



President-Mark Hetherington - KF5KUW

Vice-President-James Hunt - KI5DQ

Secretary-Sarah Richardson – KI5PZF

Treasurer-Sharon McEachern – KK5SM

Trustee- Dr.Mike Durbin - K5MJD

Fannin County Amateur Radio Club K5FRC

Volume 1 Issue 9 - September 2023

SEPTEMBER 2023 K5FRC TREASURER'S REPORT

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Currently, the club has a balance of \$4,472.43 in its checking account and a balance of \$224.09 in its savings account. Since our last club meeting, the club has had the following deposits and expenditures: A deposit of \$24 was made for James Yost as he placed membership with the club. The club has had \$0 in expenditures this month.

I will also send out an updated roster prior to our next meeting to include our new members.

Reminder: If you need to renew your ARRL membership, you can do so through the club and the club will receive a commission from ARRL. I will have the forms at our next meeting.

73's,
Sharon
KK5SM

How do you say thank you in ham radio?

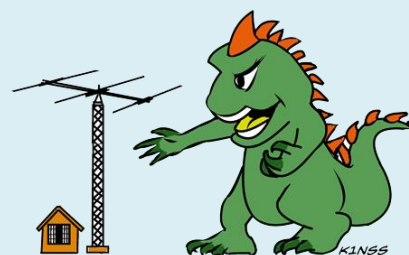
TNX: Thanks - this ham radio abbreviation is widely used for Morse / CW transmissions.

What is the golden rule of ham radio?

Doing the Right Thing: Good amateur practice follows the same basic tenets of the Golden Rule—the **principle of treating others as one wants to be treated**. Being a conscientious ham does require some practice and effort, but it's well worth it to make the ham community a better place.

72 is the QRP version of 73

The late and great George Dobbs (G3RJV) notes in his book "QRP Basics" that 72 has been in use since the late 1980s as a way some operators identify that they're running QRP or low power (generally 5 watts or less).



K5FRC 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;
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 Report

President's Report
September 2023

As I sit here drinking my coffee, waking up to another beautiful HOT Texas day, I can't stop thinking about my upcoming camping trip with my son Nicholas, KF5QMZ. As I sit here trying to think what I should write about in my report, I keep reminiscing in my mind memories of some of the wonderful things that have occurred in my life so far, and how those have shaped me into who and what I am today. My family, from when I first started dating my beautiful wife, our marriage, our first-born son, our second son, and then our daughter. Watching my kids all grow into the adults that they are today, and so grateful for the loving and guiding inspiration my wife gave to them, helping shape them into those wonderful and caring people I am so proud to call my kids. For our families, we call that person who guides, inspires, and assists a mother, or simply mom.

In amateur radio, we have that same type of inspirational shape that can help guide us to learn, to understand, and to enjoy all that can be possible in ham radio an Elmer. Like our mother's who helped us grow in life, our Ellmers are there to help us grow our amateur radio skills and knowledge. I know for me there is one Elmer that stands out, who has always been there for me, always willing to share his knowledge and experiences, always willing to make suggestions to make what I am trying to do that much more fun and rewarding. Mike Durbin, K5MJD, has helped many of us become better hams, and more confident with amateur radio. I know that I would never have earned an Extra Class license if it wasn't for his determination, his teaching style, his depth of knowledge, and his enjoyment to this hobby that rubs off on anyone who ever has the opportunity to meet him.

So be an Elmer to your fellow club members, your neighbors, and especially your neighbor's kids. Help them to get excited about amateur radio, and all the fun and enjoyment that can be experienced. And don't worry that you may feel that you don't know much, looking around at our club members. Remember, we all started off naïve, ignorant, and uninformed before something captured our attention and interest. Learn with them, and make yourself more comfortable, and knowledgeable, about amateur radio.

And over the past months my thoughts and dreams have been about my upcoming camping trip. I leave in 2 days, and will be gone for more than two weeks. Besides all the camping and fishing in the mountains I knew as a young man growing up, all I can think about is being able to play with my HF radio up there. I will be focusing my SSB efforts on 10M, 40M, and 80M, which is where I have enjoyed the most fun and success. For FT-8, definitely 10M will be my focus, but I will also be found on 12M, 15< 17M, 20M, 40M, and possibly 80M. I have my Yaesu FT-857D radio mounted inside my truck, along with my FTM-400XDR which will be running APRS my entire trip. Added to this I will be bringing my FT-897D radio with its Signalink sound interface, as well as my laptop, which will be my portable station in our campsite. For antennas, I will be using my Alpha Antenna 6M - 40M vertical antenna (I used this during Field Days and Winter Field Days in the past), and I have twin 40M and 80M mobile hamsticks with a mount to make them into a rotatable dipole. These antennas will give me 6M through 40M coverage; and my ATAS-120a on the truck is also a 80M - 6M, 2M, and 440 cm band auto tune antenna.

