



The SPARC

Amateur Radio - Communicating Worldwide for A Century

Newsletter of the Boston Amateur Radio Club

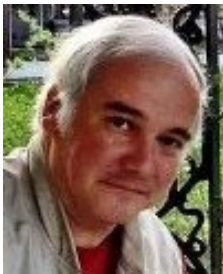
Serving Hams in the Greater Boston Area

June 2020 - VOLUME 32, NUMBER 6

www.barc.org - w1bos@arrl.net



Message from the Editor – Joe Chapman, NV1W



Many BARC members seem to be finding extra time to devote to the hobby during the pandemic. I know a few are studying for a new or upgraded license, though I wish I could be more optimistic about when VE sessions will resume. We've had some Monday night nets with impressive checkin totals. There seemed to be good participation in the New England QSO Party at the beginning of the May, at least to judge from the number of pileups I couldn't break through with my squirt gun of a station.

I've been experimenting with a longwire/unun combination with the idea of operating more on 80 meters, and I was delighted to find that I can actually tune up on 160. Probably not the most efficient antenna in the world, but the tuner's relays didn't even clatter too alarmingly. With my urban QTH and limited antenna space I'd always assumed the top band was as off-limits to me as Mecca.

With this month's meeting we will finally have a location free of the risk of being stuck in traffic or having trouble parking. I hope to see everyone there, if only virtually.

73, good radio, and good DX!

In this Issue of The SPARC

- Field Day!
- 2020 Meeting Calendar
- Member news
- A portable spectrum analyzer
- Upcoming events and non-events



BARC General Meeting, Thursday, June 18, 7:30 p.m.

The next BARC General Meeting is scheduled for Thursday, June 18 at 7:30 p.m., and will be held via Zoom. For further information, see the article in this issue of *The SPARC*.

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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>.

BARC Field Day Plans – Joe Chapman, NV1W

The Town of Hingham is canceling many summer events, and we will be unable to use the Bare Cove Fire Museum for Field Day 2020. Even if we were able to get together as a club at the Fire Museum or some other venue to operate during the event, many of our members are likely to be still practicing social distancing at the end of June.

However, we will be able to be together in more than just spirit. The ARRL has issued updated rules for Field Day 2020 (*see article below*). When you submit your results for Field Day, you will be able to designate a single club in the “CLUB:” line of the Cabrillo file header. This should be set to “Boston Amateur Radio Club” so we’ll all match and make it easier for the meisters to credit the club.

For further encouragement, see this video from the Sangamon Valley Radio Club in Springfield, Illinois: <https://youtu.be/A2LRCvabjuA>. Thanks to Bob, WA1IDA, for passing this along.

Temporary Rule Waivers Announced for 2020 ARRL Field Day – ARRL



With one month to go before 2020 ARRL Field Day, June 27–28, the ARRL Programs and Services Committee (PSC) has adopted two temporary rule waivers for the event:

1) For Field Day 2020 only, Class D stations may work all other Field Day stations, including other Class D stations, for points.

Field Day rule 4.6 defines Class D stations as “Home stations,” including stations operating from permanent or licensed station locations using commercial power. Class D stations ordinarily may only count contacts made with Class A, B, C, E, and F Field

Day stations, but the temporary rule waiver for 2020 allows Class D stations to count contacts with other Class D stations for QSO credit.

2) In addition, for 2020 only, an aggregate club score will be published, which will be the sum of all individual entries indicating a specific club (similar to the aggregate score totals used in ARRL affiliated club competitions).

Ordinarily, club names are only published in the results for Class A and Class F entries, but the temporary rule waiver for 2020 allows participants from any Class to optionally include a single club name with their submitted results following Field Day.

For example, if Podunk Hollow Radio Club members Becky, W1BXY, and Hiram, W1AW, both participate in 2020 Field Day—Hiram from his Class D home station, and Becky from her Class C mobile station—both can include the radio club’s name when reporting their individual results. The published results listing will include individual scores for Hiram and Becky, plus a combined score for all entries identified as Podunk Hollow Radio Club.

The temporary rule waivers were adopted by the PSC on May 27, 2020.

ARRL Field Day is one of the biggest events on the amateur radio calendar, with over 36,000 participants in 2019, including entries from 3,113 radio clubs and emergency operations centers. In most years, Field Day is also the largest annual demonstration of ham radio, because many radio clubs organize their participation in public places such as parks and schools.

