AMATEUR RADIO CLUB OF COLUMBIA COUNTY, INC.



THE ARCCC, INC. WELCOMES YOU!

The meeting will begin at 7 PM

AMATEUR RADIO CLUB OF COLUMBIA COUNTY, INC.



GENERAL MEETING

MEETING #145

Tuesday, September 3, 2024

7 PM



INVOCATION

MEETING AGENDA



- Welcome & Introductions
- Presentation: 80 Meter Antenna on 66' of Wire
 - Robert McManus (KN4KQJ)
- Membership Applications
- Monthly Reports
- Upcoming Events
- Business Items
- Committee Updates
- Amateur Radio Club of Augusta
- North Augusta Belvedere Radio Club
- East Central/Columbia County ARES
- AmRRON
- Review Motions and Assignments
- Adjourn

SWAP TABLE

KAKINS

COLUMBIA COUNTY, ST

Now at

https://arcccinc.groups.io/g/swapsellortrade/topics





Welcome and Introductions



- Please Sign In on the Attendance Log
 - Please <u>PRINT</u> Legibly

- Introductions
 - QUICKLY Go Around the Room and Provide Your Name and Call Sign

Presentation



80 Meter Antenna 66' Wire

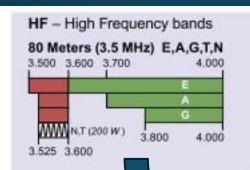
Robert McManus (KN4KQJ)

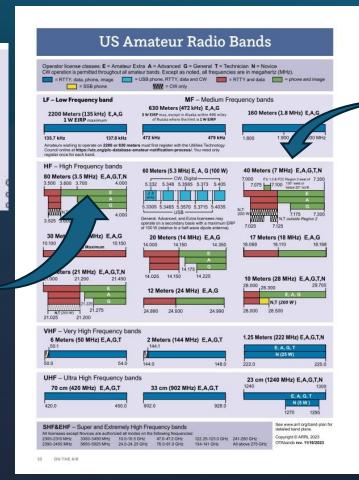


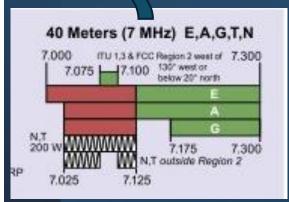
Or

How I stay out of the bars

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Antenna Length for Half Wave Dipole

Rough: Band is the Wave Length. ie: 80 meter dipole would be 40 meters or 131.2ft.

Better: Dipole length: 300,000,000 m/sec x 3.28 / Frequency x 2

 $300,000,000 \times 3.28 / 3,750,000 \times 2 = 131.2 \text{ft}$

Best: 468/ frequency in mhz

468/3.75=124.8ft

80 meter band at 3.75mhz

468/ 3.75=

124.8'

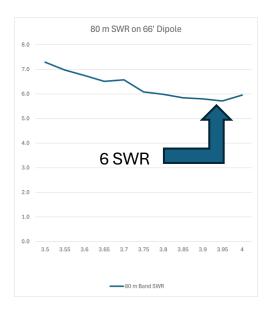
Comparison of Antenna Lengths

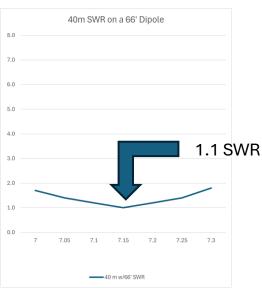
40 meter band at 7.150mhz

468/7.150=

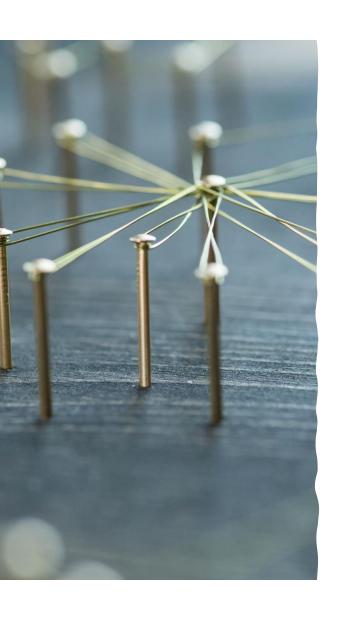
65.5'

What happens when transmitting 80m on a 66' wire?





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How to get a Low SWR on a 66' wire

Vertical Antennas

- · Verticals are a form of Dipole turned vertical
- Vertical antennas are relatively short
- The vertical radiator is shorten with a loading coil

Yagi

- · Yagis are a form of a Dipole
- Yagis use loading coils to shorten the element length

Why not use loading coils on a wire Dipole?



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Sources for Loading Coil Sizing:

- ARRL Antenna Book 23rd Edition, Chapter 9.2
- Jerry Hall, K1PLP, QST, September 1974

$$L_{\mu H} = \frac{10^4}{68\pi^3} f^2 \left\{ \frac{\left[\ln \frac{24\left(\frac{234}{f} - B\right)}{f} - 1 \right]}{D} \left[\left(1 - \frac{fB}{234}\right)^3 - 1 \right] - \frac{234}{f} - B \right\}$$

$$\frac{\left[\ln \frac{24\left(\frac{A}{2} - B\right)}{D} - 1\right] \left[\left(\frac{fA}{2} - fB\right)^{2} - 1\right]}{\frac{A}{2} - B}$$



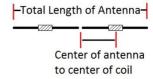
There is a Shortcut:

http: 66pacific.com

- Coil-Shortened Dipole Antenna Calculator
- Coil Inductance
 Calculator

Coil-Shortened Dipole Antenna Calculator

Build an effective dipole antenna that needs much less space by adding two loading coils. This online calculator tells you how.