So let's see, double checking the list... Antennas check, radios check, coax check, masts for mounting check, guy lines and stakes check, antenna analyzer check... Oh yeah, table, chair, tent, sleeping bag...

I am going to miss the next club meeting, so James (KI5DQ) will handle the meeting. I understand he has some hands on APRS stuff in store, as well as having everyone test their radios and APRS to make sure they are working and ready for the Autumn In Bonham bike rally October 7th. And yes James, mine are ready; you can see this if you want to track me on my travels as I will have my APRS active.

I am also going to miss the Farming Heritage Days special event at the Sam Rayburn House on September 23rd. I hope that you all will turn out and help Sarah with this event that we will be participating in for the first time.

In closing, I am going to be camping in one of the darkest night sky places in the US, and it will be a new moon. This means, if there are no clouds in the sky, the Milky Way will be the most visible, and the sky filled with stars. So besides sending my radio signals out to call ET back, I will get to view the stars as they send me their radio signals (and I can see the visible portion of their RF spectrum)

de - KF5KUW

SECRETARY REPORT

Fannin County Amateur Radio Club

Meeting minutes for 8/19/2023 at the Bois d'Arc Creek Cowboy Church.

The meeting was called to order at 9:03 AM by president, Mark Hetherington, KF5KUW. After Mark lead the pledge of allegiance Roy Riales, KE5WDG was asked to lead the invocation/opening prayer.

For the benefit of new embers and returning members, Mark Hetherinton had those in attendance go around the table and introduce themselves. Each member gave their name, call sign, where they live, how long they have been with the club. The club has 67 members as of 8/18/2023.

1) Old business and reminders for upcoming events.

- October 7th Autumn in Bonham

The club still needs volunteers to man every rest stop for this event. FCARC will be responsible for all communications during this event. Keith Mumaw, KI5VNL needs volunteers for every rest stop on the route(s) and SAG wagon pickup with APRS radio. Keith Mumaw is coordinating volunteers at the rest stop and will be making list for rest area coverage. Email Keith if you are interested in participating. This year, the club will be running live video from the Bois d'Arc Lake Administrative Center. Live video will go to Bonham Chamber of Commerce building downtown.

With regard to video feed for this event, can we explore the possibility of video feed for each stop? This will be brought up during the next meeting. The immediate concern in manning every stop and having every stop and SAG wagon with APRS. Several APRS alternatives were discussed. To summarize:

- An APRS unit in a non-ham vehicle must be set up/ operated by a licensed operator.
- Cells phones can be used with an APRS app but cell phone coverage is limited in some areas of the county.
- Passive APRS units can be placed in a vehicle and are relatively inexpensive.
- A non-APRS device can be modified with Tiny-Track or similar device.

- A Raspberry Pi device can be used for APRS. (See , Mark Hetherington, KF5KUW)
- James Hunt, KI5DQ will be conducting an APRS checkout.
- We will test all APRS equipment after the September meeting.
- Club President, Mark Hetherington, KF5KUW will not be present for the September, 2023 meeting at Bois d'Arc Creek Cowboy Church. Club vice-president James Hunt will preside, and will have an APRS equipment check after the September meeting.
- October club meeting at Coffeemill Lake

This year is a “go kit” contest year. There will be a contest for the best go kit and a contest to see who can make the most contacts. (no IRLP or repeaters!)

- November club meeting

The November club meeting will be either at Bois d'Arc Creek Cowboy Church, or at the Bonham Presbyterian Church. November 18th, 2023 is also the Spirit of Giving celebration in Bonham. If the club participates, we will be serving hot dogs at the church gazebo. (TBA) – We will need cooks for this event.

- December club meeting:

The December club meeting will be at the Windom Feed Sack at 11:00 AM with the annual club party to follow. We will also be voting in new club officers at this time. Nominations for club officers can be forwarded to James Hunt, KI5DQ. The club offices open for reelection are: president, vice-president, secretary, and treasurer.

- TMC Hospital Bonham antenna repairs.

The repairs need to be completed but there is enough coaxial cable on the hospital roof to complete the project. Mike Durbin, K5MJD said that there is a power circuit in the antenna electrical cabinet that will a cross band repeater to be installed. This will enable handheld users in the Bonham area to access both club repeaters. This work session needs to be scheduled and 2-3 days' notice will be given. This will be announced on the Fannin Hams group email.

1) New Business and club officer reports.

