



# Garden School Amateur Radio Club

## Newsletter

### 4th Quarter - 2016-2017

Welcome to the Garden School Amateur Radio Club!! Our club was started in 2016 with some generous donations from an alumnus and in conjunction with the Hall of Science Amateur Radio Club serving as our mentors.

## What the Heck is UHF

Witte, Bob. "Shack Talk Archives." Ham Radio School.com.

Shack Talk, 3 Mar. 2017. Web. 25 June 2017.

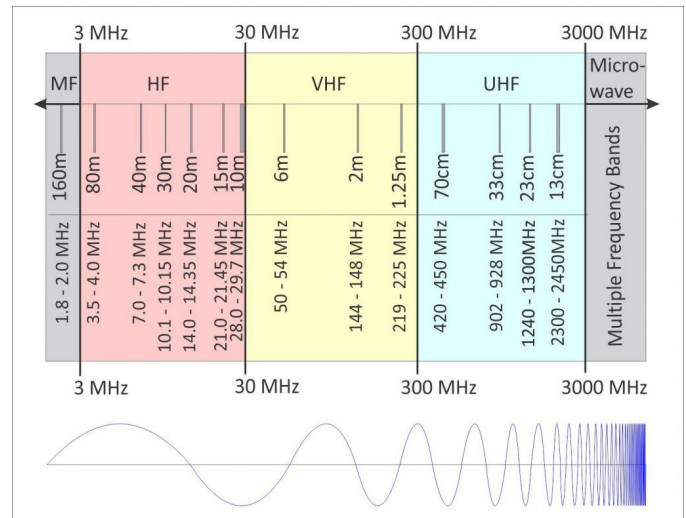
<[http://www.hamradioschool.com/category/current\\_articles/shack\\_talk/](http://www.hamradioschool.com/category/current_articles/shack_talk/)>

Recently, I got into a twitter exchange about a UHF radio. It seems a ham was complaining that someone had advertised an 800 MHz radio, describing it as "UHF". His issue was that in land mobile radio, UHF is commonly used to refer to radios in the 380 to 500-ish MHz range. I was using the ITU definition of UHF, which is any frequency between 300 MHz to 3 GHz. This got me thinking about how we toss around these terms quite loosely, even though they have precise definitions. Let's start with the basics, the ITU definitions of radio spectrum.



the HF range, as expected. Note that 10m almost qualifies as a VHF band, coming in just shy of the 30 MHz limit. That band does have some VHF tendencies. The 160m band (1.8 to 2.0 MHz) actually falls into the MF range even though many of us just think of it as HF.

Amateur bands represented within HF, VHF, and UHF ranges. (Some omissions for legibility: 60m, 17m, 12m HF bands.) There are three VHF bands: 6 m (50 to 54 MHz), 2 m (144 to 148 MHz) and 1.25 m (222 to 225 MHz). The UHF range includes the 70 cm (420 to 450 MHz), 33 cm (902 to 928 MHz), 23 cm (1240 to 1300 MHz) and 13 cm (2300 to 2450 MHz) bands.



LF	Low Frequency	30 to 300 kHz
MF	Medium Frequency	300 kHz to 3 MHz
HF	High Frequency	3 MHz to 30 MHz
VHF	Very High Frequency	30 MHz to 300 MHz
UHF	Ultra High Frequency	300 MHz to 3 GHz
SHF	Super High Frequency	3 GHz to 30 GHz

You can see that the basic scheme divides up the spectrum into decades (factors of ten), aligned with frequencies that start with 3 (e.g., 3 MHz, 30 MHz, 300 MHz). If we map the amateur bands onto this system, we see that the bands from 80m (3.5 to 4.0 MHz) through 10m (28-29.7 MHz) fall into

The two most commonly used bands in the VHF/UHF region are 2 m and 70 cm. These bands are home for lots of FM repeaters, FM simplex, SSB simplex and plenty of other modes. Common dualband transceivers, both mobile and handheld, operate on the 2m and 70cm bands. These radios are so common that we often refer to them as VHF/UHF dualband

radios. Accordingly, you will often hear hams refer to the 2m band as simply VHF and the 70 cm band as UHF, as if VHF means 2 meters and UHF means 70 cm. I know I've been guilty of saying "let's switch over to VHF" when I really mean "let's go to the 2m band." The 2m band is certainly VHF but VHF does not always mean 2 meters. Similarly, we might say "I'll call you on the UHF repeater" when it would be more precise to say "I'll call you on 440 MHz."

