



The SPARC

Amateur Radio - Communicating Worldwide for A Century
Newsletter of the Boston Amateur Radio Club
Serving Hams in the Greater Boston Area
February 2017 - VOLUME 29, NUMBER 2
www.barc.org - w1bos@arrl.net



Message from the President – Joe Harris, N1QD



I love it when real-world events bring hams from different regions together. This time, it's football! A few days ago the president of the Atlanta Radio Club contacted me to offer a friendly wager on the Super Bowl. Massachusetts' own Dunkin Donuts coffee against Atlanta's own Coca-Cola being put up by the folks down south. The game is taking place this weekend, so I don't know whether or not I'll be offering Coke at an upcoming meeting. We'll find out this Sunday!

Go Pats!!

Joe Harris, N1QD

In this Issue of *The SPARC*

- 2017 Meeting and VE Session dates
- Spring 2017 public service dates
- PAVE PAWS at the Clay Center
- Repeater update
- NV1W fixes a Vibroplex bug
- Amateur radio uses for Coca-cola



BARC General Meeting Thursday, February 16, 2017 at 7:30 pm

The next BARC General Meeting will be on Thursday, February 16, 2017, at 7:30 p.m. at Eastern Bank in Jamaica Plain. A map for this location can be found elsewhere in this issue. The topic is Show and Tell, featuring you and your ~~trash~~ stuff!

Repeaters: 145.230 (-) CTCSS 88.5

Simplex: 147.420

449.175 (-) DMR CC1

BARC's Online Discussion Group – Joe Harris, N1QD

BARC has an online forum at Yahoo groups. The Yahoo group serves as a sounding board for members to post their suggestions and comments, and is intended to foster discussion. The group can also be used to share photographs from club events! Come visit us at: <http://groups.yahoo.com/bostonARC>.

PAVE PAWS Presentation at the Clay Center – Joe Harris, N1QD

Please see this special invitation forwarded to us from the Clay Center Amateur Radio Club:

Lieutenants Theodore Kruczek and Meredith Prinz will be visiting from Cape Cod Air Force Station on Tuesday, March 28, 6:30–8:00 pm. They are crew commanders on the Early Warning Radar located there. The site's primary mission is detecting and reporting intercontinental ballistic missiles and sea launched ballistic missiles. The secondary mission is tracking satellites in low earth orbit, including amateur radio satellites utilized by amateur radio operators. They will be discussing radar operations, how that data helps amateur radio operators, and the importance of proper amateur radio use.

PAVE PAWS has had a significant impact on amateur radio in Eastern Massachusetts over the years. In 2007, many UHF repeaters were taken off the air at the request of the Air Force. Several of those that remain on the air run at reduced power, or with directional antennas to reduce interference to the radar. The club's March General meeting will be suspended, and all BARC Members are invited to attend this informative event at the Clay Center, located at 20 Newton St, Brookline.

My New Old Vibroplex Lightning Bug – Joe Chapman, NV1W



The story of how I came to be the proud owner of an ever-so-slightly busted but free Vibroplex Lightning Bug is probably best left to the insomniacs among my future biographers. I'd always been interested in the Lightning Bug because it appears to have a slower minimum dot speed than most bugs, and it has a reliable sturdy look to it. One can see it surviving events ranging from Constitutional crises to Parousia. It did not, however, survive on Vibroplex's price list when the company relocated to Maine in 1979.

Bugs are a type of semiautomatic key introduced at the beginning of the last century. They consist of a lever that moves back and forth horizontally; when you move it to the right you can make dahs in much the same way as a straight key except you're pushing to one side instead of down. When you push to the left, a weighted pendulum waggles back and forth and a set of contacts mounted on a spring makes a series of dits. You can adjust the speed by moving the weight from front to back.

When I got it, my bug was in pieces, but it was relatively easy to put everything back together. The only real problem was a badly bent dash adjustment screw. Fortunately Vibroplex still sells parts for the Lightning Bug, so I ordered a replacement screw, washer, spring, and nut for \$14.00, thus making my bug not completely free.

For some reason I was experiencing elevated levels of apprehension connected to sawing off the bent bolt with a Dremel, which made me leave the bug on the table for a good three or four weeks. I assume this is somehow connected to childhood memories of dental work. Just before breaking out the Dremel I tried straightening the bolt with a pair of pliers, and it worked! I backed out the bad bolt and replaced the damaged parts, and it was ready to adjust and use.

