

CARC
Membership Meeting
Tuesday 23 April 2024 5:30 PM

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

**"Lessons from Nacogdoches -
Amateur Radio Participation in
the Shuttle Columbia Recovery
Effort."**

by Bill Fell KK5PB

little or no cell phone coverage and in dense forests where satellite phones wouldn't work. For those of you who weren't able to help in the recovery effort or weren't licensed hams in 2003, you'll find this presentation informative and inspiring.

Invite your family members, neighbors and friends to attend to learn about the dedicated efforts of volunteers in this major exercise.

The meeting and presentation will also be streamed via Zoom. Zoom login instructions will be emailed to Club members and is available on the Club's website at n5cxx.us.

LOOKING AHEAD

Here are the meetings we have lined up for the rest of 2024. There's one open slot, so if you'd like to give a presentation or have a suggestion, send your ideas to frank@krizan.org.

***** PLEASE NOTE THAT OUR JUNE MEETING WILL BE HELD ON THE 3RD TUESDAY DUE TO SCHEDULING CONFLICTS AT WOODCREEK CHURCH. THIS IS ACTUALLY BETTER IN ORDER TO FINALIZE PLANS FOR FIELD DAY. *****

May 28 - The Fun of Contesting

Jun 18 - Field Day Final Plans / Briefing

Jun 22/23 - ARRL FIELD DAY

Jul 23 - Ice Cream Social

Aug 27 - Fox-Plus and the active ASCENT Projects - Jonathan Brandenburg, KF5IDY

Sep 24 - Six Meters-the Magic Band - Jim Wilson, K5ND

Oct 22 - TBD

Nov 19 - Annual Meeting / Elections

Dec 10 - CARC Christmas Dinner - Aboca's Italian Grill

April Meeting

The next meeting of the Collins Amateur Radio Club will be held on Tuesday, April 23rd, beginning at 5:30pm at Woodcreek Church, 3400 E. Renner Rd., Richardson.

Following a brief business meeting, the evening's program will be presented by Bill Fell, KK5PB, on amateur radio's involvement in the Columbia Space Shuttle disaster recovery which occurred in 2003. Bill's presentation is entitled "Lessons from Nacogdoches - Amateur Radio Participation in the Shuttle Columbia Recovery Effort."



A number of radio amateurs from throughout North Texas traveled to East Texas to aid in the search for debris and provided countless hours of communications in areas with

CARC OFFICERS			
PRESIDENT		VICE-PRESIDENT	
Mike Montgomery	WD5TX	Bill Fell	KK5PB
president@n5cxx.us		vp@n5cxx.us	
SECRETARY		TREASURER	
Jim Brown	AF5MA	Mark Dempsy	N5MD
secretary@n5cxx.us		treasurer@n5cxx.us	
ACTIVITIES CHAIRMAN		IMMED PAST PRESIDENT	
Frank Krizan	KR1ZAN	Bill Swan	K5MWC
director@n5cxx.us		director@n5cxx.us	
STATION TRUSTEE		NEWSLETTER EDITOR	
Mike Montgomery	WD5TX	Jim Skinner	WB0UNI
trustee@n5cxx.us		newsletter@n5cxx.us	
MEMBERSHIP		WEBSITE MANAGER	
Bill Fell	KK5PB	Mike Hollingsworth	W5QH
vp@n5cxx.us		webmaster@n5cxx.us	

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 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.

SIGNALS is the monthly newsletter of the Collins Amateur Radio Club, published by and for its members. The entire contents of this newsletter are copyright © 2024 by the Collins Amateur Radio Club. Permission is hereby granted to any not-for-profit amateur radio publication to reprint any portion of this newsletter provided both the author and Collins Amateur Radio Club are credited.

VE SESSIONS

The Northeast Metro ARRL License Testing Group will hold testing sessions on the **first** Monday each month (except holidays) at the Garland Amateur Radio clubhouse in downtown Garland TX, 1027B Austin St., Garland TX 75040 beginning August 2023. Time 6-8pm. All who want to test for an amateur radio license are welcome. You will need **photo ID, FRN from FCC** and **\$15.00 correct cash**. All forms, etc., will be provided by testing group. You can reserve a seat by calling Kerry Weeks at 214.478.3230 or email at weeks.kerry@gmail.com in advance of the test.

