

CARC Membership Meeting Tuesday 27 June 2023 5:30 PM

The Meeting will be at
Woodcreek Church Richardson TX
(and via Zoom)

**"Field Day Wrap-up
and WSPR Basics"**

by Frank Krizan KR1ZAN

The June Meeting Recaps Field Day and WSPR Basics

The June 27th meeting of the Collins Amateur Radio Club will be held at our new meeting location: Woodcreek Church, 3400 E. Renner Rd., Richardson, TX 75082. The meeting will begin at 5:30 pm.

The Woodcreek Church is located a short distance east of the Collins Aerospace facilities on Renner Road. A map and link to additional driving and parking info is available on our web site at n5cxx.us. **WE WILL BE MEETING IN A TEMPORARY LOCATION AT THE CHURCH THIS MONTH BECAUSE OF VACATION BIBLE SCHOOL. YOU'LL FIND "DETOUR" SIGNS AT THE MAIN ENTRANCE SENDING YOU TO THE RIGHT (SOUTH) DOWN TO THE NEXT ENTRANCE KNOWN AS "KIDCREEK". FOLLOW THE SIGNS INSIDE. THERE IS A STAIRWAY AND ELEVATOR, ON YOUR LEFT, TO THE 2ND FLOOR. THE ROOM WE'RE USING IS CALLED "THE BRIDGE" - IT'S OPPOSITE THE STAIRS AND ELEVATOR ON THE 2ND FLOOR.**

The CARC business meeting begins at 5:30 pm and will be followed by a brief discussion on our members' participation in Field Day. Attendees will be asked to indicate their involvement in Field Day and their scores as reported to the ARRL.

The night's program on "WSPR Basics" will be presented by Frank Krizan, KR1ZAN. WSPR, an acronym for Weak

Signal Propagation Reporter, is used by hams for evaluating antenna performance and aiding in the study of ionospheric propagation. Frank will discuss what WSPR is and does, how you can use existing station equipment to transmit and receive WSPR signals, stand-alone WSPR transmitters and online tools for displaying propagation paths from your station. An example of a Club member's 20M vertical will be shown.



KR1ZAN grew up in Brenham, TX, and attended Blinn Jr. College there, followed by the University of Texas (at Austin) from which he received a BSEE. He's been interested in radio since an early age.

Shortwave Listening (SWL) grew into an interest in two-way communication. He and a local friend got their Novice licenses in 1961, followed by their Generals in 1962.

Frank was an announcer, D.J., news reporter and assistant engineer at KWHI in Brenham for seven years and, while in college, joined the Navy Reserve as a radioman. He served on the USS Mansfield (DD-728) stationed in Yokosuka, Japan, and, had a number of missions in Vietnam waters.

Following active duty, Frank came to work at Collins Radio Company in Richardson, TX. He served in engineering and management functions for 30 years, until retiring in 1998. He then spent a couple of years with SBC (formerly Southwestern Bell).

Frank enjoys everything about ham radio and considers himself a 'generalist' - some folks like to focus on DXing or contesting, but he likes to try everything ham radio. He enjoys training, and has taught numerous courses on the Technician and General Class licenses, plus teaching the Radio Merit Badge to Scouts.

**N5CXX
IS BACK
ON THE
AIR!!!
See
more on
page 6!!**



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through the Northern most door on the east side of the church building. For further information contact Don Klick KG5CK. 972.464.2889 or E-mail rwkhamtest@gmail.com.

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... de The Prez

VE SESSIONS

Dallas tests are held on the fourth Saturday of each month at 1000 hrs. 13350 Floyd Rd. (Old Credit Union) Contact Bob West, WA8YCD 972.917.6362

Irving tests are held on the third Saturday of each month at 0900. Fifth 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 1430, ending no later than 1645. **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 Janet Crenshaw, WB9ZPH at 972.302.9992.

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.

Richardson The Richardson Wireless Klub (RWK) VE team hold license testing on the third Thursday of each month at St. Barnabas Presbyterian Church, 1220 West Beltline Rd. Testing begins at 1900 hrs in room 12. Enter

Our June meeting is coming up on the 27th, and it will feature Frank Krizan, KR1ZAN, who will give us a presentation on Weak Signal Propagation Report (WSPR). It is a protocol, implemented in a computer program, used for weak-signal radio communication between amateur radio operators. This is a fascinating technology and has been proven to be quite effective and has found quite a few applications.

The club membership voted to not approve the prepared position statement related to the HF Radio station and to focus on restoration of the club room and reinstalling the equipment in the original location in building 461. That process is well underway and is supported by a work team of up to 15 CARC members that includes 7 members that are active employees. Good progress is being made, and Jim Skinner, WB0UNI, who serves as the POC for the project reports that the station is not quite ready for use but that it should be ready shortly.

In concert with the final position on the club room and the radio station, work has been ongoing to establish and distribute the Collins Aerospace building access requirements. Mike Talley, the Facility Security Officer, has established requirements for both the visitor and the visitor escort. Those requirements have been captured in a document that was reviewed and approved by Mike. I recently distributed the document to all active members via Ham Club On Line. Mike has stressed the importance of strictly following the access requirements.

NOTE: The 27th June meeting will take place at Woodcreek Church, but the location of our meeting room will have

changed due to a church event. The new meeting room location information is included elsewhere in this news-letter. The meeting will start at 5:30.

The 70cm repeater located at the plant will soon undergo testing and repair to bring it back to service. Jim Skinner, WB0UNI, has advised that a full system test is planned to see if the equipment is working as it should. Additionally, the antenna, coax and connectors will be examined to see if they need to be replaced and/or repaired. The repeater, once back in service, will be used for general contacts and support to local ARES Skywarn or other EMCOMM requirements.

The development of a unique CARC Challenge Coin that was introduced last month was discussed at the June board meeting. Jim Brown, AF5MA, presented some examples of the coins, and after discussion a decision was reached as to the size, general coloring, lettering, and information on the coin. Jim is looking into the cost and schedule that will be presented to the board for consideration.

The preparation of a CARC Officer Transition Guide was identified as an action item by the board to aid newly-elected officers assume their new position and responsibilities. A draft of that Guide has been prepared by Jim Brown, AF5MA and is under review by the board.

You will see this in every President’s article that I write as I sincerely want to serve you, our members.

As I close this newsletter entry, I commit to you that I will work to continue the work of the CARC, a work focused on providing fellowship and value. Let me know if you have suggestions or comments on how we can work together to make the CARC shine.

73, Bill, K5MWC

VP Report – Nothing to report.

Membership Committee – No new members were added to CARC during May and June.

- Current Membership = 51
- Full Members = 37 (includes life and retiree members)
- Associate Members = 14
- Members moved to Inactive Status = 0

Continuing membership is important to the CARC. Through the skills and experiences of all our members, our club provides fellowship, education, and service opportunities. If you have questions about your membership status or other membership-related questions, please contact me. Thank you to all of our members for your support and contributions to the CARC.