Total length of antenna in feet

Open the dipole length calculator in a separate page.

66

Distance from center of antenna to the center of the coil in feet (Must be less than half the total antenna length given above)

0.5

Diameter of the conductor in inches (14 gauge is .065", 12 gauge is .08")

Open the wire gauge and diameter calculator in a separate page.

.03196

Operating frequency in megahertz

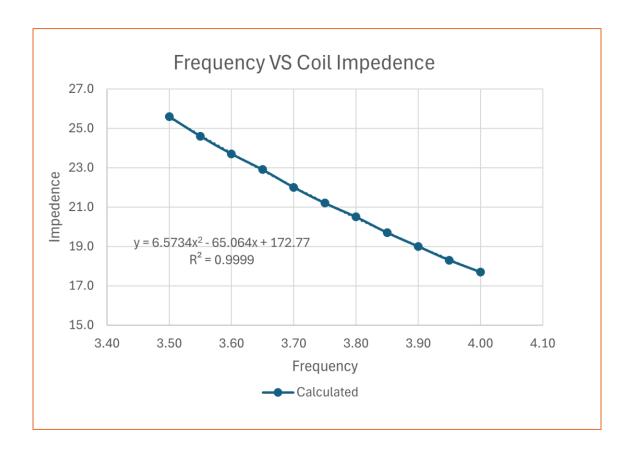
3.7



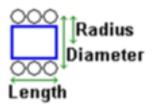
Results

Each coil requires an inductance of 21.4 microhenries.

Frequency vs Impedence

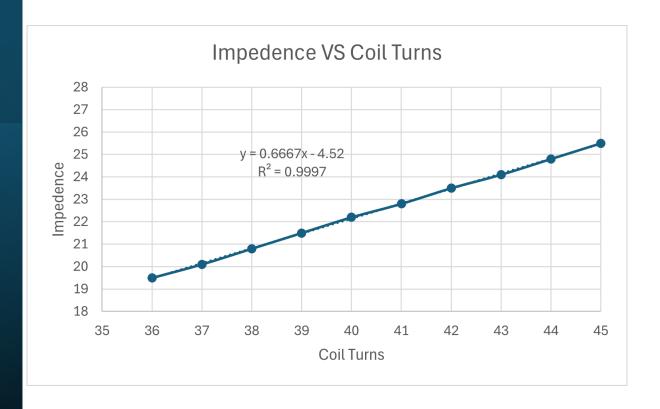


$$L = \frac{Radius^2 \times Turns^2}{9 Radius + 10 Length}$$



Coil Inductance Calculator To calculate the inductance of a single-layer, air-core coil: 1. Select the measurement units (inches or centimeters). 2. Enter the number of turns (windings). 3. Enter the coil diameter (form diameter + wire diameter see diagram). 4. Enter the coil length (distance from first to last winding see diagram). 5. Click Calculate. Olnches **O**Centimeters OSingle-layer coil OMulti-layer, multi-row coil OMulti-layer, single-row coil (The following inductance formula requires units in inches.) COC↑↑Radius L=Radius² x Turns² 9Radius + 10 Length Diameter Turns 40 Diameter 1.0915 Length 1.66 Result: Inductance = 22.2 microhenries

