



BVARC BEACON



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

OCTOBER 2018

VOLUME 42 ISSUE 10

BVARC OCTOBER GENERAL MEMBERSHIP MEETING

Thursday, October 11, 2018, 7:30pm, 421 Eldridge

On tap for the October meeting is a presentation about 3D printing for the Amateur Radio Operator by John Thurmond – K5JBT. From making your own enclosures to the Eiffel tower – come see!



Report on the September General Membership Meeting

Rick Hiller - W5RH, gave a presentation about EZNEC antenna modeling software. The very informative introduction included a resource handout. Quite a few questions and comments were offered – which proved out to be a lively presentation.

Also, many Station-in-a-Box raffle tickets were sold. If you haven't purchased your tickets, the October meeting will be one of the last opportunities before the drawing on November 8th at the Chili Supper meeting.

Ham EXPO! – Belton Hamfest, Saturday, October 6th at Bell County Expo Center, Belton, Texas
South Texas Hamfest, Saturday, October 20th at San Patricio Fairgrounds in Sinton, Texas



Museum Ships – December 2018

Please save the dates – Saturday December 8 and Sunday December 9 for a Pearl Harbor Day weekend activation at the ships. In addition to the radio activation, submariner vets will be present to speak to the public about the silent service. Contact Mark Janzer – K5MGJ to volunteer and for more information.

The Prez Says

Fall is finally upon us and I am ready for it. With the cooler temperatures, everyone should be able to install their HF antennas without getting heat stroke. If you already didn't have your HF antenna ready for the Texas QSO party, now is the time to start getting your HF station ready for the CW and Phone sweepstakes in November. If you need help on setting your HF stations check with other club members on how they did things.

If you missed Rick Hiller's program last month on antennas, check the BVARC website for the video. The program was extremely informative and it answered many questions that I know everyone had. If you questions, I bet Rick will even answer them if you send him an e-mail. Thanks Rick for coming out and doing the presentation.

Coming up in the October meeting will be 3D Printing 101. John Thurmond, K5JBT, will describe the ins and outs on how 3D printers do their magic and what it means to amateur radio (I don't think he can print me an Icom IC-7800 though).

Make sure you put on your calendar the following contests:

October 15 -19 - School Club Roundup

October 27 - 28 – EME 50 MHz to 1296 MHz (for those who are really adventurous)

October 27 - 28 - CQ Worldwide DX Contest, SSB

More contest info available at <http://www.contestcalendar.com/contestcal.html>

Don't forget that Club Elections will be coming up in November. The club needs your help to manage and coordinate all of the aspects of running the largest amateur radio club in Houston. If you would like to help the club by volunteering your time to be on the board of directors, please contact Rick Hiller, W5RH, and let him know you are interested in running for office. You can also nominate someone from the floor if you want to but make sure you talked it over with them so there are no surprises. Please consider running for one of the positions on the BVARC board of directors.

And in December will be the annual Home Brew night. Bring out the best of your home brew equipment and show it off. Let Jon Noxon know if you would like to exhibit.



Museum Ship HMAS Gladstone in Gladstone, Queensland, AU – All radio equipment still works!

73,
Mike,
N5VCX

The South Texas Balloon Launch Team and BLT-50

Andy MacAllister W5ACM

The South Texas Balloon Launch Team flew BLT-1 from the Huntsville, Texas, regional airport on December 8, 1990. Although there have been over 100 flights by the group since then, the “integer” numbers have been set aside for the really big or significant flights. It took us nearly 28 years to get to BLT-50.

Since 1990 many lessons have been learned beyond electronic and mechanical issues. The big ones are launch location and time of year. Find a launch site that will yield a flight with minimal ground-track length and a landing in easy-to-navigate dry, open spaces. Winter flights tend to get caught in the jet stream, usually causing an easterly ground track of 100 miles or more. Don’t fly in the winter and don’t land in lakes, rivers or the Gulf of Mexico. Bill KG5FQX did a serious year-long study of the best launch dates. The results showed that August launch dates are good, but perhaps September and even October dates can be better. Next year’s big flight will likely be in the later months – cooler with shorter ground tracks.

The Wharton Intergalactic Spaceport, just a few miles southwest of the center of Wharton, Texas, has been our favorite since 1992. Our flights have tended to land in open pastures with short trees. Folks like David Allen and Larry David of Wharton have been superb hosts over the years. Larry typically preps the best and tallest hanger, next to the office, prior to our Saturday morning arrival.

