



# The Compass!

**Official Newsletter of the Great South Bay Amateur Radio Club, INC.**

**April 2019**

**Volume 47**

**#4**

- **GSBARC Free Technician License Classes Begin Tuesday, April 2nd, 7-9:30 PM**

**Next General Membership Meeting: Thurs., April 25th, 8 PM**

**Inside this issue:**

- **FCC Ban on Linear Amplifiers**
- **QRP Labs OCX CW Transceiver**
- **Dumpster Diving**
- **Lighthouse or Missile System?**



**Long Island's Friendliest Amateur Radio Club!**

# President's Message



Well, I hope that the warmer weather is here to stay. Sorry I missed you all at the general meeting. I was unable to attend due to my certification training which I had to attend in Allentown, Pennsylvania twice this month. I hope everyone is doing well as I know a lot of us with allergies have to deal with all that stuff in the air.

I know everyone is excited that the two KB2UR repeaters will be up and running in the very near future. The 147.255 will be a steerable DSTAR repeater and the 446.775 will be an open Fusion repeater. So with that in mind you might want to pick up a Fusion or DSTAR radio. The prices have come down a bit. If you have not tried those modes, you would be surprised that you can talk around the country and the world without a huge antenna farm. The new remote receive site for the W2GSB is going to be online soon. Thank you to the crew that handled that install. Most of you do not know the hard work that goes into getting all this done. It's nice to come up with all these Ideas but getting it done can be a real process. You can't just walk into a place and do what you want. Trust me: if we could just walk in and put stuff up, things would go much faster.

So, what is going on with the remote station idea? Well I still have to meet with the planning board to get final approval. Then when that is done we can start going over the tower as far as cables and hardware and everything else. We will of course have to go over the antennas and make sure they are perfectly tuned. We still have to decide on how fancy we are going to get with the remote site. Since it will cost a few dollars to build this station we should make sure we will build it right the first time. Speaking of things going on, we are sure going to be busy this month especially at the end on the 27th. The one-day class crew has a large one-day class and of course we also have the Marconi Day Special Event in Babylon Village. As our club grows, so do things we love to do. If you have an idea for a special event,

please find out if a permit is required and if insurance is also needed before committing to an event.

Our club is a well-rounded club. Let's see: free classes, open houses, kit building, contesting, public service, and an antenna crew and the friendships that form to last a life time. In amateur radio, you can have friends around the world. One thing with our hobby you can never underestimate the amount of fun you will have. Believe me when I say this -- if you have been on HF you all know how fun it is to talk to someone from another part of the world. Many times, you will run into someone on the air and realize he or she is in your log. Then that's where you start to have fun and reply "nice to work you again" and sometimes that turns into a rag chew, followed by emails back and forth. Many times, I have come across operators from other countries while traveling with the family. I usually have one or two club shirts and some with my call sign on it. It is always nice to put a face to callsigns you worked on HF. And now with the modes of DSTAR and Fusion you might run into that while away somewhere.

A while ago I mentioned a device called ISS Above. As I finish up this month's message I have a great view of the Indian Ocean from the ISS. If you have kids or you are into space stuff yourself this device is awesome. You get real-time video of the view from the ISS' multiple cameras it also gives you real tracking data as to where it is. It also predicts passes over your QTH. Setup was easy: plug into your router or network, switch and the HDMI from the device to an input on your TV and get great pictures and info on crew and events.

Babylon RACES members: please make every effort to be on the NYS RACES Net on Sunday mornings at 9 local time on 3.993.50 LSB. We are Region 1. Please if you check in, stay until the end to roger the drill message. Also I hope by now everyone has digital capabilities on HF as well as VHF/UHF. I have mentioned this many times -- it is VERY important to be ready to receive a message in any mode.

I would like to thank the rest of the board for stepping up and taking care of the meetings when I cannot make them. Like many of you, as we modernize the construction equipment I have to attend many training seminars to stay up to date so I can be able to reliably diagnose all those big machines.