Many times being loose with terminology doesn't matter but there are times when using the right words can make a difference. Think about this the next time you are referring to a particular frequency band.

This entry was posted in [Shack Talk](#) on [March 13, 2017](#) by [Bob Witte](#).

## ARRL Annual Field Day / Science Expo



The Garden School ARC, mentored by the Hall of Science ARC, hosted our first Field Day and Science Expo. Field Day is the single most popular on-the-air event held annually in the US and Canada. On the fourth weekend of June of each year, more than 40,000 radio amateurs gather with their clubs, groups or simply with friends to operate from remote locations.

We wanted to take time to thank all the people that helped to make the ARRL Field Day / Science Expo happen. All of our volunteers worked hard for the two days to help get the word out about amateur radio and expose people to what Garden School Science Program is all about. Below is a list of some of the goals that we met for the event

- We had about 20 different families come to visit and see what we were up to.
- Of those 20 families we were able to give school/camp tours to 6 of them. We think we will have 2 camp sign-ups and 1 family had many questions about our school program and said they will be contacting the school this week to get a more formal tour.
- NYC Council Member Eric Ulrich from District #32 visited. We gave him and his family a 40 minute tour of our school. He was very impressed and had many questions about our school and offered to help out with our Student Internship Program.
- Working with the Hall of Science ARC, all our student volunteers were able to get on the air and talked to about 20 different states and 1 country.
- 2 Members of the National ARRL Organization came to see our us and were very impressed with our set-up and said that this is what they would like to see more clubs do.
- Our 12 student volunteers (grades 5 to 11) were able to make 20 Maker-Keys for the public, showing off their soldering skills. This was practice for the National Makers Faire in September at the Hall of Science.
- Ms. James made close to 18 Morse Code Bracelets and was able to teach students about morse code and how to use it.
- Ms. Dapice & Mr. Hale along with student volunteers worked with about 25 kids and parents to show them how to code and run a robot.
- Mr. Kahn worked with about 12 kids and adults, demonstrating and allowing them how to extract DNA from fruit.
- We demonstrated the school's 3D Printer and gave about 15 printed objects away to the public.
- We used our Solar Panel to run one of our transceivers.
- Mr. Hale and a member of the Hall of Science showed off their repair abilities by fixing the 3D Printer and a motorized skateboard with parts printed from a 3D printer.
- The Garden School ARC, K2GSG, was able to score 1,154 points on our first Field Day.





# Garden School Amateur Radio Club

All in all it was an amazing weekend. Next year's will be even better.

*However, none of this would be possible without the help of the volunteers and people and organizations that made donations. We want thank all of you who came out and helped. It means a lot to us that you support what the science department of Garden School is trying to accomplish.*



Below is a list of our volunteers. If I am missing anyone, please let us know.