- Mark Hetherington, KF5KUW, wants every club member to be the net control for the club's Tuesday night net. Michael Warren, KA5REJ will be the net control next week. Mark suggested that each net control nominate another club member for the following week's net control. He encouraged every member to try net control because it is valuable experience in an emergency. Ham operators who volunteer to operate at the Fannin County EOC, must be background checked through RACES certification. You may obtain a RACES certification with a technician license. There is a net control script available on the club website. (<https://www.k5frc.org/net%20info/net%20guidlines.html>)

- If you are the net control and cannot be present, you must provide a substitute.
- Logging software: The club uses this logging software(<https://www.n3fjp.com/>)

- Vice President, James Hunt, KI5DQ

-APRS checkout and instruction after the September meeting. If you are at a rest stop or driving for the Autumn in Bonham event, please attend to test your equipment.

-James gave a quick presentation on using Li ion rechargeable batteries for radio power supplies and the fire hazard involved with large Li ion batteries. (In EVs and solar farms)
-10 M has been quiet and 6 M.. ?

- Treasurer's report: Sharon McEachern, KI5NJZ

The club checking account has a current balance of \$4448.48. The club gained two new members last month and now has 67 members. The current club roster was published via the club group email. Please check you're your entry for accuracy. Current club expenditures include: P.O. Box -\$70 and tag renewal for the club trailer- \$59.75.

Fuzzy Vaughan, W5FZY suggested that the club provide free club shirts to new members. Sharon will head up ordering shirts. Current club members can pay for their own shirt, or bring a maroon shirt to be monogrammed, and any new member who joined the club after January 2023 will receive a club shirt free of charge. Mike Durbin, K5MJD motioned to accept the proposal. Diane Yakel, KI5VFFV seconded the motion. The motion was passed without further discussion. Sharon will contact the vendor in Sherman and email to accept orders.

- Secretary's Report: Duncan Berry, KG5NDO, secretary pro tempore.
- The July club minutes are posted in the club newsletter on the club website
- After note: After the both the July and August meetings, I noticed that not all the club members and guests in attendance had signed in. Please find the sign in sheet and sign in so we maintain an accurate record of meeting attendance.

- Trustee Report: Mike Durbin, K5MJD

Paraphrased from original group email:

"The visit today to the tower revealed quite a few issues: The cavities were in dripping water from an air conditioner issue which I will need help to fix. Basically the board the AC sits on had swollen so much that the AC was tipped in-word and had actually frozen and was dripping on the cavities. Since the cavities have an external Teflon tuning cap it didn't like being wet and had detuned the transmit cavities. Hey extras what does changing the di-electric co-efficient in a capacitor cause??

When tested we were down 18 watts in transmit and 29 dB low in sensitivity caused by desense. Dried system and retuned to get 38 watts at the antenna and a sensitivity of .21 microvolts sensitivity with no desense. FYI the transmitter is set to 50 watts out so 38 watts is great after the cavities. Hey new extras calculate how much we gained in dB One other issue I didn't like is the VSWR on the repeater antenna is 2.1 to 1 on our frequency and appears to be 1 to on 154mHz. I can fix that with an antenna tuner but need to find out why it has changed.

Generator is another story and I will work with the county to get it fixed.

So with that all said, the kerchunks we were hearing during the net was in-deed desense caused by AC drip!! ODD indeed "

- During the October event, the NCTC will be turned off. There will therefore be two repeater frequencies for the event.

-The club trailer will need a storage box (either aluminum or steel). This will replace storage in plastic tubs. Fuzzy Vaughan suggested that we contact a local high school for the project. Mike Durbin will be contacting a local teacher to see if this can be done.

- Rebecca and David Bruner will be stepping down from organizing food for club events. In addition, Mike and Jody Lindsey will retire from cooking for club events. We will need someone to step up.
- Mike Lindsey, KD5UNY suggested that the club make new name tags for club members. Mike Durbin will look into a source. The technology and resources shared for generating the last tags and name tags for CERT is unavailable.
- Sharon McEachern, KI5NJZ brought a thankyou card from the family of Bill Purcell. The family was very appreciative of our attendance at Bill's services. The content of the card will be posted on the club website (without pictures).
- Roy Riales, KE5WDE brought up a suggestion that Bill Purcell had put forward. The club should have a phone tree. Sharon McEachern discussed the proposal and Mark Hetherington nominated Sharon to head up a phone tree committee. If you are interested, contact Sharon.
- Bob Yakel, KG5KKE brought up opportunities for training in EOS communications in October. There are FEMA course prerequisites for the course and participants must be a licensed ham operator. If you are interested, contact Bob or Dee Dee Yakel.

2) Items brought up for a vote.