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

PRESIDENT’S MESSAGE

It is hard to believe how fast this year has been moving along. The solar eclipse, tax day, and I am sure there are other things of significance that I am missing.

I hope that everyone got to experience the solar eclipse. Unfortunately, I was in Omaha, and it was only a partial eclipse there. I did watch my doorbell camera and was able to see the change, but I know that it wasn't the same. And tax day, well, that is just tax day.

I hope that everyone has been able to get on the air and operate. I have not been as active as I would like due to our recent move and travel for work. I am somewhat restricted on antennas, but I am slowly reaching the point of "it is better to ask for forgiveness than permission."

We are much closer to getting the repeater antenna replaced and soon after that getting the new repeater installed. Replacing the rotor on the HF beam will be the next task, and it would be nice to get that replaced before Field Day.

Speaking of Field Day, it will be here before we know it. As of now, the current plan is to operate from the Club station at Collins. I understand that there will some logistics to tackle with access, but we should have employees for escorts. With that being said, if you plan to operate from the Club station, please reach out so that I can coordinate with site security.

I am excited to see the Club station on the air for Field Day this year. The progress that has been made in the Club restoration has been rewarding, yet there is still more to do. I

want to thank everyone for their support, patience, and understanding as the Club continues to grow and make progress.

Mike Montgomery
WD5TX

Vice-President’s Report

VP Report – Three members paid renewal dues this month. The grace period for expired members to renew has passed. Three members were moved to inactive status for failure to pay dues/respond to repeated attempts by officers to contact. One challenge coin was given as an honorarium to our March program presenter, Carl Luetzelschwab, K9LA. Three coins were purchased at the general membership meeting. We have 67 challenge coins in inventory currently. I will have challenge coins available for purchase at \$5 each at the April general membership meeting.

Membership Committee –

- Current Active Membership = 52
- Full Members = 38 (includes life and retiree members)
- Associate Members = 14
- New/renewed Members = 3
- Members moved to Inactive Status = 3
- Expired memberships awaiting renewal = 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

26 March 2024

President Mike Montgomery WD5TX called the meeting to order at 1740. The meeting was held at Woodcreek Church in Richardson, with Zoom access for those who could not attend in person.

The following were present at the meeting site:

Bill Fell	KK5PB
Dennis Cobb	WA8ZBT
Bob Coelln	KG5JL
Wayne Collins	KI5YOQ

Gene Duprey	K1GD
Mark Dempsey	N5MD
Frank Krizan	KR1ZAN
Jon Moon	KA5HND
John McFadden	K5TIP
Mike Montgomery	WD5TX
Bil Owens	AD5EW
Dave Russell	W2DMR
Jim Skinner	WB0UNI
Kerry Weeks	K5WKS
Milton Withers	AD5XD

The following logged in via Zoom:

Carl Luetzelschwab	K9LA
Clarence Sebesta	K5YO
Brad Wick	W0CO

Recognition of Members Present, New Members and Guests

All members and guests present were asked to introduce themselves.

Officer and Committee Reports

The Vice President’s and Secretary’s reports were published in the March 2024 CARC Newsletter, and no clarifications or updates were offered at the meeting.

Old Business

Transfer of Signature Authority. Kerry Weeks announced that signature authority for the CARC checking account had been changed to the newly-elected President and Treasurer. He noted that existing checks could still be used.

Status of CARC Radio Station. Tower climbing gear has been selected and approved by Collins Aerospace safety personnel. The Club will purchase two sets of gear as previously approved by Membership. Replacement of repeater antenna and HF beam rotor will be accomplished as scheduling permits. The Club packet radio has been replaced with an Alinco DR-135T, and both Steve Phillips K6JT and John Galvin N5TIM report that performance is greatly improved.

New Business

New FRN and Station Trustee. Frank Krizan reported that a new FRN has been assigned to the CARC station as previously approved by the Board. Concurrently, the Board recommended that Mike Montgomery WD5TX be approved

by the Membership as the new CARC station trustee. The following motion,

“Moved on the recommendation of the Board of Directors that the Collins Amateur Radio Club call sign trustee be changed to David M. Montgomery, WD5TX, Amateur Extra Class, effective immediately.”

was introduced by Bill Fell and seconded by Kerry Weeks; the Membership approved by unanimous vote.

