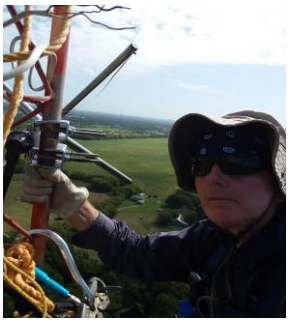
President- Keith Mumaw KI5VNL Vice-President- Mike Durbin – K5MJD Secretary-Sarah Richardson– KI5PZF

Treasurer- James Hunt- KI5DQ Trustee- Dr.Mike Durbin - K5MJD

April '2025 K5FRC Treasury Report



Yes – a gentle reminder, it is time for embership dues. If not yet done so, please take care of supporting the K5FRC Radio Club.

It is $24 for indIvual and $36 for family membership.

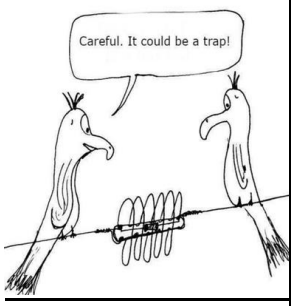
The K5FRC club is providing an interesting program every meeting. Along with technical Q&A.

One of the many club benefits is HF and VHF radio loans, available for the club members. For availability, contact one of the club officers.

Currently, the club has a balance of $3495.80 in its checking account and a balance of $225.42 in its savings account. Since our last club meeting, the club has had the following deposits and expenditures: $144.00 was made 12 April club memberships. The club has had 0 expenditure since last month's meeting.

Tax Time Guide 2024: What to know before completing a tax return https://www.irs.gov/newsroom/tax-time-guide-2024-what-to-know-before-completing-a-tax-return
That day is this upcoming week.

73's,
James KI5DQ



REPEATERS

145.470 (100Hz tone; -600Khz offset) C4FM or Analog; IRLP 3602; ECHOLINK 143903
Tuesday Night Net 8:00 PM
442.525 (100HZ TONE; +5.0 Mhz offset) C4FM or Analog;
443.750 (100Hz tone; +5.0Mhz offset) C4FM or Analog;
444.775 (100Hz. Tone) +5 MHz Offset
C4FM or Analog FM Emergency RPTR

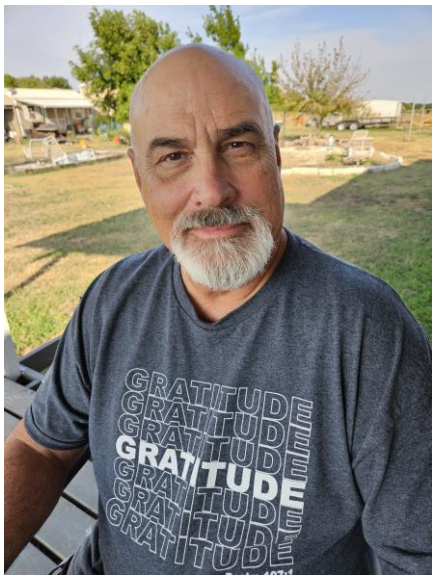
CROSS BAND IN BONHAM IS ON
445.200 SIMPLEX WITH 100Hz.TONE

FCARC meets every third Saturday at 9:00 AM at the Bois D'Arc Creek Cowboy Church
ZOOM sessions are held every Tuesday at 7:00 PM CST before the net on the 145.470 Mhz repeater.
Website: www.k5frc.org

Facebook: www.facebook.com/K5FRC/
Mark, KF5KUW is the administrator.

Website: www.k5frc.org

President's QSO



Spring has sprung, and if you haven't felt it, *WAIT,* it will find you. One of the wonderful things about this time of year is how ALL those projects you thought about during those cold months inside are now a reality. Spring is also a time for events around town, the area, and the state, all of which offer opportunities to spread the word about Ham Radio. For those that haven't listened to the ARRL news, April is also ***"Open House"*** month so I would like to challenge the FCARC members to reach out and bring a friend, a co-worker or anyone interested in seeing what we are about, to come to the April meeting.

Tell them and others about our loaner program that can be used after becoming a "Technician" class operator. I have had a blast with the 991A that I will bring to the meeting for another to use. Let people know about our community service opportunities, the weather watch, etc., and maybe a spark of interest might ignite, I know it did for me.

