



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 Issue 5 - May 2023

MAY 2023 K5FRC TREASURER'S REPORT

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Currently, the club has a balance of \$4,392.32 in its checking account and a balance of \$224.03 in its savings account. Since our last club meeting, the club has had the following deposit and expenditure:

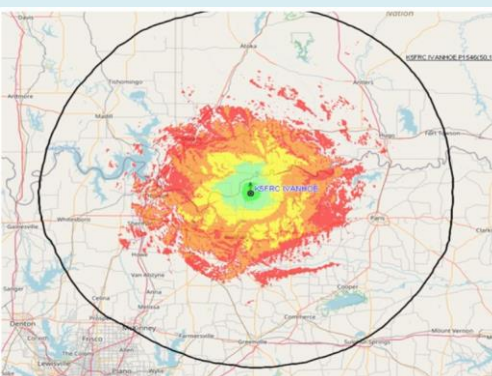
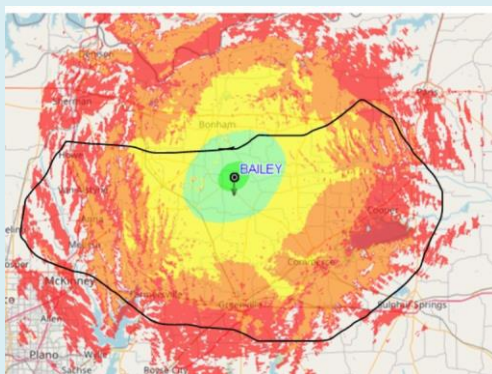
A deposit of \$224 on 4-28-23 included one individual membership of \$24 and the club sold a radio for \$200. One expenditure of \$232.52 for reimbursement to Mike Durbin. Our trustee, Mike Durbin, added a rotor to the clubs' antenna/trailer allowing for a simple raising of the mast with the push of a button!!

The club will also file this month its annual electronic requirement for small exempt organizations.

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
KI5FHN

REPEATER COVERAGE



NOTE BAILEY COVERAGE IS VERY MUCH ORIENTED TO THE SOUTH!



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

Facebook: www.facebook.com/K5FRC/
Mark, KF5KUW is the administrator.
Website: www.k5frc.org

President's Report

A lot has been happening this past month.

Our meeting last month was held at Bonham State Park, along with their 100-year anniversary event. We had a table to share information about our club and amateur radio, and we had our club's portable crank-up tower with a rotatable dipole set up and operating. We tried our hand at activating K-2991 Bonham State Park, but the conditions were not with us that day. Ironically, there was another ham radio operating POTA there at Bonham State Park, and after we made contact with him (one of the few contacts we made all day), he came over from the other side of the park and visited with us for a bit. And adding to the irony, was that he and Mike Durbin, K5MJD, seemed to have the same military background.

Next on the calendar was our planned Radio On The Lake adventure to Lake Texoma. Alas, the weather was not going to be favorable, and we have postponed this event until later in the year.

So instead we went over to Mike Durbin's house, and had fun learning... how to build and tune a rotatable dipole antenna... putting Molex connectors onto wires... operating the new electric winch he installed on the club trailer for raising and lowering the tower... plans to install a solar panel on the trailer to provide a trickle charge to maintain the winch battery between events... and so much more...

Sarah and I were able to show off amateur radio during the Sam Rayburn House Homeschooling Day event on May 10th. We had set up both a dual band VHF/UHF radio as well as an HF radio, so our visitors could see and hear what amateur radio was all about. With again the threat of rain in the forecast, this event concentrated all the displays into a central area, so we were fortunate to get everyone attending to come by and see what we were all about. And Sarah did a fantastic job helping to share and talk about amateur radio with our young and old visitors. We also gave a presentation to the audience on amateur radio, and in the end did get some interest in our next Technician class being offered.

Then on Saturday, May 13th, we were once more showing off amateur radio at the Church of Jesus Christ Latter Day Saints Emergency Preparedness Fair. We having been participating in this event since it was started some years back, and have always had a great response. We got to show off what amateur radio is all about, explain how amateur radio can help them in times of an emergency, showcasing to our audience during our presentation why they should be considering getting their technician license, and be better prepared for what they might face in the future. We had a great turnout from our club, which helped to further show off our club to our neighbors and friends.

I am about to wrap up another Technician class for new amateurs, with one of the largest classes in quite a few years in attendance. We are now scheduled to be finished in time that they will be able to attend our May club meeting, and afterwards we will administer the tests for getting their Technician's license. I believe that James will also have his General class completed by the meeting, and we can also give them their General test. This is very encouraging continuing to watch our community of amateur operators grow, and so much more rewarding when you seeing them moving on to get a higher license and more privileges.