Apparently restoring bugs too enthusiastically is controversial, though I found *How to Restore Telegraph Keys* by W. R. Smith, W4PAL, (regrettably a recent silent key) a fun read. The cover illustration shows a bug that must have been left over from the 1883 Krakatoa DXpedition before and after restoration.

To adjust the bug I turned to YouTube. The tutorial at <https://www.youtube.com/watch?v=qekmyx31Uxw> by Jim, WB8SIW, leads you through the process. Apart from a screwdriver, the only special tool is a 0.0015" feeler gauge. On my bug, the last step was to clean the contacts, which I did with a piece of folded crocus cloth. One is strongly cautioned against using anything more abrasive, which may damage the contacts.

All that was left was to use the thing. WB8SIW's video has a brief demonstration that finishes with him sending "The quick brown fox..." at some ludicrous speed. Here the Lightning Bug's slower minimum speed is a help, but it's still awfully fast. I haven't dared try subjecting anyone but the code practice oscillator to my paw yet. When that comes, there is an emergency exit, since you can always use the dash contact as a straight key if someone says QRS (slow down) or QLF? (are you sending with your left foot?)



Repeater Update – Joe Harris, N1QD

I'm pleased to announce that BARC's 145.23 repeater has now joined the roster of repeaters to be used for the monthly Eastern Massachusetts Hospital Net! This net takes place on the 1st Saturday of the month at 10 a.m. on a rotating group of repeaters across Eastern MA. For more details, please contact John O'Neill, K1JRO, at k1jro@arrl.net.

Coca-Cola and Amateur Radio – Joe Chapman, NV1W



With BARC ready to come into a windfall of Coca-Cola (see the *President's Message* above) I have been doing some research on amateur radio uses for the drink, apart from its obvious stimulant uses in contesting. Those who took the Extra exam when I did will remember one of the incorrect answers to "What is a Beverage antenna?" was "An antenna constructed from soft drink cans."

As it turns out, there *are* antennas constructed from Coke cans, including this magnetic loop by the grand panjandrum of magnetic loops, Alex, PY1AHD. (You can find Alex and his antennas on the web at <http://www.alexloop.com>.)

I am not certain what the syringe in the photo is for; perhaps

it's another type of stimulant for contesting.

US Naval Academy HFsat Coordinated for 15-Meter to 10-Meter Transponder

(From the ARRL Letter, January 26, 2017.)

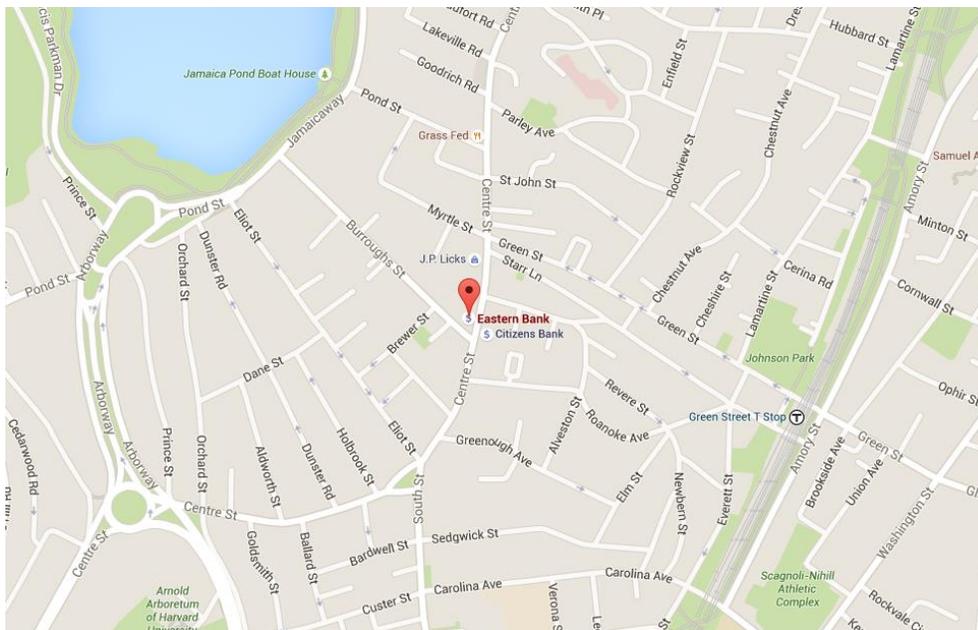
The US Naval Academy has received IARU satellite frequency coordination for HFsat, a 1.5 U CubeSat carrying a 15 to 10-meter inverting linear transponder with a 30 kHz bandwidth (uplink 21.4 MHz, downlink 29.42 MHz). The Mode K configuration is reminiscent of the old “RS” series of Russian satellites. The CubeSat will also carry an APRS digipeater on 145.825 MHz. The US Naval Academy’s Bob Bruninga, WB4APR, said HFsat is designed to demonstrate the viability of HF satellites as a back-up communication system, taking advantage of HF radios found in a typical Amateur Radio installation or frequently used to support disaster and emergency response communication.