### Volunteers & Donations

Hall of Science	Special Guest	Garden Students	Garden Staff	Garden Parents	Donations
John Hale, KD2LPM Gerard Pilate, N2WGF Matthew Berman, K9NYS Mike Ricatto, KK2KKK Steve Greenbaum, WB2KDG Edward Liftin, KC2AN Joseph DeTiberiis, KD2NIR Julius Kelley, Tech Edison Figoli, KD2NIP Thomas Mckeon Vincent Clowney, KC2NPK Les Sugai, N2UJG Max Mikulecky Susan Thau KD2GYA Yuriy Golovenko	Mike Lisenco, N2YBB Jim Mezey, W2KFB Eric Ulrich, NYC Council Member - District #32	Nina James - 5th Nate Warren - 5th Ava Zamora - 5th Theodora Reyes - 5th Michael O'Sullivan - 6th Ryan Hong - 6th Tyler Tian, KD2NIQ - 7th Soleil Warren - 8th Kristian Gomez - 8th Dylan Tse, KD2NIN - 10th Matthew Vollo - 10th Aneesh Didwania - 11th	John Hale, KD2LPM Marlene Dapice Paula James Stella Stenos	Ms. Warren Mr. & Mrs. O'Sullivan Mr. & Mrs. Hong Mr. James Ms. Zamora Ms. Reyes Mr. Kahn	Ms. Frision Food 9V Batteries Ms. Zamora 9V Batteries Toilet Paper Rolls John Hale, KD2LPM LED Lights Resistors Food and Drink Batteries Ms. Atwood Toilet Paper Rolls Ms. Gomez Food and Drink Ms. Warren Food and Drink Mr. & Mrs. James Signs Mr. Kahn DNA Extraction Lab Hall of Science Equipment Expertise ARRL Maker

#### Special Thanks to

- Gerard Pilate, N2WGF, Mike Ricatto, KK2KKK, Matthew Berman, K9NYS for all you do for our school and club. Without you our club would have never happened.
- Amateur Radio Relay League (ARRL) which made generous donations of Makers Key Kits, Books, Handouts, T-Shirts, Hats, Stickers, Pins, and more. It helped to round out an amazing weekend.

## Garden School ARC Plans for 2017-2018

The Garden School ARC is planning a few things for next year. The Club will meet once a week during the school year and will be broken down into 2 sections. The first section will be the Building and Designing Section. This will be open to the Upper Division Students and they will be working on radio direction finding, drone flying and other project. The second section will be the Competition. This will be opened to grades 5 and up and they will be working on the transceivers during competitions to score points by making contacts.

Below is a list of things to come.

First Quarter	Second Quarter	Third Quarter	Fourth Quarter
Drone Building and Flying Competition - School Round-up	Radio Direction Finding & Fox Hunts Competition - Kids Day	Weather Balloons & Satellites Competition - School Round-up	Drone Building and Flying Competition - Rookie Round-up



# Garden School Amateur Radio Club

## Meeting with Tom Gallagher, NY2RF, the CEO of the ARRL and Mike Lisenco, N2YBB, the Director of the Hudson Division



The Garden School ARC has been hard at work this year. We made contact with over 36 states and 28 counties. We participated in the School / Club Round-up and placed 12th in the nation for the competition. We learned to solder and make radio direction finding antennas and how to use the HF and mobile transceivers. We taught FCC Licensing class with the Hall of Science ARC

that enabled 6 members of the Garden Family to get licensed. Next year we plan on adding to the club with Drone Building and Flying with possibly entering different drone flying competitions.

All this hard work is paying off, on May 12th, the Garden School ARC was visited by Tom Gallagher, NY2RF, the Chief Operating Officer of the national ARRL and Mike Lisenco, N2YBB, the Director of the Hudson Division. Our

club has caught their attention and they want to collaborate with us on a few upcoming projects.

We will be sponsoring a table at the New York Markers Faire where our students along with the ARRL and the Hall of Science ARC will be building Morse Code Keys with the public. This is a great opportunity for the community to see what Garden School is all about. We are also working with the ARRL producing a 100 Second Video for the ARRL where our students will be demonstrating how to build and work a radio project. The ARRL is going to help us make contacts with other clubs so we can work with them to launch and track weather balloons and track satellite passes.

We are very excited from our discussions with Mr. Gallagher and Mr. Lisenco and look forward to a long and lasting relationship with the ARRL.