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Due to the COVID-19 pandemic, many radio clubs have made decisions to cancel their group participation in ARRL Field Day this year due to public health recommendations and/or requirements, or to significantly modify their participation for safe social distancing practices. The temporary rule waivers allow greater flexibility in recognizing the value of individual and club participation regardless of entry class.

ARRL is contacting logging program developers about the temporary rule waivers so developers can release updated versions of their software prior to Field Day weekend. Participants are reminded that the preferred method of submitting entries after Field Day is via the web applet. The ARRL Field Day rules include instructions for submitting entries after the event. Entries must be submitted or postmarked by Tuesday, July 28, 2020.

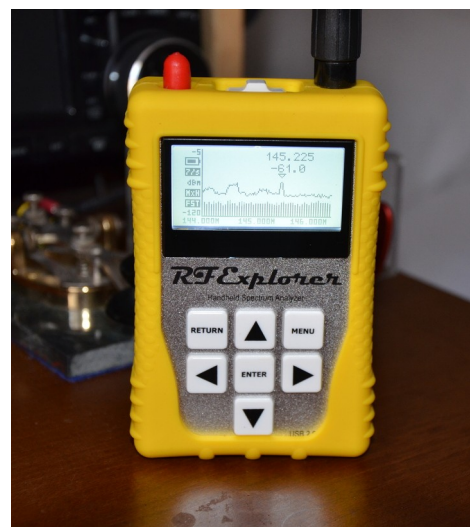
The ARRL Field Day web page includes a series of articles with ideas and advice for adapting participation this year.

Equipment Review: RF Explorer – Joe Chapman, NV1W

Sunspots are abysmal, and the world may be coming to an end, but life continues to get better for those of us who thought we'd never be able to afford expensive test equipment. The latest exhibit is RF Explorer from Seed Studio, a palm-sized spectrum analyzer that, depending on the model and features selected, costs a few hundred dollars, more or less. (In the spirit of most ham equipment, once you've bought all the extras you need and/or want, it is no longer anywhere near as cheap as it originally appeared.)

For those who studied for amateur radio exams long ago, a spectrum analyzer is an instrument that shows you a range of frequencies and plots the signal strength of any received RF signals within that range. It's a little like a spectrum scope display on a transceiver without the transceiver. Spectrum analyzers used to cost a good five figures; Rigol now has a few that are more affordable but the last time I priced one it was \$1200. The most expensive RF Explorer, the 6G combo, lists at \$360. You can find them with a Google search, and my impression of the pricing is that it's a little like an airline ticket: everybody paid a different price, and you paid more than everyone else.

The unit is about 3" × 4 3/4" × 1"; it fits comfortably in the hand. There are two SMA connectors on top for various antennas, an LCD display and a few menu buttons on the front, and a USB port on the bottom. The case is aluminum and appears well-made; you can get a rubber boot for it to protect the thing. The 6G Combo comes with three antennas: a telescoping one for frequencies under 1 GHz, including 2 meters and 440 MHz, a 2.4 GHz antenna, and a 5.8 GHz rubber duck. There's a set of small near-field antennas for snooping around circuit boards, three magnetic loops and a electric field stub that's small enough to poke around suspect SMD devices and IC pins. I didn't buy them and haven't seen any reviews.



Specs vary depending on the model. The 6G combo goes from 15 MHz–2.7 GHz and 4.85–6.1 GHz; the low end of the sensitivity is -105 or 110 dBm depending on the antenna port. Frequency resolution is 1 kHz. I did a sweep of WiFi around my apartment and found lots of signals, and a sweep of 2 meters showed activity on both the input and output frequencies of the Boston and Waltham repeaters. It provides a reasonable set of spectrum analyzer modes: in addition to Normal mode, you can have it display the Average or Max of the last n samples (n is user configurable), or Max Hold, which holds the maximum value.

You can save various frequency range settings in presets for quick recall, and there's a free, open-source PC application that talks over the USB port.

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The unit is powered by a Lipo battery, rechargeable via USB, and the manufacturer claims it will last for 16 hours. I've not yet put a dent in the charge. One thing you have to watch out for is the unit is very sensitive, even when it's powered off! If you have an antenna connected to it and crank up your 100-watt transmitter on the same desk, you can fry the thing. You can get attenuators in 10, 20, and 60 dB values, and a more sophisticated power limiter, and you probably should

invest in at least a few of these things. If you're paranoid, you can get some 50Ω screw-on SMA caps and leave them attached when you have the Explorer in storage. I have a well-stocked box of SMA adapters and couplers that are also getting use.

