



# The SPARC

Amateur Radio - Communicating Worldwide for A Century

Newsletter of the Boston Amateur Radio Club

Serving Hams in the Greater Boston Area

March 2017 - VOLUME 29, NUMBER 3

[www.barc.org](http://www.barc.org) - [w1bos@arrl.net](mailto:w1bos@arrl.net)



## Message from the President – Joe Harris, N1QD



*This past month I had the pleasure (and the pain) of participating in the ARRL DX contests. These annual events are two of the largest HF events of the year for US hams, and I have enjoyed helping contribute to the YCCC aggregate score by being a part of the K1KP multi-multi team. I usually do a Saturday morning shift to get my HF fix.*

*The first weekend is the CW contest, and we were off like gangbusters! Both operating positions were running on 20 and 15 meters, and there were decent band conditions. 10 meters didn't produce much, but that's to be expected at this stage of the solar cycle. Sunday night, I got an email for Tony K1KP with our results. All told, we made over 2000 QSOs and racked up about 2.2M points!*

*Two weeks later, the crew reconvened for the SSB edition of the contest. We had a good-sized team and I hoped to find somewhat similar conditions to what we had seen in the CW contest. How wrong was I! I arrived onsite at 7AM Saturday to find the team running on 20 meters and S & P on 15. I took over the 15 meter station to keep the run going on 20. It was still a little early for 15 to open to Europe, so I kept the antenna south and picked off Caribbean and South American stations. Hours passed, and still no EU opening. At this point, I had cleared 15 of available QSOs and tried running to no avail. Pausing to get a cup of coffee, I listened to the 20 meter operator for a minute. It sounded like they were struggling, too. After some caffeination, I volunteered to take over 20 for the rest of the morning. Wow! I was greeted by a mushy-sounding pile of signals all at the noise floor. We were attracting callers with our CQs, but the conditions never improved. Making contacts was a fight, and I threw in the towel at noon.*

*After the contest, I waited for the post-contest email to see how bad things had been. The nasty propagation had knocked down our numbers big time from the CW contest to just below 1500 QSOs and 1.2M points. Not a bad showing, but it felt like there could have been more for the taking, had the propagation gods been somewhat more benevolent!*

*So, enjoy HF while the bands are open! This is part of the fun of radio for me, not knowing what's going to happen when I spin that VFO knob!*

*Joe Harris, N1QD*

## PAVE PAWS Presentation at the Clay Center

**Tuesday, March 28, 2017 at 6:30 pm**

The Clay Center Amateur Radio Club has invited BARC to a presentation on PAVE PAWS on Tuesday, March 28, 2017 from 6:30 to 8:30 p.m. at the Clay Center in Brookline. **This meeting will replace the club's March General Meeting.**

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.

## **Adventures in Tuning – Greg Bennett, KC1CIC**

One of the most frustrating aspects of working the HF bands is the antenna requirements. Antennas need to be long or tall and high above the ground or both. For those of us who are "real estate-challenged" putting up an adequate half-wave dipole is next to impossible. Even a proper vertical can be a real challenge. What's a radio operator to do?

After doing some research and study my solution was to purchase an antenna tuner. I purchased an MFJ-939Y (\$160.00) external antenna tuner for my FT-991 and FT-857D. It can tune coax based antennas and long wire antennas. The unit is surprisingly small but sturdy.

I immediately ruled out using a long-wire antenna as you need to run the wire from the tuner itself out the door. The wire is transmitting which means burn risk and of course RF in the "shack". My plan was to build a custom inverted V hanging from a tree branch outside the apartment.

Using some line, I pre-measured the height of the tree branch (20 feet) and the maximum length I could make the legs of the V, which was 33 feet per leg. Then it was a simple matter to build the antenna using a 1:1 balun, copper wire, insulators, etc.

Once the antenna was set up outside I connected it to my antenna analyzer to find out the specs of the antenna. It turns out the antenna was resonant at 7.7 MHz with a 1:1.4 SWR. So basically I have a slightly out of band 40 meter antenna as my base.

The next step was to set up the tuner. It's a very simple set up to connect a control cable to the radio and rerun the coax so that the tuner is in line with the SWR meter. Tuning didn't work at first so I performed a factory reset per the instruction manual. That did the trick.

I had the radio pre-programmed with frequencies I would use for the different NTS nets I participate in. Now to find out what the tuner will let me do. I used the tuning procedure at 10 watts to tune and that was fun. It tunes fast!

**145.230 ( - ) CTCSS 88.5**

**Simplex: 147.420**

**449.175 ( - ) DMR CC1**

## The SPARC

Using the antenna and tuner combination I was able to operate full power (100 watts for me) on 6, 40, 75, and 80 meters with no issues—all at an SWR of 1:1.4! The tuner saves the frequencies so switching between nets does not require re-tuning. I tried tuning to 20 and 10 meters but that was not possible with my antenna and is not a concern for me.