“HFsat will be gravity gradient-stabilized by its full-sized 10-meter half-wave HF dipole with tip masses,” Bruninga explained on the HFsat web page. “HFsat will continue the long tradition of small amateur satellites designed by aerospace students at the US Naval Academy.”

A standardized CubeSat VHF communication card based on the popular Byonics MTT4B all-in-one APRS Tiny-Track4 module for telemetry, command, and control is under development at the Academy. Students are working with Bill Res, N6GHZ, on the HF transponder card. HFsat’s control operator will be Todd Bruner, WB1HA1.

Bruninga sees a future for Amateur Radio satellites operating on the HF bands. “HFsat will operate under the ITU rules of the Amateur Satellite Service since not only does that service currently have allocations for satellite relay on HF, but it is also the only service with nearly a century of knowledgeable operators’ experience with the HF bands under all conditions,” Bruninga wrote on the HFsat web page. “Should the system prove viable, and should other services desire to use the transponder technology, then the lengthy process to obtain federal HF [satellite communication] allocations could be considered.”

Area Map for Eastern Bank, Jamaica Plain



145.230 (-) CTCSS 88.5

Simplex: 147.420

449.175 (-) DMR CC1

BARC Meeting Calendar for 2017

Unless otherwise noted, all meetings will take place at the Brookline Police Headquarters.

General Meetings

February 16	2017	Thu	7:30 pm (at Eastern Bank, Jamaica Plain)
March 28	2017	Tue	6:30 pm (with the Clay Center ARC, Clay Center, Brookline)
April 20	2017	Thu	7:30 pm (at Clay Center, Brookline)
May 18	2017	Thu	7:30 pm
June 15	2017	Thu	7:30 pm — Elections
September 21	2017	Thu	7:30 pm
October 19	2017	Thu	7:30 pm
November 16	2017	Thu	7:30 pm

Business Meetings

March 2	2017	Thu	7:30 pm (at Eastern Bank, Jamaica Plain)
June 1	2017	Thu	7:30 pm
September 7	2017	Thu	7:30 pm
December 7	2017	Thu	7:30 pm

VE Sessions

January 11	2017	Wed	7:30 pm
April 10	2017	Mon	7:30 pm
July 10	2017	Mon	7:30 pm
October 9	2017	Mon	7:30 pm

BARC Net Preamble

The control operator for the BARC Net is Joe, W1JJF. He rarely misses a net, but when he does any ham can take up the position and run the net. To assist you in opening and closing the net The BARC Net Preamble is printed below. Do not be afraid to step up and take the challenge.

Is there any further business for the repeater before we begin the Boston Amateur Radio Club Net? This is «YOUR CALL». Calling the Boston Amateur Radio Club Net. This is «YOUR CALL», my name is «YOUR NAME» and I am located in «YOUR TOWN». This net meets each Monday evening at 9 pm Eastern Time on the 145.230 Boston repeater, PL 88.5. This net is an informal round table discussion concerning matters of interest to the members of the Boston Amateur Radio Club and the Boston Amateur Radio community in general. When checking into the net, please say, “this is” and drop your carrier to check on doubling. Then give your call sign, name and location. All amateurs are welcome to join the net. Any check-in’s for the Boston Amateur Radio Club Net please call now.

