F.C.A.R.C. Inc.
P.O. Box 773
Greenfield, MA 01302

FIRST CLASS MAIL

THE COMMUNICATOR

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January 2014

Upcoming Events

- E-Board meeting: Monday Jan 13, 6 p.m.: Greenfield High School cafeteria
- Meeting & Program: Monday Jan 13, 7:15 p.m.: Greenfield High School: Program TBA
- Club Breakfast: Saturday Jan 18, 8 a.m.: Denny's, Greenfield
- Sleigh Bell Race: Saturday Feb 1, 9 a.m. for radio ops.: Greenfield
- E-Board meeting: Monday Feb 10, 6 p.m.: Greenfield High School cafeteria
- Meeting & Program: Monday Feb 10, 7:15 p.m.: Greenfield High School: Program TBA
- Club Breakfast: Saturday Feb 15, 8 a.m.: Denny's, Greenfield
- VE License Tests: Monday Feb 24, 7:00 p.m.: Northfield Unitarian Church
- MTARA Hamfest: Saturday Mar 1, 8:30 a.m.: Chicopee Moose Lodge

January 2014

Calendar

JANUARY MEETINGS

Note because of Martin Luther King Day holiday the January e-board meeting and the program meeting that would normally take place on the third Monday of the month are scheduled on January 13, the second Monday.

JANUARY PROGRAM MEETING - "CALIBRATION AND APPLICATION OF EARTH REMOTE SENSING SATELLITES IN THE 23 CM BAND", PAUL SIQUEIRA AB1UV

"I am just now returning from a trip to Japan where I have been visiting with people from the Japanese Aerospace Exploration Agency (JAXA)… which is Japan's counterpart to NASA.

Sometime in late March, they are planning to launch an L-band synthetic aperture radar satellite, known as ALOS-2, operating in the 1215 to 1300 MHz range. The purpose of the satellite is for environmental monitoring, especially for ground subsidence and forest health monitoring. A similar satellite from NASA is planned for launch, but not until 2020. At any rate, it turns out that JAXA is going to be putting in an effort at the beginning to "calibrate" the satellite, a process that includes in part, measuring the transmit power from the satellite, and setting up transponders (active or passive) with known gains, that will return a fixed proportion of the energy back to the satellite, hence creating a method for measuring the overall satellite's closed loop (transmit/receive) gain.

As you know, the 23 cm amateur band falls right in the upper part of the ALOS-2 transmit band. Hence, it occurred to me that it might be worth seeing if any of the local amateurs had systems that worked at those frequencies and if there might be a larger interest in helping calibrate the satellite. Indeed, when I was thinking about this on my flight back from Tokyo, I was thinking that it might be worth trying to coordinate something through QST." - Paul Siqueira AB1UV

SLEIGH BELL ROAD RACE

We have again been asked to provide communications support for the Sleigh Bell Road Race, part of the Greenfield Winter Carnival on Saturday February 1st. Contact Chris KB1NEK to volunteer. More info will be posted on the FCARC website soon (http://www.fcarc.org/).

AMATEUR RADIO LICENSE CLASSES AND STUDY GROUPS

The Hampden County Radio Association will be holding an Amateur Radio Technician Class along with General and Extra Study Groups at the Holyoke Hospital Auxiliary Conference Center (auditorium), 575 Beech Street, Holyoke, Mass. The classes and study groups are

open to everyone of all ages and affiliations.

There will be three different meeting dates:

- Class #1 - Monday, January 13, 2014 7:00 - 8:30 PM

- Class #2 - Monday, January 20, 2014 7:00 - 8:30 PM
- Class #3 - Saturday, January 25, 2014 9:00 AM - 3:00 PM

VE Exam - Saturday, January 25, 2014 at approximately 3:00 PM

Attendance is NOT taken. If you can't make the Monday evening dates, just come on Saturday. These condensed meetings are presented with the assumption that individuals will study and take practice tests on their own outside of class time. Our goal is to provide experienced ham radio operators (elmers) to be used as resources when going over the questions and answers that may be on the test.

