



The SPARC

Amateur Radio - Communicating Worldwide for A Century

Newsletter of the Boston Amateur Radio Club

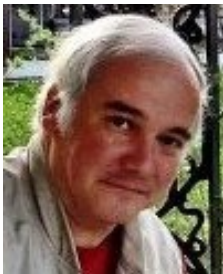
Serving Hams in the Greater Boston Area

May 2018 - VOLUME 30, NUMBER 5

www.barc.org - w1bos@arrl.net



Message from the Editor – Joe Chapman, NV1W



President Joe Harris is on vacation, so everyone will be treated to even more of my random musings than usual.

Along with Field Day, working at the Boston Marathon is one of the high points of the year for me. I suspect that for many of us the conditions at this year's race tested just how much pleasure we take in the event. I had the good fortune, I suppose, to have been forced to give up sweep duty at the finish due to my back problems two years ago, so I had a roof over my head for most of the day. I also had the good fortune to meet club member and fellow urban ham Tom Achtemichuk, KC1TA, for the first time at the pre-race meeting.

One of the perks of being in the main medical tent is that one gets to see the winners as they make their discreet exit. They seemed to be especially happy this year, which I suppose is the result of (a) winning Boston, and (b) finally getting out of that weather. My post stayed open until 7:00 pm, by which time I thought I was going to end up on one of the cots.

I hope my fellow volunteers have had a chance to dry out and that we all have better luck next year!

I should also draw your attention to the upcoming June election. Joe, N1QD, has decided not to seek a fourth term as president. If you are interested in running for a club office, feel free to reach out to Joe or myself via email and we will happily answer any questions you may have.

Joe Chapman, NV1W

In this Issue of The SPARC

- Member News
- Toroids!
- Events and meetings



BARC General Meeting · Thursday, May 17, 7:30 p.m.

The next BARC General Meeting will be on Thursday, May 17, 2018, at 7:30 p.m. at Brookline Police Headquarters in Brookline. The speaker will be Harris Pitnof, WA1GXC, who will talk about maritime CW. A map for this location can be found later in this issue of *The SPARC*.

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449.175 (-) DMR CC1

The SPARC

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>.

Member News – Joe Chapman, NV1W

In the department of tooting one's own horn, I (Joe, NV1W) recently discovered that I completed the requirements for Worked All Continents, all QRP CW with a wire antenna on my roof deck, over two years ago!

Upcoming BARC Meetings – Joe Chapman, NV1W

The next General Meeting of the Boston Amateur Radio Club will be held on Thursday, May 17, at 7:30 pm at Brookline Police Headquarters in Brookline. A map can be found below and directions to all club venues can be found on www.barc.org under Resources/Directions.

Our speaker will be Harris Pitnof, WA1GXC, who will speak on maritime CW (Morse code). Harry is a former commercial CW operator and a walking encyclopedia on all things code. Those who attended his talk last year will remember that he's an entertaining and informative speaker.

Also in the future is the Business Meeting on Thursday, June 7, at 7:30 pm, also at the Brookline Police Headquarters. Mark your calendar also for Field Day, June 23–24!

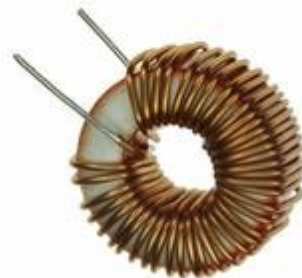
20 Years Ago in *The SPARC* – Joe Chapman, NV1W

The speaker for the May, 1998, general meeting was Chip Cohen, N1IR, who talked about fractal antennas — President Mike Ardai, N1IST, announced that he would not be running for re-election — Bob, WA1IDA, provided a recap of the 1998 Boston Marathon — BARC participated in the Aviation Expo at Logan Airport — Members were alerted of a request to the FCC to reallocate 440 MHz to the Private Mobile Radio Service — ARES/SATERN training courses were announced — *And elsewhere, in single-name news, Indonesian president Suharto resigned after 31 years in power.*

Fun with Toroids – Joe Chapman, NV1W

The first problem with writing about toroids in a family ham radio club newsletter is that one cannot make the obvious comparison to another pain in the behind that ends in -roids; fortunately, Rex Harper, W1REX, of QRP.me sells a "Preparation T" kit that I will have cause to refer to later.

Toroid, at least in the electronic world, refers to an inductor or transformer made by wrapping wire through a donut-shaped iron or ferrite core. The shape makes for an efficient component because very little magnetic flux escapes outside the core. The reason for their fearsome reputation is you can't just go into an electronics store and buy an *n*-millihenry toroid, but rather you have to buy a core and some wire and wind the thing yourself. Most hams will be introduced to toroids by encountering them in a kit.