Impedence VS Coil Turns



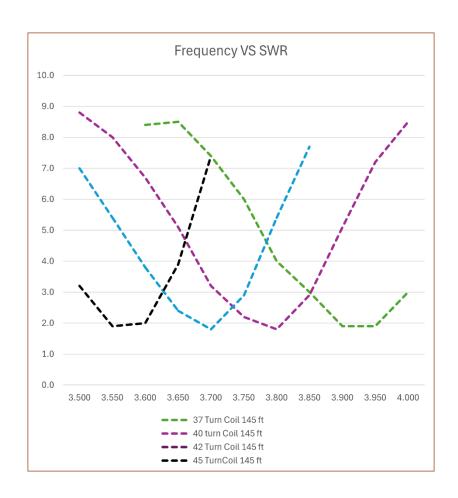


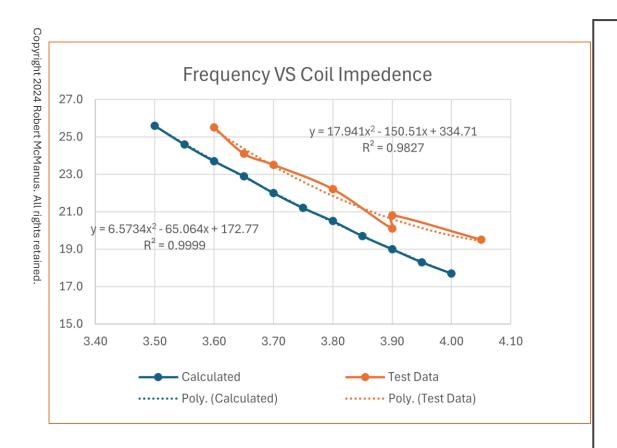






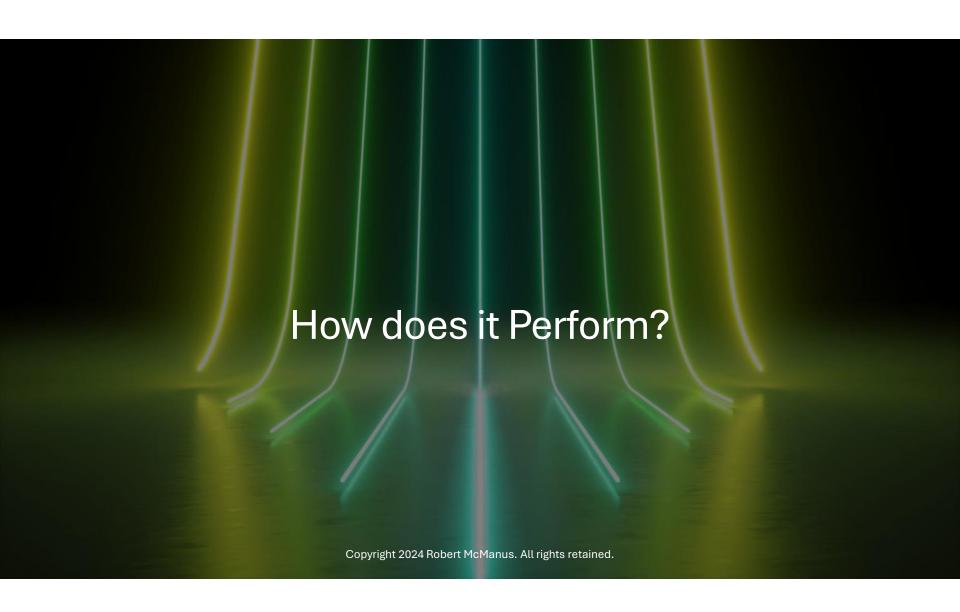
80m Band SWR Curves for Different Coil Taps

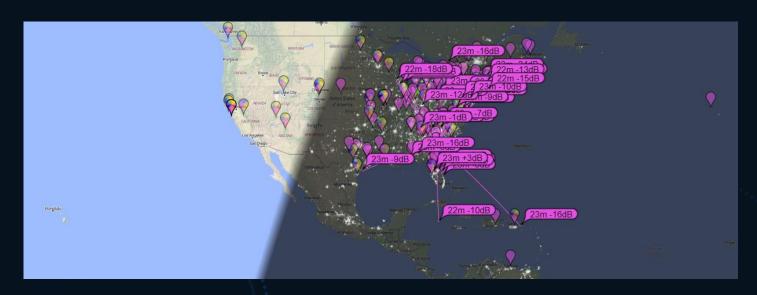




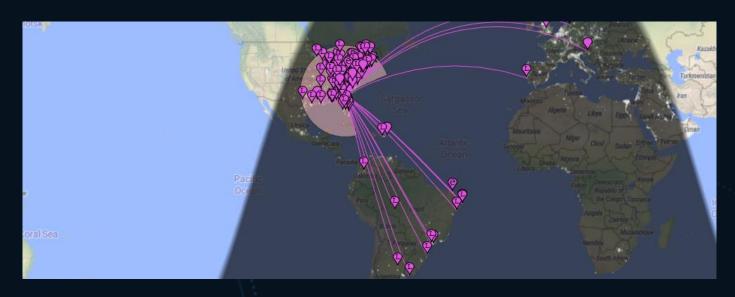
Test Results







FT-8 Transmiting on 3.573 20 Watts 34 Stations 173 to 1453 Miles



FT 8 Receive

80 meters with a 66' Wire Conclusions

- It Works
- Requires Less Space
- Light
- Easy to Deploy
- Good Propagation
- · Narrow Bandwidth per Coil
- Can Work 20 and 40m by By-Passing Coil



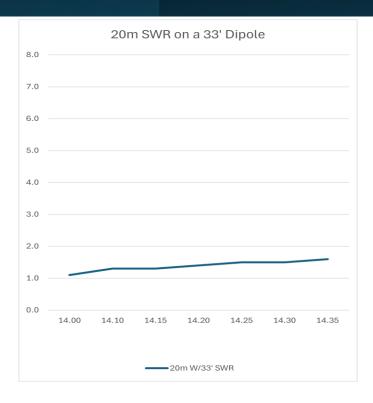
After the Movie Short Topics

Antenna Performance on 20 meters SWR and Bandwidth Impacts from Differing Feed Line Length

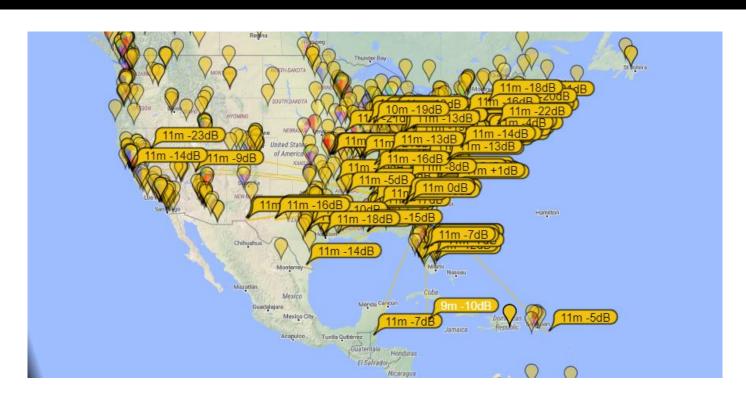
Copyright 2024 Robert McManus. All rights retained.

20m Band 33' Dipole Performance



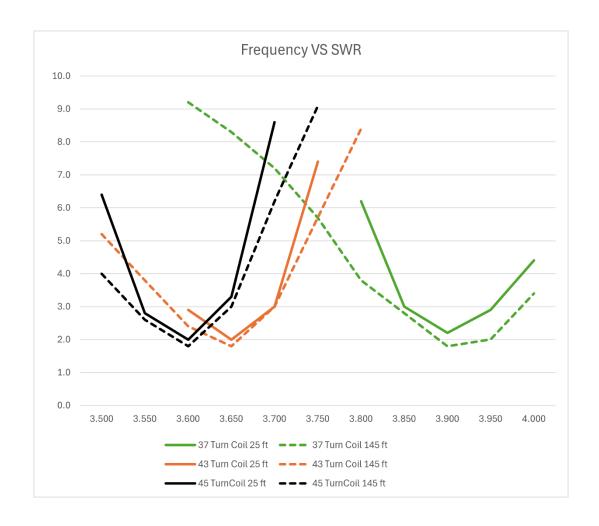


20m Band 33' Dipole Performance 20 Watts



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SWR and
Bandwidth
Impacts from
Differing Feed
Line Length