For more information see the HCRA website, http://www.hcra.org/.

Secretary's Report

There was no e-board meeting in December and the program meeting was replaced by the holiday pot luck and auction (see below).

News, Activities & Articles

NET CONTROL OPERATORS WANTED

FCARC is looking for additional Net Control operators for the weekly 2m nets on Tuesdays and Thursdays. Contact Chris KB1NEK of Al N1AW to volunteer

SAW MILL RIVER RACE – AL WOODHULL N1AW

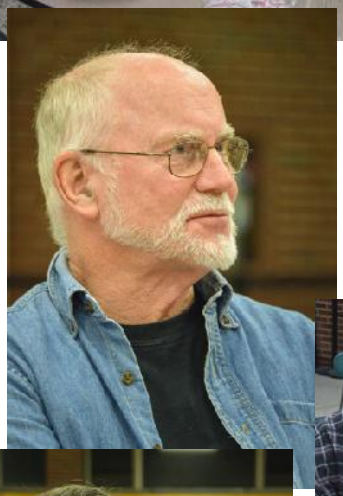
Al N1AW had been begging for volunteers for over a month, but in the end decided he had been unnecessarily worried about not having enough volunteers. There were 20 stations planned, 16 locations along the route plus net control, radio operators in the lead car and the SAG wagon, and one first aid specialist. Fifteen volunteers showed up, and that was plenty. For a race route that is a single long loop, there is nothing left to do at stations near the start after all runners have passed by. There was plenty of time for several volunteers to move from positions near the start to positions near the finish, where things get more interesting. It was a very cold day (although not so bad compared to later in the incredibly cold first week of the year), the kind of day when running a race on icy roads looks dangerous. Fortunately no worst cases developed, but we provided an important safety reserve - two of our radio operators, Belle KB1NOG and Bruce KB1TLX are trained EMTs and a new member of our group, Jeanne (amateur license still to come), set up a first aid station and was ready to give advice to anyone who might need it via net control. Jeanne also provided a first aid kit for the SAG wagon to carry.

Everything seemed to go smoothly - no runners dropped out, and from the SAG wagon it looked as if even the last pack of five or six runners kept together and kept running. All runners and volunteers were in by 11:30, and a generous supply of hot food was available for all.

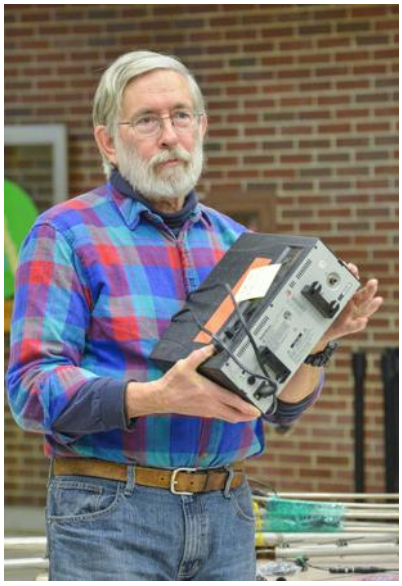
HOLIDAY POT LUCK AND AUCTION

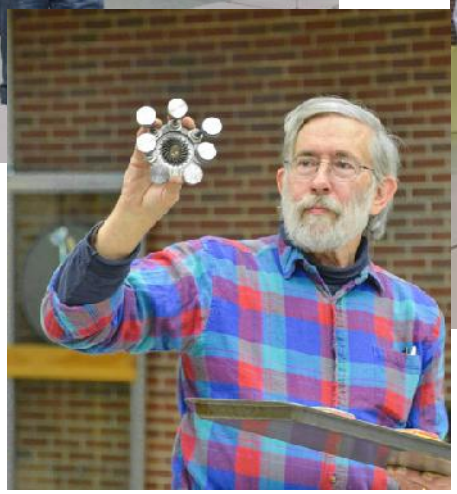
The annual FCARC Holiday Pot Luck Party and Auction took place at the GHS cafeteria on Monday December 16th. As in past years there was much good food and an auction of mostly radio and electronics stuff. Al N1AW served as the auctioneer for the auction, which netted $104 for the club.









