



The SPARC

Amateur Radio - Communicating Worldwide for A Century

Newsletter of the Boston Amateur Radio Club

Serving Hams in the Greater Boston Area

October 2015 - VOLUME 27, NUMBER 10

www.barc.org - w1bos@arrrl.net



Message from the President – Joe Harris, N1QD



October is here, and Fall has arrived! The autumn weather has hit in full force, and I've started looking for a jacket when I leave the house in the morning. Fall is a great time to get the shack in order and try out that new antenna. It's also the start to the contest season, for those of you that are active on HF!

My President's Message will be brief this month, as the major points I want to discuss are in the repeater update. The major takeaway is this: the club will have to replace the UHF repeater antenna this fall, and may be looking to replace the UHF repeater hardware as well. See the Repeater Update for full details. Come to the October general meeting on the 15th, and join in the discussion.

73, and see you at the October meeting!

Joe Harris, N1QD

In this Issue of *The SPARC*

- Public Service: The Jimmy Fund Walk
- Repeater Update
- Product Review: Connect Systems CS750 and CS751 Analog/DMR Handhelds



BARC General Meeting

Thursday, October 15, 2015 at 7:30pm

BARC's next general meeting will be held on Thursday, October 15, at 7:30 pm at Brookline Police Headquarters in Brookline Village. The speaker will be David Capone, President of Capone Communications in Norfolk. Further information can be found below in this issue of the SPARC.

Repeaters: 145.230 (-) CTCSS 88.5

Simplex: 147.420

443.550 (+) CTCSS 110.9

The Jimmy Fund Walk– Brett Smith, AB1RL



The Dana-Farber Cancer Institute’s annual Jimmy Fund Walk has long been a highlight event for hams’ fall public service season. For good reason, too: this year, over 9,000 people walked along the Boston Marathon route to raise more than \$8 million for DFCI. It’s a great opportunity for us to do a lot of good, not just for the participants, but also the patients and families that DFCI serves.

Part of what keeps me doing public service work is the variety. Every event needs something a little different, and it’s rewarding to use the lessons learned at each to improve them all. The Jimmy Fund Walk had plenty of variety all by

itself. Net Control handled all kinds of requests: we dispatched two ambulances, directed sweep buses to participants who needed help, and routed requests for medical volunteer supplies—all the way down to sandwiches at lunchtime. In the end, the event ran smoothly, and we’ve heard plenty of thanks from the walk staff for our help.

Thanks first and foremost to everyone who volunteered: Gary Schwartz, N1ZCE; Jim Hicks, KB1ZJO; Allan Cox, K1VQ; Ralph Devlin, N1LAH; Keilin Bickar, KB1PSC; Glenn Skinner, KC1BCR; David Wolfe, KG1H; Mike Hussey, KB1WWC; Mary-Ellen Hussey, KB1WWE; David Gilman, KC1DDH; Brian O’Halloran, KB1ZYL (*pictured above*); and Keith Kennedy, N1KLK. Thanks as well to the Framingham Amateur Radio Association and Waltham Amateur Radio Association for allowing us to use their club repeaters to provide full coverage for the event course. Finally, special thanks to Steve Schwarm, W3EVE, for his assistance with planning and organizing the event.

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: <https://groups.yahoo.com/neo/groups/bostonARC/info>.

Repeater Update – Joe Harris, N1QD

VHF

At the September MIT flea, Mike N1IST generously donated four VHF bandpass cavities to the club. Joe N1QD was able to tune all of them down to the bottom of the two meter band, so they will be usable on either the TX or RX side as necessary. At the moment, the plan is to use two of them as a pre-selector on the RX chain at 144.630 MHz. We would then move the DCI 2-meter filter to the antenna side of the duplexer. We should be implementing this once proper cabling has been procured.

UHF

On 9 September, Joe N1QD and Ron K1RE visited the repeater site to service the UHF repeater and implement the changeover to DMR. A firmware update did not fix the “no RX” issue that was found in June, so the club’s Motorola XPR8300 was removed from the rack to be taken out for repairs. Ron’s Motorola SLR5700 UHF DMR repeater was temporarily installed in its place. It is currently operating from the BARC repeater site with Ron’s call on his coordinated frequency of 449.175 MHz with a Color Code of 1. The repeater is not connected to the network and is operating

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standalone. Extensive testing has been carried out in the past few weeks, and initial reports have been very promising. DMR users were able to access the repeater from the North Shore and South Shore, and even as far away as Mendon, Littleton, and Nashua.

The radio shop has checked out the XPR8300 and confirmed our suspicions: the repeater will only function as an analog repeater. The repair would be a flat \$1400, which is well over half the cost of a brand new repeater.