The End

Tips and Bar Tab Donations are always Appreciated







80 Meter Antenna 66' Wire

THANK YOU!!!
Robert McManus (KN4KQJ)

UPCOMING EVENTS



•	09-14-2024	CSRAHamExams Exam Session
	00 - 1 - 0 - 1	COTTO LITTLE CONTROL LA CONTROL L

10-05-2024	Oliver Hardy Festival
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- 10-12-2024 CSRAHamExams Exam Session
- 10-20-2024 Best Dam Bike Ride 2024
- 10-19/20-2024 Jamboree-on-the-Air
- 10-26-2024 SEED Science Education Enrichment Day
- 11-02/03-2024 Stone Mountain Hamfest
- 11-09-2024 CSRAHamExams Exam Session

MEMBERSHIP APPLICATIONS



Are there any ARCCC, Inc. Membership Applications for consideration?

ARCCC, INC. MONTHLY REPORTS



Amateur Radio Club of Columbia County

Printed on 7/1/2024

Treasurer's Report

- Update from Treasurer
 - June 2024 Update
 - July 2024 Update
 - August 2024 Update

CHECKBOOK SUMMARY

ARCCC ACCOUNTS	AN	OUNT	
7513 - Main Account	\$	2,404.60	
4913 - Pay Pal Account	\$	490.00	
Pending Transfer from PayPal	\$	804.93	
Petty Cash - Treasurer	\$	160.00	
Petty Cash - Asset Committee	\$	-	
Pending Deposit - Checks	\$	-	
Pending Deposit - Cash	\$	1 -8	
TOTAL AMOUNT	\$	3,859.53	
Less Commitments			
2024 Budget	\$	(1,426.25)	
TOTAL AVAILABLE FUNDING	\$	2,433.28	

ARCCC, INC. MONTHLY REPORTS



Amateur Radio Club of Columbia County

Printed on 8/5/2024

Treasurer's Report

- Update from Treasurer
 - June 2024 Update
 - July 2024 Update
 - August 2024 Update

CHECKBOOK SUMMARY

ARCCC ACCOUNTS	AN	AMOUNT		
7513 - Main Account	\$	2,175.44		
4913 - Pay Pal Account	\$	490.00		
Pending Transfer from PayPal	\$	1,166.56		
Petty Cash - Treasurer	\$	160.00		
Petty Cash - Asset Committee	\$	-		
Pending Deposit - Checks	\$	-		
Pending Deposit - Cash	\$	£		
TOTAL AMOUNT	\$	3,992.00		
Less Commitments				
2024 Budget	\$	(1,330.00)		
TOTAL AVAILABLE FUNDING	\$	2,662.00		

ARCCC, INC. MONTHLY REPORTS



Amateur Radio Club of Columbia County

Printed on 9/1/2024

Treasurer's Report

- Update from Treasurer
 - June 2024 Update
 - July 2024 Update
 - August 2024 Update

Secretary's Report for August 6th, 2024 meeting:

<u>08-06-2024 Meeting Minutes</u>

CHECKBOOK SUMMARY

ARCCC ACCOUNTS	AN	OUNT
7513 - Main Account	\$	2,127.63
4913 - Pay Pal Account	\$	490.00
Pending Transfer from PayPal	\$	1,238.59
Petty Cash - Treasurer	\$	160.00
Petty Cash - Asset Committee	\$	-
Pending Deposit - Checks	\$	-
Pending Deposit - Cash	\$	25.00
TOTAL AMOUNT	\$	4,041.22
Less Commitments		
2024 Budget	\$	(1,330.00
TOTAL AVAILABLE FUNDING	\$	2,711.22

KROGER COMMUNITY REWARDS



- Simply visit <u>www.KrogerCommunityRewards.com</u>
- Login to your existing account or create an account
- Click on Community
- Enter "<u>DF873</u>" and <u>Amateur Radio</u>
 <u>Club of Columbia County, Inc.</u> should appear.
- Select our organization and donate!

\$24.28 Received!!!









Amateur Radio Club of Columbia County, Ga Name Badge



ARC of Columbia County, Ga Badge price \$13.50

\$3.75

The SignMan of Baton Rouge

Order at this link:

https://thesignman.com/clubs/columbiacogacart.html

Business Items



- HamClubOnline.com
 - **NOTE: Membership Expiration Notices are sent 60 Days prior to the date of expiration.
 - **NOTE: There is a 7 Day Grace period where you can pay and not have to reapply for membership.
 - ARRL Email Addresses are not valid, please update your email address within HamClubOnline
 - ARRL Forwarding Email System is unreliable
- Groups.io
 - https://groups.io/g/arcccinc
- Please email all monthly meeting presentation items to the President no less than 7 days prior to the General Meeting.

HamClubOnline - Club Self-Check (ARCCC)

Member Statistics:

Active Members 98
Expiring Soon Members 0
Inactive Members 46
Non-Members Affiliates 0

Rank Statistics: (Active Members)

Member 92 Trustee 1 Officer 5 Total 98

Member Types Statistics: (Active Memberships)

 Family Membership
 9

 Family Membership (Free)
 6

 Full Membership (Active Military)
 1

 Honorary Membership
 1

 Life Membership
 15

 Total
 98

Pending Applications:

 Name
 Status
 Application Date

 IOHN MORRISON KQ4NTI
 Pending Membership 2024-02-07 00:44:47

 Christopher A Campbell NOSX
 Pending Approval
 2024-06-30 21:47:18

Members With a Balance:

NOTE: Positive amounts are owed to the club, negative amounts are owed to the member.