In closing, the ISS is showing live video of the South Pacific Ocean now -- really cool stuff!! -- again, it is called ISS Above.

Thank you, the membership, for all your great ideas and your involvement in events from special events and public service events. To the rest of the executives and directors, thank you for everything that you do. Many people do not realize that all of them are always doing something for the



club from technical stuff, promoting the club and making sure that you have a great experience. We hope that you will all continue to come up with new ideas from events to kit building. If you have an idea please email to [info@gsbarc.org](mailto:info@gsbarc.org). Every idea gets looked at so don't be shy -- let us know! But no matter what you do have a ton of fun with amateur radio. I know I say this too much but it is true you can have a lot of fun so please get on air, build something, get involved.

73. John Melfi, W2HCB ☺

## The GSBARC 2019 Annual Field Day Raffle is Here and This Year it's DIGITAL!!!

*GSBARC is bringing its new Yaesu Wires-X repeater system on-line and there's never been a better time to get into the new digital modes than now!*

**The Grand Prize is a Yaesu FTM400XDR VHF/UHF Mobile radio featuring 50 W FM, C4FM FDMA w/ GPS for APRS(1200/9600 bps) and Micro SD**

**Second prize is a Yaesu FT2DR Dual Band 5 Watt C4FM/FDMA Digital Touch Screen Hand Held Transceiver**

**As always, tickets will be \$5 ea. or a book of 5 for \$20**

**Raffle drawing is during Field Day dinner on Saturday June 22nd Winner need NOT be present to win!**



## More on the QRP Labs QCX CW Transceiver

By John Smale K2IZ



I still don't remember just where I saw the QRP Labs QCX Transceiver advertised but it was on the day it was initially offered, Aug. 21 2017. It was a QRP single band transceiver with a lot of features for only \$49 plus shipping. Yes I was interested. I went to the website and placed my order. To say the initial offering was good is to say the least: I had to wait until October before my kit arrived and it had been shipped from Japan!

Since that date newer versions have come out with bug fixes and enhancements. I still have my version 1 and also a version 3. According to the owner and designer, Hans – GOUPL, there have been more than 6,000 kits sold worldwide as of early 2019. Taking a look at the shipping information, Brazil leads the world with 3,284 kits, followed by The Netherlands at 2,204, Israel at 1,924, France at 1,843 followed by the United States at 1,794. Manuals are available in English, Russian, Japanese and German.

Markus DL6YYM offers a very nice enclosure for the QCX transceiver for \$37. I had made a couple of attempts to build a case for mine but after seeing what was offered by DL6YYM I gave up. It's nice to have a perfectly machined and labeled case with all the parts included. As of this time he has sold 1,050. So for close to \$100, enclosure and kit plus shipping, you get a transceiver that includes the following:

- Easy to build, single-board design, 10 x 8cm, all controls are board-mounted
- Professional quality double-sided, through-hole plated, silk-screen printed PCB
- Choice of single band, 80, 60, 40, 30, 20 or 17m
- Approximately 3-5W CW output (depending on supply voltage)
- 7-16V recommended supply voltage
- Class E power amplifier, transistors run cool... even with no heatsinks
- 7-element Low Pass Filter ensures regulatory compliance
- CW envelope shaping to remove key clicks

*Continued on page 6*

## OCX CW... cont'd from page 3

- High performance receiver with at least 50dB of unwanted sideband cancellation
- 200Hz CW filter with no ringing
- Si5351A Synthesized VFO with rotary encoder tuning
- 16 x 2 blue backlight LCD screen
- Iambic keyer or straight key option included in the firmware
- Simple Digital Signal Processing assisted CW decoder; displayed real-time on-screen
- On-screen S-meter
- Full or semi QSK operation using fast solid-state transmit/receive switching
- Frequency presets, VFO A/B Split operation, RIT, configurable CW Offset
- Configurable sidetone frequency and volume
- Connectors: Power, 3.5mm keyer jack, 3.5mm stereo earphone jack, BNC RF output
- Onboard microswitch can be used as a simple straight Morse key
- Built-in test signal generator and alignment tools to complete simple set-up adjustments
- Built-in test equipment: voltmeter, RF power meter, frequency counter, signal generator
- Beacon mode, supporting automatic CW or WSPR operation
- GPS interface for reference frequency calibration and time-keeping (for WSPR beacon)