Until we meet again….
73 - Keith

SARAH RICHARDSON
KI5PZF
SECRETARY

Fannin County Amateur Radio Club
Minutes – Regular Meeting
15 March 2025

Mike Lindsey (KD5UNY) opened the meeting in prayer. President Keith Mumaw (KI5VNL) led the pledge.

President Keith Mumaw (KI5VNL) thanked everyone for being here and gave a report on member Shawn Dobbels (KJ5DJR) hospitalized at TMC-Denison with a heart attack. Keith remarked that Shawn has stepped up being Net Control for NCTC recently. President's notes were in the newsletter.

Trustee/VP Dr. Mike Durbin (K5MJD) shared information on the club's 991 and box to lend to get on the air. The repeater 'go box' to play and learn – with the antenna, UHF/HF/Simplex for learning "Tech Time" – because the best way to learn in hands on. James H took the repeater to work with through April, Keith M took the 991 through May.

Secretary Sarah Richardson (KI5PZF) reminded everyone to read the minutes in the newsletter to know what to recommend corrections or to vote on in the meeting. Dr. Mike Durbin moved to accept the minutes, DeeDee Yakel (KI5VFV) seconded the motion and motion carried. Sarah reported that in addition, the requested QSL card to PA from WFD has been mailed and is also working on the updated membership list.

Treasurer James Hunt (KI5DQ) reported the checking account balance is $3,390.80, Savings account balance is $225.42. Mark Hetherington (KF5KUW) moved to accept the report, Dr. Mike Durbin seconded the motion, motion carried. Keith Mumaw reminded us that as a 501(c)3 organization, our books are open to exam by the state at any time, so we appreciate the due diligence being exercised.
Committee Report Ralf Borgardt (KI5LVS) chair shared that some thought and discussion led to the fact that we have a problem, in that we are a club made up of generous people. So, the question of "what's the value of membership in the club?" came from why join the club. The "Radio On Loan" to members only. Ralf is going to do a YouTube program regarding benefits of membership to the club, have given new members T-shirts, membership pro-rated the first year then next full year free. One thing could be Tech Support, such as training on CHIRP as an example. Mike Jeter (KC5OGC) points out that the club can be "clique-ish" and to beware of jargon when we are promoting the club. Keith asked if we needed to add a hospitality committee or activity to expanding. David Bruner (KI5ION) asked about nets and setting up and actually working the airwaves when we are out publicly working as a club. Another topic is badge with photo, call signs, club affiliation and identifier (ARES, RACES, SKYWARN). ID cards are possible.
FD J-pole antennas – FD have been resistant but there is new management at many of the volunteer FDs in the county.
Dr. Mike reminded the club that there is a K5FRC YouTube channel already. White trailer rotor for the antenna is needed, Mike Lindsey (KD5UNY) moved to purchase rotor for the trailer, Duncan Berry (KG5NDO) seconded the motion, motion carried.
Treasurer James Hunt shared that the club received a donation from Brenda Breedlove, with the donated radio equipment to be loaned to new operators. James has tested the equipment, and the equipment works, including microphone, CW keyer, headphones. The club accepted the donation, with the value of the equipment at $2,000 as a Radio Library. A tracking method to keep up with who has it and the insurance for the equipment.
DeeDee Yakel made the motion to adjourn the meeting, Duncan Berry seconded the motion, motion carried.

Testing after the meeting – John Loftin (KG5DGB) passed General and is also now a member of the club.

VICE PRESIDENT REPORT

De K5MJD

"I AM COMPLETELY OPERATIONAL AND ALL MY CIRCUITS ARE OPERATING NORMALLY" EXCEPT FOR THE NOISY ANTENNA ON 145.47 REPEATER

NOW MY USUAL FUN/INFO STUFF

MEMBER ARTICLES…

EVER WONDER ABOUT THE S METER?

Never have been sure why HF and VHF are different..

NOT REALLY I DO KNOW!!!! DO YOU?

BIG THING TO GET OUT OF THIS STORY IS THAT TO GET A SINGLE S-UNIT INCREASE YOU MUST INCREASE POWER BY 6dB.. OR -- A 100 WATT TRANSMITTER WOULD HAVE TO BE INCREASED TO 400 WATTS TO GET A SINGLE S-UNIT INCREASE!!!