73, Bill, KK5PB

Secretary’s Report

23 May 2023

President Bill Swan K5MWC called the meeting to order at 1742 CDT. The meeting was in-person at our meeting site at Woodcreek Church. Zoom access was also provided for those not able to meet in person.

The following were present at the meeting site:

- Bill Swan, K5MWC (President)
- Bill Fell KK5PB (Vice President/Membership)
- Frank Krizan KR1ZAN (Activities/Training)
- Jim Stafford W5DTG (Secretary)
- Kerry Weeks K5WKS (Treasurer)
- Jim Skinner WB0UNI (Signals Editor)
- Jim Brown AF5MA
- David Cheek WA5MWD
- John McFadden K5TIP
- Dennis Cobb WA8ZBT
- Mark Dempsy N5MD
- David Russell W2DMR
- Mark Wells K9MDI (Visitor)
- Wayne Collins KI5YOQ (visitor) – Woodcreek Church coordinator)
- Joaquin Cruz KI5WZV (visitor)

The following logged in via Zoom:

- John Galvin N5TIM
- Bob Kirby K3NT
- Clarence Sebesta K5YO
- Joe Wolf N5UIC

Preliminaries

1. Welcome and Pledge of Allegiance.
2. Member and Visitor Recognition (Mark Wells K9MDI, Joaquin Cruz KI5WZV, Wayne Collins KI5YOQ).
3. Officer Reports - Included in the May Newsletter. Kerry Weeks, K5WKS, provided verbal report on bank account balance and a \$10/month service charge was now in effect.

Old Business

1. Monthly meeting time.

MOTION: On recommendation of the CARC Board of Directors and in consideration of the results of a recent

member survey on meeting time preferences, the CARC membership approves changing in the monthly meeting start time to 7pm, and to establish a socializing, mentoring and VE testing period from 5:30 to 7pm, effective with the meeting on June 26, 2023.

Motion made by Kerry Weeks and seconded by Frank Krizan.

Discussion followed by Jim Skinner that since the monthly meeting site was so close to the Collins Aerospace facility, that employees might start attending meetings again.

The vote was called and the motion was defeated. The monthly meeting time remains at 5:30pm.

2. **Big Project** - Frank Krizan, KR1ZAN has been appointed as Special Interest Group (SIG) chairman. Members of the Big Project Team are Frank Krizan KR1ZAN, Bill Swan K5MWC (ex-officio), Mark Dempsey N5MD, Bill Fell KK5PB, Mike Hollingsworth W5QH, and Jim Stafford W5DTG.

Frank, KR1ZAN proposed a “concept” and “in-principle” for CARC to attract people from all age groups into amateur radio.

Year 1 - Detached Radio Room, expand. membership to include area Raytheon employees, contractors and retirees, One-Day Tech licensing classes.

Year 2 - Two-Day General licensing classes, Tuesday night "in the shack", Radio in the Park, Radio Merit Badge (BSA) and Radio Patch (GSUSA) training for area units, JOTA, TDOTA.

Year 3 - Extra licensing class, develop STEM support activities for scouts and schools, implement EMCOM support function for area cities and counties; develop 'Train the Trainer' for Radio MB & Radio Patch.

Exciting opportunity to meet the educational and service brand of our Club. Those brands are:

Service, Education, Fellowship

New Business

1. **Challenge Coin.** Bill Swan passed around several challenge coins he has received and explained the significance of why these may be something CARC may want to consider selling to members as fund raising and/or giving to meeting speakers or other deserving individuals who help the club. Jim Brown and Frank Krizan will make up preliminary design and find out costs before bringing this to the Board and Membership.
2. **Board Position Statement.** It was confirmed that the position statement had been withdrawn. A period of discussion was entered that allowed several members to express their reasons for not supporting the position

statement. The final resolution was to confirm that the previous location and equipment installation will be restored. Jim Skinner will serve as the Lead of a work team to get the work done. Jim Skinner asked for a one-time \$250 not-to-exceed budget item be established to get renovations done.

MOTION: Permission to reimburse Jim Skinner, WBOUNI a one-time not-to-exceed budget item of \$250 for general expenses associated with reconstruction of the radio room.

Motion made by Jim Skinner. Seconded by Frank Krizan. Motion passed.

3. **June Monthly Meeting** - Frank Krizan, KR1ZAN Field Day recap and WSPR Overview

Adjourn Business Meeting at 1830 CDT.

Tonight’s Program - Frank Krizan presented a PowerPoint of the 2023 ARRL Field Day overview and rules. A question and answer session followed.

Program ended at 1925 CDT.

CARC June Board Meeting Minutes

Date: 13 June 2023

Bill Swan, K5MWC, called the Collins Amateur Radio Club of Richardson, Texas Board of Directors meeting to order at 1900 CDT.

Board Members Present:

President: Bill Swan, K5MWC

Vice-President/ Membership Director: Bill Fell, KK5PB

Secretary: Jim Stafford, W5DTG (arrived at 1920 CDT)

Treasurer Kerry Weeks, K5WKS

Immediate Past President / Director at Large: Frank Krizan, KR1ZAN

Visitors Present:

Jim Brown, AF5MA

Mike Montgomery, WD5TX

1. Welcome
2. Motion to approve the Consent Agenda
 - Item A: Minutes of the 9 May 2023 Board Meeting, previously distributed
 - Item B: Minutes of the 23 May 2023 Club Meeting, previously distributed Motion made by Frank Krizan, seconded by Bill Fell. Motion passed.
3. Visitor Access Guideline Review/Actions

Visitor and Escort Guidelines prepared and distributed for review. Guidelines prepared per direction of Mike Talley, the manager of security at Collins Aerospace Richardson.

“I also would ask that you have each member and escort read the guidelines and sign it, so we have it on hand.” Extracted from Mike’s email to Bill Swan dated 2 June 2023

Proposed actions:

- a. Obtain Board’s approval of final draft for the visitor and escort guidelines.
 - b. Distribute to Mike Talley to obtain his agreement that it is in compliance with his direction.
 - c. Distribute to all CARC membership who would be potential visitors for their individual signature and return to the President. Distribute to all active employee members that potentially could act as escorts for their individual signatures and return to the President.
 - d. Forward all completed guideline documents that have been signed to Mike Talley for his review and approval.
 - e. The Board gave consensus to the Action List.
4. Special meeting location information related to 27 June meeting - Frank Krizan , KR1ZAN

The monthly Club meeting will be held in a different room at the Woodcreek Church due to one-time summer activity. Jim Stafford and Kerry Weeks will direct club members to the temporary meeting location. There will also be temporary signage.

5. Repeater status

Jim Skinner, WB0UNI was authorized to get the repeaters repaired. (This was amended in Item 6, below).

6. THE BIG PROJECT - Special Interest Group (SIG) Update

7. Future use of K5BSA Repeater

Frank Krizan, KR1ZAN had a meeting with Eric, the chairman of the K5BSA repeater located on the campus of UTD. They discussed the possibility of CARC using the K5BSA repeater indefinitely. It is now used for the CARC drive home net on Tuesday evenings from 5:30 to 6:00 pm. The advantages would be the extended coverage due to antenna height and the digital capabilities (ecoLink, IRLP, Allstar), and educational possibilities with college and high school students and the Scouts.