Check Request Forms. Jim Skinner suggested that a check request form be created and placed on the Club website. Bill Fell accepted the action. Frank Krizan will provide a candidate form that he created.

Announcements

Bill Fell stated that CARC challenge coins were still available for purchase.

Adjournment

The meeting was adjourned at 1755, followed by a presentation by our guest speaker Carl Luetzelschwab K9LA. Carl's program, entitled “An Update on Cycle 25 and What to Expect in the Near Future,” was delivered via Zoom from Fort Wayne, Indiana.

Minutes of CARC Board of Directors Meeting

9 April 2024

President Mike Montgomery WD5TX began the informal pre-meeting workshop via Zoom at 1904.

The following Board members logged into the meeting:

Mike Montgomery WD5TX, President

Bill Fell, KK5PB, Vice President

Jim Brown AF5MA, Secretary

Bill Swan K5MWC, Immediate Past President

One non-voting CARC member also logged in:

Frank Krizan KR1ZAN

Topics addressed are summarized below.

Purchase of Safety Harnesses for Club Antenna Work.

Mike Montgomery has identified safety harnesses and associated equipment required for planned antenna and repeater repair work. Specifications for the identified items have been submitted to Collins Aerospace Facilities and approved by them for use. Two harnesses will be required for work on the antenna rotor.

Cost for the required harnesses and equipment exceeds the amount (\$607) previously approved by the General Membership at the August 2023 meeting. The Board

agreed informally to increase this amount to \$1000; a motion to do this will be offered as part of the formal Board meeting as noted below.

Transfer of CARC Call Sign Trustee. Transfer of trustee responsibility for call sign N5CXX has been completed. Discussions focused on the need to complete transfer of related responsibilities for the Club's accounts for QRZ.com and Logbook of the World. These responsibilities will also be assigned to President Mike Montgomery; a motion to formalize this will be offered as part of the formal Board meeting as below. Mike will complete the required transfer actions as soon as possible with the assistance of Frank Krizan.

Completion of transfers as above will require establishment of an official CARC address for receipt of QSL requests. Options are being evaluated and will be discussed at the next Board meeting.

Field Day Discussions. The Board discussed options for CARC participation in ARRL Field Day activities in June. No conclusions were reached, but Club participation was expected to be limited to informal use of the Club radio room. Mike Montgomery will explore options and expectations with members who have participated in past years, and determine whether any club members who are Collins employees will be available for escort duty for the event. Access to the CARC radio room by retired Club members will require an employee escort and prior approval by Collins Aerospace Security.

General Meeting Agenda. Discussion revolved around standardizing and simplifying the format of General Membership meetings. It was generally agreed that the format currently in use meets the needs of the Club, but that a formal set of presentation charts is not needed. Frank Krizan offered a simple one-page agenda outline; Jim Brown offered to create a meeting checklist based on this outline and make it available for future meetings.

Formal Board Meeting. The formal meeting was begun at 1949 to address issues as defined in the prior workshop. Two motions developed in the workshop were formally offered and approved:

Motion 1. “It is moved that CARC Station Trustee Mike Montgomery be assigned responsibility for maintenance of Club accounts for QRZ.com and Logbook of the World.” This was moved by Mike Montgomery, seconded by Bill Fell, and approved by all Board members present.

Motion 2. “It is moved that a revised funding request for safety harnesses and associated equipment in an amount not to exceed \$1,000 be submitted to the General Membership for approval at the next General Meeting.” This was moved by Bill Fell, seconded by

Mike Montgomery, and approved by all Board members present.

Adjournment. Moved at 1957 by Mike Montgomery and seconded by Jim Brown.



Carl Luetzelschwab, K9LA, of Fort Wayne, IN, presented our program in March: "An update on Cycle 25 and what to expect in the near future." His presentation was a follow-up to a similar program he gave to our Club in October 2021.

Carl enjoys propagation research, DXing, contesting, experimenting with antennas and restoring/using vintage equipment. His program was very interesting, and the slides from his presentation are posted on the main page of CARC's website (n5cxx.us). As a matter of fact, the slides from his Oct. '21 presentation are also posted on the website. Carl is always happy to discuss propagation topics. If you have questions, feel free to contact him via email at k9la@arrl.net.



