



BVARC BEACON



Newsletter of the Brazos Valley Amateur Radio Club
AMATEUR RADIO FOR SOUTHWEST HOUSTON AND FORT
BEND COUNTY

NOVEMBER 2022

VOLUME 46 ISSUE 11

General Membership Meeting notice

7:00 PM, Thursday, November 10, 2022.

Community Volunteer Fire Department conference room;
16005 Bellaire BLVD

NOTE: This meeting will only be in-person. It will NOT be via Zoom!

Also NOTE: This meeting starts at 7:00 PM.

ELECTIONS, CHILI, CAMARADERIE.

This meeting will have all of the above. All “the chili fixin’s” are provided. Just bring your appetite and your significant other. Think about if you want to run for office. There are quite a few up for election this time. See the list below.



November Club Elections – Soliciting Candidates

Most of the current BVARC Board of Directors (BOD) members will finish their terms as of December 31st. We are seeking candidates for the following BOD positions for 2023, etc.

| | |
|--------------------------------|---|
| Vice President | Term – 2023 thru 2024 |
| Corresponding Secretary | Term – 2023 thru 2024 |
| Recording Secretary* | Term – Immediate as of election night thru 2023 |
| Treasurer | Term – 2023 thru 2024 |
| 1 Year at Large/Past President | Term – 2023 |
| 2 Year at Large | Term – 2023 thru 2024 |

Should you have an interest in running for any of these positions or you have questions as to what is involved, please contact me: Rick – W5RH @ rickhillier73@gmail.com

**Recording secretary is a special case due to the resignation of the former*

The Prez Says

The end of the year is just around the corner. The club has had several new activities this year so hopefully they will continue through 2023. From POTA to the Greater Houston Tailgate to JOTA, the club has been very active.

Anthony Morones, W5LIC and crew have really made POTA take off this year and I hope it continues through next year. Congrats to the Anthony Team. Check the article elsewhere in the newsletter about Anthony's POTA activations.

During the Jamboree on the Air weekend, there were several BVARC members involved around the Houston area. Anthony W5LIC, Kori Rahman, WX5KR and Anthony Hollister, KE5GIP hosted a group of Scouts in Brazos Bend State Park. Jeff Greer, W5JEF and myself with several scout troops at St. Thomas High School. In all, both groups worked with over 100 scouts in JOTA. That's a great job for everyone!

The Greater Houston HamFest is coming up March 3rd and 4th, 2023. More information will be out next month so keep checking the web site and newsletter. There may be a big surprise for the 2023 event so keep checking.

The reservations for Bayland Park community center have been submitted and approved. Beside the normal first weekend BOD meeting and testing, in 2023 there will be a training weekend. I have reserved the third weekend for 4 hours for training, equipment building or anything that anyone would like to do. If you are interested in reserving that weekend, please contact me. It's a great facility to have classes or build times for club members or anyone interested in amateur radio. A full calendar of the dates will be published next month in the newsletter.

Last but not least the BVARC annual banquet is coming up Friday, January 20th, 2023. The location will be at Bayland Community center and will be arranged as the last banquet in 2020. last event. The menu will be published next month, and you will need to purchase your ticket and choose your entree at that time. Ticket prices have not been determined at this time, but it is normally around \$35 per person. The guest speaker will also be announced next month as well.

Don't forget BVARC annual elections in November. Several offices are open and there is an article elsewhere in the newsletter listing the offices. If you would like to help with club governance, please consider volunteering for a position.

Also is the annual chili supper. Daphne and her group (Scott and Louanne) will be coordinating the supper, which will be held at the Community VFD community Center. Everything will be provided except for the appetite so make sure you are hungry!

See everyone at the chili supper and everyone keep enjoying POTA!

