 3600 seconds (abbr)
51. How much stuff you can drive to the
hamfest
54. What the first batch of buyers looks like
57. Adaptor for joining three cables
58. Automation that scans the Web
60. Emit a signal (abbr)
62. Remorse at missing that great deal
65. Unpleasant bouquet
67. To budget an amount
69. Walk around and observe the hamfest
70. Used to carry purchases
71. What the ARRL did to the FCC about BPL
72. If your prefix was 5W, you'd be here
73. Cease doing something

Down

1. Sign up
2. Windows and Linux are examples of these (abbr)
3. Symbol used for angles
4. Direction in which screws are tightened (abbr)
5. Leave out
6. A deca-dB
7. Gigantic computer company
8. Go somewhere
9. Exchange equipment
10. Temporary viewers
13. Those whose possess stuff
14. Shady part of a cap
18. The protocol that lets 1 Across get the right stuff to the right computer
19. Prefix often associated with ice cream
21. Measurement that determines what fits through a hole (abbr)
23. Rings at opening time
25. Not huge, but close
26. A drink or a protocol
29. Bring in without detection
31. Look for
32. The AM and Top Band frequency range designator
34. Sets a circuit's operating point
36. Goes off way too early
37. Superluminal (abbr)
38. What's left after 5 Across
39. Output voltage (abbr)
42. Prefix meaning "new"
43. Let slip the actual price you paid
44. Get 'er done
45. Electric energy (abbr)
46. ARES leader (abbr)
49. Gotta pay with every purchase
52. French sister society to ARRL
53. What opens to let in 54 Across
55. View with desire
56. Don't tase me!
59. Amount of delay (abbr)
60. Multiband antenna component
61. Too much power
63. Possessed by it
64. Gear that doesn't work when you get it home (abbr)
66. Alternate price suggested by a buyer (abbr)
68. Prefix used in Buenos Aires
69. Transistor package prefix

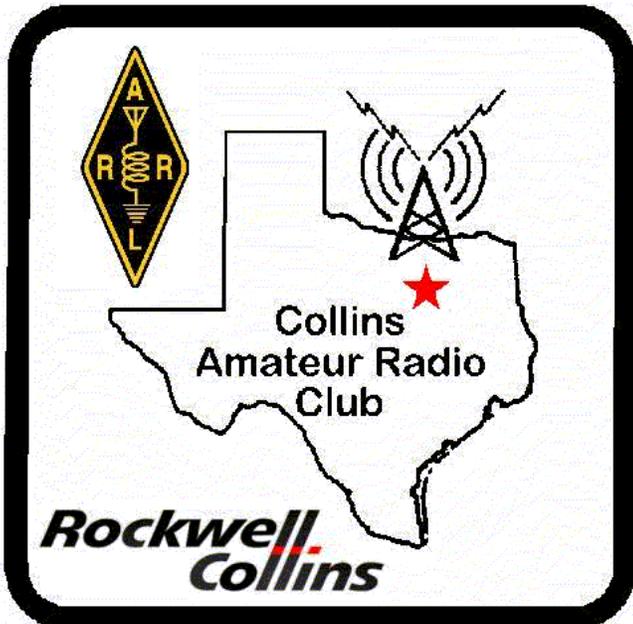## Solution to this month's Puzzler

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 22 May 2008
1700 Fellowship
1730 Meeting
Rockwell Collins Cafeteria

NEXT SIGNALS DEADLINE:
9 June 2008