Action Items:

- a. Frank to get Zoom meeting organized with the K5BSA Board and CARC Board to brainstorm.
 - b. Bill Swan to get a report regarding the N5CXX repeater and antenna condition from Jim Skinner before funds are spent to renovate the repeaters.
8. Other
- a. Challenge Coin preparation status - Jim Brown, AF5MA presented renderings of several designs for the obverse and reverse of coin. After discussions among Board, a design was selected, and Jim Brown was to get cost and timing estimates from vendor(s).
 - b. Jim Brown emailed the Board a draft of the Officer Transition Guide. The Guide will be used to assist new Board officers in their responsibilities as new officers and provide helpful suggestions to make the transition easier. The Board will review the document and discuss at a future Board meeting. After review and acceptance by the Board, the Guide will be placed in the Permanent Club Documentation Binder and club website.
 - c. Jim Stafford, W5DTG asked if the CARC had a liability insurance policy and equipment damage/loss insurance. Frank Krizan paid the annual liability insurance premium at the first of the year. He will request reimbursement from the CARC Treasurer for approximately \$300. There is no insurance on the club equipment. A copy of the liability policy will be placed in the Permanent Club Documentation Binder and secure location in the website.
9. Program Reminder: 27 June 2023 – WSPR Overview and Field Day recap – Frank Krizan, KR1ZAN.
10. Board Meeting adjourned at 2033 CDT.

CARC VE TEST SESSIONS DISCONTINUED

The ARRL VE Test Sessions, which have been conducted following the CARC monthly meetings, have been discontinued.

A list of nearby testing sites, with contact information, is included elsewhere in each issue of SIGNALS. If you, or someone you know, is looking for a VE exam session, check out the list.

In the event CARC starts up VE Test Sessions once again, we’ll let you know via email, SIGNALS, and other means.



N5CXX CLUB ROOM STATION

We found a huge mess in the room a couple of weeks ago. We dragged everything out, cleaned up the room and moved back in, placing equipment where it belonged. Since then, we have made considerable progress reinstalling and hooking up equipment, troubleshooting and testing. We have made several QSO's on various bands. Much work remains connecting up equipment and verifying operability with all N5CXX antennas and radios. Also, we need to re-install computers, networking and logging software, set up, etc. Much work remains, however, we have had at least one work party per week, averaging six hours each. Some replacement coax interconnects, batteries (UPS & other), broken item repairs / replacements, etc. are required. I have attached some pictures: before, after and recent. We are back on the air! We currently have fifteen volunteers signed up. **Come join the team!**



CARC Community Service Activities

Siren Testing Dennis Cobb WA8ZBT and Jim Skinner WBOUNI participate in the Richardson emergency siren testing. The June 2023 test was conducted on 7 June. All sirens were reported fully operational except one. The sirens are monitored by amateur radio operators and reports made using the Richardson Wireless Klub (RWK) repeater at 147.120 MHz. Siren testing occasionally uses the University of Texas at Dallas (UTD) repeater at 145.430 MHz, as backup. The following CARC members participated in the May 3rd City of Garland Siren Test: Frank Krizan KR1ZAN and Jim Stafford W5DTG. The Garland test observations report on a Net conducted on the GARC 146.66 repeater.

Crime Watch Patrol Jim Skinner WBOUNI participates in Richardson Duck Creek Crime Watch Patrol (CWP). CWP members, after successful completion of Richardson Police Department training, patrol their neighborhoods and report all suspicious activities to the police department.

Dubya-Dubya-Dubya

Web sites for Hams ...

We all have our favorite web sites for various amateur radio topics and resources. To help in the sharing of that info, we're starting a monthly collection of useful web sites on a different topic each month. This list isn't all inclusive ... and we're sure you have others that could benefit your fellow members.



So, we'd like to ask that you send along your URLs (web site addresses) along with a short description

of what's important on the web site to kr1zan@arrl.net. We'll publish your added links in the following month's SIGNALS.

Also, if you have a favorite web site that's not associated with this month's topic, send it along with a brief description to kr1zan@arrl.net and we'll include it in the ETC section of next month's Dubya-Dubya-Dubya.

This month we kick off the list of useful sites with a focus on APRS - Automatic Packet Reporting System. Enjoy ...

<http://www.aprs.org> -- Bob Bruninga (SK), WB2APR, original site. Lots of excellent ideas, knowledge, presentations, etc.

<http://arrl.org/aprs-mode> -- ARRL website with basic description of APRS, QST articles, and software resources.

https://files.tapr.org/software_library/aprs/aprs-spec/spec/aprs100/APRSProt.pdf -- TAPR - everything you'd ever want to know about what APRS is, how it works and all the bells and whistles.

<http://www.ka2ddo.org/ka2ddo/YAAC.html> -- YAAC-Yet Another APRS Client; multi-platform software, continuous development, very flexible.

<https://pinpointaprs.com> -- PinPoint software, free, reviewed by QST, Windows only.

<http://www.ui-view.net> -- Legacy software, Windows only, user supported.

<http://aprsisce.wikidot.com/start> -- APRSISCE/32 - Windows; runs under Linux & Mac using WINE or virtual machine.

<https://soundcardpacket.org> -- AGWPE; sound card modem for Windows.

<https://packet-radio.net/wp-content/uploads/2018/10/Direwolf-User-Guide.pdf> -- Direwolf - not for the faint of heart; Windows. Linux, Mac; very versatile; sound card modem.

One-Way Radio

by Jeff Davis, KE9V

Many ham radio adherents of a certain age became involved with the hobby following an interest in shortwave listening. Being able to tune-in radio signals and sounds from exotic corners of the planet was a special kind of magic that can't fully be appreciated by those who came of age with the internet.

Short wave listening ([SWL](#)) was the beginning of one-way radio, a facet of radio exploration that includes aeri-als and receiver hardware, but without the need for a transmitter or for that matter, a license. Traditional ham radio is best known as a two-way pursuit, but opportunities for exploring one-way communication have grown considerably in recent days and one can't help but notice how these are being embraced and practiced by a lot of radio amateurs.



For instance, plenty of hams enjoy capturing images from weather satellites or otherwise explore a plethora of signals from space. [SatNogs](#) is a global network of satellite ground-stations that collect data from any of hundreds of satellites and push that info into a large viewable database via the internet.

Still others chase [non-directional beacons](#), monitor scanner traffic from ships, planes, municipalities, balloons, and even radio equipped [buoys](#). Hams have been listening for low-powered beacons for decades. I'd even call the [WSPR](#) network one-way communication though low-powered transmitters are deployed though not in an attempt to make contact with anyone in particular, but in order to visualize who and where those signals have roamed and been received.

This aspect of the hobby has no doubt been fueled by the explosion of low-cost software defined radio gear that has opened wide swaths of spectrum that would otherwise have required expensive and specialized equipment decades ago. All of that seems logical, especially when you add a healthy dose of general interest in snooping on all kinds of otherwise hidden RF signals.