# Garden School Amateur Radio Club

## Scholarship Opportunities

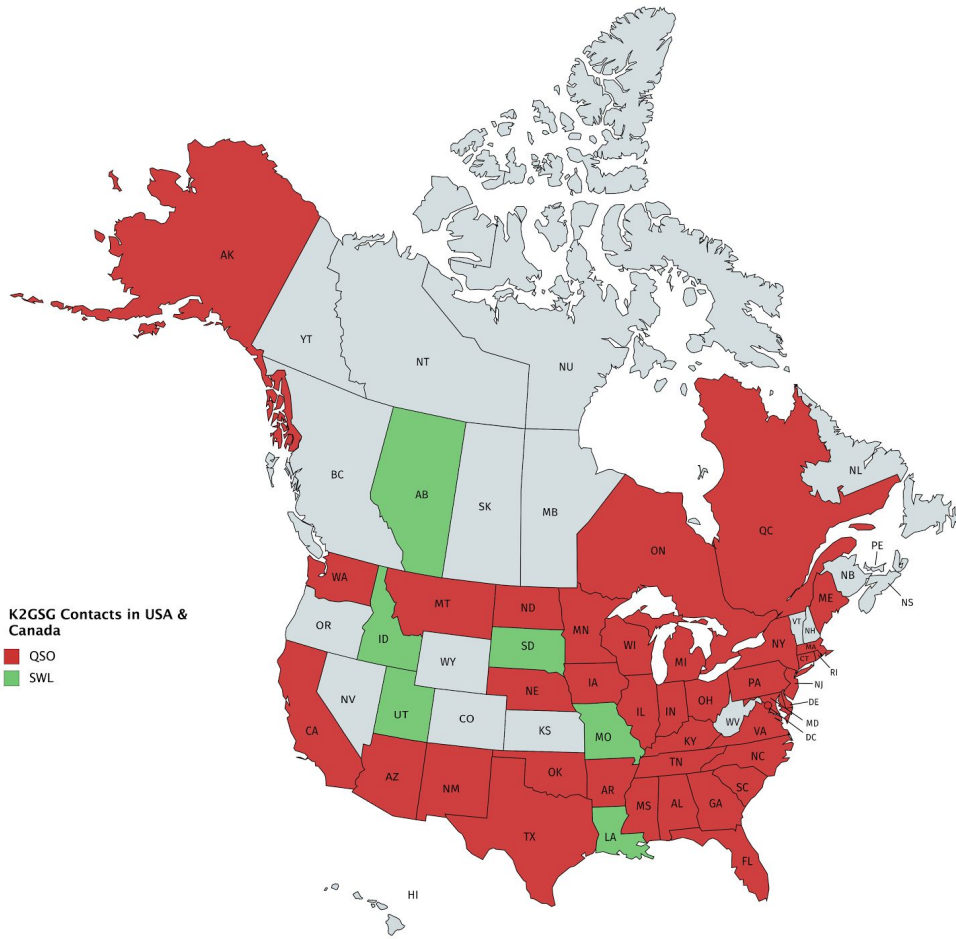
There are many opportunities for students who are Licensed Amateur Radio Operators out there to help with college tuition. Below is a list just some of these opportunities that are available to students in our area. Most do require that the student is a Licensed Operator. We are offering a class in February to help students get those licenses. If you are interested please contact Mr Hale at [kd2lpm@jrhaleteacher.me](mailto:kd2lpm@jrhaleteacher.me).