AC1L ANTENNA PROJECT- AL WOODHULL N1AW

During the warmer part of the year Dick AC1L had been using a mag-mount antenna mounted on a cookie sheet on the ground outside his window. With a little snow on the ground more on the way an improvement was urgently needed.

With help from N1AW and a folding ladder Dick's solution was implemented. An air exhaust vent above the apartment window provided a base to which a steel pizza plate could be fastened with sheet metal screws. Initially the plate supported by just one edge seemed too flexible and liable to be weighed down by snow or ice. After cutting through the rim on two sides the plate could be bent to follow the contour of the exhaust vent. A short bungee cord provided extra support for the mag-mount antenna.

It is common ham radio knowledge that antennas work best when installed in the worst weather. The coldest day of the year yet, when a predicted flurry was changing into a blinding snowstorm accordingly was chosen as the time to do this.

At this writing tests of SWR and computer modelling of the DAPPR (drooping asymmetric pizza pan radial) antenna have not been completed, but it looks like it should work.

TWO METER BAND PLAN PROPOSAL – AL WOODHULL N1AW

Back in August I told you about a plan put forth by the New England Spectrum Management Council (NESMC) to create new repeater frequency pairs in the two meter band. A summary of the proposal is in the September Communicator, which is on-line at http://www.fcarc.org/communicator/comm201309.pdf
A modified version of the plan has been proposed and is to be voted on in the next month. It removes the one concern I had, there will be no changes to 147 MHz simplex frequencies. But some of you may have thoughts about the revised plan. I'd like to hear from you.
Here are the basic elements of the proposal as received by me in e-mail today:

NESMC is currently asking members to vote on an altered version of the two meter band plan proposal first presented at the August general meeting. Based on feedback received since then, the current version DIFFERS from the original proposal in the following three ways:

1. Repeater inputs will be offset -1.5MHz and will be at 144.91-145.00. Previously these were proposed at 147.4-147.5. Repeater owners currently operating +1 MHz, will be encouraged to move their inputs and thus the 147 segment may actually see less repeater intrusions.

2. Coordination on these new pairs will be limited to existing repeaters and wait-listed applications. No new 2m coordination requests will be assigned to these frequencies.

3. The bandplan is only modified on a trial basis, and will need to be ratified by the membership again in January, 2015 in order to become permanent.

Somewhat more detail can be seen on this web page: http://www.nesmc.org/prop_final.html
In addition, there is other information available on the main NEMSC website at http://www.nesmc.org/
From the website: The New England Spectrum Management Council is the NFCC certified frequency coordination body for amateur operations on the 29MHz and up frequency bands in the states of Maine, New Hampshire, Massachusetts, and Rhode Island. NESMC is also the exclusive provider of data to the ARRL repeater directory for these four states.

Questions from KB1NEK:

I am confused by the way the proposal is written. Does it affect all 2m repeaters in the four states, or only the repeaters currently operating in the 146.4 - 146.6 / 147.4 - 147.6 range as stated on the NESMC website? Would our repeater have to change its offset to 1.5 MHz, or do we keep the current 600 kHz offset by virtue of not being in the range specified for opening new channels?
A less important technical question: why would narrow band operations prevent a repeater from using narrow band voice FM just as commercial and government users do?

N1AW's response:

I believe the proposed changes do not affect any currently coordinated repeaters on standard 600 KHz offsets. It creates some new repeater frequency pairs on frequencies which were not previously designated as for repeater use.
There may be a very few repeaters using 1 MHz offset. When I was experimenting with TCPIP packet back in the early 1990s there was a TCPIP repeater somewhere east and maybe south of Springfield on a 1 MHz pair - something like 146.45 - 147.45 (frequencies that would normally be simplex channels). I don't think that repeater is still in operation, and I don't know of any others like that.
It looks like they are talking about creating some new channels that are more closely spaced than is standard - in this part of the country the tightest spacing is generally 15 KHz, and the new ones will be spaced 10 KHz. In other parts of the country 20 KHz is standard spacing. I think amateur radios that are now generally available are not manufactured for 10 KHz voice channels, and if you put up a repeater that was limited to a 10 KHz receive bandwidth it would distort the audio of a lot of amateur radios still in use. I think you could put up new repeaters for a new digital mode with lower bandwidth if it were truly a new mode for which there was no older equipment requiring wider bandwidth in use.
As you know, for a long time 30 KHz was standard repeater spacing around here. Our repeater on 146.985 is on a 15 KHz "splinter" channel between the old 146.970 and 147.000 channels. On older radios, like my Kenwood TR-9130, I used to hear the Paxton 146.970 output when I was trying to listen to 146.985 - this was when I lived in Amherst, further from Leyden and a much more open shot toward Paxton. You can turn down the audio in an older radio to have a lower output bandwidth but it's not generally going to be easy to reduce the receive bandwidth of an older radio.

BOSTON MARATHON 2014 VOLUNTEER SIGNUP NOW OPEN

Are you interested in volunteering for communications support in the April 2014 Boston Marathon? Registration is now open on the Minute Man Radio Association website.

Because of the size of this event and security concerns, this is not something you can volunteer for at the last minute, early registration is recommended.

PROTECT YOUR GEAR FROM ESD

Electrostatic discharge, or ESD for short, has been a concern for anyone involved in electronics ever since we made the transition from vacuum tubes to transistors. I was schooled about ESD when I worked as a test engineer for a company called Doric Scientific shortly after I got out of engineering school, and I wrote about it when I was an editor for Test&Measurment World magazine back in the 1990s. If anything, it's even more of a concern today as electronic components get ever smaller.

In 1991, Bryan P. Bergeron, NU1N, published a two-part series on ESD. His suggestions about how to prevent ESD damage are as good now as they were 20 years ago:
- Consider using a room humidifier to increase the relative humidity in your shack, or wherever you work on electronic equipment to 65% RH or higher. - Use grounded wrist straps when handling ESD-sensitive devices.
- Use grounded, anti-ESD work mats when working on electronic equipment. - Use a grounded soldering iron and anti-static tools.
- Use anti-static bags and containers for storing and transporting electronic equipment. - Connect the chassis of all your gear to a good earth ground.
- Consider purchasing a desktop ionizer to neutralize static buildup on your workbench.

I might also add consider grounding the chairs that you use in your shack or discharging yourself after getting up from the chair in your shack. I know that the worst electrostatic discharges that I experience are after I get up from my chair. You can even buy ESD-safe chairs (http://www.all-spec.com/products/Benches_and_Chairs%7CChairs_and_Accessories%7CCH R-00/), but they are kind of expensive.

Personally, I use an anti-static mat that I originally purchased for use with a computer keyboard and a wrist strap that was given to me by an ESD consultant when I worked for the magazine. I use these religiously when building kits or working on any solid-state gear.
It's not hard to find anti-static products. RadioShack sells a wrist strap for only $1.23 (http://www.radioshack.com/product/index.jsp?productId=2103245)! You can find a whole range of anti-static products on Amazon, too. Wherever you get them, they're a good investment.

THE COMMUNICATOR is an informational publication for members of the Franklin County Amateur Radio Club. Officers: President: Chris Myers, KB1NEK (camyers1@verizon.net), Vice President: Al Woodhull, N1AW (n1aw@arrl.net), Treasurer: Howard Field, N1LUP (howfield@comcast.net), Secretary: Bob Dickerman, WA1QKT (rld@dickermanelectronics.com), Director: Belle Dyer, KB1NOG (bdyer58@mtdata.com), Director: Ron Niswander, K8HSF (reniswander@gmail.com)

This is your newsletter! Amateur radio information of general interest, club member project descriptions and doings, radio applications to other activities, corrections, or suggestions are all welcome. Individual submissions make for variety! We need more writers! Send submissions to Bob Solosko at w1srb@arrl.net.