Still, I can't help but wonder if there isn't some shift away from two-way radio because it has become boring? Simple rag chewing seems to be a lost art with frequent articles published to try and teach us how to talk with each other.

Really? Well, almost everything else we hams do is little more than an endless collection of contacts. From contesting to DXing to QSO parties to nets and even [Field Day](#), most of we do is just make “contacts” and fill log files.

Everything it seems, no matter the mode, is little more than a signal report and location.

Compare and contrast the tiny bits of data exchanged via ham radio’s now [most popular mode](#), FT8, with capturing a radio signal from space that results in stunning weather satellite images and it becomes almost impossible to understand why anyone would actually prefer two-way radio?

Oddly enough, I find myself drawn to the exploration of a variety of one-way radio projects. Having been a radio amateur for many decades I’ve gained a measure of radio and electronic knowledge that no doubt would prove useful in any sort of radio adventure, but it seems fair to at least ask, given this one-way future, does anyone really need a license to explore the world of radio?

This article used by permission of the Author. His blog-site is at: <https://ke9v.net/>

Astronauts Engage in Voice Contacts from International Space Station

Amateur radio enthusiasts were thrilled as astronauts aboard the International Space Station (ISS) engaged in voice contacts as NA1SS over the period of May 25-29. The astronauts, John Shoffner, KO4MJC and Woody Hoburg, KB3HTZ, provided an opportunity for amateur radio operators to establish contact with the orbiting space station.



The Amateur Radio on the ISS (ARISS) program facilitated these voice contacts, allowing radio operators to communicate with the astronauts onboard the ISS. As the news spread on social media, amateur radio operators shared their excitement about making successful contacts with the astronauts.

Hams from different parts of the world, including Europe, the United States, and the United Kingdom, shared their experiences of communicating with the ISS crew on Twitter. The astronauts were actively seeking information about the location of each station, showing a keen interest in the diverse range of contacts they were making.

The ARISS program encourages participants to submit QSL cards to commemorate their successful contacts. These cards serve as proof of communication with the International Space Station. The ARISS website provides information on how to send in QSL cards and further details

about the program. The QSL contacts are regional so find the proper one at: <https://ariss.org/qsL-cards.html>

For many radio operators, making contact with the International Space Station is a memorable experience. The ability to communicate with astronauts orbiting the Earth, even if only for a brief moment, is a testament to the power of amateur radio and its ability to connect people across vast distances.

As the ARISS program continues to facilitate these voice contacts, space and amateur radio enthusiasts eagerly await further opportunities to establish communication with the astronauts onboard the ISS. The chance to exchange greetings and information with those who reside in space remains a unique experience that showcases the wonders of technology and human ingenuity.

Operators interested in attempting a contact with the ISS crew, should set the downlink frequency to 437.800 MHz FM and listen for activity. The uplink frequency is 145.990 MHz FM with a PL tone of 67 Hz. The ARISS website and the AMSAT status page provide information on the ISS crew's radio activities. See <https://www.ariss.org/contact-the-iss.html> for details.

[ANS thanks Mitch Ahrenstorff, AD0HJ, for the above information.]

This article published courtesy the AMSAT News Service Bulletin of June 4, 2023.

CSVHFS Conference - July 28-29

Greetings VHF & Above Folks,

On behalf of the Central States VHF Society I want to extend a personal invitation for you to attend the 55th Central States VHF Society Conference in Little Rock, Arkansas July 28-29.

The last time we convened in Arkansas was in 1997 for the 31st conference in Hot Springs and to say amateur radio activity on the VHF and above bands has changed since then is quite an understatement! The WSJT suite of software did not exist, amplifiers were exclusively tubes with high voltage power supplies, EME was conducted on CW utilizing high power and large antenna arrays, and computers played a much smaller roll, if any, in our station integration.



The 26 years since the 31st conference has seen some amazing advancements in VHF and above communications. Through those years the Central States VHF Society has continued to be the leader in promoting and presenting these advancements.

Unlike a traditional hamfest, the conference provides technical presentations, workshops, and test facilities to allow you to improve your station and on-the-air experience.

The presenters and attendees are among the most recognized and highly experienced radio amateurs within the VHF and above ranks and you have the opportunity to spend quality time with them over the course of the conference.

In addition to our technical presentations, we will provide our traditional professional grade antenna range and noise figure lab for you to test your latest design or to simply verify your apparatus is providing the desired result.

A highlight of recent years is rover row and the dish bowl display. If you need some ideas on how to construct or organize your portable station, this is where you need to be on Friday morning!

A conference of this scale is not simply scheduled and then magically appear. It requires considerable effort by volunteers dedicated to mentoring radio amateurs to become elite participants in the area of VHF and above research and operating skill.

Current information may be found at <http://2023.csvhfs.org/> and will be updated as plans finalize. The proceedings this year contains over 20 papers, several that will be presented at the conference.

Please plan to attend this year's conference, learn some new things, apply it to your station then "GET IN THERE AND WORK 'EM!"

73 Joel W5ZN

2023 CSVHFS Conference President

Play HAMWORD

Created by Mark Kleine, N5HZR, Hamword is a Winlink-based game that mimics the popular five-letter word guessing game, Wordle. This game allows hams to practice their Winlink skills while having fun guessing an unknown five-letter word.



How to Play

Send a five-letter word via Winlink to the tactical call sign HAMWORD. The subject line can be anything, and the message body should contain just your guess. Messages will be graded and returned at 00, 15, 30, and 45 minutes past the hour.

Response Key

Since Winlink doesn't allow text colors, you will receive a five-number "key" to guide you in your next choice. The numbers 0, 1, and 2 return using the following definitions:

- * 0 means the letter above the key is not used in the word you are guessing. (Similar to gray.)
- * 1 means the letter above the key is used in the word you are guessing but is in the wrong location. (Similar to yellow.)
- * 2 means the letter above the key is used in the word you are guessing; and is in the correct location. (Similar to green.)

Leader board

The current leader board and past stats are available at <https://hambooks.org/hamword/>.

Weekly Reset

In this game, the word resets weekly at 00:00Z on Monday (Sunday evening in the United States). So, make your guesses throughout the week and make sure you solve the puzzle before the word resets. You have six chances to solve the puzzle each week.

Have fun!

(Contributed by Frank Krizan KR1ZAN)

Amateur Radio Station W4ATC at my Alma Mater N.C. State University



The W4ATC Student Amateur Radio Society is finding a new home in Engineering Building 2 on Centennial Campus! If you look up on our roof, you'll find the club's new antenna. Watch our YouTube video to hear from student leaders, club alum, and faculty about what amateur radio is all about, what to look forward to, and how to get involved! <https://enr.it/3P9RPBD>
(Contributed by Jim Skinner WBOUNI)

Excerpt from Jack, W5TFB's Book

Here is the next excerpt from Jack's book. Mae does well in the chess tournament.