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The SPARC

Cores have names like T37-6. In general, the names of ferrite toroids start with “FT” and powdered iron with “T”. The next number is the outer diameter in hundredths of an inch, and the number after the dash stands for the material used. The name isn’t marked on the part, though one side is often colored corresponding to the number after the dash. When you buy a kit that has more of one kind of toroid core, the instructions will usually tell you how to tell them apart. Like surface mount parts, you will save yourself much gnashing of teeth and tearing out of hair if you keep cores in bags marked with the name.

To wind a toroid you take a wire and push it through the hole in the center, then bring it around the outside of the core and push it through the center again. Continue around the edge of the core, trying to keep things neat, until you’ve made the right number of turns. Each time you poke the wire through the central hole counts as one turn. When you’re done you strip the insulation off the ends of the wire and solder it onto the circuit board.

Like the instructions for bicycling across the country (*viz.*, aim your bike at the destination and turn the pedals until you arrive) carrying out these simple instructions for winding a toroid may involve complications.



Some kits like those from Elecraft will give you an accurate estimate of how long a piece of wire to cut; others like the “Frog Sounds” kit I reviewed in these pages several months back, do not. I usually add an inch or two to the measurements for safety, since there’s nothing as bad as running out of wire before you’re finished. Even with the ten-dollar Chinese kits you’ll have enough wire to cut things on the long side.

Some people recommend folding the wire in half and doing half the turns from each side. I usually just go from one end because I find it easier to count turns that way. You want to snug the wire as you go, though I don’t use pliers for this so I don’t risk damaging the wire. Be careful, also, not to overlap. It can be hard to do this when there are a lot of turns. When you’re done, even out the wires around the outside of the toroid, and count once more (I use a pencil to point at each turn as I count). There should be a lead on either side of the part, though I can’t imagine how you could wind it to make that not be the case.

You then have to strip the ends of the wire. Many kits will use magnet wire with insulation that you can melt off with a blob of solder. I have one of those third-hand soldering gizmos with a magnifying glass and two alligator clips, and I use



one of the alligator clips to hold the toroid when I melt the insulation. I perch a blob of molten solder on the tip of my soldering iron and run the magnet wire through it; you’ll see the insulation bubble up as it melts. I find I have to go in towards the core a little farther than I think is necessary to get a good length of bare wire to fit into a circuit board. Then I sand the wire with a little fine sandpaper and clean up the tinning on the ends.

If you have a kit like the “Frog Sounds” without meltable insulation you’ll have to scrape it off with an X-acto knife before sanding and tinning the ends.

Finally, mount the part on the circuit board. You’ll notice that on most boards the holes for the leads aren’t directly opposite one another, but are offset slightly, and the toroid will fit more neatly

The SPARC

in one orientation than another. Then snug the wires down and solder. Finally, check with a multimeter (repeat, *check with a multimeter*) to make sure the two pads are actually connected.

When I wind a toroid I just hold the thing between two fingers and poke the wires in with the other hand. Some people will put a pencil vertically in a vise and put the toroid cover over the tip of the pencil before winding it. I don't find that a help, but your mileage may vary. QRP.me sells a toroid core holder that fits in a vise that allows you to wind with both hands. You can get two along with an assortment of popular cores, all packed in a tuna can labeled "Preparation T", for \$40; see <http://www.qrpme.com/?p=product&id=PT>.

Sometimes you'll need to wind a toroid with two or even three wires ("bifilar" and "trifilar") but that's for a more advanced article. Good luck with your toroids and anything you may have that ends in -roids!

BARC Meeting Calendar for 2018

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

General Meetings

May 17	2018	Thu	7:30 pm — <i>Maritime Morse with Harry, WA1GXC</i>
June 21	2018	Thu	7:30 pm — <i>Elections and Field Day</i>
September 20	2018	Thu	7:30 pm
October 18	2018	Thu	7:30 pm
November 15	2018	Thu	7:30 pm

Business Meetings

June 7	2018	Thu	7:30 pm
September 6	2018	Thu	7:30 pm
December 6	2018	Thu	7:30 pm

VE Sessions

July 9	2018	Mon	7:30 pm
October 8	2018	Mon	7:30 pm

Run of the Charles a Success Despite Rapid Currents – Brett Smith, AB1RL

April is always a jam-packed month for public service events, and we always close it with the Run of the Charles. This is a really unique and fun event, a series of canoe and kayak races to support the Charles River Watershed Association. The organization works to protect the natural ecology of the Charles River, and keep it safe and clean for people to enjoy as well.