[Compile the list of the check-in’s and proceed with the net.]

Is there any further business for the net before I close? Hearing nothing, this is «YOUR CALL» closing tonight’s session of the Boston Amateur Radio Club Net. I would like to thank everyone who participated in the net and those who stood by while I ran the net. The Boston Amateur Radio Club Net will return next Monday evening at 9 pm Eastern Time. This is «YOUR CALL» returning the repeater to general amateur use. 73.



The banner features a teal background with white and red text and graphics. On the left is the Ad Council logo. In the center, a red smartphone is shown with a red circle and the number '1' above it, and the text 'Call 911'. To the right, a pair of red hands is shown with a red circle and the number '2' above it, and the text 'Push hard and fast in the center of the chest. Learn more at handsonlycpr.org'. On the far right is the American Heart Association logo with the tagline 'Learn and Live'.

145.230 (-) CTCSS 88.5

Simplex: 147.420

449.175 (-) DMR CC1

I See the Future

11–12 February	CQ WW WPX Contest, RTTY
16 February	BARC General Meeting, Eastern Bank, Jamaica Plain, 7:30 pm ▲
18–19 February	ARRL International DX Contest, CW
25–26 February	North American QSO Party, RTTY
2 March	BARC Business Meeting, Eastern Bank, Jamaica Plain, 7:30 pm ▲
4 March	Deadline for articles for the March SPARC
4–5 March	ARRL International DX Contest, SSB
12 March	North American Sprint, RTTY
25–26 March	CQ WW WPX Contest, SSB
28 March	PAVE PAWS Presentation, Clay Center, Brookline, 6:30 pm (replaces March General Meeting) ▲

▲ **Note change from usual date and/or location**
 (Rp) = BARC Repeater likely to be used

As you might expect, there are many more events (public service, hamfests, flea markets, etc.) taking place—some only peripheral to ham radio. For information on these, covering much of the Northeast, the “Ham - Electronic Flea Market” and the “PSLIST” lists tell the story. Of course, if you know of an event that would be of interest to the readers, please let the Editor know.

I See Farther into the Future — Spring 2017 Public Service Dates

Here is a list of planned public service events for next spring. For more information on public service, contact Brett Smith, AB1RL, at ab1rl@arrl.net.

2 April	MS Walk Boston
15 April	BAA 5K
17 April	Boston Marathon
30 April	Run of the Charles
18 June	BAA 10K

Note that the Run of the Charles, previously listed as being on 23 April, will take place on the 30th.

See Yourself in Print! (well, PDF) – Joe Chapman, NV1W

We are always looking for articles for the newsletter. I have reserved this space for your articles, reviews, tips, how-tos, hints, kinks, photos, schematics, or other ham related information. Photos of you operating or your shack are especially welcome. Send your submissions to the Editor, Joe, NV1W, at nv1w@arrl.net. Articles for the March issue must be received by March 4.



**The Clay Center Observatory
 Welcomes BARC members**

www.claycenter.org

Public Astronomy Nights, Astronomy Day Events,
 Amateur Radio Classes, Amateur Radio Youth Club,
 Community and Adult Education, Weather Festival,
 Science Lecture Series, Educational Outreach

20 Newton St., Brookline, near Larz Anderson Park



Quarterly Business Meetings – Bob Salow, WA1IDA

As the Bylaws require, BARC has Business meetings quarterly. Unless circumstances warrant, BARC Business meetings will be held on the first Thursdays of December, March, June, and September. The next such meeting will be on **2 March 2017** at Eastern Bank in Jamaica Plain. All members are urged to attend and participate in club affairs. This is where club functions are discussed and decided, and your help is needed to guide us.

A short opening period of each General meeting will continue to be used to bring any immediate business matters to everyone's attention.

To provide continuity of club business between meetings we also have a virtual business meeting via an email list. Any member interested in the affairs of the club can ask to be on this virtual meeting list—just give your name, call and your email address to President Joe Harris, N1QD.

Businesses Can Advertise Here

The SPARC accepts commercial advertisements. BARC encourages monthly promotion of your products and services which would be of interest to hundreds of our members and others interested in the Amateur Radio Service.