While the tuner has made it possible for me to operate on the HF bands it is still a compromise. The antenna performance will not match a properly sized antenna, but it's pretty darned good.

I have been making all sorts of contacts that simply were not possible before and it is a lot of fun. I own Ham Radio Deluxe and have had made many RTTY contacts with the antenna. I have also been starting to participate in the NTS CW net which to me is what being a ham is all about.

To sum up, the tuner in conjunction with the antenna I constructed has worked very well and has given me a much greater range of opportunities on HF. Happy operating everyone!

*[And always remember: you can tune an antenna, but you can't tuna fish. —Ed. (Pictured: Rex, W1REX's, "Tuna Tunah II" from QRPme, <http://www.qrpme.com>.)]*



### Repeater Update – Joe Harris, N1QD

As some of you are undoubtedly aware, there have been intermittent episodes of interference on the 145.23 repeater. To facilitate the investigation into the source, the output PL tone has been changed to 100.0 Hz. The repeater's input tone is unchanged, and remains 88.5 Hz.

What does this mean for repeater users?

If you already are only using tone encode, no changes are necessary. If you have tone squelch enabled, switch to tone encode only, and you should be fine.

If you have a radio capable of split PL (typically commercial radios) set tone encode to 88.5 Hz and tone decode to 100.0 Hz.

### Minutes from the March, 2017 Business Meeting – Joe Chapman, NV1W

The Boston Amateur Radio Club held a quarterly business meeting on March 2, 2017, at Eastern Bank in Jamaica Plain. Attendees: KB1EKN, KB1ISG, N1ICN, N1QD, NA1I, NV1W. The meeting was called to order by President Joe Harris, N1QD, at 7:39 p.m.

Officer reports:

- Joe, N1QD (President) presented the General Meeting topics for the next few months. He noted that the March meeting is suspended and that all will be encouraged to attend the PAVE PAWS presentation on March 28 at the Clay Center Observatory. The April meeting will feature a presentation on RTTY by W1UE; the May meeting a presentation on CW by WA1GXC; and the June meeting will feature elections and Field Day planning.
- Mark, KB1EKN (Vice President) noted there are major renovations underway at the Great Blue Hill Observatory and that these may continue through December, which may interfere with SKYWARN Recognition Day.
- Jim, N1ICN (Treasurer) reported that we have \$2777.48 in the checking account, \$1100.77 in the savings account, and that the next two expenses are the New England QSO Party plaque sponsored by the club and the insurance bill in April.

145.230 ( - ) CTCSS 88.5

Simplex: 147.420

449.175 ( - ) DMR CC1

## *The SPARC*

- Joe, NV1W (Secretary) reported that we have 49 renewals, 58 on the active list (including honorary members and other clubs) and 27 non-renewals so far this year.

Committee reports:

- Repeater Committee: Internet connectivity for the UHF repeater went out on February 14, a trip will be made on Friday the 3<sup>rd</sup> to repair it. On the VHF side, we have intermittent intermod problems, especially with weak signals. N1QD suggested that having a common input and output PL tone may be contributing to the problem. A discussion followed.

Old business:

- We have received \$647.50 in donations with this year's membership renewals. A motion was made to transfer \$700 from the checking account into the savings account. Motion passed.

New business:

- A discussion was held on the BARC Breakfast. It was decided to postpone this event indefinitely.
- KB1ISG reported that we are all set to use the Bare Cove Fire Museum for Field Day.
- On May 12, the Fire Museum wants to borrow the club's projector. KB1EKN and NV1W will coordinate.

The meeting was adjourned at 8:32 p.m.

— *Respectfully submitted, Joe Chapman, NV1W, Secretary.*

### **Finding DXpeditions – Joe Chapman, NV1W**

DXpeditions are trips made by hams or groups of hams to unusual locations for the purpose of allowing people to work the country, usually for DXCC (DX Century Club) credit. They range from a single person operating part-time during a vacation to honest-to-God expeditions involving days travelling by boat, tents, helicopters, etc. DXpeditions to really rare locations like Bouvet Island can generate unbelievable pileups.

Major DXpeditions will usually get a mention—if not a full article—in the “How's DX?” column in *QST*. There are also some useful websites that you can use to locate them. 425 DX News (<http://www.425dxn.org/>) is an Italian site that publishes a free weekly bulletin and a monthly newsletter. The W1AW DX Bulletin at <http://www.arrl.org/w1aw-bulletins-archive-dx> has a similar format. DX News (<https://dxnews.com/>) and DX World (<http://dx-world.net/>) are websites with articles on current activations. The Daily DX (<http://www.dailydx.com>) produces daily and weekly bulletins; it requires a subscription.

I am very fond of the Announced DX Operations page at <http://www.ng3k.com/misc/adxo.html>. It gives you a nice chart with the country, call sign, QSL method, and duration of each DXpedition, and if it's currently active, a link to current spots.

