



President-Mark Hetherington - KF5KUW Vice-President-James Hunt - KI5DQ

Secretary-Sarah Richardson – KI5PZF Treasurer-Sharon McEachern - KI5FHN

Trustee-Dr. Mike Durbin - K5MJD

# Fannin County Amateur Radio Club K5FRC

Volume 1 – JANUARY 2023

## December MEETING Minutes

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### SECRETARY REPORT

Sarah Sue (KI5PZF)

Not sure what I need to put into a newsletter, but here goes:

Good evening.

Thank you for electing me Secretary. I want to report on all the wonderful activities the club does for radio and our communities. It is going to be a busy month, with the meeting on the 21st and then Winter Field Day the following weekend.

I have been checking out some of the parks for a "Radio in the Park." We have some nice ones, to be certain. Doing one on a Saturday in Windom would have a cool lunch at the Feed Sack. :) Honey Grove, Leonard, Trenton, are all good options too.

Mr. Tim Meek has asked for articles for THE LEADER so tell me what you want to showcase

about our club and radio in general.

See you Saturday, and 73s Sarah Sue (KI5PZF)

### ***PRESIDENTS CORNER***

President-Mark Hetherington - KF5KUW

The holidays are behind us, and soon the cold temperatures of winter should finally arrive. Yes, I know, we did have a couple of cold snaps already. But really, how can 70 degrees in mid-January seem like winter in Texas?

I have been busy rebuilding my hexbeam antenna that was destroyed in the ice storm we had back in February, having already rebuilt or replaced all my other antennas that were also damaged. Ice is not nice to antennas, so my advice to you is make your antennas either much stronger, or be able to quickly take them down and put them back up. In my case, originally my hexbeam was on top of my crank up tower, but the tower isn't set up to tilt over so that I could remove the antenna.

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### **K5FRC REPEATERS**

145.470 (100Hz tone; -600Khz offset) C4FM or Analog; IRLP 3602; ECHOLINK 143903; WIRES 21151; 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' 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](http://www.k5frc.org)

### **ANTENNA LENGTH CALCULATIONS**

Need to calculate antenna length?

Try this website:

<https://www.easycalculation.com/physics/electromagnetism/antenna-wavelength.php>

TREASURES REPORT  
**HAPPY NEW YEAR**  
**EVERYONE!!!**

I'm looking forward to another year serving as the club's treasurer.

Currently, the club has a balance of \$3,333.45 in its checking account and a balance of \$223.98 in its savings account.

Since our last club meeting, the club has had the following deposits and expenditures:

\$329.00 in deposits from 2023 yearly dues and

\$1,855.42 in expenditures (UPS purchase, club liability insurance/equipment coverage, purchase of equipment from Danny Loyd, reimbursement to Mike Durbin).

Once again, it is time to pay your 2023 membership dues.

Thank you,  
Sharon  
KI5FHN

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VICE PRESIDENT CORNER

15January2023  
K5FRC Vice-President and Safety Officer  
James Hunt - KI5DQ

2 Meter Net Report

Our 2 meter net meets EVERY Tuesday at 8:00 PM (local time) on the club's repeater system network. These are good training grounds for potential emergency situations as well as helping new hams in the area to have an easy way to get use to "talking on the radio"!

The purpose of the net is to check equipment, practice some net organizational skills, promote amateur radio in the area and to share information.

GREAT to hear some of the KI5 prefix calls on the 2 meter system (new operators, just recently licensed). Welcome one and all, hope you come back often.

Our club website ([www.k5arc.org](http://www.k5arc.org)) has all the information about our 2 meter net. This includes the Net Control members schedule, the "script" (supplied only as a guide to ensure that the important information is given out weekly - you can use it anyway you see fit) and a list of the recent check-in members.

If you have an interest in joining the NET CONTROL STATIONS as an operator, please contact Mark or James during the Tuesday net. We could really use a couple of extra hands to be NCS!

HF Propagation - additional openings everyday.  
Sunday (15January) afternoon, the 10 meter band was busy.  
Included some DX - easy contacts!

Propagation reports, for non-techies:  
<https://hamradiofornontechies.com/current-ham-radio-conditions>

TECHNICIAN COURSE INFO  
Coming soon

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Have radio waves always been around?

Radio waves have been around since the very early days of the universe. Initially everything was too hot to produce much long-wavelength radiation, but I'm sure that changed fairly soon. There are many phenomena that produce radio waves - radioastronomy is full of interesting sources.

In human terms, everything that makes a spark produces radio waves (which is why cars had to have suppressors fitted once people started to use radios), and there were celestial sources long before we could detect them.