I went downstairs. No sign of Mae, but she could be outside or in her room. Sue joined me in the kitchen. I told her the plan: "The drive should only take 40 minutes. It is only 25 miles or so. I have to leave by 5 because of my headlights. You and Mae can come later tonight or fairly early Saturday. She needs to be there by 845. I will have her registered. I need to know her last name. There are some expenses but I can cover those for her. If you decide to come tonight and arrive before, say, 1930, then I will get you and Mae keys."

"I think tonight would be better for Mae. She likes her mornings in bed. I'm sure you know the best way to travel."

"I was going to take US 90 and then turn left onto US 167. I'm not sure where the downtown Hilton is but I will have plenty of time. And you probably have a Louisiana road map. I don't know how to reach 90 from here."

She told me, and added, "I even have a street map of Lafayette."

So everything was settled, pending Mae's choice. I asked, "Do you have a small suitcase to put clothes in? My backpack is big enough but would wrinkle everything. Even a large paper sack will do."

"Look under your bed. I think there are three sizes. Kind of old-fashioned, but lightweight and strong. Modern ones have skids and wheels and multiple handles. And lots of zip-up pockets, but what for?"

"One more thing: Marie's last name is Barber. I had it changed when she entered kindergarten. Do you have the address here? I don't have a street address, but UPS and others will deliver packages if addressed to our PO box. The company gets a lot of packages."

"I just need the zip code." She got a Post-It and wrote the full address and telephone number, as well as her cell number. So I was all set.

I went upstairs to pack. Nothing to that. Everything fit in the smallest suitcase.

Sue came in through the closet. She said, "Mae wants to leave early too, right after she has a snack. She likes Lafayette although the schools were horrible."

I got my bag and left. The drive was easy, and I could see the Hilton from 167. It took me 50 minutes. The traffic during the last ten miles was bad, but it was Friday afternoon rush hour. I let them park the Civic and went to the desk and checked in. I asked for two more keys for my wife and granddaughter who would arrive soon, told him their

names, and did the unavoidable credit card thing. The tournament was going to pick up the cost of the room, but if I did room service I was on my own. I was sure they got a low rate since the tournament would probably bring in a hundred rooms of kids and parents during a slow time of year. Maybe a lot more. When I got to the room I saw there were two notes stuck to the door. I picked them off and let myself in. The keys were like credit cards but about half as big. I called Sue at home, with no luck, then her cell number. Mae answered, and I told her the room number, and that her room was nice and even had a window with a good view. I told her to pick up two keys at the hotel desk. Our room had a bigger bed, but the room was actually the same size, so it felt crowded in there. We did have a separate bathroom. I unpacked and hung up my stuff, had a quick shower, and put on fresh clothes. We were on the top floor, the 12th.

The notes, from different authors, said the same, just giving me the room number of the meeting room for the directors, and said there would be a light buffet set out. I was to learn that light means something different in south Louisiana than in Texas.

There was a knock on the door, and I let them in. I carried Mae's stuff to her room. Mae asked wickedly, "Where is Jack going to sleep?" I was going to say something cute in return, but Sue just said, "He will sleep in the other room with me." Nothing like a simple direct answer to a non-question, since Mae had already figured out the answer.

I asked, "Is anyone hungry? You two must know of scores of good places to eat, possibly some within walking distance. I don't have to be here until a little before 8, and it's not 6 yet." I knew where to eat from a long time ago (I taught at USL for one semester), but they had more recent information. Eating out was cheaper here than in Texas unless you have a lot to drink, and Sue and I would need our wits intact. And of course there was that meeting.

Sue said, "Probably the hotel restaurant is best, especially on weekends. They have a menu that takes a while just to read. I'll call and see if we will be served directly. It is early." She called, said we were three, and whoever told her if we came in a few minutes then we would be served. Evidently she wanted to write us down anyway, for the last thing Sue said was, "The Bryant Family, Room 12010." Mae's eyes widened and her eyebrows looked like frightened cats, but she said nothing. On the way down she asked if she had to be Bryant now. Mae was witty this evening, a good sign because it was a clever kind of wit, not a nervous or mean one. She would need her wits in the morning. Sue just explained that is the name the room is in, and usually a meal could be charged to a room number and so paid for when you check out. I gathered that Sue was used to the wit but didn't want it to escalate.

I asked Sue where it was, and she said inside, just on the other side of that big fountain. I had never been in a hotel with an indoor fountain. All around the outside were shops except the back, which had all the messy things that go with pretending messes do not exist.

The big room was half full, but busy. We were seated near the fountain, but it was not noisy. The menu was 12 pages and was held together with a golden ribbon. I know, just colored gold. We told a busboy that we would have water, with a diet Dr Pepper for Mae. The waiter came and asked if we were ready, and I said I would have a bowl of gumbo, crayfish etouffé, shrimp aspic, and steamed brown rice. I have no idea what Sue and Mae ordered since they ordered using French. Mae's French sounded more French-like than Sue's to me, but I spent only two months in France, and that a long time ago. The waiter did not write anything down. I had seen that once before, in San Antonio.

The food came faster than I expected. Everything I had was good, especially the shrimp aspic. The aspic was rich, with a mild tomato base and hints of garlic, onion, bay leaf, and a strong celery and lemon flavor. The shrimp were perfectly boiled in lightly seasoned water. It was a little too cold for me but I had intended to leave it for last. The etouffé was the best I have had. I make better gumbo, but then I make the best gumbo I have had anywhere.

Sue had oyster stew, crayfish jambalaya, some kind of green salad, and a small serving of chocolate mousse which was served later. Mae had beef tongue, black-eye pea jambalaya, and a zucchini salad. She got a lot of tongue, more than she could eat, so we took that with us. She had probably had a milk and toast snack before they left. The room had a small icebox and a microwave. Everyone said their food was perfectly prepared and seasoned. I didn't complain about the gumbo, which was edible if not outstanding.

I signed for the dinner, left the tip in cash (the busboy 5% for his service and the waiter 15%) and we went, I to my meeting and they for a walk. The meeting was like I expected. I knew two of the section directors, both from Spring, Texas. They were each more experienced than I was, but not a lot. They were not selected director because of the large number of players from their school. The director must be able to resolve conflicts without having the slightest interest in the outcome. Section directors are somewhat protected from that by having a partner from a different population of players.

Most of what you do is just common sense, and the rule book has an excellent index. I learned the people who collect results and enter the data were experienced in those tasks, most working for the telephone company or one of the hospitals. There were separate computers using two hard drives (writing the same data to each one, that is, twice) and either hard drive could be made the master on a

cold restart. Each had its own independent UPS and printer. Finally, the operating system being used was Unix (OK, they call it Linux or something like that). I didn't see how it could have been done better.

I was almost sorry I had eaten, for the buffet was outstanding and beautifully presented. I didn't nibble, though. I had to save that for later. The meeting was not at all a waste, for we all got to know each other well. My main role was to talk to the kids each day and introduce the working directors. Everyone agreed that the two had to agree on a ruling and to call for my help if needed. Also to keep everyone not playing an active tournament game out of the game rooms. Letting parents in ruins a tournament faster than a fire. When I used to go with Charles I had to leave the building. I just couldn't take the pressure of watching him play and trying to play for him. It is a little like a bowler who, after s/he releases the ball does weird body movements to control its path.