There was nothing simple about the gear on BLT-50. Not everything worked perfectly, but we got some amazing surprises that enthralled all who attended. We flew a large 1600-gram Hwoyee weather balloon with a batch of payloads weighing almost 12 pounds, the FAA limit. Helium was thankfully donated by PRAXAIR this year. They have been great supporters.

Last year we discovered that the inexpensive Sain Sonic AP510 APRS trackers outperformed all other units, so we flew two this year on 144.390 MHz – W5ACM-12 and KG5FQX-11. Both did great. The FAA simply goes to <http://aprs.fi> and tracks our flight via the APRS callsigns.

In addition to the camera feeding the DATV DVB-T (terrestrial format digital amateur television), there were three other cameras. We had one looking up to record burst, a side-mounted Go-Pro aimed at the horizon, and a down-looking 360-degree camera/recorder. The down and up cameras froze before burst, but the side-mounted unit by KG5FQX caught great views of burst, parachute deployment and excellent views of the countryside and the Gulf of Mexico. All of the recorded video is in study for subsequent editing and distribution.

The DATV live video was an exciting success. Tom K5SAF has been experimenting and tweaking settings and power levels since the first attempt two years ago. The new antenna (little wheel, horizontally-polarized omni-directional antenna) and the new power amplifier were amazing performers. We had crisp digital video for the whole flight until just before landing. There was always a crowd watching the live feed from our mission-control area next to the office.

The jury is still out on why the DMR cross-band 70-cm repeater and the 70-cm to 2-meter FM cross-band repeaters seemed deaf. It could be that the 70-cm DATV transmitter and amplifier were desensizing the receivers. We will study this thoroughly, but might just run a 2-meter uplink on the FM repeater and physically move the DMR repeater as far away as the connecting payload cords will allow.

Although we really overloaded the balloon with helium to ensure a quick and effective rise rate, we were delighted by a maximum altitude of just over 98,000 feet. No balloon flaws, no pre-flight problems and a great launch on August 25th around 10:30 AM. Two hours later the payloads were neatly lined up in an open field over 40 miles west of the Spaceport. Andrew KE5GDB was one of the first to the site and had his drone in the air within minutes of arrival. He got some great video while flying over the area and even got a group picture of the six-person chase team. Two of the team

were from the Johnson Space Center Amateur Radio Club. Perhaps they will start work on a payload for BLT-51 next autumn. We will be back for the Greater Houston Hamfest next year with fun flights, presentations and displays. Don't miss it!

Editor's Note: For better viewing of these photos, go to the on-line version on the BVARC website.



Perfect Day for a Launch



Elaborate Antennas for DATV and APRS



KK2Z with Antenna AutoTracking Control



Gabe & his Telescope Track the Balloon



K5SAF and the Superb Live DATV



BLT-50 View from 98000 Ft



Balloon Burst Above 98000 Ft



Balloon Debris and Chute Deploys



Drone View of the Landing Site



BLT-50 RecoveryTeam



BBQ at Praseks Hillje Smokehouse
Photos by W5ACM, K5SAF, KE5GDB and KG5FQX

Buy your raffle tickets now for the Station in a Box

BVARC is auctioning off a complete HF station. Includes everything you need to have in order to get on the air for HF operation.....

Icom 756 Pro3 Transceiver, 25 Amp power supply, LDG antenna tuner,
40 meter dipole with coax, Heil Proset Elite headset and J-38 style key

Check out the reviews of this great gear:

Icom 756 Pro3 – QST March 2005

LDG IT-100 ATU – eHam.com

Heil Proset – QST May 2011

\$2 Tickets on sale at every meeting.
Drawing November 8th -- Chili Supper



Texas QSO Party – “Finis” except for your log submittal

As this issue of the BVARC BEACON goes to press, the Texas QSO Party had just ended. It's too early to give some results of who participated. The Editor knows that at least the following BVARC members participated: Nizar, K0NM; Jim, N5DTT; JP, K5JPP; John, K5LKJ; Ross, W5HFF; Kirk, KK2Z & John, K5IZO. There certainly were many more; a more complete list will be published next month.

**REMEMBER: SUBMIT YOUR LOG.
BE SURE TO MARK THE LOG “BRAZOS VALLEY ARC”
(This is usually done when creating the Carbrillo file after the contest).**



Where in the World is . . .
Market Reef (OJ0)
CQ Zone 15 ITU Zone 18
IOTA EU-053



It is cold and uninhabited. Barely 6 degrees of latitude below the Arctic Circle

It's not an island really, basically consisting of about 8 acres of rocks. Located in the narrow part of the Baltic Sea between Sweden and Finland, the island guards the strait to the Gulf of Bothnia. In the summer, the Baltic Sea washes over it and in winter drift ice pushes against it. Nothing grows here. The Market Reef lighthouse is located low to the sea, where waves can wash over

the entire DXCC entity. At high tides, it can only be safely approached by helicopter or zodiac boat.

