2022-10-18 Hamlet Net

Announcements:

- Test Session Info
    - Next scheduled test session is this Saturday, October 22nd at 350 Terry Street
        - ARRL session, so $15 there is a $15 testing fee.
    - To test before this (or online), go to hamstudy.org -> Find a Session (make sure you search for online sessions!

- Ed - WA7EM - announced that he is going to run another activity involving studying, designing, and building low-level circuits such as those that make up a modern radio. The activity is probably going to start in November. Send him an email to join - his address is in QRZ.

- RMHAM has published details of their upcoming Tech Talks and 2022-2023 RMHAM University presentations. Topics include Using the Incident Command System for events, Chinese DMR programming, Ham Radio instrumentation and others. For more information, or to sign up for these free presentations, go to the RMHAM web site at rmham.org and click on the RMHAM UNIVERSITY menu item near the top of the page.

- The Nashua Area Radio Society has opened registration for their FREE Fall 2022 Online Ham Bootcamp, which is being held Saturday, November 5th from 10am to 6pm Eastern via Zoom. The Bootcamp is a series of demonstrations and tutorials designed to help newly-licensed hams to get on the air and use their licenses.

  The morning session will focus on Technician level activities, while the afternoon session will focus on HF activities for General and above licenses.

  For more info, see their web site at: n1fd.org (november-one-foxtrot-delta dot org) and select the "HAM BOOTCAMP" menu item under the "OUR ACTIVITIES" menu drop-down.

  While there is no charge for the camp, you must pre-register.

  Links:
  Info & Schedule:
  https://forums.qrz.com/index.php?threads/nashua-area-radio-society%E2%80%99s-fall-2022-ham-boot-camp-registration-is-open.833357/
  Bootcamp info: https://www.n1fd.org/ham-bootcamp/
  Registration: https://www.n1fd.org/register-ham-bootcamp/

- Raman will be presenting his Incident Command System talk at our next LARC general meeting, which is tomorrow, October 19th via Zoom. The Zoom meeting starts for

socialization at 6:30pm, with the club meeting starting at 7pm. Meetings are open to both members and non-members, so please plan on attending!

- There is still plenty of time to earn a free year of LARC membership by acting as NCS for at least 5 nets this year. You can run either this Tuesday night net or the Thursday night net (or both). We have scripts available for both, so all you need is a good connection into the repeater, and somewhere to keep track of names and call signs as people check in. If you're going to be on the net anyway, why not save some dough at the same time!

- ~~If there are any newly-licensed hams listening, QRZ and GigaParts have announced a New Ham Jumpstart program, which will provide new hams with a welcome package containing a dual-band HT and programming cable.~~

  ~~If you obtained your first license within the last 30 days, then you are eligible! The program runs through October 31st. To sign up, go to www.qrz.com/jumpstart, that's www-dot-quebec-romeo-zulu-dot-com-slash-jumpstart~~

- The LARC Christmas Party will be held on December 14. We are planning to hold it at the Niwot Grange. If we can get at least 75 people to attend, we can get the cost per person down to $11. Members and spouses/family members are welcome! (Dick - KE0VT)

- Chuck mentioned we're partnering with NCARC for Santa on the Air. The event will run Nov 27 through Dec 9. Santa will be available on LARC and NCARC repeaters. See Splatter and club web site for more details.

- Jason, KM4ACK, just released another Beta of Build-A-Pi for Raspberry Pi 4 that supports the VARA mode.

- All club activities are open to anyone - members and non-members. ~~If you have questions, ask them on a net or~~ **send email to elmer@w0eno.org**

- Club breakfast Saturday mornings at 8am at the Hidden Cafe in Longmont
    - Come meet other Club members and discuss amateur radio

Misc:

- New York state QSO party this weekend

Presenter: Bryan, AF0W

Topic: HF Bands

- There are many frequency bands available for use by amateur license holders

- The set of bands referred to as high-frequency or HF spans from 1.8 to 28 MHz
- This range consists of 10 bands, typically referred to by their approximate wavelength - such as 80 meters or 10 meters
- These bands have different characteristics during daytime and nighttime, and during summer and winter
- Of course, your actual experiences on the bands will also be affected by many things, such as band openings, antenna types and heights, local RF noise, and solar activity
- Here are some general characteristics of the bands