N5VCX

The Radio Hotel – Antenna Development Challenge

.....a Heads Up

by Rick Hiller – W5RH

The IARPA* in 2021 announced a challenge to the commercial and academic communities dealing with ESA's – Electrically Small Antennas. Just what is an ESA? It is an antenna that is typically $.1$, or less, of a wavelength long. The challenge is to present a designed ESA implementation that can be used from HF thru to SHF frequencies with 10 dB gain over current art. The IARPA has given a deadline of four years out, but in 3 steps: within 18 months show a meaningful design, 15 more months to demonstrate a prototype of 6dB gain and in the final 12 months demonstrate a 10dB gain product. [*Note: the original challenge can be found at <https://www.iarpa.gov/research-programs/equal-p>]*

So how do you give gain to a smaller than normal antenna, when it starts out behind the 8-ball in it's' radiation field strength? For a start, you must think outside of the 80 year old antenna design tools box that is based on the LTI (Linear Time-Invariant) antenna system principles for a start. Hams are typically using LTI based antennas and are mainly interested in multi-banding, antenna gain, the radiation polarization and pattern (direction and angle of radiation), noise reduction, feed point/transmission line matching, physical size and degree of difficulty when deploying. If we wish to increase the gain of an LTI antenna system we can use parasitic elements, phasing of multiple elements and longer than $\frac{1}{2}$ wl antennas. We can easily increase the radiation field strength by using more transmit power or by using a pre-amp on the receive side of things. Of course, both of these last listed solutions come with a slight caveat of increased \$'s and change out of the support equipment within the antenna system.

The small Mag Loop antennas, that quite a few hams use, are an example of an ESA. If you wish to read more in-depth about ESA's or the challenge, the below list of url's might just get you down that infamous rabbit hole. Speaking of rabbit holes; have a look at The Radio Hotel column "**AA0ST and Antennas 'Thru the Looking Glass'** <http://bvarc.org/newsletter/201704.pdf> " in the April 2017 BVARC Beacon. This is a related column concerning Chu's Limit and Non-foster elements, etc. If you research this a bit more, you will find that most of the principles defining ESA's were established in the mid-1900's and are still the limiting LTI antenna performance factors today. Hence the challenge from the IARPA.

From an antenna design interest standpoint, IARPA's challenge is going to be a very intense and enlightening exercise. The solution most probably will utilize non-LTI techniques and materials that we Hams have yet to discover. Although they do point out that there is a potential to fail, as this requirement is severely pushing the limits of current day physical capabilities. I, however, look forward to seeing what they can show us as they push forward to the edge of the antenna design envelope and beyond.

Enjoy the challenge. Enjoy your hobby. 73, Rick W5RH

Copy and paste these url's

Info on the challenge

<https://spectrum.ieee.org/electrically-small-antenna>

<https://www.iarpa.gov/newsroom/article/equal-p-not-all-antennas-are-created-equal>

<https://www.iarpa.gov/research-programs/equal-p>

Basics of an ESA

https://www.highfrequencyelectronics.com/Feb07/HFE0207_tutorial.pdf

Designing ESA's

<https://www.mwrf.com/technologies/components/article/21848593/meet-the-challenge-of-designing-electrically-small-antennas>

***IARPA – Intelligence Advanced Research Projects Activity**

*The purpose of **The Radio Hotel** is to give you a practical kick start into exploring the workings of antenna systems. Google the buzz words and find out what they mean. Read up on antenna system theory to see how it all works together. You will be glad you did.*

MINUTES
Board of Directors Meeting
Brazos Valley Amateur Radio Club
October 8th, 2022 9:00 AM
Via Videoconference

Members Present:

Mike Hardwick N5VCX
(President)
Sheree Horton WM5N (1 yr
at large director)

David Ely N5EKW
(Treasurer)
Jeff Greer W5JEF (Cor.
Secretary, Rec. Secretary
pro tem)

Anthony Morones (2 yr at
large director)
Scott Medbury (2 yr at
large director)