One more item: I had to tell them that one player in the Senior section was known personally to me. While most of those in the Senior section require little help, this was her first tournament and I could not rule on a game she was playing in. I knew several others but not in the same way.

The meeting was over at 2115. This was quicker than I had expected, so I stayed and made a tentative chart showing starting times for each of the sections. I ordered the times by the number preregistered in decreasing order. Here is what I came up with:

Section 1
10-12 9:00 8-9 9:15 K-3 9:30 4-5 9:45
6-7 10:00
round 2
11:15 11:30 11:45 12:00 12:15
round 3
2:45 3:00 3:15 3:30 3:45

This made it 2130, so I went to the room. Mae's door a crack, so I entered quietly. I thought Sue was playing asleep. I don't know how I do it, but I can usually sense that. Probably anyone can. Still, I undressed quietly and joined her. The pillow was too fat for me, but I had not anticipated this. Who could have? I was going to sleep one night on Lethe's lumpy couch and return to College Station. Pillows were down in the noise.

I set my alarm clock for 7. I knew I was going to sleep well. I whispered, "Let's cuddle and sleep. Kiss me goodnight, and, at least for a while, stay in my arms. My shoulder will be a good pillow."

Saturday 24 November

She saw I was awake, and said, "The alarm is about to sound, and you might want breakfast, at least milk and coffee. It comes with the room. I would like to have that with

you since we will be busy all day. I will see that Mae is there by 830.

We dressed and went down for the breakfast buffet. It was scrumptious, as surprising as the meeting food had been. If you wanted a sweet roll you had to order it, since they warmed them right before serving. There were sausages and egg dishes enough to clog a sewer, not to mention an artery. We pigged out. For me it was to be the only meal of the day until evening unless they brought in food or had it sent up from the restaurant.

I arrived at the main room, on the second floor. It looked like large meeting rooms around a sort of command post. They had just opened for registration. Rooms were clearly labeled with school grade ranges. There were five grade ranges, (K-3, 4-5, 6-7, 8-9, 10-12). One could play in a higher section than their actual grade level but not a lower one. When I registered for Mae, I went to the High School position and filled out the form and paid the entry fee and first year USCF dues. The form was handed to the person just behind who was entering the data in the computer. The computers were networked and an additional computer, a Sun server, was used to merge all entrants and assign players a number. It also mirrored everything entered on the other computers.

The player numbers didn't mean anything except lower numbers went with players who had been entered earlier. Most entrants had pre-registered, saving \$2, and they just went to the common computer to see their player number. Those who had listed email addresses had been sent their number by email. Mae's number was 287, so at that time there were that many who had registered. Some may have withdrawn, but this was still going to be a big tournament.

I went to the Senior playing room and closed the door. It was quiet. That was good. The chairs were sturdy with a padded seat, like the ones in the restaurant. Sixteen boards had been set up with room for more. That meant there were probably 32 players already registered. In a 5 round tournament of flipping coins, with no draws, the expected distribution of outcomes is 1- 5-10-10-5-1, meaning 1 player has all heads, 5 have 4, 10 have 3, 10 have 2, 5 have 1, and 1 has no heads. So about half of the players will win a trophy of some sort. Of course the second group will get place 2 through 6, and the third will get place 7 through 16. This random experiment is not typical of real outcomes.

That does not apply because of draws, which in the Senior division are not uncommon, and because the players aren't equally matched. The analysis does apply to things like mutual fund managers, which come closer to being random. In a group of 32 you expect only 1 to beat the market five years in a row, but there are thousands of these funds. If there were 2048, then you would expect one manager to beat the market eleven years in a row, and one to lose to the market eleven years in a row, even if the managers are

equal. (Overhead, for example the manager's upkeep, makes beating the market less than an even chance. Even postage and printing costs are not negligible. This is one reason for using index funds, plus the lower fees and tax burden.)

I went back to the registration table and asked if there was anything to do. Somebody I had not met handed me a red baseball cap and a pin-on badge that said DIRECTOR with my name on it in regular type. I pinned it on the cap. I learned later that the section directors had yellow caps and similar badges, with the assistant directors having green ones and no badge. I had already noted that everyone working the clerical jobs had nice blue caps. Later yet another cap, white with a green and cream checkered bill, was worn by Lafayette Chess Club volunteers handling lunch and snacks and assisting with chores related to transportation and logistics. Their caps had the logo of the chess club and their name embroidered on the front. Classy.

I saw Gary Leland from Spring, which had the strongest chess group in Texas. If it hadn't been for those busloads of kids from there he would have been director. I had written a little introduction with the ground rules and information they needed about how this is done. The first round for the K-3 kids is always hard; most of them have never been to a tournament. I was going to say all of those things several times, a section at a time. I ran it by Leland and he said, "Yes, that's the boilerplate. Remember, though, that these kids are way above average in everything, especially the ones past the fourth grade." I said, "Yes, I read your excellent paper. Your statistical methods are perfect, and the way you controlled for family resources, age, sex, and historical school performance was carefully carried out. You had a large enough sample to prove, at a 1% confidence level, that kids that play chess do better in school, and the longer they play the wider the gap, and even if they quit playing after two years they keep their advantage but do not widen it. I think the last statement has only a 5% confidence level." "Yes, the sample size was too small. I had included ethnic variables but the journal said that was too touchy. We have some promising African-American and Hispanic players that are better integrated into the system than their similar peers who do not play. In a sense what I found was that they do better because they are better adapted socially. That seems strange because chess is regarded as antisocial by many."

"I would like to read that if you still have the manuscript. I have noticed that the chess players do not huddle up in self-segregated groups in the cafeteria even if there are other chess players around. That may have as much to do with the observer as the facts.

"By the way, I have to recuse myself from making any ruling concerning one of the players in the Senior section. There she is. I'll introduce you."

I gave Mae the come-here signal, and told her, “Mae, this is Mr. Leland, who co-ordinates scholastic chess in Spring, and will be the director for the Senior section you will play in. Mr. Leland, this is Mae Barber, a high school junior in New Iberia, who will be playing in her first tournament.” They shook hands. He said he was pleased to meet her and wished her a good experience. He told me he would email me a copy of the original manuscript, and left. I told Mae her player number, which would not change, and explained that in a few minutes they would post the pairing for the first round. I took her to the cozy room she would play in. “Now, how is Sue?”

“Well, she seems tired, but contented. I guess she doesn’t sleep as well when in a strange place. She is going to visit friends she hasn’t seen for a while. I’m glad I have this to do, else she would have hauled me along. I slept well and feel confident.”

I decided a little pep talk would not hurt. “You have been quick and clever lately. Your ‘Where will Jack sleep?’ and ‘Do I have to be a Bryant now?’ were better than clever. Now it is time to be reflective and play hard. I mean play hard chess. Make no sloppy moves. If you are ahead on the clock more than ten minutes, slow down and try to analyze more deeply. An exception is in the opening. If you are in a line you know well that is favorable to you, and are absolutely sure of that, play quickly. Make eye contact with your opponent when not studying the board.