Trustees fun stuff and report  
Simple report All systems are up and operational  
NOW FUN STUFF

*Do radio signals travel forever in space?*

Yes...but...

Radio waves are just like light waves - they are both “electromagnetic waves” - carried by photons...you go from visible light, red light, infrared light microwaves, millimeter waves, and then we’re into radio waves...it’s all just exactly the same stuff.

So, you can see a star 100 light years away - well, radio waves can go that far too.

The Hubble Space Telescope has detected light coming from an object 9 billion light years away - and radio waves could travel the same distance.

Three things happen to both light and radio waves over those distances:

1. They become very dim/faint. The rule for that is that the brightness/strongness of the signal reduces by a factor of four every time you double the distance.
2. Because space is expanding, there is also “red-shift” to consider. Distant objects have the wavelength of their light stretched as space stretches. So objects that were (say) blue could become green or red or infra-red or only visible in microwaves...so something that already has a very long wavelength (radio waves) stretches into longer and longer wavelengths.
3. Over interstellar distances, the speed of light (which is also the speed of radio waves) becomes crazy-long so it takes a long time for signals (be they light or radio) to get there.

So, for example:

1. A star that’s 9 billion lightyears away (2 billion times further than Alpha Centauri - the farthest object ever seen through a telescope) is going to be 4 quadrillion times dimmer than Alpha Centauri! Radio signals will be 4 quadrillion times fainter for the exact same reason.
2. Your local radio station at (say) 100MHz has waves that are about 3 meters (10 feet or so) in length - but as they go out further into space, they’ll be stretched longer and longer. There comes a point where they’ll be really hard to detect because the length of the antenna you’d need would be larger than a planet - larger than an entire solar system.
3. The brightest star in the night sky (Sirius) is 8.6 light years away - so a radio message sent to Sirius 8.6 years ago would only just be arriving there.

Taken together, it is true to say that radio waves go on forever, but in practical terms, they become harder and harder to detect because you need larger antennae - and the signal strength get too low to detect with normal electronics.

This is why radio telescopes have to be so insanely large (this is the world's largest - built in Guizhou China)...



Because it's so sensitive to VERY faint radio signals, the Chinese casually relocated about 9,000 people's homes away from the site in order to avoid things like cellphone signals from affecting the telescope.

Thanks to  
[Steve Baker](#) Senior Software Engineer (2013–present)

## PRESIDENTS CORNER

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But my plans for its replacement will be much friendlier to being able to take down, as I am going to utilize a Rohn telescoping mast that will be turned (at the base) by a rotor. I plan to place a thrust bearing near the top of the wooden post that I am going to concrete into the ground to support it all, to better support the mast and rotor operations. And if I can figure out how to make it work, I'd like to find a base that will allow me to tilt over this entire mast and antenna in case of bad weather, or periodic maintenance. Ah, the great plans of mice and men...

And back on the subject of holidays, how was yours? Mine was great, as my wife and I got to share it with all three of my kids on Christmas day. My oldest son came to visit us for two weeks, after getting his work to agree to let him work remotely from the farm. My younger son, ironically who only lives about 60 miles away, was also able to come join us one other day during those two weeks, as he seems to be like his dad when it comes to work – always being out of town... Remember the song, Cats in the Cradle, by Harry Chapin? Ironically, that song was one of his and my favorites, and the lyrics are so true to how our lives have gone so far...

Have you noticed how great the HF bands have been lately? For those of you with only your technician's license, you really need to consider getting yourself an HF radio that will allow you to operate SSB and data on 10 meters (10M). Look for an inexpensive used radio that will allow you to get started, unless you just feel compelled to spending a lot more money. My first HF rig was a used Yaesu FT-757GXII, which I bought really cheap (and later added on its accessories to make it a complete setup). This allowed me to be able to listen to all the bands, and gave me the ability to talk on 10M. My very first contact was with a gentleman in Perth, Australia! And that was on a homemade wire antenna that Mike Durbin (K5MJD) helped me to understand why a tuning stub can help make your SWR match better. After that, I was hooked, and got my general class license... And now, 10M is really opening back up!

Winter Field Day is just around the corner. Here is your chance to get on the air during a 24-hour period, and be able to operate on bands you might not otherwise be licensed for, or have the equipment to be able to at home. We will be located once again at the Lake Bonham pavilion, where this event runs from 1:00 PM Saturday through 1:00 PM Sunday. And best of all, we will be having another Chili Cook-Off contest, with the entries also being utilized for making chili dogs! This event should be fun, and I am looking forward to seeing all of you and your families there. And don't forget to invite your neighbors, friends, and anyone else to come out and learn what amateur radio is all about. And to also make this a productive event, we will be building antennas on site, allowing you to see how easy and inexpensive it is to make your own.

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