Now Hans has written a 25-page troubleshooting manual, covering just about every problem he and other builders have run into. The first page is a full schematic broken out to transmit, digital section and receive/ I-channel and Q-channel, all marked out in different colors, showing how each section operates, Just follow the lines. The only tools needed are an O scope, external digital VOM, or if the internal digital section works, the enclosed digital VOM.

The link for the troubleshooting manual is [www.qrp-labs.com/qcx/qcxtrouble.html](http://www.qrp-labs.com/qcx/qcxtrouble.html)

I have found the kit to be an easy to moderate build. The longest part is separating the parts and then checking them and marking the values. Build time is up to the individual. I find it's better to take your time, check and double check the placement of components. I have found the transformer to be the hardest part of the build but, remember, the Great South Bay ARC does kit building. If you want to attempt to build this kit, you will find that there are several "Elmers" who will be more than willing to help you if you bring it down to a kit-building session. Along with the kit you will need a decent variable temperature soldering iron, strong magnifying glass, anti-static mat and hand tools suitable for miniature work. Ask some of us and we can give you further suggestions.

Besides the kit building part, the troubleshooting section gives you a very nice illustrated description of the theory of operation and troubleshooting. It's a great way to further your education in electronics and amateur radio. ☺

## If It's Trash Day I'm Collecting!

By Urb LeJeune W1UL (Urb@ham-cram.com)



**P**rologue:

I was born in 1932, which by definition made me a Depression baby. This episode in the life of Urb the emerging nerd, demonstrates that people were totally capable of doing economically irrational things during the height of the Depression. They would throw things away needing only simple repairs

How it all began:

At the time my trash picking started I was in 7th grade and I was the only student living far enough away from school that I couldn't make it home for lunch, and back, in the allotted hour. I was a brown bagger.

On an early beautiful spring day I was walking leisurely to school and there in front of me was a beautiful floor lamp. I realized that if I waited until school let out the lamp would have been long deposited in a landfill (we call them junk yards back then.) I picked it up and started walking toward school. About two blocks from school was an empty wooded lot. I put my lamp in the lot and camouflaged it with a few branches and continued to school. I agonized all day worrying that someone would abscond with my lamp.

After school, there is was. I took it home and showed my father and he determined that the lamp had a switch that was not functioning, we went to a local hardware store and purchased a new one. (Home Depots didn't appear for many decades into the future.) Lamps similar to my trash pick find were selling for about five dollars of 1940s money.

A new switch cost about 20 cents. Although my knowledge of the consequence of the Depression was very limited I still found it strange that people would throw away a five dollar lamp because it needed a 20 cent switch. The lamp, with a new shade, occupied a place of honor in the LeJeune



household for years to come. My mother, God rest her soul, was very excited about anything I did not requiring a trip to see the principal of my school.

After the experience with the lamp, I started leaving for school about a half hour earlier than I usually did on trash day. One day someone threw away a pair of roller skates (the type you attached to your shoes and tightened with a key.) I fashioned a wagon with a milk box and the skates. I was now ready for the big time of trash collecting. I made a camouflaged den in the lot close to school and was in the trash picking business.

#### Turning Trash into an Art Form:

Even I was amazed at the quality and variety of things thrown away despite the economic conditions. When a discarded item contained gears I was in Trash-Land heaven. If a discarded item contained a motor, functioning or not, I was in paradise. Thrown away items with gears were especially prized, I used gears mounted on a piece of



plywood to make Christmas presents. My relatives told me how creative I was but my artwork typically wound up on their basements wall.

At Christmas time I loaded some of my artwork into wagon and traversed my neighborhood selling my wall hangings. When people asked how much? I replied, “whatever you think it’s worth.” I made enough money to get nice presents for my mother and father.