Your beautiful face, hair, and bright blue eyes may distract some, but do study the board while he is thinking. I know from playing you that you can visualize the whole board.

“You have four advantages over the others:

1. They don’t know you. These players have been playing each other for years.
2. You are at ease with closed positions and positional play. Most of the rest are on edge in a closed position and prefer tactical play.
3. You have just crushed two powerful adults by your dauntless courage and astonishing performance. Who are these clowns compared to them?
4. You will be well fed and sleep long, and are accompanied by a grandmother who will protect you and a friend who has the highest regard for not only your skill in chess, but in life as well. “By the way, don’t tell, but I love Sue too. “And, again, play hard, as if your life depended on it.”

Mae just said, “I always play as hard as I can. I don’t know what the last two points have to do with it anything.”

“The third is not about chess, it is about confidence and courage. You said, ‘I feel like I’m on top of the world.’ Embrace that feeling. Let it sustain you in difficult positions and give you confidence that you will find the way. Games in general are all about confidence, particularly chess, where

kismet plays no part in the outcome. Let your opponent have the ill fortune. And when you think you have found the path to victory, have the courage to press on with your plan.

“The last point is about your body and brain. They need food and rest, and, I believe, love. You will see on Sunday 90% of the players are fatigued from lack of sleep and nourishment. If you are lucky you won’t have to play one of those, for there is little pleasure in defeating a player not at his best.

“I see they have posted pairings for the first round. Remember you are 287, and in one of the columns is an integer which says which board you play on, and the letter W or B tells you whether you have White or Black. You will be playing on a high numbered board, probably 16. Your opponent will know you are unrated, but don’t pretend to be confused. Even if you win a first-round game with stuff like that, it won’t last. And, as Mr. Leland said, let this be a good, even enjoyable, experience, win, draw, or lose.”

Mae gave me a hug and thanked me, then joined the crowd looking at the pairings. I didn’t look at it at all, sort of an extension of my leaving the building when Charles was playing. Today I couldn’t leave.

I had to go give my little speech to the Senior section. They were starting first. Other sections were larger than the 10–12. I counted 18 boards set up, so there would be 36 or 37 players. After I finished they set their clocks and started. They had their own room away from the madness outside.

The next section for which pairings were completed was the 8–9 group. Then the K–3. We had decided to let parents be in the room in this section. The kids would do better if they were there, and I ruled out cheating by keeping the parents away from the core of players. Players in this group were mostly from Spring and Baton Rouge. I toned down the speech so even the K players could understand it. It was the smallest section, only 15 boards.

By far the largest sections were the 4–5 and 6–7 grades. That was not the madhouse it usually is because each section was split in two and assigned to four rooms in all. The printout program had been modified to allow splitting a large group into two rooms. I wondered why they didn’t just make four sections, one each for 4, 5, 6, and 7, and brought it up later, but for now it will work out. I gave the speeches to 4–5, then to 6–7. By some minor miracle, a combination of computer power and the skill of the data entry people, every section started by 10. I have never been at a scholastic meet when the first round started on time. Mr. Leland’s tournaments in Spring, and the Texas championship in Austin, are examples, usually starting over an hour late. I remember seeing the data entry people there humped over the keyboard, hunting and pecking.

I omitted a detail. When a game is finished, the players write the outcome on a small piece of paper, a form, and take it

to the command center, called the bullpen at this tournament. Both players go. Their datum is immediately entered in the computer by the bored, probably sleepy, typist. The program has a lot of error checking and keeps the complete history of all keystrokes. The first to emerge from the Senior division was Cain with a win. He recognized me, and we had a chat, just chess, he told me that I used the King's Indian in the first game we played, then years later some out-of-the-book opening that started 1 d4 d5 2 e4 dxe4. He said, "I thought it could not possibly be sound, but you had me running for my life at first."

I was not amazed about his memory, for I remembered it too. I said, "You won both, and neither of us blundered, you just snuck up on me and smothered me. I used that gambit because it left open lines all over the place, but you played carefully and well. It has the disadvantage that if Black declines the gambit with 2 . . . e3 then it is a French Defense game, so White must be prepared for that. A Caro-Kann arises with 2 . . . c5. I didn't mind this because I knew both defenses well, especially the French, from the Black point of view." Mae came out of the room, big grin, so she had done OK. I introduced her to Craig, and they left to report the outcome. The three of us went to the skittles room. Craig had a chess set, and asked Mae if she would like a casual game, no clocks but there is another round in maybe 90 minutes. She said OK.

To Be Continued

Raytheon Amateur Radio On-The-Air Event

When: Fri Jun 30, 2023 12pm to 1pm (CDT)

- On-The-Air event to be held Friday June 30, 2023 at 1700 Z
- Net control will be the Raytheon Tucson W7SA station.
- 1700 Z – 20M Phone USB 14.270 : If the frequency is busy move up or down 5 kHz.
- 1720 Z – 15M Phone USB 21.305: If the frequency is busy move up in 5 kHz increments.
- 1740 Z – 10 M Phone USB 28.380 : If the frequency is busy move up in 5 kHz increments.
- 1800 Z – 20M Digital-USB. Mode - Olivia 8-500.
 - Dial Frequency USB 14071.5, 1500 HZ Offset (14073.00 Water-Fall Frequency).

W7SA Tucson, AZ

Upcoming Events

Daily	DFW Early Traffic Net (NTS) at 6:30pm 146.88 – PL 110.9Hz
Daily	DFW Late Traffic Net (NTS) at 10:30pm 146.72 – PL 110.9Hz
Daily	Texas CW Traffic Net at 7:00pm on 3541 KHz and at 10pm on 3541 KHz www.k6jt.com
Tuesdays	Collins ARC Drive Home Net. 442.8 (+5) MHz, PL=110.9 Hz (K5QHD repeater), 5:30-6:00pm (no net 4 th Tuesday.)
1st Wednesday	Richardson Emergency Siren Test. At noon using the Richardson Wireless Klub (RWK) repeater at 147.120 MHz.
2nd Wednesday	ARES North Texas HF Net Every month—3860 KHz at 8:30 pm—9:30pm
JUNE	
24-25	Field Day Objective: To contact as many stations as possible on the 160, 80, 40, 20,15 and 10 Meter HF bands, as well as all bands 50 MHz and above, and to learn to operate in abnormal situations in less than optimal conditions. Details at http://www.arrl.org/field-day
JULY	
8-9	IARU HF World Championship. Objective: to contact as many other amateurs, especially IARU member society HQ stations, around the world as possible using the 160, 80, 40, 20, 15 and 10 meter bands. Begins 1200 UTC Saturday and ends 1159 UTC Sunday. Details at http://www.arrl.org/iaru-hf-world-championship .
AUGUST	
5-6	222 MHz and Up Distance Contest. Work as many stations as possible on the 222 MHz through 241 GHz bands using any allowable mode. Begins at 1800 UTC Saturday and ends at 1759 UTC Sunday. Details at http://www.arrl.org/222-mhz-and-up-distance-contest
12-13	EME - 2.3 GHz & Up Contest Objective: To work as many amateur stations as possible via the earth-moon-earth path on any authorized amateur frequency above 50 MHz. Details at http://www.arrl.org/eme-contest .
19-20	10 GHz & Up – Round 1. North American amateurs work as many amateur stations in as many different locations as possible in North America on bands from 10-GHz through Light. Amateurs are encouraged to operate from more than one location during this event. Operations may take place for 24 hours total beginning at 6:00 AM local Saturday though 12:00 midnight local Sunday. Details at http://www.arrl.org/10-ghz-up .