Name Callsign Balance
DONALD E DRZEWOSZEWSKI WB2WEO \$25.00

Members with Invalid E-Mail Addresses:

 Name
 Callsign
 E-Mail

 JOHNT CARTER II
 KJ4MC
 kj4mc@arrl.net

 CHARLES A PENNINGTON JR K4GK
 k4gk@arrl.net

New Members: (Last 90 Days)

 Name
 Callsign
 Join Date

 Joseph L Longacre
 KQ4RYC
 2024-06-05

 Edwin E Davis Jr
 KQ4SRF
 2024-07-03

Inactivated Members: (Last 90 Days)

 Name
 Callsign
 Remove Date
 By

 JOSEPH L PATRICK
 2024-07-24
 ERIC J CAGLE KK4ZHT

 Dennis E LaPier
 2024-06-12
 ERIC J CAGLE KK4ZHT

 Samantha M Lytch
 KM4NNF
 2024-07-20
 (HCOL SYSTEM)

 Richard M McKnight
 V324-08-11
 (HCOL SYSTEM)

 Michael S McMahon
 2024-06-20
 ERIC J CAGLE KK4ZHT

New Memberships: (Last 90 Days)

Name	Callsign	Membership Type	Amoun	t Start Date End Date	Poster	Post Date
Edwin E Davis Jr	KQ4SRF	Full Membership	\$25.00	2024-06-09 2025-06-09 Edwin	E Davis Jr	2024-06-09
Gary D Borba	KR4XC	Full Membership	\$25.00	2024-08-11 2025-08-10 Gary I	D Borba	2024-06-12



8/31/24, 8:

1. 2. 3.

8:26 PM			HamClubOnline.Com - ARCCC Club Self-Check		
1 10 11	210077			225.00 2021.05.02.2025.05.02.01.1.1.1.0	

Christopher A Campbell	N0SX	Full Membership	\$25.00	2024-07-03 2025-07-03 Christopher A Campbell	2024-07-03
Cindy M Cunningham	KM4DBA	Family Membership	\$25.00	2024-07-08 2025-07-07 Cindy M Cunningham	2024-07-07
Stephen H Collins	W4WHS	Full Membership	\$25.00	2024-08-02 2025-08-01 Stephen H Collins	2024-07-13
Robert L Reeder	KO4WWG	Full Membership	\$25.00	2024-07-14 2025-07-13 Robert L Reeder	2024-07-13
Stacey M Sharp Jr	KK4RFL	Full Membership	\$25.00	2024-07-16 2025-07-16 Stacey M Sharp Jr	2024-07-16
David E Reid	K2ECC	Full Membership	\$25.00	2024-07-20 2025-07-20 David E Reid	2024-07-20
Camilla B Reid	K2CBR	Full Membership	\$25.00	2024-07-20 2025-07-20 Camilla B Reid	2024-07-20
Richard S Sturgis	KR4XN	Full Membership	\$25.00	2024-07-15 2025-07-14 ERIC J CAGLE	2024-07-20
Robert S Reeder	WW4ZT	Full Membership	\$25.00	2024-07-26 2025-07-25 Robert S Reeder	2024-07-25
LEROY W FREEMAN JR	WA4YJD	Full Membership	\$25.00	2024-07-28 2025-07-28 LEROY W FREEMAN JR	2024-07-28
Michael J Bitetti	WA2TRP	Full Membership	\$25.00	2024-08-01 2025-07-31 Michael J Bitetti	2024-07-31
Gary D Borba	KR4XC	Full Membership	\$25.00	2025-08-11 2026-08-10 Gary D Borba	2024-08-09
RAYMOND C GANNAWAY	KJ4HZ	Family Membership	\$25.00	2024-09-25 2025-09-24 RAYMOND C GANNAWAY	2024-08-19
RICHARD 'TERRY' T BURTON	W4ALK	Full Membership	\$25.00	2024-09-01 2025-08-31 RICHARD 'TERRY' T BURTON	2024-08-31

Club Menu Main Menu Logoff



ARCCC, INC. MEMBERS

COMMITTEES

BOD



Directors provide QUICK UPDATES on their committees

- IT
- Repeater
- Net Control
- Volunteer Examiner
- Constitution and Bylaws
- Field Day
- Asset/Inventory
- Nomination
- Chaplain and Visitation
- Fundraising
- Mentoring
- Outreach

Appointed Positions:

- K4KNS Trustee
- Public Information Officer
- QSL Manager



FOX HUNTS



 Beginning March 5, 2024 there will be Fox Hunts before each ARCCC, Inc. General Meeting starting at 6 PM.

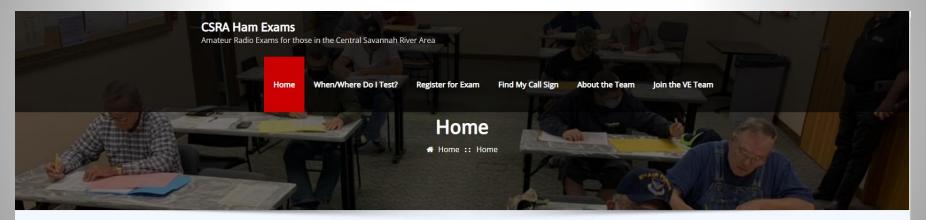
- Fox #1 = 146.5650 MHz
- -Fox #2 = 146.0000 MHz

 Contact David Corsiglia (WA6TWF) for More Info





- Examinations
- CSRAHamExams.com



Welcome to CSRA Ham Exams.com!