#### Spare Parts:

Growing up my family lived in half of a farmhouse. I had a corner of the basement all to myself. My little den served as workshop, storage area, and a laboratory for perform experiments. My attempt at making artificial diamonds was a barn-burner but an article for the future.

#### Epilogue:

An event viewed through the keyhole of currency frequently takes on a greater meaning when viewed through the rear-view mirror of realism. As an example, the fact that I lived at a greater distance from school than any other student probably lead me to trash pick. If I walked to school with other students I doubt I would not have trash picked.

I went through a period between jobs, a nice euphemism for being unemployed, and money was tight so I put my trash picking days to good use. On the bulletin boards of local super markets I posted notices, “Small appliances repaired, no fix no pay.” The results were a godsend when satisfied customers recommended me to neighbors and friends.

When times are tough we frequently receive the emotional help to give us the strength to get through these period, if we are alert to them.

73 Urb WIUL urb@ham-cram.com

—When not writing articles for newsletters Urb is either working FT8 or enhancing his website, ham-cram.com. The WIUL licensing system has 4 distinguishing characteristics: 1. Only study correct answers, 2. Only study questions most likely on the FCC test, 3. The fastest and easiest path to a license, and 4. Totally free.



# FCC Abuse of Power Investigation



The FCC has announced that it has concluded a 3-year-long investigation into allegations of radio amateurs systemically violating **§97.313 Transmitter power standards**, section (a) which states:

*(a) "amateur station must use the minimum transmitter power necessary to carry out the desired communications."*

The FCC appointed a committee to look into the matter and after 3 years of monitoring over-the-air RF densities using calibrated meters and antennas and direct observation of amateur stations in use, determined that the vast majority of amateur radio operators consistently used the maximum power output of their equipment.

Mobile radios using local repeater systems routinely had their power levels set to maximum even when the minimum settings would have sufficed.

The committee reported that home HF base stations were capable, on average, of 100 watts output (they also noted that several manufacturers produced units capable of 200 watts output). All of the observed operations were conducted at the maximum output power regardless of the distance between stations or the propagation conditions.

Some of the most blatant violations were found among amateurs using amplifiers external to their transceivers. HF linear amplifiers were recorded using an average of 800 watts output power, again, regardless of the distance or conditions. Approximately 3% of power amplifier users were found to regularly operate at legal limits, 1,500 watts, and beyond. In extreme cases amateurs were found to have purchased commercial AM radio station transmitters capable of many thousand watt outputs on which they operated in blatant disregard not only of good practices, but without properly identifying their transmissions in an attempt to shield themselves from fines or loss of license.

The FCC has weighed its options and has decided to modify part **§97.313 Transmitter power standards**, sections (b) and (c) which currently states;

*(b) No station may transmit with a transmitter power exceeding 1.5 kW PEP.*

*(c) No station may transmit with a transmitter power output exceeding 200 W PEP:*

The change to the rule will now read:

*(b) No station may transmit with a transmitter power exceeding 200 W PEP.*

*(c) No station may transmit with a transmitter power output exceeding 100 W PEP:*

Any radio amateur exceeding these power limits will be subject to a fine of \$10,000 per violation and suspension of their operating privileges for a period of 5 years.

When asked for comment a spokesperson gave the following statement:

*"The FCC does not want to punish the good guys and gals out there who follow the rules. It's always a few bad apples that ruin it for the rest, but in this case we found that most of the apples were rotten and it was the minority of radio amateurs who kept their power levels low."*

Therefore beginning April 1st, 2019 the FCC has banned all HF linear amplifiers capable of output power exceeding 200 watts and will require owners of those base stations capable of producing 200 watts to have power output regulators installed to limit them to 100 watts maximum.