The island is shared by both countries – and it is the smallest island thus divided between two nations. Market Reef was formally divided between the two sovereignties at the Treaty of Fredrikshamn in 1809 which defined the border between Sweden and Finland, then part of Imperial Russia.

The island was considered no-man's land but in 1885, the Grand Duchy of Finland built a lighthouse on the island. As a practical matter, they built it on the highest part of the Reef. Unfortunately, that was the Swedish part. In 1985 the border was adjusted so that the lighthouse is now located in Finnish territory. The adjustment was carried out so that no net transfer of territory occurred, and ownership of the coastline



was unchanged (see map). Creating one of the weirdest map anomalies in the world (see map).

In 1969 ARRL, the ARRL granted Market separate DXCC entity status. The Finnish telecommunications authority followed suit, giving Market its own unique call sign prefix – marking the birth of OJ0-land.



Market remains a kind of mecca for the international amateur radio community. In 2019 Market will celebrate its 50th anniversary as a DXCC entity. The Finnish Lighthouse Society has shown its support to the ham radio operators

whenever possible. Through their assistance a permanent Force-12 XR6 antenna was erected on the roof of the lighthouse.

Many DXpeditions have visited Market reef in the last 49 years, Market remains one of the most sought-after contacts. Market Reef is number 171 on Club Log's Most Wanted list.

Reporting from the Dark Side,

Ron Litt. K5HM



BVARC Monday Night Public Service Net Updates

Don't forget the BVARC Monday Night Net starts at **8 pm** on 146.94 (167.9). The order of check-ins starts with mobile units first then fixed stations. If you have something for the net, make sure you let Net Control know about it when you check in. We are looking for Net Control Operators. Contact Rick, w5rh, if you are interested.

Due to technical difficulties with the author's computer, this information was not available at press time. Look for this information in next month's newsletter.



Home Brew Night—December 13, 2018



Get your projects ready, 'cause Home Brew Night is a coming!

This popular event is well attended, and there is always a surprise or two in the works.

(And while you're at it, take care about how you hold your soldering iron.)



MINUTES
Board of Directors Meeting
Brazos Valley Amateur Radio Club
September 8, 2018 9:00 AM
Bayland Park Community Center
6400 Bissonnet, Houston, Texas

Board Members Present: Jon Noxon KF5TFJ (Rec. Secretary) Mark Janzer K5MGJ (Vice President) Scott Medbury KD5FBA (2yr @ Lg Dir) Mike Hardwick N5VCX (President) Mike Monsour AC0TX (1yr @ Lg Dir)

Recorded by Jon Noxon, KF5TFJ Recording Secretary

- 1) Call to Order: The President called the meeting to order at 9:17 AM.
- 2) Emergency Business: Mike Monsour AC0TX was appointed by the President to fill the balance of term for One Year At Large Director. He agreed and took the position at the September BoD meeting.
- 3) Establishment of Quorum: A business quorum was established.
- 4) Approval of Agenda: A motion made and seconded to approve the agenda as amended. (See added items 8e and 8f)
5. Club President's Opening Statement: The President thanked those present for attending the meeting. A moment of silence was held in memory of Scott Royall W5RUA, now SK. The President also thanked Scott Medbury and crew for a successful ice cream social.
6. Approval of Minutes from Previous BOD Meeting: The Board approved the minutes for the September 2018 BoD meeting.
7. Approval of Treasurer's Report: The Treasurer's Report was approved.
8. Old Business:
 - 8a. General Membership Meetings scheduled as follows, with topics not listed to be determined:
 - September 13 2018 Presentation by Rick Hiller on EXNEC.
 - October 11, 2018 3-D Printing (John from KARS confirmed)
 - November 8, 2018 Chili Supper and Elections (Rick Hiller)
 - December 13, 2018 Home Brew Night (host Jon Noxon KF5TFJ)
 - 8b. Suggested solder stations for club are on back order at Frys. Other sources available at a slight increase and within budget. Issue is still being worked. Noxon suggested cheap (EBAY) soldering iron temperature calibrators for soldering iron checking. Noxon authorized to purchase qty two for club use.
 - 8c. Cost savings measures: Medbury looked into use of his home owner's association but terrible acoustics. Medbury looking into MUD District meeting room. Janzer inquired of the Fort Bend Library, which has a room that will accommodate 200 people; no long term reservations can be made and other issues disqualify that facility. Slumberger may have a room available; Janzer to check it out. Still moving forward.
 - 8d. BVARC MSWE activities discussed, including the need to get going on Stewart radio room upgrades and repairs. Pearl Harbor day event discussed. Date around the weekend of December 8; Janzer to confirm.
 - 8e. Added item: Raffle status ticket sellers holding on to money until turned over to treasurer.
9. New Business: BVARC will participate in hamfests at Rockport and Belton. Janzer, Medbury and Noxon to attend.
10. Next BOD meeting date: September 8
- Future BoD dates: October 6, November 3, December 1* NOTE: date changed from December 8, for which a room was not available.
11. Comments: Nothing of substance.
12. Adjournment: The meeting was adjourned at 10:09