Are you looking to take an Amateur Radio Exam within the Central Savannah River Area? Centered in Columbia County/Richmond County, Georgia, the CSRA Ham Exams Team is excited to help you get started in the Amateur Radio Hobby or to help you advance to the next level License Class. Either way we look forward to helping you achieve your goals!

To ensure you are prepared to take an exam with the CSRA Ham Exams Team please follow the instructions on the https://www.csrahamexams.com/when-where-do-i-test/ webpage.



- Fund Raising Committee
 - Pull out your tickets!!!



- Bylaws Committee
 - Jim Cunningham (KV4YA) Co-Director
 - Bill Clark (WK4F) Co-Director

Bylaws Committee Update



- While preparing for the upcoming Board of Director elections, the Bylaws
 Committee identified two minor changes that are recommended for approval to
 ensure our upcoming election of new Board of Directors officers is consistent with
 the requirements of the bylaws.
- Section 2.07 of the Bylaws currently states:
 - "The Board of Directors will be elected every two years at the November meeting of the organization and the new Board will assume their roles effective January 1 of the following year. Nominations will be offered at the September or other designated meeting by the Board and nominations will also be accepted from the floor. Nominees must confirm that they are willing to accept if they are present or in writing if they are not present. Nominees will be listed and the list distributed to Full Members via email at least two weeks prior to the November meeting. Only Full Members in good standing and at least 18 years old may hold office in the organization. A term for a Board Member is defined as two years. A Board Member can serve in the same position for no more than 5 years. The nominating committee will be the Board, unless a nominating committee is established by the Board of Directors."

Bylaws Committee Update



- The proposed changes to Section 2.07 are as follows:
 - "The Board of Directors will be elected every two years at the November meeting of the organization and the new Board will assume their roles effective January 1 of the following year. Nominations will be offered at the September or other designated meeting by the Board and nominations will also be accepted from the floor. Nominees must confirm that they are willing to accept if they are present or in writing if they are not present. Nominees will be listed and the list distributed to Full Members via email at least two weeks prior to the November meeting. Only Full Members in good standing and at least 18 years old may hold office in the organization. A term for a Board Member is defined as two years. A Board Member can serve in the same position for no more than 5 consecutive years. The nominating committee will be the Board, unless a nominating committee is established by the Board of Directors The nomination process will be determined by the Bylaws Committee Director / Co-Directors."

 This serves as the first reading of the proposed bylaws change. We invite your comments and feedback. A second reading and vote to accept the bylaws changes proposed will be held at the October meeting.

Board of Directors (BOD) Nominations & Elections



- Members were notified at the August meeting of upcoming BOD elections and were encouraged to self nominate or nominate another club member to serve.
- A notification from Groups.io was sent on August 26, 2024 with detailed instructions on how to nominate an individual for a BOD position.
- Nominations will also be accepted from the floor momentarily.

BOD Nominations & Elections (cont.

 The Bylaws Committee Co-Directors have received the following nominations:

PresidentRusty Welsh / KG4HIR

Vice PresidentDan Marshall / N4MI

TreasurerBill Clark / WK4F

SecretaryShannon Welsh / KK4MED

– Member at Large Steven Kitchings / KN4RVU

 Anyone wishing to nominate an individual for any position noted above please come forward now. Please note the individual nominated must affirm verbally or in writing that they are willing to serve if elected.

Board of Directors Elections



- As noted in the Groups.io notification, all club members in good standing will receive a ballot with all nominees for the five BOD positions via HamClubOnline on or about Monday, September 9th, 2024 with ballots due by midnight on September 15, 2024.
- Ballots received after the deadline will not be counted.
- Election results will be shared at the October club meeting.
- In the event of one or more ties, a runoff election will be held following the October meeting and the final results will be presented at the November meeting.



- Repeater Committee
 - Randall Blumberg (KN4FYG) Co-Director
 - Walter Brumbeloe (W4EFS) Co-Director

GEORGIA DSTAR MOVING TO REF003A

DSTAR CHANGES ARE COMING IN GEORGIA!

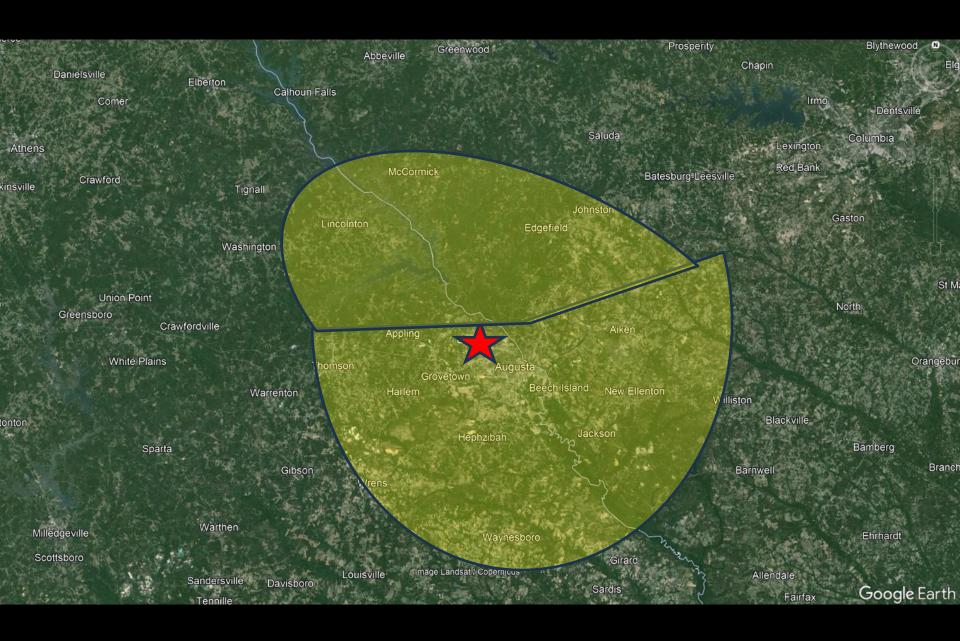
To ensure sufficient capacity for hotspot and repeater connections to a Georgia Statewide DSTAR Reflector, we are planning to move from REF030B to REF003A. Since REF030C is the busiest reflector in the world, it can create some capacity limitations for Georgia stations connecting to REF030B, especially for hotspots.