Additionally the FCC is looking into the issue of restricting antenna gain to a maximum of 6 decibels effective radiated power. ⚡

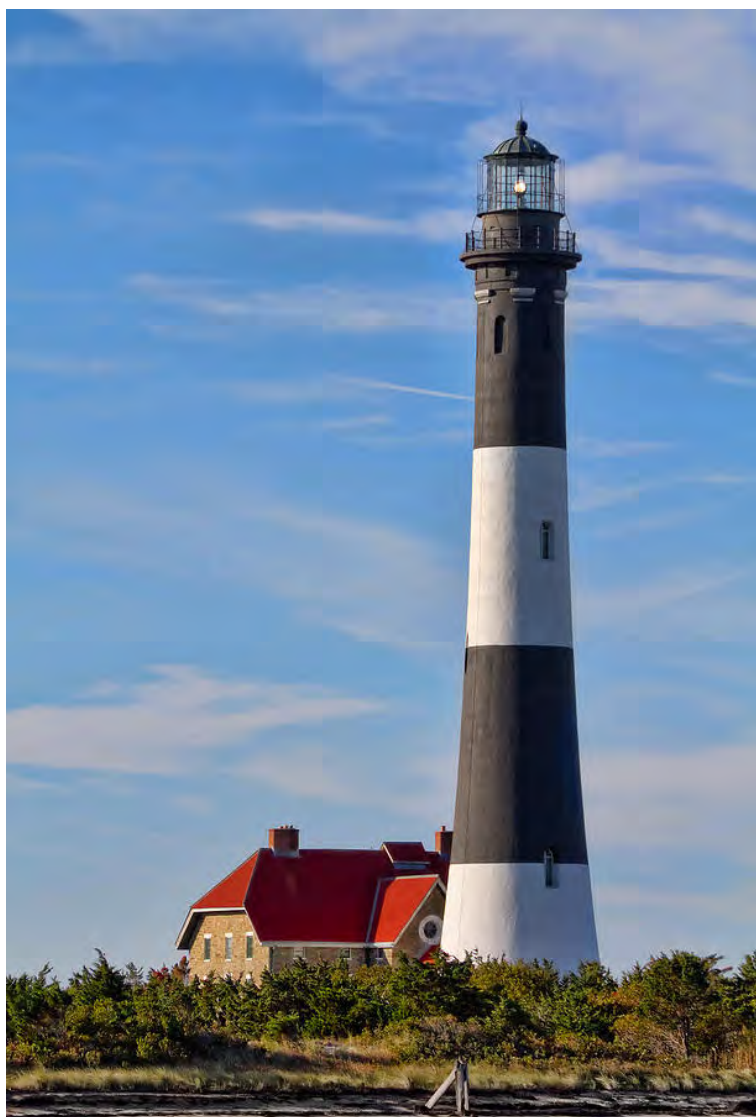




## *Hidden Right in Front of Us— Lighthouse/Space Ship?*



*“Men in Black” was telling the truth!*



*The Fire Island Lighthouse we all know and love:*



### *Rocket Lab Scrubs Launch of Experimental DARPA Military Satellite*

A fueled Rocket Lab Electron booster carrying the R3D2 antenna technology demonstration satellite for DARPA stands atop its Mahia Peninsula launch site in New Zealand during a launch attempt on March 24, 2019 EDT (March 25 New Zealand time).

[https://www.space.com/rocket-lab-scrubs-r3d2-darpa-satellite-launch.html?utm\\_source=sd-newsletter&utm\\_medium=email&utm\\_campaign=20190325-sdc](https://www.space.com/rocket-lab-scrubs-r3d2-darpa-satellite-launch.html?utm_source=sd-newsletter&utm_medium=email&utm_campaign=20190325-sdc)

Next time you climb to the top of the Lighthouse, bring your space helmet! 🚀

*GSBARC is no longer using Yahoo Groups due to issues with the platform. We have transferred everyone over to <https://groups.io/>*

*If you were a member of any of the Yahoo groups just sign up for a free [groups.io](https://groups.io/) account and you will have access to the new groups. [Groups.io](https://groups.io/) has most of the same features as the Yahoo groups and some additional ones as well, like the ability to have live chats. ☺*