Additionally, the club was notified over the summer that the former repeater trustee, WN9T, is laying claim to the UHF repeater antenna. It is his property, and should be returned to him. This is an opportunity to explore an antenna system that will offer a directional pattern, which would allow BARC to run the UHF repeater at a higher power level while nulling out the signal in the direction of Cape Cod. Initial discussions estimate that such a replacement will likely be in the range of \$800–\$1200.

At this point, the club needs to decide what course of action they want to take for the UHF repeater. BARC's repeater fund would be strained just with the antenna replacement, but adding on a new repeater also would be a major expense for the club to bear. Should BARC decide to proceed down the DMR path, there are some options available. First, the New England Digital Emergency Communications Network (NEDECN) would be willing to help raise the funds to acquire a new repeater. Additionally, the NEAR-Fest Digital Networks Commission would be another venue the club could pursue for funding assistance.

October 2015 General Meeting Program – Blake Haskell, K1BTH

David Capone, President of Capone Communications in Norfolk, will be the guest speaker for the BARC October General Meeting.

Dave will talk about coax connectors and demonstrate some interesting and unique techniques for making high quality, durable connections on antenna cabling of all sizes. David will also share with us some of his experiences in working on communications projects throughout the New England market.

Dave is the President of Capone Communications, a tower services company based in Norfolk, Massachusetts. Dave's company provides turnkey communications site engineering, design, fabrication and construction services. Dave has worked on sites of all types and also provides portable sites as needed. They have an amazing line up of power supply equipment to keep sites up and running throughout any type of condition.

Please join us for an entertaining and informative session.

Product Review: Connect Systems CS750/751 DMR Handhelds – Joe Chapman, NV1W



The Connect Systems CS750 and CS751 are low-cost handhelds with both analog FM and DMR capability. They have a reasonably complete feature list, are well-built, and at \$239 won't break the bank. A programming cable is \$5 and the software is free, so there are no hidden large costs. I have had good experiences dealing with Connect Systems for both ordering and service.

Regular readers of my articles in the SPARC will remember that because DMR radios are repurposed commercial designs there are no dual-band radios available. (Irregular readers may wish to add some more fiber to their diet.) The CS750 is a UHF model and the CS751 is VHF. Two meter repeaters are common in New England (due to a Cold War-era early warning radar system on Cape Cod) and UHF repeaters are common elsewhere, though the upcoming W1BOS DMR repeater in downtown Boston will be UHF. So one might find oneself buying both.

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The construction of the radio seems good for a Chinese-made radio. Mine has survived the occasional drop to the ground but I haven't yet tried to use it in a soaking rain or temperatures far below freezing.

There are two knobs on top: an on-off/volume control knob and a 16-position rotary switch. Unlike most handhelds, you don't just spin the channel select until you get the memory channel you want. Rather, you program up to 16 channels in a zone. You select the zone using a menu button and arrow keys.

The nice thing is it's hard to accidentally move the channel knob, something I do all the time with other radios. On the other hand, with DMR repeaters commonly having a dozen or more talk groups, and each repeater/talk group combination taking a channel position, zones fill up very quickly. (An analog FM channel takes up only one channel position.)

There's a sixteen-button keypad on front, though support for keypad programming and DMTF tones will be in a future firmware release. (Firmware upgrades are free.) There are also three buttons, two on the side and one on the top, that you can program to do whatever you want.

There's a 2x16 display with a few icons for things like received signal, transmit power level, and battery level. Normally it displays the programmed channel name. When receiving a DMR signal it displays the user id (or the contact information if you have that programmed in) plus the talk group. The hardware is capable of supporting 65,536 contacts and I'm told the firmware to support that is now. I currently have every DMR user in New England (about 650 user ids) programmed into my radios, with the larger contact list support it will be able to handle the entire DMR-MARC database.

I found the audio plenty loud in noisy urban environments, and haven't heard any complaints about microphone audio. There are no adjustments for mic gain, so if you have a soft voice as I do you'll just have to talk louder. I also have no complaints with the RF performance; low power is about a watt and high power is four or five, which is normal for a handheld.

The supplied rubber duck antenna is adequate. It uses a standard SMA connector so you can swap in a better antenna if you wish. Other accessories in the box are a 1700mAh Li-ion battery, a rapid charger, belt clip, and wrist strap. The USB programming cable is cheap (\$5) and necessary if you want to do something advanced like, well, actually use the radio. You can also buy extra batteries and a speaker mic.

The programming software has gotten better in the short time I've had Connect Systems radios. Some obvious things like reordering channels in the channel list can't be done, and the dialogs were not written by someone whose first language is English. To add 12 talk groups on a single repeater, you have to enter the repeater frequencies and configuration 12 times. It will export and import contacts and channels from Excel spreadsheets, though you have to have the Excel application on the same computer on which you're running the programming software (i.e., you can't use another program that supports Excel format or copy the file from another machine). Excel is really the only way to reorder channels and contacts, as well as to import contacts downloaded from the DMC-MARC website.