- Following club officer reports. Mike Durbin asked if those present had read the club newsletter and the minutes of the last meeting. Mark Hetherington asked for a motion to accept the minutes. Mike Durbin made the motion. Ralf Borgardt, KI5LVS, seconded the motion. There was no further discussion of last meeting's minutes and the motion passed with a unanimous vote by all club members present.
- Free club shirts for new club members: Mike Durbin, K5MJD motioned to accept the proposal. Diane Yakel, KI5VFV seconded the motion. The motion was passed without further discussion.
- Following discussion of new business, club officer reports, and ongoing projects, Mark Hetherington asked for a motion to adjourn. Ralf Borgardt, KI5LVS made a motion to adjourn, Rebecca Bruner, KI5NOO seconded. With no further discussion, the motion was carried with a unanimous vote and the meeting was adjourned at 10:34 AM.

Submitted by Duncan Berry 8/20/2023

VICE PRESIDENTS REPORT

Trustees' report

Simple report *All systems are up and operational*

NOW FOR TRUSTEE FUN INFO

"RUSTY BOLT EFFECT"

by:
Mike Durbin K5MJD

Ever had a case of interference that seems to come and go? Sometimes it seems weather related, sometimes wind, and sometimes it doesn't make any sense at all? Well look into what is called the "RUSTY BOLT EFFECT". Most of us have towers, antennas, fences, TV antennas, gutters, or anything else made of metal that has been around awhile. Since Mother Nature likes to change things with time, (RUST) she has developed a method of manufacturing diodes that could compete with commercial manufactures. Diodes are very efficient generators of signals and produce non-linear current flow which is rich in harmonics and spurious signals. This type of rectification may contribute to mixing of ham radio signals, commercial signals, and just plain noise, can mix together and form signals that we call Intermodulation distortion. The most annoying type of signals form as a result of signals not usually related to amateur radio transmissions. These signals are usually from things like commercial AM transmitters, digital paging systems, digital transmitters (becoming wide spread), and other signals sources in close proximity to towers, power lines, or metal buildings.

In general any conducting surface (plumbing, electrical, fences, towers, guy lines, multiple piece antennas, or any place where two metals meet, can cause a rectifying joint and produce a natural signal/noise generator. Don't forget items that have diodes in them by design, when looking for an interference source. How about things like, rotators, controllers, power supplies, alarm systems, etc. (You do have things like these around don't you?)

WHAT TO LOOK FOR!!

Guy Wires that help keep us safe can cause a problem. The connections on the tower of guy line cables are usually of two different types of metals and are a perfect source for one of nature's diodes. Guy lines are usually broken up by insulators which help reduce the effect of resonant lengths which reduce harmonics and signal radiation. The insulators can however break and form connections which then becomes a diode. The connections to the tower legs are usually just wrapped around the leg and not bounded, what a great diode this makes. The worse scenario for this type of problem is a continuous guys lines with no grounds on the ends, or bounding to the tower. Where is the ground on your guy lines?

Towers that hold our antennas (this also goes for jointed masts) usually have joints in them where legs are bolted together. The best installation probably has bolts that are different metal

then the tower itself making a natural diode after nature has had time do some work. The best supports have a bonded straps over joints to help reduce this effect.

Antennas usually are made of multiple pieces of metal and joints of telescoping metals. Well what do you know, a tunable diode noise source. Most antenna manufacturers will include a conducting grease to help eliminate the effects of corrosion. The joints of commercial antennas are usually moisture proof to help reduce this effect even more. Now you know what that funny grease that came with antenna is for.

Stranded wire we call copperweld, is used in some antennas construction, and by some for ground connections, is a good source for natural diodes as the aging effects go to work. The copper around steel used in most of these types of wires tend to corrode with time. (Look at your copper wire is it green?) The steels rusts and the copper turns to copper oxide. The first commercial diodes were made from copper oxide! Now you know why solid conductor wire is used for grounding in most properly installed antenna systems. Another good example is your telephone ground. I would bet that your telephone entrance box on the side of your house has a solid conductor grounding wire.

Metal roofing, Gutters, Duct work, Metal window frames are good sources for diodes. (Metal barns/storage sheds anyone?) The metal used in manufacturing of these devices are usually just laid over each other and can form great diodes. The screws used to assemble these types of structures are also generally of different metal than the metal they are holding. The same goes for those very attractive and functional gutters we all have around our house. Your gutters aren't, say 40 meters long are they?

Elevator Shafts are great vertical antennas of various lengths, usually about the proper length for receiving broadcast radio stations. Do you have a repeater system mounted on top of natural antenna source? The joints in the lengths of these vertical beams are bimetallic!

This could go on forever but here are a few other things you might not think of; Metal pipes touching each other, pipe joints, power line guys, loose hardware on power poles, metal fences, wire fences, and yes even bed springs.

73's de K5MJD