### Club Apparel

Want a shirt, jacket, hat, sweatshirt or t-shirt with a Great South Bay club logo? We now use *Mr. Shirt*, located at 80 East Montauk Hwy. in Lindenhurst ([www.mrshirt.com](http://www.mrshirt.com)). Now you can get color matched backgrounds on your logo too. Check them out... ☺

### ARES/RACES Information

- Div. 1—Town of Babylon ARES/RACES  
Net: 146.685/R, Mondays 8:15 PM  
EC/RO: John Melfi, W2HCB, (631) 669-6321
- Div. 2—Town of Huntington ARES/RACES  
Net: 147.210 MHz +600/ PL 136.5,  
Mondays 7:00 PM  
EC/RO Steven W. Hines, N2PQJ,  
<http://www.huntingtonnyaresraces.org/>
- Div. 3—Town of Islip ARES/RACES  
Mondays 8:30 PM  
EC/RO: John J Blowsky, KB2SCS, 631-467-2410
- Div. 4—Town of Smithtown ARES/RACES  
Net: 145.430 MHz, PL136.5, Mondays 7:30 PM  
EC/RO: Rich Johnston, KC2TON, 631-872-4039
- Div. 5—Town of Brookhaven ARES/RACES  
EC/RO: Ted Debowy, AC2IR, 631-751-6576
- Div. 6—Riverhead ARES/RACES  
EC/RO: Steve Casco, W2SFC, 917-701-3919
- Div. 7—Southampton ARES/RACES  
EC/RO: Removed & Currently Vacant
- Div. 8—Southold ARES/RACES  
EC: Don Fisher, N2QHV, 631-765-2757  
RO: Charles Burnham, K2GLP, 516-779-4983
- Div. 9—East Hampton ARES/RACES  
EC/RO: Eddie Schnell, WZ2Y, 864-973-9250
- Div. 10—Shelter Island ARES/RACES  
EC/RO: Vacant (Neal Raymond, N2QZA, SK)

#### Suffolk County

#### ARES/RACES Net:

Mondays 2100 Local—145.330/R (136.5PL)

Alternate Frequency—146.820 (136.5 PL)

#### New York State

#### RACES Net (HF)

Sundays 0900 Local, 3993.5 KHz LSB

## 2019 VE Session Dates

- April 27th
- May 25th
- June 22nd
- July 27th
- August 24th
- September 28th
- October 26th

*All sessions are at the Town of Babylon EOC at 10 a.m., located in the basement in the rear of town hall. Please bring photo ID, a copy and your original amateur radio license (if you have one), and any CSCEs you may have. Non programmable calculators are allowed. The exam fee is \$15 payable by cash or a check made out to "ARRL VEC."*

*Visit [FCC Universal Licensing System site](http://www.fcc.gov) to register for an FRN number to use on the paperwork.*

### The GSBARC Repeater List

- 146.685 W2GSB - shift 110.9 Hz Enc/Dec
- 223.860 W2GSB - shift 110.9 Hz Enc/Dec w/ ECHOLINK
- 223.860 - shift 156.7 Hz Enc/Dec Local use
- 440.850 W2GSB + shift 110.9 Hz Enc/Dec
- 446.775 KB2UR - shift 110.9 Hz Enc/Dec
- 927.3125 W2YMM - shift D606 Enc/Dec
- 440.250 W2TOB/B + shift DSTAR REF020A Babylon
- 445.725 WD2NY/B - shift DSTAR REF020A Selden

Grow Giant Vegetables with **MAGIC MANURE**, manufactured daily on the farm. 40- to 50-lb bags free for the taking, already bagged. Pick-up or Delivery to EOC available. References available upon request. Contact Salli at:

[k2ryd@arrl.net](mailto:k2ryd@arrl.net).



## All Flag & Flagpoles

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## Club Name Badges

Club name badges are available from *The Sign Man* ([www.thesignman.com](http://www.thesignman.com)) of Baton Rouge, LA.

The badges which are 1-3/4 in. x 3 in. If you visit The Sign Man's webpage you can order the badges by using a drop down selection on the orders page and clicking on "Great South Bay ARC—NY" ☺