The Radio Hotel

Antennas—"Where the Rubber Meets the Road"

by Rick Hiller – W5RH

At the BVARC breakfast the other day, I asked one of our resident commercial broadcast engineers, Paul Easter, WW5PA, if he knew of an antenna that was designed specifically for a modulation technique. His answer was a quick and adamant – NO! Just checking. I have often made the statement that once modulation is placed on a carrier and put to the final amplifiers destined for the antenna that the RF produced is RF, plain and simple, and it does not matter whether it is CW, AM, SSB, QPSK, FT-8, DMR, Fusion or one of the hundreds of modulation techniques. RF is RF and the antenna sees only RF. The antenna is designed only for pattern, bandwidth, power level and matching transmission line feed impedance.... but not necessarily in that order. Applying these thoughts to Ham Radio, a neophyte Technician level ham setting up one the latest popular modes, DMR or FT-8, to communicate locally or around the world, will be using the same antenna designs that have been around for many years....some designs maybe a century old. Nothing special for the contemporary DMR radios. Use just a plain old Hertz or Marconi antenna...modified for more gain or directionality, etc.

The antenna is where the RF meets space...similar to the old Firestone marketing catch phrase "where the rubber meets the road". On the road it does not matter whether you are a car or truck or many other vehicles; you use tires where the rubber meets the road. Just like all transmitters and receivers use antennas where RF meets space. Vehicles have different tires depending on the use of the vehicle, just as we hams have a different antennas only depending on the frequency and desired physical range we wish to attain.

As stated 2 months ago in my "Impedance of Space" diatribe, you can't do anything about the impedance of space, so it is best to concentrate on antenna attributes, which we do have control over and can design to an on-air advantage. And that is the point of this particular Radio Hotel diddy. You need to apply certain antenna designs to certain usages of RF with specific requirements like local, directional, omni-directional, NVIS, DX , etc. but not the mode of modulation.

In summary, antennas are the one part of the total RF chain that has not changed drastically. Look between your microphone and the final PA, there has been a lot of development and implementation of strange and wonderful things, like digital filtering or SDR -- software defined radios. Just because you are using the latest FT-8 software to make contacts around the world with less power than your spare refrigerator in your garage, does not mean you have to go nuts on some esoteric antenna. When you can control the gain and direction of your antenna please do so, but where you can't and you can just barely get up a $\frac{1}{2}$ wavelength dipole, then just barely get up that half-wave dipole (horizontal or vertical) and have some fun traveling thru space on an antenna you built and put up. Fully enjoying that interface "where the rubber meets the road".

Enjoy your hobby – Rick --- W5RH

Next time.... Gain – The Final Frontier

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.

Ever thought about Q Signals?

In today's amateur world, VHF/UHF repeater communications are commonplace but the use of Q signals in repeater communications is sadly diminished.

The use of "Q" signals is an amateur radio practice that goes back as early as 1915. When Morse code was the exclusive means of communicating, Q signals were a handy way of shortening common sentences into three letter groups.

Q signals have changed with time but are still widely used in voice communications as a kind of shorthand, especially on the HF bands. QSX originally meant, "Shall I change my spark frequency?" Now we use QSY instead.

In the world of repeaters, we don't QRM people; we "double". We don't use QSB or QSA. Instead we say you have full quieting or white noise or bacon frying (ugh!). We rarely are at a QTH where we can QRT or QRV. We are usually at home, work or some other place. We no longer QRX, QSY or QRZ. In the D-star world, we use R2D2 to describe when a signal loses intelligibility.

Q codes are an important aspect of amateur communications. I use them liberally when there are non-hams visiting. It helps to create curiosity about ham radio. Usually, something like, "What the heck did you say?"

QSO's on repeaters tend to have a lot more local and personal content. In order to revive the use of Q Signals on VHF/UHF, what we need is a set of Q codes more appropriate for this mode of communication.

Some Unique Q Signals for Repeater Use

QWK Going to work. Are you going to work?