1. **Call to Order:** *The President called the meeting to order at 9:06 AM.*
2. **Establishment of a Quorum:** *A business quorum of Board Members was established.*
3. **Club President's Opening Statement:** *The President thanked those in attendance for taking the time to join the meeting.*
4. **Approval of Agenda:** *Agenda approved*
5. **Emergency business.**
 - *Bayland facility renewal completed.*
6. **Approval of Minutes:** *July meeting minutes were approved.*
7. **Approval of Treasurer's Report:** *Approved.*
8. **Corresponding Secretary:** *Report approved as presented.*
9. **Old Business:**
 - *October meeting to start at 7:30 with Bob Heil joining at 8.*
 - *November meeting: chili supper, elections, Space Cowboys/Constellation Park presentation*
 - *December meeting: homebrew night (need a volunteer to lead)*
 - *January: banquet*
10. **New Business:**
 - *Space Cowboys/Constellation Field presentation for Nov. chili supper/elections mtg.*
 - *Newsletter challenges discussed; call for volunteers.*
 - *Bayland facility renewal completed.*
 - *Motion to buy a wifi hotspot to facilitate Zoom from general meetings approved.*
 - *Anthony/Kori planning Winter Field Day at Brazos Bend State Park.*
11. **Next BoD Meeting Date:** *November 5th at 9 AM on Zoom.*
12. **Adjournment:** *Meeting adjourned 10:12 AM.*



JOTA at Brazos Bend State Park



On Saturday, October 15th, I had the opportunity to help out the Boy Scouts of America with their annual Jamboree-on-the-Air event. The event is held by the entire organization at locations all across the country and the world. There were multiple Troops participating at events throughout the Houston Area that weekend, including the event I volunteered for at Brazos Bend State Park. This particular event was coordinated by Anthony Hollister (KE5GIP, President of SETAC), and I was one of several volunteers helping with equipment, setup, and getting the Scouts on the air.

We started getting set up around 8am Saturday morning, and we had approximately 45 Scouts and several leaders and other adults trickle in throughout the morning and afternoon. The Scouts who came out were from Troops 1993, 993, and Arrowhead District Pack 148. The site was broken up into two Stations. Station A consisted of a single multi-band vertical antenna with a quadplexer, 1 VHF/UHF antenna, 1 VHF/UHF radio for repeater, simplex, and 2m Winlink operation, 4 HF radios running SSB on 20m and 10m, and FT8 on 15m and 40m (CW was also demoed here). Station B consisted of a Single HF Radio on 17m SSB with a loaded vertical antenna. Additional equipment included several FRS radios that we loaned out to Scouts to practice with and get some real-world experience with the range of the low power UHF radios. We heard many transmissions end with "over," and one very clever Scout decided to take the FRS radio and key up next to the CW radio speaker to transmit Morse code.

The format for the event was a brief presentation for the Scouts about radio technology, the RF spectrum, and the various radio services. Anthony (KE5GIP) had created some very helpful poster boards with information and graphics to support his presentation. After the presentation the Scouts had a Q&A session with the operators, and then they were ready to get on the air. Scouts were allowed to explore the various stations, and more information was presented there about the various bands and modes each radio operated on. A few Scouts opted to compose NTS Traffic messages, and we transmitted them via Winlink at the 2m station. At the FT8 stations Anthony (W5LIC) and I gave a quick description of the mode and what amateur radio operators use it for. At the 40m station, we had a CW straight key and gave a brief demonstration of Morse code. The younger Scouts were surprisingly interested in the mode. We had several try their hand at tapping characters out at the station while using a CW decoder app on my phone. For the voice side of operation, we had several Scouts get on the 146.940MHz repeater to talk to operators all over the Houston area. They had a lot of fun talking to folks, and I think many of the operators really enjoyed speaking with them too! Some of the Scouts needed to get on HF as part of a merit badge requirement, and we made sure to get them (as well as others) in

contact with stations all across the country on 17m and 20m. Locations we contacted included Georgia, Kentucky, Oklahoma, Tennessee, and Colorado.

This year we had a total of 7 ham radio operators who provided their own equipment and time to make this event possible (KE5GIP, W5LIC, N5ORM, KI5SKL, KO3HL, KI5NPM, and myself WX5KR). It was a lot of fun discussing radio technology, propagation, modes, and so on with the Scouts. We learned several lessons this year, and we plan to prepare more poster boards on topics like propagation and satellite operation, use an even larger presentation space, setup multiple VHF/UHF stations in the park, and hopefully do a fox hunt! We received much praise from the Scout leaders for our ability to work together and coordinate this event for the Scouts. We were each presented with a token by Assistant Scoutmaster Philip Soneye at the end of the event, and he thanked all of us personally for making the event a success.