### **Getting to the Clay Center Observatory, Brookline**

The Clay Center is located at the Dexter-Southfield School, 20 Newton St. in Brookline. For driving directions and a map, see <http://www.clayobservatory.org/about/directions/>. Using public transportation, your best bet is to take the Green Line “D” train to Reservoir station. Then take the 51 bus to the Clyde St. stop opposite Whitney St. (this is just before the stoplight at the Clyde St./Grove St./Newton St. intersection). From there it's about a fifteen minute walk.

## BARC Meeting Calendar for 2017

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

### General Meetings

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) — W1UE on RTTY
May 18	2017	Thu	7:30 pm — WA1GXC on CW
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

June 1	2017	Thu	7:30 pm
September 7	2017	Thu	7:30 pm
December 7	2017	Thu	7:30 pm

### VE Sessions

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.*



Hands-Only™ CPR  
Ad Council

1 

Call 911

2 

Push hard and fast in the center of the chest.  
Learn more at [handsonlycpr.org](http://handsonlycpr.org)

American Heart Association  
Learn and Live

## I See the Future

12 March	North American Sprint, RTTY
25–26 March	CQ WW WPX Contest, SSB
<b>28 March</b>	<b>PAVE PAWS Presentation, Clay Center, Brookline, 6:30 pm</b> (replaces March General Meeting) ▲
2 April	MS Walk Boston <b>(Rp)</b>
8 April	PCARC Seacoast Flea Market, Hampton, NH
8 April	Deadline for articles for the April SPARC
<b>10 April</b>	<b>BARC VE Session, Brookline Police Headquarters, Brookline</b>
15 April	BAA 5K <b>(Rp)</b>
16 April	ARRL Rookie Roundup, Phone
16 April	Flea at MIT, Cambridge
17 April	Boston Marathon <b>(Rp)</b>
<b>20 April</b>	<b>BARC General Meeting, Clay Center, Brookline, 6:30 pm</b> ▲
23 April	Framingham ARA Annual Spring Flea Market, Framingham
30 April	Run of the Charles <b>(Rp)</b>

▲ **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.

## 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](mailto:nv1w@arrl.net). Articles for the April issue must be received by April 8.

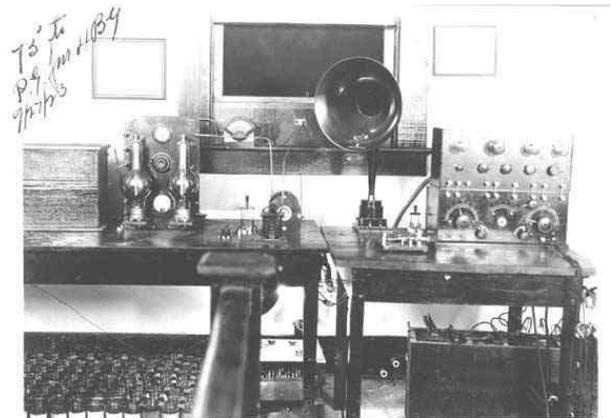


**The Clay Center Observatory  
Welcomes BARC members**

[www.claycenter.org](http://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 **1 June 2017** at Brookline Police Headquarters in Brookline. 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](mailto: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 CSEs 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](mailto:n1icn@arrl.net), or Linda Blair, NA1I, [na1i@arrl.net](mailto: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](mailto:nv1w@arrl.net).

## BARC Officers and Staff

President: Joe Harris, N1QD  
781.844.8684; n1qd@n1qd.org

Vice President: Mark Duff, KB1EKN  
781.749.7664; emgmt@comcast.net

Secretary: Joe Chapman, NV1W  
617.267.6349; nv1w@arrl.net

Treasurer: Jim Clogher, N1ICN,  
617.908.5019; n1icn@arrl.net

Volunteer Exams:  
Jim Clogher, N1ICN, n1icn@arrl.net  
Linda Blair, NA1I, na1i@arrl.net

Public Service Coordinator: Brett Smith, AB1RL  
859.466.5915; ab1rl@arrl.net

Public Information Officer:  
Geri Duff, KB1ISG  
781.749.7664; geriduff52@juno.com

Membership Services: Linda Blair, NA1I  
617.500.4406; na1i@arrl.net

Newsletter Editor: Joe Chapman, NV1W  
617.267.6349; nv1w@arrl.net

**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.

**The SPARC** is published monthly by the Boston Amateur Radio Club. The design and content are Copyright 2016, all rights reserved. Permission is hereby granted to reprint or distribute by electronic or other means any material herein, provided this publication and the issue date are credited. Such permission is limited to use for non-commercial purposes for the benefit of the Amateur Radio community. Permission for other purposes must be obtained in writing.

### 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)

145.230 ( - ) CTCSS 88.5

Simplex: 147.420

449.175 ( - ) DMR CC1