HF S-meter

Many amateur radio and shortwave broadcast receivers feature a signal strength meter (S-meter).[4] In 1981, the International Amateur Radio Union (IARU) Region 1 agreed on a technical recommendation for S-meter calibration of HF and VHF/UHF transceivers.[5,6] IARU Region 1 Technical Recommendation R.1 defines **S9 for the HF bands to be a receiver input power of -73 dBm.** This is a level of 50 μV at the receiver's antenna input assuming the input impedance of the receiver is 50 Ω.

The recommendation defines **a difference of *one S-unit corresponds to a difference of 6 dB*,** equivalent to a voltage ratio of two, or a power ratio of four. Signals stronger than S9 are given with an additional dB rating, thus "S9 + 20 dB", or, verbally, "20 decibel over S9", or simply "20 over 9" or even the simpler "20 over."

Well-designed S-meter on the DRS WJ-8711A HF transceiver. *Source:* N9EWO

Conversion between power and HF S-units

S-reading	**@50Ω**	**@50Ω [1µV]**	
S9 + 40 dB	-33 dBm	5.0 mV	74 dBµV
S9 + 30 dB	-43 dBm	1.6 mV	64 dBµV
S9 + 20 dB	-53 dBm	0.50 mV	54 dBµV
S9 + 10 dB	-63 dBm	0.16 mV	44 dBµV
S9	-73 dBm	50 µV	34 dBµV
S8	-79 dBm	25 µV	28 dBµV
S7	-85 dBm	12.6 µV	22 dBµV
S6	-91 dBm	6.3 µV	16 dBµV
S5	-97 dBm	3.2 µV	10 dBµV
S4	-103 dBm	1.6 µV	4 dBµV
S3	-109 dBm	800 nV	-2 dBµV
S2	-115 dBm	400 nV	-8 dBµV
S1	-121 dBm	200 nV	-14 dBµV

The noise floor for a B=2700 Hz wide SSB signal at T=300 K is:[3]

$$P=kB\cdot T\cdot B=kB\cdot 300\cdot 2700=11.8\cdot 10-18W=11.8aW=-139.5dBm$$

where kB=1.3806488·10−23J/K is Boltzmann's constant.

VHF/UHF S-meter

The same IARU Region 1 recommendation defines **S9 for VHF/UHF to be a receiver input power of -93 dBm.** This is the equivalent of 5 µV in 50 Ω. Again, one S-unit corresponds to a difference of 6 dB, equivalent to a voltage ratio of two, or a power ratio of four.

Conversion between power and VHF/UHF S-units

S-reading	**@50Ω**	**@50Ω [1µV]**
S9 + 40 dB	-53 dBm	0.50 mV 54 dBµV
S9 + 30 dB	-63 dBm	0.16 mV 44 dBµV
S9 + 20 dB	-73 dBm	50 µV 34 dBµV
S9 + 10 dB	-83 dBm	16 µV 24 dBµV
S9	-93 dBm	5.0 µV 14 dBµV
S8	-99 dBm	2.5 µV 8 dBµV
S7	-105 dBm	1.26 µV 2 dBµV
S6	-111 dBm	630 nV -4 dBµV
S5	-117 dBm	320 nV -10 dBµV
S4	-123 dBm	160 nV -16 dBµV
S3	-129 dBm	80 nV -22 dBµV
S2	-135 dBm	40 nV -28 dBµV
S1	-141 dBm	20 nV -34 dBµV

The noise floor for a 10 kHz wide FM signal at 300 K is:[3]
$P = kB \cdot T \cdot B = kB \cdot 300 \cdot 10^4 = 41 \cdot 10^{-18} W = 41 aW = -134 dBm$
where $kB = 1.3806488 \cdot 10^{-23} J/K$ is Boltzmann's constant.

References

1. Wikipedia. Decibel. https://en.wikipedia.org/wiki/Decibel
2. Wikipedia. dBm. https://en.wikipedia.org/wiki/dBm
3. Wikipedia. Johnson–Nyquist noise. https://en.wikipedia.org/wiki/Johnson–Nyquist_noise
4. Wikipedia. S meter. https://en.wikipedia.org/wiki/S_meter
5. *IARU Region 1 Technical Recommendation R.1*. International Amateur Radio Union Region I; 1981. http://hamwaves.com/decibel/doc/iaru.region.1.s-meter.pdf
6. Ulrich Mueller, DK4VW. *IARU Region 1 HF Manager Handbook v8.1*. IARU; 1994. http://www.iaru-r1.org/index.php/downloads/Documents/HF/IARU-