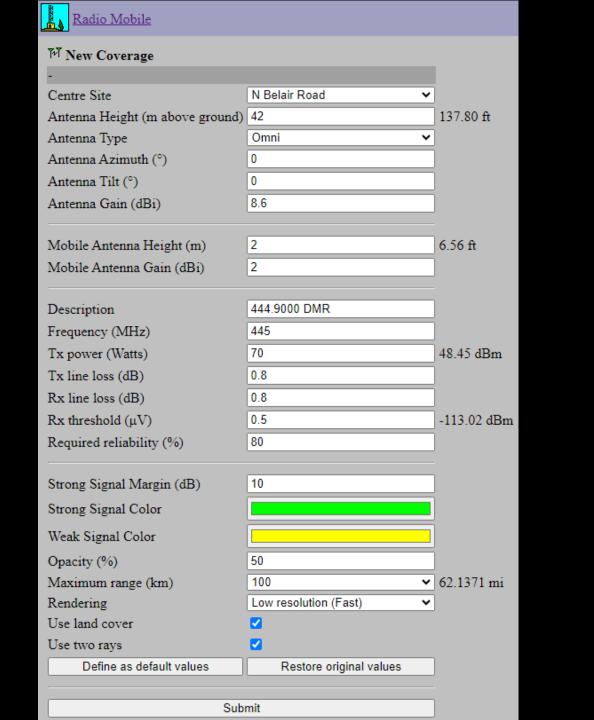
Reflector 003 (REF003) has been created for dedicated Georgia use on all reflector modules (A, B, C, D, E). Beginning Thursday, September 5th after 12:00 noon, repeaters and hotspots should connect to REF003A for the Georgia Statewide DSTAR Reflector. Do not initiate any changes before 12Noon on Thursday. This change window was created to minimize any disruption to any scheduled nets. All nets and regular activities should begin using REF003A beginning Monday, September 8.



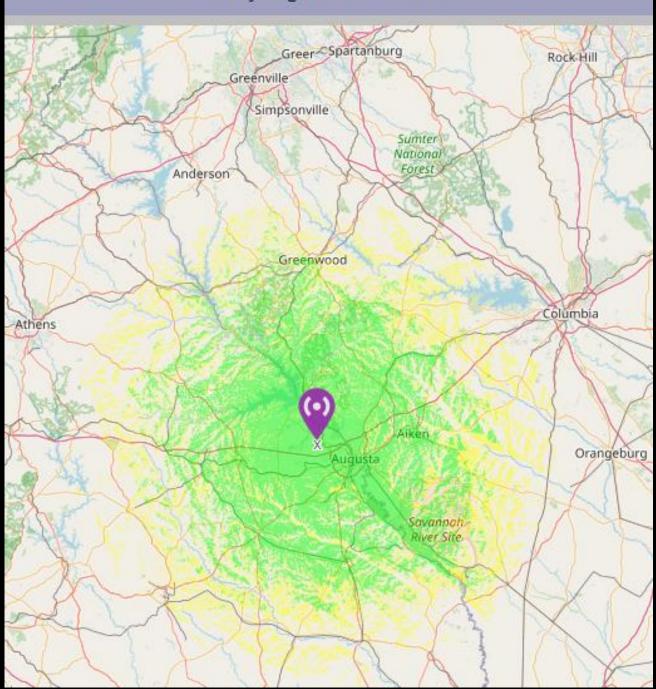
- Repeater Committee
 - Randall Blumberg (KN4FYG) Co-Director
 - Walter Brumbeloe (W4EFS) Co-Director

- DMR Repeater Coverage Testing
 - Near Plant Vogtle (Mobile)
 - North Leg, Highland Avenue/Gordon (Mobile)
 - Aiken County EOC (Portable)
 - Harlem (Portable in vehicle)
 - I-20 Westbound at MM 165 (Mobile)