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Now, welcome the MBL ... 
"Muncha Buncha Lunch" — every Thursday, 1 p.m. at Poor Richard's Cafe

The Amateur's Code
 by Paul M. Segal, W9EEA (1928)

The Radio Amateur is:

CONSIDERATE - never knowingly operating in such a way as to lessen the pleasure of others.

LOYAL - offering loyalty, encouragement and support to other amateurs, local clubs and the American Radio Relay League, through which Amateur Radio in the United States is represented nationally and internationally.

PROGRESSIVE - with knowledge abreast of science, a well built and efficient station, and operation beyond reproach.

FRIENDLY - with slow and patient operation when requested, friendly advice and counsel to the beginner, kindly assistance, co-operation and consideration for the interests of others. These are the hallmarks of the amateur spirit.

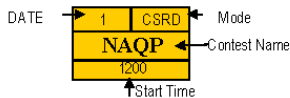
BALANCED - Radio is an avocation, never interfering with duties owed to family, job, school or community.

PATRIOTIC - with station and skill always ready for service to country and community

CDXA Periodic Table of Contests - 2023

January	February	March	April	May	June	July	August	September	October	November	December
7 R	4 CSRD	4 S	1 CSRD	6 CSRD	3 CSRD	1 CS	5 C	2 C	7 CS	4 C	2 CS
RTTY Roundup 1800	VT QSO Party 0000	ARRL DX - SSB 0000	LA QSO Party 1400	7th Area QSO Party 1300	KY QSO Party 1300	RAC Canada Day 0000	NAQP - CW 1800	CWops Open 0000	CA QSO Party 1800	Sweepstakes CW 2100	ARRL - 160M 2200
14 C	4 CSRD	11 CSRD	TBD CSRD	6 CS	3 D	8 CS	12 C	2 CSR	14 R	11 R	3 D
NAQP - CW 1800	MN QSO Party 1400	OK QSO Party 1800	MS QSO Party TBD	IN QSO Party 1800	ARRL - INT. Digi 1800	IARU 1200	WAE DX - CW 0000	CO QSO Party 1300	Makrothen - RTTY 0000	WAE DX - RTTY 0000	FT Roundup 1800
21 S	4 CSRD	11 C	1 CSRD	6 CSRD	10 CSRD	16 CSRD	12 CSR	3 CSR	14 CSRD	18 S	10 CS
NAQP - SSB 1800	BC QSO Party 1800	Stew Perry TBC 1500	MO QSO Party 1400	DE QSO Party 1700	ARRL - VHF 1800	CQWW - VHF 1800	MDC QSO Party 1400	TN QSO Party 1800	NV QSO Party 0300	Sweepstakes SSB 2100	ARRL - 10M 0000
21 CSRD	5 C	11 CSRD	4 S	6 CSRD	17 C	15 R	19 S	9 S	14 CSR	25 C	17 CS
ARRL - VHF 1900	NA Sprint - CW 0	ID QSO Party 1900	NA Sprint - SSB 0000	New England QSO Party 2000	Stew Perry TBC 1500	NAQP - RTTY 1800	NAQP - SSB 1800	WAE DX - SSB 0000	AZ QSO Party 1500	CQWW - CW 0000	RAC Winter 0000
27 C	11 R	12 R	8 CSRD	20 CSR	17 CSRD	29 CS	26 CSRD	9 CSRD	14 CSRD		23 C
CQ - 160M CW 2200	CQWW WPX - RTTY 0000	NA Sprint - RTTY 0	NM QSO Party 1400	AR QSO Party 1400	WV QSO Party 1600	RSGB IOTA 1200	HI QSO Party 0400	ARRL - VHF 1800	PA QSO Party 1800	All K1USN, ICWC & CWA	Stew Perry TBC 1900
28 R	18 C	12 CSRD	8 CS	27 C			26 D	TBD CP	14 CSRD		
BARTG RTTY 1200	ARRL DX - CW 0000	WI QSO Party 1800	GA QSO Party 1800	CQWW WPX - CW 0000	All K1USN, ICWC & CWA	All K1USN, ICWC & CWA	WW Digi DX 1200	AL QSO Party 1800	SD QSO Party 1800		All K1USN, ICWC & CWA
	24 S	18 R	TBD CSRD				26 CSRD	10 C	21 CSRD		
All K1USN, ICWC & CWA	CQ - 160M SSB 2200	BARTG RTTY 0200	ND QSO Party TBD	All K1USN, ICWC & CWA			KS QSO Party 1400	NA Sprint - CW 0000	NY QSO Party 1400		
	25 CSRD	25 S	15 R				27 CS	TBD CSRD	21 CS		
	SC QSO Party 1500	CQWW WPX - SSB 0000	CQMM DX 0900				OH QSO Party 1600	IA QSO Party 1400	Worked All Germany 1500		
	25 R		15 CS					16 CSRD	21 C		
	NAQP - RTTY 1800	All K1USN, ICWC & CWA	MI QSO Party 1600				All K1USN, ICWC & CWA	NH QSO Party 1600	Stew Perry TBC 1500		
	26 CSRD		15 CS					16 CSRD	22 CSRD		
	NC QSO Party 1500		ON QSO Party 1800					TX QSO Party 1400	IL QSO Party 1700		
			29 CS					16 CS	28 S		
	All K1USN, ICWC & CWA		FL QSO Party 1800					16 CSRD			
								WA Salmon Run 1600	All K1USN, ICWC & CWA		
								17 R			
								NA Sprint - RTTY 0000			
								23 R			
								CQWW - RTTY 0000			
								23 CS			
								ME QSO 1200			
								All K1USN,			

LEGEND
 GOLD = Major Contest = 10 points
 Blue = QSO Party = 7 points
 Pink = DX Contest = 5 points
 C = CW S = SSB
 R = RTTY D = Digital





Richardson, Texas
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**PO Box 830766
Richardson, TX 75083-0766**

TO:



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441.875 MHz +5 MHz Input
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145.05 MHz

**N5CXX-N1, NRCXX-N2 & N5CXX-N3 HSMM-
MESHNET Nodes 2.4 GHz**

Membership Meeting
Tuesday 27 June 2023 5:30 PM
THE MEETING WILL BE AT
Woodcreek Church Richardson TX

NEXT SIGNALS INPUTS DEADLINE:
→→→ 14 July 2023 ←←←