The rates for display advertising are:

1 col × 2 in. (business card)	\$15 per issue
1 col × 2 in. (business card)	\$75 per 6 consecutive months
1 col × 2 in. (business card)	\$125 per 12 consecutive months
1 col × 4 in. (½ column)	\$30 per issue
1 col × 9.5 in. (full column)	\$60 per issue

Originals of ads must be presented to the Editor in MS Word or .jpg format to print 1:1. Other composition will be at extra cost. We will be glad to quote other ad sizes and durations. Members are urged to seek prospective advertisers who are appropriate to our readers. For additional information, contact Joe Chapman, NV1W, at 617.267.6349 or nv1w@arrl.net.

BARC Volunteer Exam Sessions

The Boston Amateur Radio Club schedule has been revised to suit the needs and interests of the applicants and examiners. **The next exam session will be on April 10, 2017.** Generally, sessions are held at Brookline Police Headquarters, 350 Washington St. in the Community Room (across from the information desk).

We give all exams (Technician, General, and Extra). *Testing is by reservation only.* Please bring the following with you:

- Your current license and a photocopy for the ARRL, if you are upgrading
- Any CSCEs you are claiming, and a photocopy of them
- Valid picture ID or two valid non-picture IDs
- A pen and a calculator (if you want to)
- **\$15.00** (good for all the tests you take at that session, except for retests)

Note: Written tests can be taken sequentially at the same session for the same \$15 fee. The needed FCC forms will be provided.

To reserve a seat or for further information, contact: Jim Clogher, N1ICN, n1icn@arrl.net, or Linda Blair, NA1I, na1i@arrl.net.

Your Personal Ad Could Have Been Here

Are you a depressed BARC member because you have a treasure you must turn to cash? Cheer up, Bunky! The SPARC will run your (non-business) ad for free. Of course, a 10% donation if you sell it will be cheerfully accepted. Just send your ad to Joe Chapman, NV1W, nv1w@arrl.net.

BARC Officers and Staff

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Newsletter Editor: Joe Chapman, NV1W
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The Boston Amateur Radio Club is a non-commercial association of persons interested in the Amateur Radio Service. The Club is organized for the promotion of interest in Amateur Radio communication and education, for the establishment of emergency communications in the event of disasters or other emergencies, for the advancement of the radio art and the public welfare, for the representation of the radio amateur in legislative and regulatory matters, and for the maintenance of collegiality and a high standard of conduct.

The Club is open to all persons interested in Amateur Radio without regard to race, color, religion, creed, national origin, gender, disability, or sexual preference. Our General and Business meeting locations are handicap accessible. Other meeting and activity locations may be handicap accessible by arrangement.

The Club is an ARRL-affiliated club, and is a member of the Council of Eastern Massachusetts Amateur Radio Clubs (CEMARC) and the New England Spectrum Management Council (NESMC). The Club is also an associate member of the Courage HandiHams system.

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Greater Boston Net Directory

Daily 7 pm	MARI (Mass/Rhode Island CW Net) (NTS)	3.565
Daily 8 pm	Eastern Mass 2M Traffic Net (NTS)	145.230 (PL 88.5)
Daily 8 pm	Slow Speed CW Net	28.160
First Mon 8:30 pm	EMA Section ARES Net	146.610 and all MMRA links
Mon 8 pm	New England DMR Net	DMR New England Talk Group (TG 3181)
Mon 9 pm	BARC Club Net	145.230 (PL 88.5)
Sun Mon Wed Fri 10 pm	Heavy Hitters Traffic Net (NTS)	MMRA-linked repeaters: 146.610, 146.670, 146.715, 146.820, and all 222 and 440 repeaters
Tue 8 pm	MMRA Club Net	146.610 and all MMRA links
Wed 8 pm	Wellesley Amateur Radio Society Net	147.030; 444.600 (PL 88.5)
Wed 9 pm	Waltham Wranglers Swap Net	146.640 (PL 136.5)
Sat 9 am	Northeast SATERN Net	7.265
Sun 9:30 am	Yankee SSB Net	50.275
Sun 8 pm	Algonquin Amateur Radio Club Net	446.675 (PL 88.5)
Sun 8:30 pm	NSRA Net (with Newsline)	145.470 (PL 136.5)
Sun 9 pm	CAARAnet	145.130 (PL 107.2)