In closing, I want to issue you a challenge – I would like our club to spend some time helping one another out. Maybe you need an antenna raised so you can use a radio in your home instead of your walkie talkie. Or perhaps it's to repair that outside antenna that has been damaged and needs some loving care. It could be as simple as helping someone to program their radio. Whatever the case, let's help one another. And, if you have something that you could use some help with, please let me know. And don't let your pride get in the way, as we all consider one another family, and we want to help.

God bless, and have a safe Memorial Day weekend.

SECRETARY REPORT

Fannin County Amateur Radio Club
Regular meeting – April 15, 2023
Bonham State Park

President Mark Hetherington called the meeting to order, pledges done with the Boy Scouts doing the color guard for the Bonham State Park's 100th Anniversary.

Minutes for previous meeting were referred to the newsletter, Dr. Mike Durbin moved to approve, DeeDee Yakel seconded. Treasurer's report Dr Mike Durbin moved to approve; Dee Dee Yakel seconded.

Business – Dr. Mike moved to add a 12 volt electric wench to the trailer tower, motion was seconded and approved.

Upcoming events:

April 24 – New Technician class scheduled to start.

May 6 – Lake Event at Lake Texoma Treasure Island has been published, there is a possibility of Dr. Mike not being there.

May 10 – Sam Rayburn House Home School Day.

May 13 – Emergency Preparedness Fair at Bonham LDS church.

May 20 – FCARC Regular meeting at Bois d'Arc Cowboy Church.

Motion made to adjourn, passed, meeting ended.

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Then the fun began with the two locations at Bonham State Park. The tower trailer site was close to the dam, the backpack antenna and radio set up by the Headquarters. Lot of people talked to in person as we demonstrated Parks On The Air at both sites.

VICE PRESIDENTS REPORT

11April2023

James Hunt - KI5DQ

Vice-President and Safety Officer

Spring Time safety tips and awareness.

2023 SKYWARN Schedule

The National Weather Service (NWS) SKYWARN Program is now complete.

<https://www.weather.gov/fwd/skywarnmap>

Your NWS certificates are good for 2 years.

The K5FRC 145.470- and 442.525+ repeaters have SKYWARN nets during inclement weather events. They have direct link to the NWS.

Treasure Island Expedition, K5E – 5-6May2023

The May rainshowers placed a damper on our scheduled Treasure Island Expedition.

The event is postpone TBA.

General Class

The General Class via Zoom platform is nearly complete, with five candidates. Expect completion by month end.

On the Air Activities

The 10 meter band continues to be excellent opportunities for the technician class, 28.300 to 28.500.

The solar activity slightly increased during the past week, 4-10 May.

Average daily sunspot numbers changed from 114 to 119.3, with average daily solar flux from 151.5 to 167.1 .

Expected solar flux to be 160 on 12-13May.

From space - transmissions continued on MIR both with American and Russian hams, Amateur radio would become an official part of the ISS as well. It was almost as if if you were an astronaut you needed to have an amateur radio license!

We now know that this tradition will continue during the Artemis moon flights.

Artemis II will see the first return of humans to the vicinity of the moon for more than a half century. The mission, due to launch in November 2024, will be a ten day trip to lunar orbit and back in order to test the Space Launch systems rocket, the Orion's life support system, and validate the techniques and capabilities that will be needed for a more permanent return to the Moon.

Named to the crew on 3 April 2023 were Commander Reid Wiseman, KF5LKT, Pilot Victor Glover, KI5BKC, and Mission Specialist 2 Jeremy Hansen, KF5LKU.

Mission Specialist 1 Christina Hammock Koch had planned to study and take her exam in 2019, but her flight was suddenly moved up six months and she had to begin immediately preparing instead of studying for her Amateur Radio exam.

As we return to the Moon, Amateur Radio will go with them. While bouncing signals off the moon from Earth have been taking place for decades, 2020 saw the first Amateur Radio transmission from lunar orbit take place with the SSDV signals from LO-94.

The Lunar Gateway is a proposed space station in lunar orbit that may launch in late 2024. In 2019 amateur radio organizations in Germany, Canada, and the US were working on proposals to put an Amateur Radio on this lunar space station.