Eighteen people attended the March meeting, which was held at Woodcreek Church, 3400 E. Renner Road in Richardson.

Ascension Island Operating

Editor's Note: The following was received from Larry Hall, KI6LT

Good morning,

I will be traveling to Ascension Island in support of Scope Command from June 4th through the 17th.

I have reached out to Steve Coleman, WB4GHY, to find out about reciprocal licensing while there as he has done it previously.

I am still working out the details, but I plan to be active on the air while at Ascension and will forward you more information as it becomes available.

Thank you,

Larry Hall, KI6LT

Free On-Line Amateur Radio Operating Class

A free, weekly, 3-hour Amateur Radio Operating Class on Zoom will begin on Thursday April 4 and run through June 20 at 6:30 PM Eastern time. The presenters will be various experienced folks in the various subjects.

A detailed syllabus will be published before the classes begin. Attend them all, or any that you like, but you must register for the classes. To receive registration information, contact Rol Anders, K3RA, at roland.anders@comcast.net.

Subjects will include:

All About Operating--A general Introduction

Amateur Radio Organizations—Local to International

Ham Radio Awards

DXing-History and Tips from the Experts

QSLing-How to get that needed card for DXCC or WAS

VHF/UHF Weak Signal Work and "Roving"

Image Operating—Slow Scan and Fast Scan TV

Remote Station control over internet

Learning CW in the no-code era

Digital Modes—From RTTY to FT8 and beyond

Contesting—How to get started, tips for the beginner and intermediated contester

Logging Software—What's available, how to use

Propagation—A general intro to HF Propagation

Amateur Satellites—How to get started

Portable (backpacking) operation—Tips from an expert

Setting Up a Modern (or not so modern) HF Station

Lightning Protection and Grounding
 Traffic Handling
 Public Service, Emergency Communications

Thanks,
 RoI, K3RA

(Submitted by Frank Krizan KR1ZAN)

[Source: N4WFU]



RICHARDSON RADIO CONTROL CLUB
 AMA Gold Leader Club AMA Chartered since 1966

★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★

13TH ANNUAL TRY R/C DAY



The RRCC invites you, your family & friends to experience flying radio-controlled aircraft at our club field!

- An event for all ages
- Groups welcome
- Raffle prizes
- Free lunch & parking
- Airshow with model aircraft
- Airplanes, helicopters and more!

LEARN! You will learn the basics of radio control and how a model aircraft flies, then practice on a computer simulator.

FLY! After learning the basics, you will have the opportunity to safely fly a model aircraft with an instructor at your side.

SATURDAY - May 11, 2024 - 10 am to 3 pm*

Directions
 Bratonia park on Lake Lavon
 6548 Farm Market 546
 Princeton, TX - 75407
 For map, scan the QR code with your phone camera

For more information
 Website: www.rrcc.org
 Facebook: Richardson Radio Control Club
 Contact: training@rrcc.org
 *If weather is bad, the event will be held on Sunday, May 12, 2024 - 10 am to 3 pm.