At this event, we handle on-site registrations, reports of rules violations, and of course we're always keeping an eye on participants' safety. All the rain over the week prior made for strong currents, which unfortunately led to a lot of boats capsizing, including one that got stuck on a bridge and required emergency assistance. That didn't seem to dampen anyone's spirits, though; we handled 24 registrations throughout the day, which is in line with most years, and everyone had a safe race.

Thanks to all twenty volunteers who came out to support this event and the Charles River: Jeff PinterParsons, W5UVO; Alan Lewis, K1ALL; Mark Richards, K1MGY; David Cantrell, WH6DSN; Henry Brown, K1WCC; Rick Savage, KB1LYJ; Kathy Savage, KB1LPW; Gary Schwartz, N1ZCE; Bill Bridgham, N1RYT; Keilin Bickar, KE1LIN; Cheyenne Greateorex, N1QZS; Dave Allen, KC1GEQ; Jim Clogher, N1ICN; Ed Curley, KC1CLA; Lyman Smith, W1LKS; Lela Smith, KC1ACV; John Marcus III, W1JWM; Dave Gilman, KC1DDH; Brian Mallory, KB1WZU; and Thomas Achtemichuk, KC1TA.

The SPARC

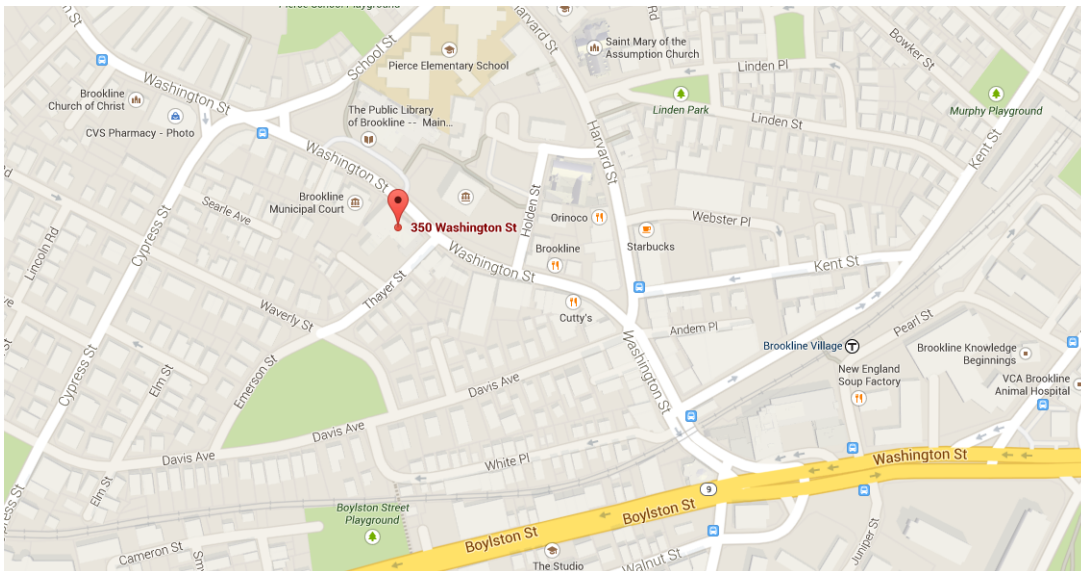
Quarterly Business Meetings – Bob Salow, WA1IDA

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 **June 7, 2018** 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.

Area Map for Brookline Police Headquarters, 350 Washington St., Brookline



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*

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The SPARC

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-ins 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.

I See the Future


17 May	BARC General Meeting, Brookline Police Headquarters, Brookline, 7:30 p.m.
20 May	Flea at MIT, Cambridge
26–27 May	CQ WW WPX Contest, CW
7 June	BARC Business Meeting, Brookline Police Headquarters, Brookline, 7:30 p.m.
9 June	Deadline for articles for the June SPARC
9–11 June	ARRL June VHF Contest
16 June	ARRL Kids' Day
17 June	Flea at MIT, Cambridge
21 June	BARC General Meeting, Brookline Police Headquarters, Brookline, 7:30 p.m.
23–24 June	Field Day, Bare Cove Fire Museum, Hingham
24 June	BAA 10K (Rp)

▲ 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.

For an up-to-date calendar of events, including web links, visit <http://www.barc.org/calendar>.



**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



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The SPARC

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.

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 June issue must be received by June 9.

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 Monday, July 9, 2018.** 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, 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.

The SPARC

BARC Officers and Staff

President: Joe Harris, N1QD

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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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The SPARC

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 in/100.0 out)
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 in/100.0 out)
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 Thu Sat 6 pm	MA RI Phone Net (NTS)	3.978
Tue 7:30 pm	Clay Center ARC Net	446.325 (PL 146.2)
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 Newslite)	145.470 (PL 136.5)
Sun 9 pm	CAARAnet	145.130 (PL 107.2)



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