The solar flux index is your propagation gateway:

<https://www.swpc.noaa.gov/products/predicted-sunspot-number-and-radio-flux>

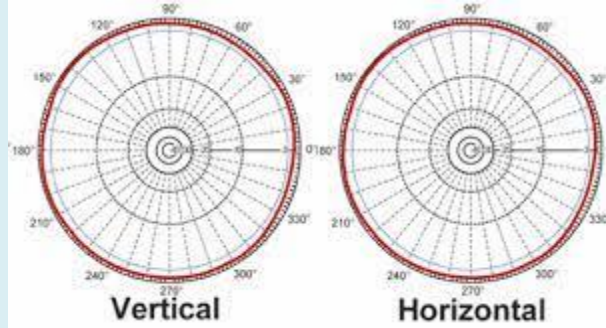
NOW FOR TRUSTEE FUN INFO

ANTENNA RADIATION PATTERN

The radiation pattern or antenna pattern is **the graphical representation of the radiation properties of the antenna as a function of space**. That is, the antenna's pattern describes how the antenna radiates energy out into space (or how it receives energy).

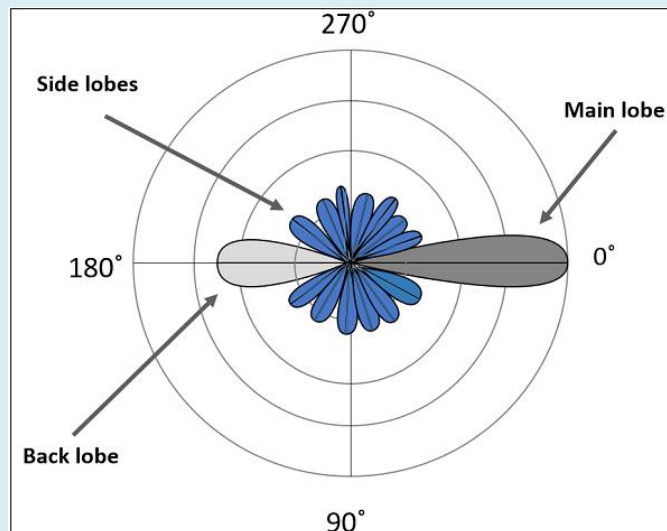
ISOTROPIC RADIATOR IS DEFINED BY AN ANTENNA THAT RADIATES EQUALLY IN ALL DIRECTIONS... FYI ONLY THEORETICAL

ISOTROPIC RADIATOR PATTERN (ELEVATION AND AZIMUTH)



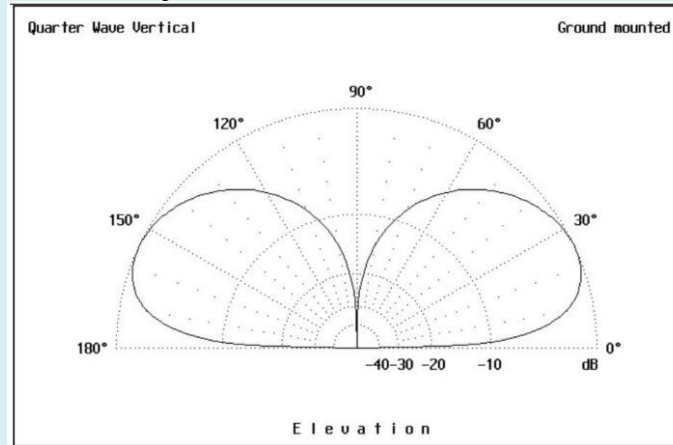
Why would we ever want an Isotropic antenna? Basically, we never would even if one could be built, as the energy radiated downward, upward, and in any direction, we are not trying to communicate with would be wasted. For example, a repeater antenna is designed and built to generally radiated as much energy towards the horizon as possible and not waste energy up or down. This is why when you are at the repeater sight under the tower the signal is weaker than it is ¼ mile away. Now before everyone figures all repeater antennas are designed to radiated in as perfect a circle as possible think about our 442.525 repeater which radiated very poorly to the North, but covers to the south exceptionally well. Since the 145.47 repeater covers most of the north parts of the county it makes sense to have the 442.525 cover more of the south.

Now on HF and even long-range VHF/UHF, we would like to concentrate the energy in a direction we are trying to communicate. When this is accomplished, the antenna creates what is an antenna gain pattern. Not a perfect antenna, but an antenna that has a beamwidth and radiation pattern.