- Kori, WX5KR



How I do POTA

Well its come to my attention that some of the club members would like to know how I start my activation. So lets start with how I get started. Then day before I go out, I get all my batteries together and start charging them. I have two LIFEPO batteries, one 30AH, and a 12AH. Then while they are charging I chose what radios I want to take. Most of the time I take one of two 991A and the G-90. After I figure out what radios I want to take. I then start looking into the antennas I want to take out,.Yes I said antennas. I always have the DX Commander. Then I think about taking the ham-sticks I have. When It comes to the ham-sticks I have eight of them. I also decide if I want to take out the ham-stick dipole connector. I also keep a 40M EFHW antenna in the truck. Most times I keep one 991A and the G-90 paired with the DX Commander and of course my first homemade 4oM EFHW antenna. After all that thinking I load up all I think I ma need. That includes tools and materials I might need. I always think if something breaks I may need to build an antenna on the fly. That's why I keep two HF radios in the truck as well. Now that I have loaded all the gear besides the batteries. I get to bed early to get plenty of rest. Most of all my activation's last all day. So the next morning start at 5am. I get my batteries together and my field computer. Then I drive over to the gas station and fill up on gas. Now most times I got to Brazos Bend. But sometimes I want to go to another park. When that happens I get up at 4:30am. After I get gas I start my drive to the park. When I get to the gate of the park. I show them my park pass and they greet me with a smile. I then got to my favorite spot (Elm Lake). It is just down past the observatory. When I get there, I pull out my antenna and radios plus any other equipment I may need for the day. After the setup is done the next thing is to look for a clear frequency. I find one that sound clear then I call three times to be sure there is nobody there. If I don't hear anybody, I then start calling CQ POTA. I really enjoy talking to as many people I can. Most times I walk away with 180 contacts. I always try to get the day shift and the night shift. After I finish both shifts I start packing up and head my way back home. Now its time to turn in my logs. When I turn in my logs I go to www.pota.app website. I can go into detail of how I do that, but that will be for another time. Look for the next article with that info. I hope you all get a chance to go out and give it a try. For now 73 everybody.

W5LIC - Anthony

The Feed Point

BVARC Members, How We Got Here

Paul Easter, KC9JTY/W9PA/WW5PA

I was interested in Electronics and radio at a very early age. While living in Harlingen in the early 60s, I built a crystal radio. I strung an antenna between our house and the garage. The only station I could receive was KBGT-AM. I later worked for the owners of KGBT at their stations in Chicago, the Tichenor family which morphed into what is now Univision/Televisa.

I was born in Chicago. In 1966 my family moved to Lubbock. In 1967, my uncle gave me an electronics kit that I used to experiment with. I was also given a tube type shortwave receiver. I don't remember the model. I do remember that it had an electromagnet in the speaker that hummed. It probably needed new filters. It also had a green tuning eye (EM34?) and FM. I put up a 30' pole and strung a long-wire antenna so I could hear more stations. No HOA!

In High School I got into a two-year electronics technology program. We were given a discarded REL transmitter that was sitting in a cotton field behind a local TV tower site. We initially got it on the air with only the exciter, at 10 watts. The summer we tried tuning it up with no luck. One of us realized that the rows and rows of tubes were actually multipliers instead of amplifiers. It could not be tuned without a spectrum analyzer! Each tube was followed by a bandpass filter to pass just the 3rd harmonic, if I remember correctly. The tubes ran very hot, which made troubleshooting easy. The first cold tube was the problem!

The second year we got the PA going with a power pole transformer we turned around backwards to step up rather than down! We built the rectifiers on perf board. The output tubes were 4-125's. Rumor has it that Armstrong's company (Brand name: REL) built the transmitter. The call signs were, KMHS (Monterey High School), KLSD (Lubbock School District) and KOHM (Kilo Ohm). KLSD got us in some hot water.

The station and the electronics program were in an old barracks. The station was built with gear the local broadcast engineers were sick of working on and consumer products. Local HAMS built the tower, mounted our antenna and coax and put a repeater on it. We built a two bay FM antenna from scratch.

You could tell who was on the air by what was being played because it was their record collection from home! This was a great place to learn and make mistakes. One class project was to build a stereo generator from scratch, and it worked!