160m

- 1.8 to 2.0 MHz, entire band available to General and Extra Class licensees
- A neighbor to the AM broadcast band, it has similar properties
- During the day and summer night time, is typically local (0 to 300 miles)
- During winter night time, can make distance contacts over 1000 miles
- Winter conditions are much quieter, as there are fewer lightning-related static crashes
- Primarily an evening and night band
- Can talk around the world with a good, high antenna, and no lightning crashes

75 / 80m

- 3.5 to 4.0 MHz - 200 kHz gap for General class licenses
- 75 kHz CW segment for Technicians, limited to 200 watts
- CW portion of the band may be referred to as 80 meters, with the upper voice portion as 75 meters
- Local contacts during day, local to distant contacts at night, depending on antenna height
- Lots of local and regional nets on this band as this is a very reliable band that is less sensitive to the sunspot cycle
- Rag chewing during evening and nighttime hours
- Noisy in summer months due to static crashes

60 m

- In 5.3 MHz area
- Cluster of 5 specific frequencies that amateur radio shares with federal government
- We are secondary users
- CW and USB only allowed with 2.8 kHz channel bandwidth
- Power limit of 100 watt effective radiated power relative to a half-wave dipole
- If you are using an antenna other than a half-wave dipole, you must log your antenna gain
    a. This is because the FCC wants to be able to determine your station's effective output power when investigating any interference claims
- No contest activity, behaves similar to the 80 and 40 meter bands
- Local contacts during day time, regional to distance at night time

40 m

- Good "starter band"
- 7.0 - 7.3 MHz - 50 kHz gap for General licensees, 100 kHz CW portion for Technician licensees, with a 200 watt power limit
- Regional contacts of 300 to 500 miles during day time, distant contacts over 1000 miles during night time
- Band tends to go longer as evening progresses
- NVIS as antenna gets lower to ground
- This band is shared with shortwave stations in other countries

30 m

- 10.1 to 10.15 MHz - 200 watts or less
- Can only be used for CW and RTTY
- Acts like 80 and 40 meter bands
- Regional contacts in day time, distant during night time
- Must avoid interference to fixed stations outside the US

20 m

- 14.0 to 14.350 MHz, 75 MHz gap for General licensees
- Another good "starter band"
- The most popular band in amateur radio - easy to get lots of contacts
- Lots of DX contacts are made on 20 meters
- Regional to distant contacts during day time, distant contacts during night
- When sunspot cycle is peaking, 20 meters can be used around the clock
- Groundwave contact distance is typically 50 - 75 miles
- Half-wave dipole length is only 32 feet

17 m

- 18.068 to 18.168 MHz available to Extra and General class licensees
- Very similar to 20m
- Regional to distant contacts during day time, distant contacts during night
- Very dependent on sunspots
- Seems to be a popular band with mobile operators

15 m

- 21.0 to 21.450 MHz with 75 MHz gap for Generals and 175 MHz CW range for Technicians
- Like 20 meters, but with less range, and more influence by sunspot cycle
- 300 to 500 mile contacts during daytime, 1000+ miles nighttime

12 m

- 24.890 to 24.990 MHz available to General and Extra class licensees
- Similar behavior to 15 meters
- Very heavily influenced by sunspot cycle
- 300 to 500 mile contacts during daytime, 1000+ miles nighttime

10 m

- 28.0 to 29.7 MHz, all available to Extra and General operators
- Only HF band with voice privileges for Technicians - 28.3 to 28.5 MHz
- Techs also have CW privileges on the lower 300 kHz of the band
- Minimum power and simple antennas can result in contacts into several hundred countries when sunspot cycle is rising toward peak
    a. 5 watts or less can work halfway around the world
- Groundwave coverage is 25 miles or so

WARC Bands

- Three of these bands were allocated by the World Administrative Radio Conference, and are referred to as "the WARC bands."
- They are the 30, 17, and 12 meter bands
- As these bands have a small bandwidth of less than 100 kHz, there is a gentleman's agreement that these bands may not be used for contesting
- This means that even during large international contests, these bands can still be used for QSOs