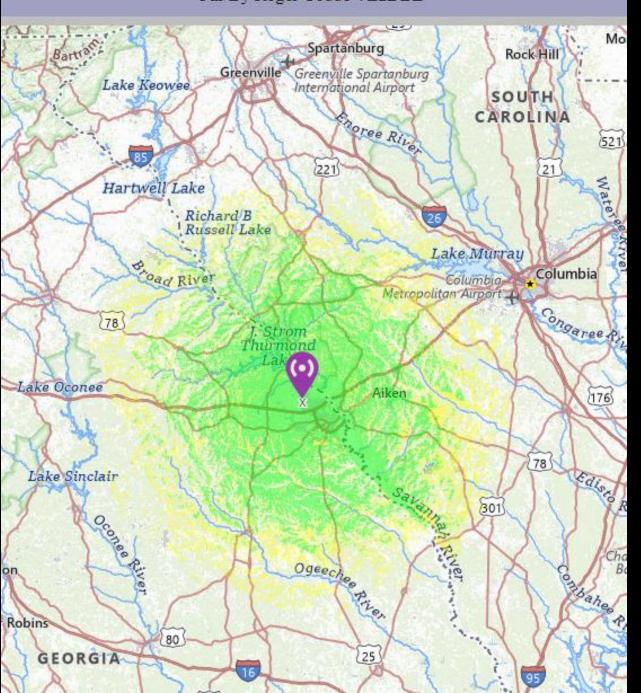


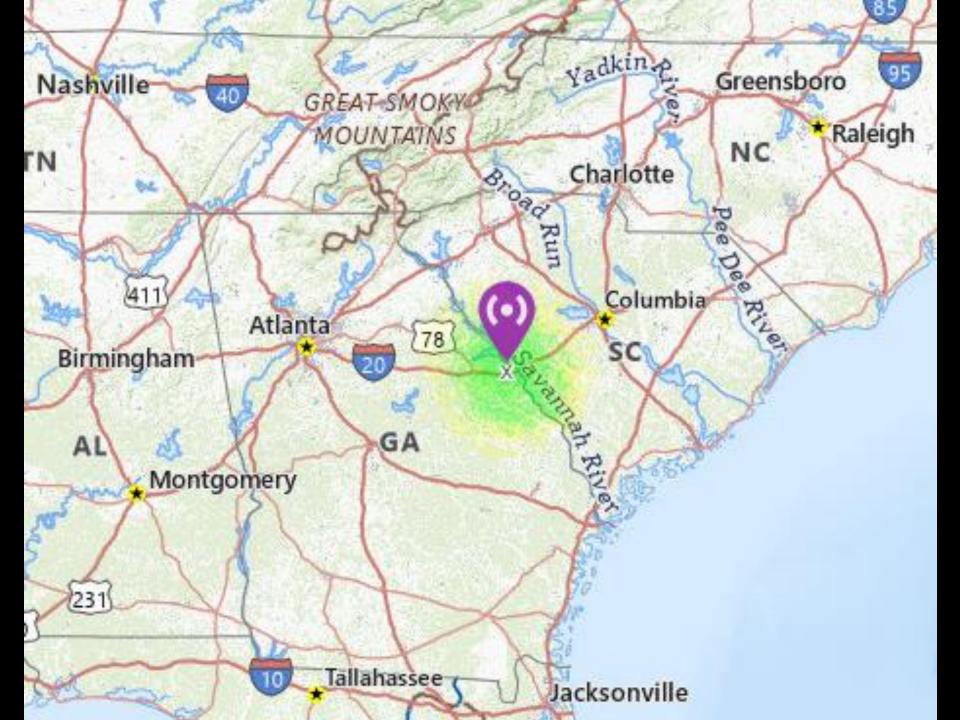


Par/By Roger Coudé VE2DBE



Par/By Roger Coudé VE2DBE







- Repeater Committee
 - Randall Blumberg (KN4FYG) Co-Director
 - Walter Brumbeloe (W4EFS) Co-Director
- DMR Repeater
 - CONVENTIONAL REPEATER OPERATION ONLY
 - 449.9000 In (Subscriber TX)
 - 444.9000 Out (Subscriber RX)
 - CC 15
 - Timeslot 1 TG358
 - Timeslot 2 TG985



- Field Day Committee
 - Edwin Davis (KQ4SRF) 2025 Co-Director
 - Sam Reeder (WW4ZT) 2025 Co-Director
 - To Join the Field Day Committee
 - You must join via Groups.io
 - https://arcccinc.groups.io/g/fieldday/topics



Edwin (KQ4SRF)



Sam (WW4ZT)



Directors provide QUICK UPDATES on their committees

- IT
- Repeater
- Net Control
- Volunteer Examiner
- Constitution and Bylaws
- Field Day
- Asset/Inventory
- Nomination
- Chaplain and Visitation
- Fundraising
- Mentoring
- Outreach

Appointed Positions:

- K4KNS Trustee
- Public Information Officer
- QSL Manager







ARCA General Meeting

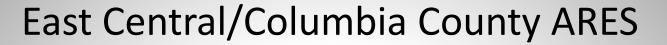
September 17, 2024 7:00 PM - 8:00 PM POB-1 (formerly H2U) Building

North Augusta - Belvedere Radio Club



NABRC General Meeting

September 9, 2024 7:00 PM - 8:00 PM Department of Public Safety Station #2 501 W Five Notch Road North Augusta, SC 29860







Susan Messick, WA0B

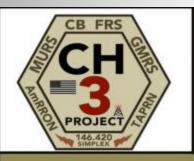
East Central District Emergency Coordinator
Columbia County GA ARES Emergency Coordinator

David Corsiglia, WA6TWF

Columbia County GA ARES Assistant Emergency Coordinator







AmRRON



The American Redoubt Radio Operators Network and The American Preparedness Radio Network (TAPRN)

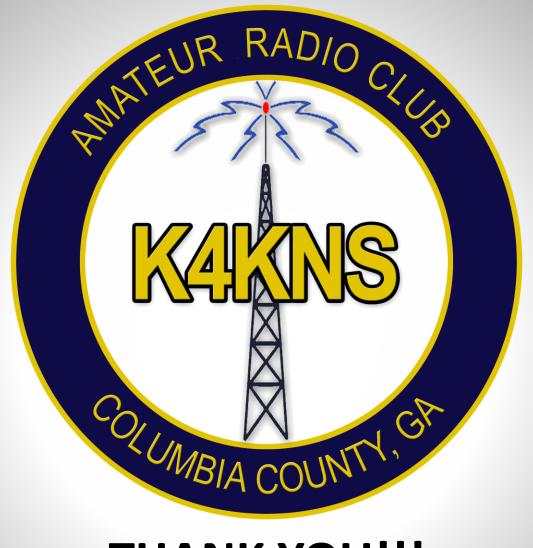
REVIEW



Review motions and assignments

 We would welcome your presentations and ideas for presentations.

Is there a motion to adjourn the meeting?



THANK YOU!!!