On a Friday, the class drove to Dallas to take the FCC tests. I passed the Third class with broadcast endorsement but failed the second class. I was disappointed until I found out Monday in class that I was the only one that passed the broadcast endorsement! This allowed me to be a DJ, which I got out of my system quickly. I graduated High School in 1976. I later got my First-Class Radiotelephone license and started my career at KAMR (formerly KGNC) TV in Amarillo. I later worked in Amarillo, Plainview, Odessa, Corpus Christi, Chicago, New York and Houston.

In Lubbock there was a lot of HAM activity on 2-meters, and I listened as much as I could.

Anita and I met in Monahans Texas at KVKM radio. Anita was the news director. An oilfield crew hit a guy anchor with a large truck and pulled a tower over after having too much beer. We were married on June 2nd, 1984.

In Odessa, the oil boom of the 80s was going bust, so I took a job at KOUL/KCTA in Corpus Christi. We were there until November of 1999, (just in time for Y2K) when I took a job in Chicago with WOJO and WIND, owned by a company that later became Univision. I was born in Chicago and spent summers there with my maternal grandmother. While there, I got my HAM license, right after the CW requirement was dropped. I learned the code in Boy Scouts visually, with flash cards. I do plan to get proficient in CW soon, but the old way is hard to unlearn.

In 2010 we moved back to Texas. My friend, Bill Cordell (W5VOM) called when I was standing on the frozen Little Calumet riverbed (WIND transmitter site) and asked if I would come back to Texas. As much as I loved the city, ten years of Chicago winter were enough for us, so we moved to Houston. I went to work for KHCB, a religious radio network. I helped expand the network from 26 stations to 55. I am now semi-retired. I am slowing down and planning to travel for fun now. I hope to find more HF nets that are fun that I can check into often and learn CW. I also collect old AM radios.

I really enjoy working on and building high power RF systems. My first transmitter was a 20 Kw Collins 830 FM (830H-1A) that used two 10 Kw tube amplifiers (4CX5000) driven by a 1 Kw driver (4CX1000A). It used a 90-degree splitter/combiner and a reject load to achieve 20 KW output. It was an awesome rig. Later at KCTA I had a 50 Kw transmitter that used a Doherty amplifier with two 4CX35000 tubes. For HAM radio I have an Elecraft K3S and an Ameritron AL-82 amplifier.

I feel very lucky to have found something that I love to do very early in life. I got the radio bug very early!



**RO
CS**

NU5K - Eddie
KBSYTA - Dwayne
KB5OBB - Eddie Jr
KF5RKJ - BLake
W5LIC - Anthony

River Oaks Car Stereo

Since 1990

4129 Richmond Ave

Houston TX 77027

713-626-7627 -

help@riveroakscarstereo.com

riveroakscarstereo.com

2022 Officers:

President (2022-2023)
Michael Hardwick, N5VCX
n5vcx@att.net

Vice President (2021-2022)
Jimmy Vance, NA5D

Recording Secretary (through elections in Nov. 2022)
Jeff Greer, W5JEF
greerjw@hotmail.com

Corresponding Secretary (2021-2022)
Jeff Greer, W5JEF
greerjw@hotmail.com

Treasurer (2021-2022)
David Ely, N5EKW
Davidely@prodigy.net

2 Year At-Large Board Member A: (2022-2023)
Anthony Morones, W5LIC

2 Year At-Large Board Member B: (2021-2022)
Scott Medbury KD5FBA
smedbury@windstream.net

1 Year At Large (2022)
Sheree Horton, WM5N
sher5456@gmail.com

Regularly Scheduled Club Happenings:

General Meeting

Both in person and zoom
Second Thursday each month. 7:30PM
Check www.BVARC.org for more current info.

Board of Directors Meeting

The Saturday before the 2nd Thursday, 9:00 AM
Both in-person and Zoom
Bayland Park Community Center
Bayland Park, 6400 Bissonnet, Houston.
Check www.BVARC.org for more current info.

Volunteer Examiner Program

The monthly ham testing session takes place on the same day and location as the BOD Meeting, but at 10:30 AM. However, please check the BVARC website for any last minute changes or updates. The meeting location is open, however please check the www.BVARC.org for updates.