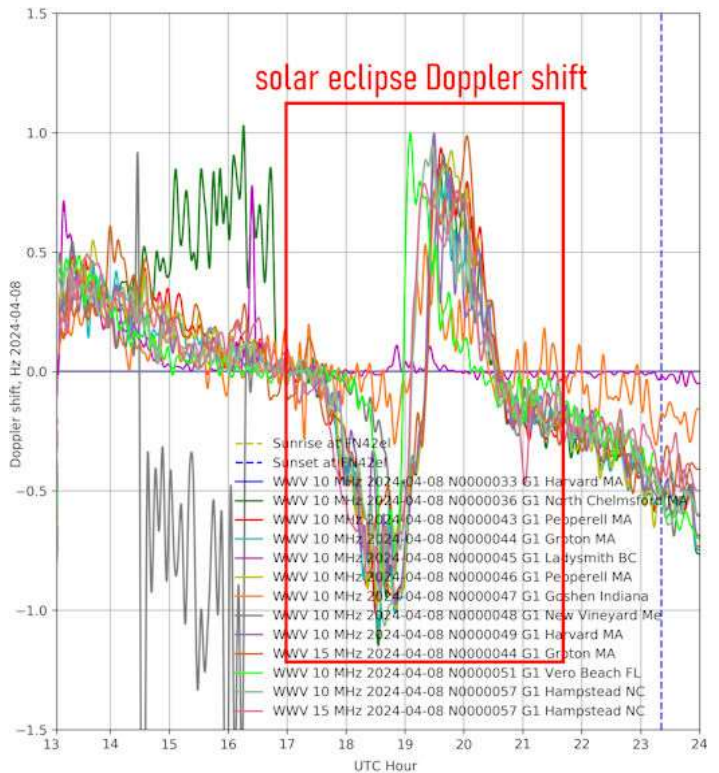
CARC Community Service Activities

Siren Testing Dennis Cobb WA8ZBT and Jim Skinner WB0UNI participate in the Richardson outdoor warning siren testing. The April 2024 test was conducted on 3 April. All of the sirens worked perfectly. 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 March City of Garland Siren Test was also conducted on 6 March. No CARC members participated. The Garland test observations report on a Net conducted on the GARC 146.66 repeater.

Crime Watch Patrol Jim Skinner WB0UNI participates in Richardson Duck Creek Crime Watch Patrol (CWP). CWP members, after successful completion of Richardson Police Department training, patrol their neighborhoods and report

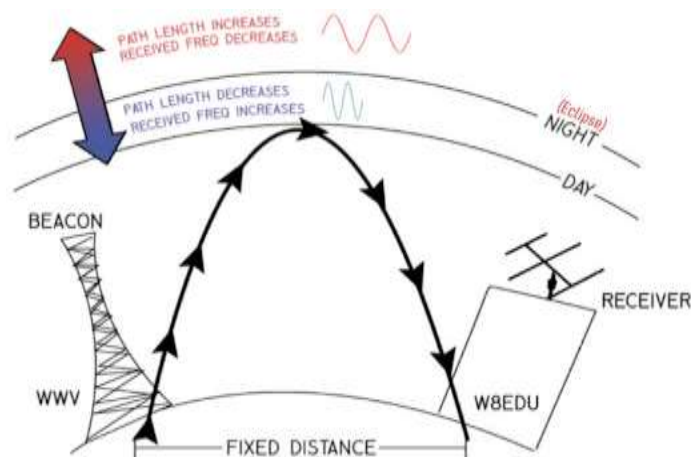
THE SOLAR ECLIPSE SHIFTED TIME SIGNALS IN THE USA

The US National Institute of Standards and Technology (NIST) has a radio station in Fort Collins, Colorado. Call letters: WWV (<https://www.nist.gov/pml/time-and-frequency-division/time-distribution/radio-station-wwv>). Operating at multiple shortwave frequencies, WWV broadcasts precise time and frequency information 24/7 to listeners worldwide. On April 8, 2024, the frequency of WWV shifted:



"It was the solar eclipse," says ham radio operator Kristina Collins (W8EDU) of Cleveland, Ohio, who assembled records from 13 monitoring stations in and around the path of totality. "The HamSCI (<https://hamsci.org/>) Personal Space Weather Station Network's Grape stations measure Doppler shift in the carrier signal of time standard radio stations such as WWV. On April 8th, the network saw a distinct S-curve signature associated with the eclipse."

The Doppler shift occurred when the shadow of the Moon pierced the ionosphere, creating a temporary hole where ionization was reduced. This, in turn, altered the "skip distance" from transmitters to receivers, as shown in the diagram below:



Because the skip point was moving, reflected radio signals were naturally Doppler-shifted. Spaceweather.com reader and senior physicist Larry Carr of Brookhaven National Labs made this calculation: "Using the 10 MHz WWV frequency, an average shift of about 1/2 Hz implies the layer bottom (the 'skip point') was moving at speeds up to 15 m/s. During the entire eclipse, the reflecting layer moved on the order of 50 km."

The total Doppler shift was only a few cycles per second, similar to normal night-day variations, so no one actually lost track of time during the eclipse. Nevertheless, it is a fascinating demonstration of an eclipse's power to touch the Earth.