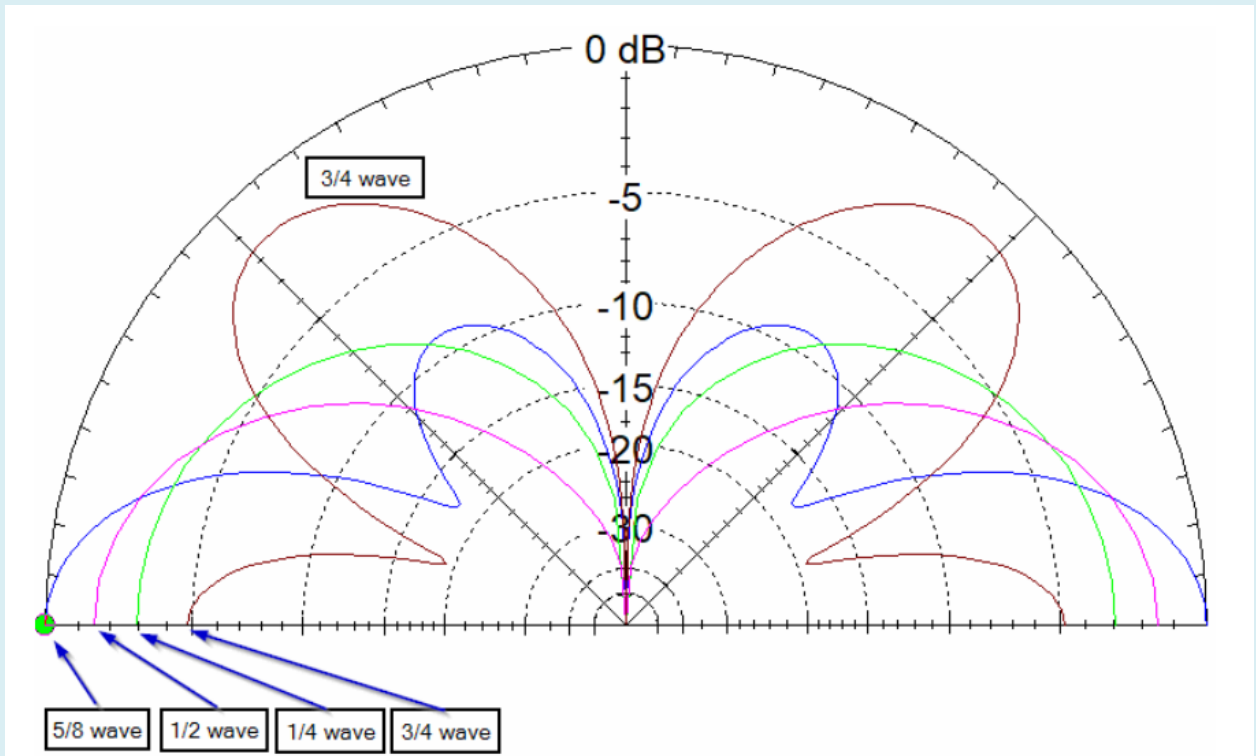
Other advantages include, less gain from interfering station or noise...

Note that the main lobe has a beamwidth which can be used to our advantage. An example would be if we used an antenna with a vertical beamwidth of 45 degrees there would be no need to have an antenna that has an elevation rotator if the satellite generally is at an elevation less than 45 degrees... A good example would be your vertical antenna which, let's say is a 1/4 wave, has a wide vertical pattern and a circular horizontal pattern.



Note the elevation radiation pattern covers a large elevation angle. Not perfect but used by many stations mobile to talk to ISS and other satellites.

Now I know most of you don't really have 1/4 wave antenna but typically 5/8 or more wavelength antennas which give better gain in the horizontal axis but look at the elevation pattern. Yes, more gain but also a more directive antenna. Not best for satellite work but for normal communications a better choice.



So here is some food for thought. An isotropic radiator (if there was such a thing radiates equally well in all directions, while different types of antennas have directivity thus focusing the energy in a more specific direction which is the definition of antenna gain. Don't be fooled by gain over a 1/4 wave when what we really want to know is the gain or an isotropic antenna which will define your radiated power. Remember 100 watts into an isotropic antenna radiates 100 watts dispersed in all directions. Now take that same 100 watts and put it into an antenna with 6 dB over an isotropic antenna and you will have an antenna with an effective radiated power of 400 watts. REMEMBER EVERY
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3Db IN EFFECT DOUBLES THE EFFECTIVE POWER... Here is an example from our 145.47 repeater. First the transmitter has 50 watts output, for ease of the math let's assume the coax loss, diplexer loss and connector losses add up to 3dB. This means that the actual power reaching the antenna is 25 watts. Antenna gain is let's say 9dB. Our effective radiated power would be 200 watts. Or let's say on HF say 10 meters I have an antenna with 9 dB of gain and 100 watts transmitter our effective radiated power would be 800 watts. (Assuming of course no coax loss) A high gain antenna is less expensive than an amplifier and works to help of the receive signal as well.