Rag Chew Net

3910 KHz +/-3KHz Wednesdays at 7:00 p.m.

Public Service Net

Monday night on 146.94 (167.9) at 8:00 PM

Stir Crazy Net is held each weekday at noon. Check www.BVARC.org for current info.

Greater Houston Simplex Net 4th Thursday, propagation net, 7:00 PM, on 146.54 MHz simplex and an alternate frequency of 147.54.

QuestionAIR every Tuesday at 7:00 PM on 146.94, negative (-) shift, PL Tone of 167.9.



Advertising in the BVARC Newsletter

Rates are as follows: Business card sized ads are \$10 each or 6 monthly installments for \$50; Half (½) page -\$25 per month for \$125 for six months and \$250 for one year. The rates for a full page are as follows; \$50 per month, \$250 for six months and \$500 for the year.



BVARC EATING SCHEDULE

SATURDAY MORNING BREAKFAST

IHOP, 7:00a.m., SW Freeway inbound service road, near Kirkwood.

OTHER HAM GROUPS:

WEDNESDAY LUNCH BUNCH

This group has resumed meeting weekly at Luby's Cafeteria, W. Airport & FM-1092 (Murphy Rd). 11AM.

WEDNESDAYS – AMSAT & QRP GROUP

This too is not available at press time. If anyone has information on this, please let the Editor know.



Hamfests

(typically within 200 miles of Houston)

As this issue goes to press, the only Hamfest known or published that is within 200 miles of Houston and within 6 months is our own as follows:

03/03/2023 - 03/04/2023

[Greater Houston HamFest - ARRL Texas State Convention](#)

Location: Rosenberg, TX

Type: ARRL Convention

Sponsor: Brazos Valley ARC

Website: <http://houstonhamfest.org>

For those that are familiar with San Antonio having their Radio Fiesta in January, they changed their schedule due to COVID and apparently are staying with June. The final information will probably be published early in the year.

At this point, we have heard nothing about Austin Summerfest, but assume it will be in August of 2023. Again, it's way too early to get final information.

BRAZOS VALLEY AMATEUR RADIO CLUB

This newsletter, the BVARC BEACON, is a monthly publication of the Brazos Valley Amateur Radio Club. For a full listing of officers and information about BVARC, please go to www.bvarc.org. Detailed information will be published in the BEACON every 3 or 4 months. Similarly, the "Eating Schedule" will be published every 3 or 4 months unless there is a change.

General membership dues are \$25.00 per year, with student dues \$10.00 per year, additional family members \$5.00 per member per year.

Club meetings are temporarily virtual via ZOOM on the 2nd Thursday of each month at 7:00 p.m. If you have signed up for the reflector, you will receive notice and the attendance password, etc. It will also be on the website (above) a few days beforehand.

BVARC amateur radio testing has resumed. It takes place typically on the Saturday before the 2nd Thursday of each month at 10:30 AM. Location: Bayland Park Community Center, 6400 Bissonnet, Houston, 77074. BEFORE GOING, because of COVID and scheduling conflicts, please check the BVARC website for any changes. Masks and social distancing are required.

A Public Service Net is held each Monday at 8 p.m. on the 146.94 (minus offset, PL 167.9 tone) repeater.

During COVID-19 a "Stir Crazy Net" is also held weekdays at 12 Noon on the same frequency as above.

A rag chew net is held each Wednesday at 7 p.m. on 3910 KHz +/- 3 KHz.

To obtain information about joining **BVARC** or its activities, see the BVARC website: www.bvarc.org

Other contacts include:

President:, Mike Hardwick, N5VCX, n5vcx@att.net

Newsletter Editor, John Chauvin, K5IZO, k5izo@yahoo.com

Newsletter Printing, Assembly and Mailing: Daphne Rawlinson, K5VQY, daphne_rawlinson@hotmail.com.

Jeff Greer, W5JEF, greerjw@hotmail.com.


VOLUME 46, ISSUE 11

November 2022

**BRAZOS VALLEY
AMATEUR RADIO CLUB
P.O. BOX 2997
SUGAR LAND, TX 77487-2997
ADDRESS SERVICE REQUESTED**

FIRST CLASS POSTAGE

November 10, 2022 General Membership Meeting, Elections and Chili Supper



*If your mailing label is
highlighted in color, it's time
to renew your membership!*