[This article used by implied permission of SpaceWeather.com, issued April 18, 2024, Dr. Tony Phillips]

Corona Discharge

Corona discharge can disrupt and even block AM and SSB signals across the HF spectrum and well up into the VHF and UHF spectrum. It is often found on bad power line connections. A corona discharge occurs from the ionization of a fluid, such as air surrounding a conductor that is electrically charged. Spontaneous corona discharges occur naturally in high-voltage systems if the electric field strength is too high. A corona will occur when the strength of the electric field (potential gradient) around a conductor is high enough to form a conductive region, but not high enough to cause electrical breakdown or arcing to nearby objects. It is often seen as a bluish glow in the air adjacent to pointed metal conductors carrying high voltages, and emits light by the same property as a gas discharge lamp. The discharge can sound like a frying egg, and visually it produces a bluish/purple glow around the conductor. It will only be visible in the dark. Noise levels are typically around 60dBu/V below 1MHz and 20 dBu/V from 10MHz and up. The ultrasonic noise generated is between 30-45kHz. To find power line noise, start off with an AM radio and DF loop to get the general direction of the noise source. Triangulate with HF and even VHF receivers to get closer. An ultrasonic re-

ceiver can identify individual components (insulators, connectors, transformer hardware, etc). Simply aim the parabolic dish at them. Be sure the get the pole number.

(Courtesy CARC Signals Newsletter Cedar Rapids IA)

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
APRIL	
21	Rookie Roundup—Phone Mission: To encourage newly-licensed operators ("Rookies") to operate on the HF bands and experience competitive Amateur Radio operating. Objective: Rookies exchange information with as many other stations as possible on the 80, 40, 20, 15, and 10 meter HF bands. Rookie entrants are encouraged to read " HF Contesting – Good Practices, Interpretations and Suggestions ."The event runs from 1800 UTC through 2359 UTC. Details at http://www.arrrl.org/rookie-roundup
June	
1-2	International Digital Contest —Amateurs worldwide contact and exchange QSO information using any digital mode (excluding RTTY) that supports the 4-digit Grid Square exchange — attended operation only -- on the 160, 80, 40, 20, 15, 10 and 6 meter bands Stations may only be worked once per band. Each claimed contact must include contemporaneous direct initiation by the operator on both sides of the contact. Begins 1800 UTC Saturday, ends 2359 UTC Sunday, Details at http://www.arrrl.org/arrrl-digital-contest
8-10	June VHF For amateurs in the US and Canada (and their possessions) 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. Stations outside the US & Canada (and their possessions) may only work stations in the US (and its possessions) and Canada. Details at http://www.arrrl.org/june-vhf

Need another Badge or Coffee Mug?



Order from The Sign Man of Baton Rouge at:
<https://www.thesignman.com/clubs/collinsarccart.html>

**Join Us On Tuesdays
for the Collins ARC
Drive Home Net
5:30pm 442.7 MHz
+5MHz, PL=110.9Hz
(No Nets on Meeting Nights)**
Logs now available on n5cxx.us website

The Amateur's Code

by Paul M. Segal, W9EEA (1928)

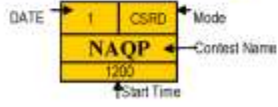
The Radio Amateur is:

- 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 - 2024

January	February	March	April	May	June	July	August	September	October	November	December
6 R	3 CSRD	2 S	8 CSRD	4 CSRD	1 CSRD	1 CS	3 C	1 CSRD	5 CS	2 C	6 CS
RTTY Roundup 1800	VT QSO Party 0000	ARRL DX - SSB 0000	LA QSO Party 1400	7th Area QSO Party 1300	KY QSO Party 1400	RAC Canada Day 0000	NAQP - CW 1800	TN QSO Party 1800	CA QSO Party 1800	Sweepstakes - CW 2100	ARRL - 160M 2200
13 C	3 CSRD	9 CSRD	3 CSRD	4 CS	1 D	13 CS	10 C	7 C	12 R	9 R	7 D
NAQP - CW 1800	MN QSO Party 1400	OK QSO Party 1400	MS QSO Party TBD	IN QSO Party 1800	ARRL - INT. Digi 1800	LARU 1200	WAE DX - CW 0000	CWops Open 0000	Makrothen - RTTY 0000	WAE DX - RTTY 0000	FT Roundup 1800
20 S	3 CSRD	8 C	8 CSRD	4 CSRD	8 CSRD	20 CSRD	10 CSR	7 CS	12 CSRD	16 S	14 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	CO QSO Party 1300	NV QSO Party 0300	Sweepstakes - SSB 2100	ARRL - 10M 0900
20 CSRD	4 C	9 CSRD	13 CSRD	4 CSRD	15 C	20 R	17 S	8 C	12 CSR	23 C	28 CS
ARRL - VHF 1900	NA Sprint - CW 0000	ID QSO Party 1800	NM QSO Party 1400	New England QSO Party 2000	Stew Perry TBC 1500	NAQP - RTTY 1800	NAQP - SSB 1800	NA Sprint - CW 0000	AZ QSO Party 1500	CQWW - CW 0000	RAC Winter 0000
26 C	10 R	10 R	13 CS	11 CS	15 CSRD	27 CS	24 CSRD	14 S	12 CSRD	Monday C	26 C
CQ - 160M CW 2200	CQWW WPX - RTTY 0800	NA Sprint - RTTY 0000	GA QSO Party 1800	CQM DX 1200	WV QSO Party 1800	RSGB IOTA 1200	HI QSO Party 0400	WAE DX - SSB 0000	PA QSO Party 1800	KIUSN Test 1800	Stew Perry TBC 1900
27 R	17 C	10 CSRD	TBD CSRD	18 CSR	Monday C	Monday C	24 D	14 CSRD	12 CSRD	Friday C	Monday C
BARTG RTTY Sprint 1200	ARRL DX - CW 0000	WI QSO Party 1800	ND QSO Party TBD	AR QSO Party 1400	KIUSN Test 0000	KIUSN Test 0000	WW Digi DX 1200	ARRL - VHF 1800	SD QSO Party 1800	KIUSN Test 2000	KIUSN Test 0000
Monday C	26 S	16 R	20 R	20 C	Friday C	Friday C	24 CSRD	14 CS	19 CSRD		Friday C
KIUSN Test 0900	CQ - 160M SSB 2200	BARTG RTTY 0200	CQMM DX 0700	CQWW WPX - CW 0000	KIUSN Test 2000	KIUSN Test 2000	KS QSO Party 1400	AL QSO Party TBD	NY QSO Party 1400		KIUSN Test 2000
Friday C	24 CSRD	24 R	20 CS	Monday C			24 CS	21 CSRD	19 CS		
KIUSN Test 2000	SC QSO Party 1900	NA Sprint - SSB 0000	MI QSO Party 1800	KIUSN Test 0000			OH QSO Party 1800	IA QSO Party 1400	Worked All Germany 1500		
	24 R	30 S	20 CS	Friday C			Monday C	21 CSRD	18 C		
	NAQP - RTTY 1800	CQWW WPX - SSB 0000	ON QSO Party 1800	KIUSN Test 2000			KIUSN Test 0000	TX QSO Party 1400	Stew Perry TBC 1500		
	28 CSRD	Monday C	27 CS				Friday C	21 CSRD	30 CSRD		
	NC QSO Party 1500	KIUSN Test 0000	FL QSO Party 1800					KIUSN Test 2000	NH QSO Party 1800	IL QSO Party 1700	
	Monday C	Friday C	Monday C						21 CS	28 S	
	KIUSN Test 0000	KIUSN Test 2000	KIUSN Test 0000						NJ QSO Party 1800	CQWW - SSB 0000	
	Friday C		Friday C						21 CSRD	Monday C	
	KIUSN Test 2000		KIUSN Test 2000						WA Salmon Run 1800	KIUSN Test 0000	
									22 R	Friday C	
									NA Sprint - RTTY 0000	KIUSN Test 2000	
									28 R		
									CQWW - RTTY 0000		
									28 CS		
									ME QSO Party 1200		
									Monday C		
									KIUSN 0000		
									Friday C		
									KIUSN Test 2000		

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
www.N5CXX.us

**3200 E Renner Rd
 Mail Station 461-290
 Richardson, TX 75083-0766**

TO:



Richardson, Texas
www.N5CXX.us

CLUB STATION PHONE
 TBD

N5CXX REPEATER
 441.875 MHz +5 MHz Input
 131.8 Hz PL - RX and TX

N5CXX-1 PACKET BBS COL Node
 145.05 MHz

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

Membership Meeting
 Tuesday 23 April 2024 5:30 PM
 THE MEETING WILL BE AT
Woodcreek Church Richardson TX

NEXT SIGNALS INPUTS DEADLINE:
→→→ 12 May 2024 ←←←