QHO Are you headed for home? I'm headed for home.

QTF Is traffic is bad? Traffic is terrible!

QBQ Know a good BBQ place? I know a good BBQ place

QCF I am going for coffee. Are you going for coffee?

QGA I am stopping for gas. Are you stopping for gas?

QHG Did you just pass gas? Phew!

QBR I need a beer. Me too!

QHD Going to Home Depot (Lowes, Ace Hardware, Radio Shack)?

QLT Are you late? I am way late!

QTO Are you on the way to breakfast? QSL.

QNW No way! Way!

QDT Done that. Been there (Interchangeable with QBT)

QBT Been there. Done that (Another way to QDT).

QDW That Doesn't Work. Yes it will.

QWW That Won't Work! (QDW with emphasis).

QHF Going to the hamfest? I am/am not going.

QIX XYL is in the car. Don't mention what I bought at the hamfest. QSL?

Reporting from the Dark Side,

Ron Litt. K5HM

BVARC Rag Chew Net

Below is the BVARC Rag Chew Net check-in information:

08/29/18, K5LKJ (NCS), W5TKZ, W5VOM, K5LJ, WW5PA/5 (M)(Edinburg), K5JPP, K2MPP, KJ5Y (RCS)(W5FMH/club)(Angleton), K5IZO. (9 Check-Ins) / Band Rpt: Good / Solar Cycle 24: SFI = 70, SN = 11, A = 10, K = 2

09/05/18, K5LKJ (NCS), K2MPP, K5JPP, WW5PA/5 (M)(R)(LA), W5TKZ, K5IZO, K5LJ, KF5ONT, AA5OA (Ft. Smith, AR), W5VOM, W5RH, W1BG (Katy), AA0ST (Dickinson). (13 Check-Ins) / Band Rpt: Fair /

Solar Cycle 24: SFI = 67, SN = 0, A = 9, K = 3

09/12/18, K5LKJ (NCS), K5JPP, K2MPP, KF5ONT, K5TNL (Spring), W5VOM, K5LJ, W5TKZ, N5EKW (Katy), K5IZO, KG5YYQ, AA5OA (Ft. Smith, AR).

(12 Check-Ins) / Band Rpt: Good /

Solar Cycle 24: SFI = 69, SN = 14, A = 35, K = 2

09/19/18, K5LKJ (NCS), K5JPP, W5VOM, W5TKZ, K5IZO/5 (Jasper)(P), W5TOM, KF5TFJ, W1BG (Katy), K5LJ, KF5ONT, AA5OA (Ft. Smith, AR), NRDFTT (Bellaire)(R), KF5ZXB (Dallas), KJ5Y (RCS)(W5FMH/club)(Angleton), N5EKW (Katy), KG5WPE, K2MPP. (17 Check-Ins) / Band Rpt: Fair
Solar Cycle 24: SFI = 67, SN = 0, A = 6, K = 1

(M) = mobile (P) = Portable (R) = Relay (RCS) = remote controlled station (T) = telephone check-in

Net conditions have been fair to good this month. Improve your station.

Come join in the conversation each Wednesday evening. Regards. John K5LKJ



Hamfests

(typically within 200 miles of Houston)

Hamfest info for the next few months. More information at: <http://www.arrl.org/hamfests.html#listing>

10/20/2018 | South Texas Hamfest & Electronics Expo

Location: Sinton, TX

Type: ARRL Hamfest

Sponsor: South Texas Hamfest Association

Website: <http://www.southtexashamfest.org>

01/12/2019 | San Antonio Radio Fiesta 2019

Location: Schertz, TX

Type: ARRL Hamfest

Sponsor: San Antonio Radio Club

Website: <http://w5sc.org>



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 normally held on the 2nd Thursday of each month at 7:30 p.m. at the Sugar Land Masonic Lodge, 421 Eldridge Rd, Sugar Land, 77478. Check the above website for any possible changes.

BVARC amateur radio testing is being reorganized. Check upcoming newsletters or the BVARC website for developments.

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

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, contact the club's "**Elmer**," Ross Lawler, W5HFF at 281-701-7602 or see the BVARC website: www.bvarc.org

Other contacts include:

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Keith Stolle, KE5ITH, keith@ke5ith.com; Jo L. Keener, KE7NSB, jolkeener25@gmail.com ;

NOTE: Officers, advertising and eating schedule are on the website. They will only be published in the Newsletter every few months.

VOLUME 42, ISSUE 10

OCTOBER 2018

**BRAZOS VALLEY
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FIRST CLASS POSTAGE

October 11, General Membership Meeting



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