For HF use, they sell an upconverter mixer that extends the range down to 100 kHz. It bumps anything from 100 kHz to 250 MHz up to 530.1–780 MHz and can also be used for things like SDR dongles. It has a built-in attenuator and low-noise amplifier as well.

For price/performance it seems unbeatable to me. I've been using mine as a visual version of a scanner, for checking various QRP gadgets like the Rockmite and Frog Sounds transceivers, and for learning more about some short-range wireless protocols.

RF Explorer, available from *Seed Studio*, Amazon, and other places you can find with a Google search. \$99–\$360. 6G Combo model (reviewed), \$360. Upconverter for 100 kHz–250 MHz, \$99. <http://j3.rf-explorer.com/>, <https://www.seeedstudio.com>.

June General Meeting to be Held on Zoom – Joe Chapman, NV1W

The June General Meeting will be held at the usual date and time, Thursday, June 18, at 7:30 p.m., but on the Zoom teleconferencing platform instead of in person in Brookline Village. Zoom clients are available for many platforms at <https://zoom.us>. We are grateful to Phil Temples, K9HI, for assisting with setting things up.

June is the Elections meeting, and if you are interested in running for a club office, please contact either Vice President Mark Duff, KB1EKN, or myself. Nominations will of course be open until the election itself, so contacting either one of us is optional. We will also be discussing individual plans for Field Day.

Here is the drill: I will send out a link for the meeting to the *SPARC* email distribution list on the afternoon of the 18th. It should have everything you need to join the meeting. Talkaround will be on the 145.230 Boston repeater, and I will be listening in case anyone runs into any issues.

BARC Meeting Calendar for 2020

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

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General Meetings (* Business/General Meetings)

June 18*	2020	Thu	7:30 pm	— Zoom teleconference platform ▲ — Elections
September 17*	2020	Thu	7:30 pm	
October 15	2020	Thu	7:30 pm	
November 19	2020	Thu	7:30 pm	

VE Sessions

October 12	2020	Mon	7:30 pm	
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▲ *Note change from usual date and/or location*

New Business/General Meetings – Joe Chapman, NV1W

The Bylaws require that BARC hold four Business meetings per year. In an attempt to streamline our meeting schedule, BARC Business meetings will now be held concurrently with the General meetings in March, June, September, and November. We will attempt to keep the business portion of these combined Business/General meetings to a half hour. The next such combined meeting will be on **June 18, 2020** on the Zoom platform. 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.

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 Secretary Joe Chapman, NV1W.

Member News – Joe Chapman, NV1W

Welcome to Thomas Daley, W1TMD, Michael Lawrence, N1OOH, Bragi Sveinsson, KK6QYO, and Brendan Baldonado, not yet licensed.

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-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

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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

13–15 June	ARRL June VHF Contest
20 June	ARRL Kids Day
4 July	Deadline for items for the July SPARC
11–12 July	IARU HF World Championship
18–19 July	North American QSO Party, RTTY

▲ Note change from usual date and/or location

Before going to any event over the next few months, please confirm that the event will take place and what the hours are.

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>.

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.

Two Ways to 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 July issue must be received by July 4.

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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 Volunteer Exam Sessions

The Boston Amateur Radio Club offers license exams quarterly. **Due to uncertainty caused by the COVID-19 pandemic, the next test session is to be announced.** Test 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.



NEW ENGLAND SCI-TECH

New England Sci-Tech Inc is a new 501(c)(3) STEM education center, amateur radio training center, and maker space located at 16 Tech Circle, Natick. It is home to New England Amateur Radio Inc (NE1AR) and the youth radio club Sci-Tech Amateur Radio Society (STARS). NE Sci-Tech welcomes memberships and donations via www.NESciTech.org or www.NE1AR.org.



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BARC Officers and Staff

President: (*position vacant*)

Vice President: Mark Duff, KB1EKN
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Secretary: Joe Chapman, NV1W
617.267.6349; nv1w@arrl.net

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Jim Clogher, N1ICN, n1icn@arrl.net

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Public Service Coordinator: Brett Smith, AB1RL
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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 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 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 5 pm	MA RI Phone Net (NTS)	3.978
Tue 8 pm	Sci-Tech Amateur Radio Society (STARS) 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 Newslines)	145.470 (PL 136.5)
Sun 9 pm	CAARAnet	145.130 (PL 107.2)

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