Current Band Conditions

- To view current predicted band conditions, go to qrz.com or the LARC club website at w0eno.org and look for the Solar terrestrial data block
    a. Along with solar activity, it shows a chart with predicted conditions for each of the HF bands split into day time and night time conditions
    b. The band conditions are listed as Good, Fair, or Poor
- You can also check the dxheat.com DX Cluster site (https://www.dxheat.com/dxc/) and look at the "Band Activity" heat map. Select "North America" as your continent, and it will show you where DX spots are being reported by band and continent
- Other DX spotting sites like dxmaps.com, dxwatch.com, and dxsummit.fi can also be used to view real-time QSO information

Summary

- One question many new hams are asked when they are setting up an HF station is what band(s) they want to work

- This question is usually asked after they seek assistance in choosing an antenna, as the answer will suggest answers to other questions such as:
    a. Will the antenna need to handle multiple bands?
    b. How much space will be needed to mount the antenna?
    c. How high up will it have to be mounted?
- As mentioned, 20 and 40 meters are great all-purpose bands that make good starting points for those new to HF operations
    a. A 20 meter dipole is easy to make, not too large, and does not need to be mounted too high off the ground to be effective
    b. It will get you on the air and making contacts quickly!

Questions:

- **The question for the week is: If you operate HF, what bands do you primarily use, and what modes do you use? If you don't operate HF, is it because of limitations on antenna installations, such as restrictive HOA covenants?**
- **In my case,** I primarily operate 20 and 40 meters using digital modes like JT65 and more recently, FT8. The only time I've been on other bands is when I see a special event station on them, or when I can't make any contacts on those two bands. I do make some voice contacts during contests or special events.
- I have a somewhat multiband antenna - a G5RV Jr. wire dipole. The G5RV was originally designed for 20 meters, but it is 103 feet long, and we didn't have that much space in our backyard. The G5RV Junior is around 52 feet long, and supports 40 through 10 meters with a tuner. It's a compromise, but I am able to get out with it.
- I also have an end-fed 20 meter antenna installed in an inverted-L configuration. I've not had very good luck with this antenna, but that could be due to it being strung up in trees running closely between two houses.

Notes:

- If you have ideas for net topics or general meeting topics / presenters, please let us know! Tell us on a net, or send email to k0itp@w0eno.org

Email to elmer@w0eno.org

K0ITP - Chuck - 4 hamsticks for 20 and 40, gutter antenna and end-fed longwire. Waiting for DX Commander to arrive. Mostly voice and FT8.

KM6SJA - Steve - Longmont - 40 and 20, digital on 40 and voice on both. Wind River Coils antenna - have to adjust coil when moving between bands.

KC0CT - Joe - Broomfield - Run couple of end-fed wires on 20 and 40 meters SSB phone for 90% of what he runs.

AF0W - Bryan - El Paso Echolink -

N0ZFV - Bob - Broomfield Echolink - Live in HOA. Took Yaesu ATAS and drilled hole in toolbox and spread some wires for radials and used in loft - made one voice QSO for a Route 66 contest. Done some FT8 on 20 and 40. Built a 40m dipole and strung up inside house. He heard me on EchoLink continuously.

W0HLO - Harlan - NE Longmont - Still toying with putting up HF antenna and procuring an HF radio. Used to have a lot of fun on 10m - 30-40 years ago. 10-10 International.

WA7EM - Ed - Erie - no response

WB4FAS - Don - Mead - Spending most of time on 20 and 40. Trying to get back on 10. Do mostly CW then voice. Used to do PSK31, but have gotten out of that lately. Had a 73-foot end-fed half-wave up about 18 feet from house to back fence. Pretty directional, and couldn't get anything south. Bought 288-ft square loop from Palomar Engineers and put up in his backyard. Up about 22-23 feet - has been working great. 5700 mile contact to Brazil on 10m with it.

AE0DO - John - N of Longmont - Usually on 20, sometimes 40. Dipole in attic cut for 40m. Slightly-folded - triangular - to fit in space. Use SSB for phone.

W0PPC - Steve - Lyons - 40, 20, 17, 15, 10m operating in Alaska. At home, mostly 20m. Operates on FT8. Using simple wire dipole antennas. Have had pretty good luck in both places. Like surfing the bands, as different bands are favored at different times of day, etc. In Alaska, can get local contacts in Alaska on 10m.

WB4FAS - Have not made an Alaska contact.

Harlan mentioned 10-10 International - https://www.ten-ten.org/ - Its purpose was to promote activity and good operating practice on the ten meter amateur band. Members get a number, and then collect other member's numbers as they make contacts.