<ul style="list-style-type: none"><li>• Androscoggin Amateur Radio Club Scholarship- \$1,000</li><li>• The ARRL General Fund Scholarship- \$2,000</li><li>• The Ernest L. Baulch, W2TX, and Marcia E. Baulch, WA2AKJ, Scholarship- \$3,500</li><li>• The Richard W. Bendicksen, N7ZL, Memorial Scholarship- \$2,000</li><li>• The Henry Broughton, K2AE, Memorial Scholarship- \$1,000</li><li>• The L. B. Cebik, W4RNL, and Jean Cebik, N4TZP, Memorial Scholarship- \$1,000</li><li>• The Dayton Amateur Radio Association Scholarship- \$1,000</li><li>• The Alfred E. Friend, Jr., W4CF Memorial Scholarship- \$5,000</li></ul>	<ul style="list-style-type: none"><li>• The Ted, W4VHF, and Itice, K4LVV, Goldthorpe Scholarship- \$500</li><li>• The K2TEO Martin J. Green, Sr. Memorial Scholarship- \$1,000</li><li>• The Dan Huettl, WZ7U, Memorial Scholarship- \$1,000</li><li>• The Dr. James L. Lawson Memorial Scholarship- \$500</li><li>• The Scholarship of the Morris Radio Club of New Jersey- \$1,000</li><li>• The Victor Poor, W5SMM, Memorial Scholarship- \$2,500</li><li>• The Don Riebhoff Memorial Scholarship- \$1,000</li><li>• The Bill, W2ONV, and Ann Salerno Memorial Scholarship- \$1,000</li></ul>	<ul style="list-style-type: none"><li>• The Carole J. Streeter, KB9JBR, Scholarship- \$1,000</li><li>• The Robert D., W8ST, and Donna J., W9DJS, Streeter Scholarship- \$1,000</li><li>• The Alan G. Thorpe, K1TMW, Memorial Scholarship Fund- \$1,000</li><li>• The W1FDR Scholarship- \$1,000</li><li>• The Betty Weatherford, KQ6RE, Memorial Scholarship- \$1,000</li><li>• The William C. Winscott, N6CHA, Memorial Scholarship- \$2,500</li><li>• The YASME Foundation Scholarship- \$3,000</li><li>• Yankee Clipper Contest Club Youth Scholarship- \$1,200</li></ul>
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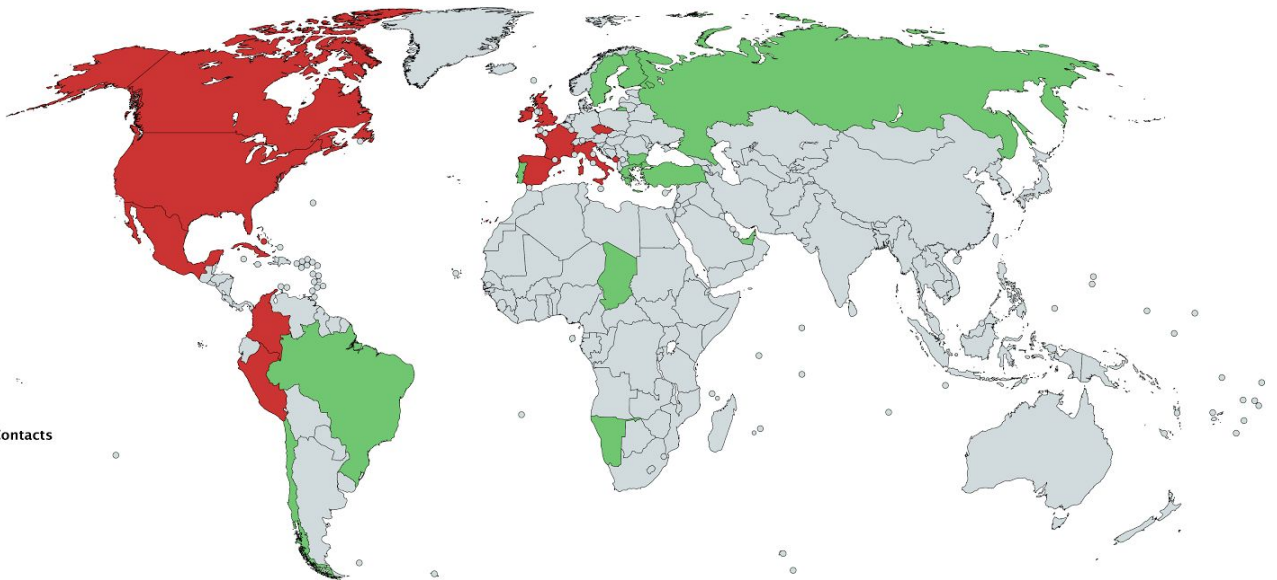
# Scholarship Program

# Our Contacts - Worldwide, USA & Canada



K2GSG Contacts in USA & Canada  
■ QSO  
■ SWL

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K2GSG World Contacts  
■ QSL  
■ SWL

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