To order the radio you used to have to call Connect Systems and talk to someone rather than use the web, though there is a purchase link now on their website. I found them pleasant to deal with and they ship promptly. When I sent my CS701 back to be upgraded to a CS751 it took a little longer than they'd first estimated, but I had no other problems. There are other companies selling these radios on the web, but the prices are often higher than if you bought them direct, and I really can't think of a compelling reason not to deal with Connect directly.

CS750 UHF Radio, CS751 VHF Radio, \$239. Connect Systems, 5321 Derry Ave., Suite B, Agoura Hills, CA 91301. 818-889-0503. <http://www.connectsystems.com>.

BARC Meeting Calendar for 2015

Unless otherwise noted, all meetings will take place at the Brookline Police Headquarters; the map is later in this newsletter.

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General Meetings

October 15 Thu 7:30 pm — Coax cables and connectors/David Capone
November 19 Thu 7:30 pm

VE Sessions

October 12 Mon 7:30 pm

Business Meetings

December 3 Thu 7:30 pm

BARC Badges! -- Joe Chapman, NV1W

Rick, NV5A, the Sign Man of Baton Rouge, is now offering BARC badges. They're full-color plastic badges with our logo and your call sign and first name, at a basic price of \$11.50 for a badge with a safety pin fastener. Rick was a great help in designing a badge for us, and he does good work and ships promptly.

See our listing on the Sign Man's web site: <http://www.thesignman.com/clubs/boston.html> for details and fastener options.



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 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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I See the Future

- 11 Oct BAA Half Marathon **(Rp)**
- 12 Oct BARC VE Session
- 15 Oct BARC General Meeting**
- 16–17 Oct NEAR-Fest (Deerfield, NH)
- 19 Nov BARC 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.

Tired of the Editor’s Jokes? – Joe Chapman, NV1W

We are always looking for articles for the newsletter. I have reserved this space for your articles, reviews, tips, how-tos, or other ham related information. Send your submissions to the Editor, Joe, NV1W, at nv1w@arrl.net.

Articles for the November issue must be received by November 7.

New Members – Joe Chapman, NV1W

Welcome to new member **Fedor Kouranov, KC1EDS**. Fedor, who lives in Allston, passed his Technician and General at the July BARC VE session. Welcome to the hobby and the club!

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; or Bob Salow, WA1IDA, at w1ida@arrl.net or 508.650.9440.

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 **3 December 2015** at the Brookline Police headquarters. 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.

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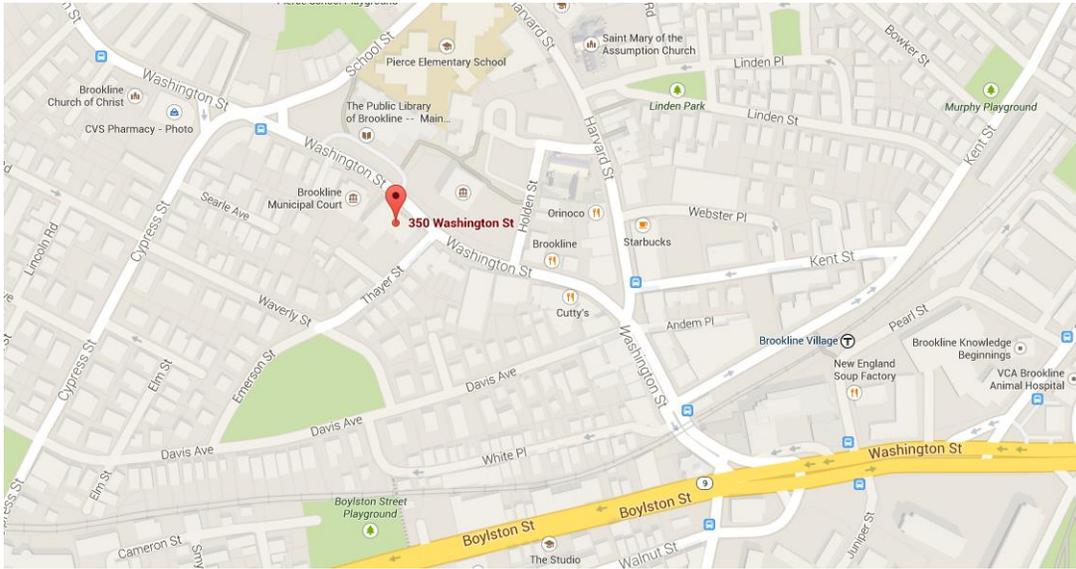
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A short opening period of each General meeting will continue to be used to bring any immediate business matters to everyone's attention.

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 the Brookline Police Headquarters, 350 Washington Street, Brookline MA



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 2015 exam session schedule is shown elsewhere in this newsletter issue.** Generally, sessions are held at Brookline Police Headquarters, 350 Washington St in the Community Room (across from the information desk). A map is shown above.

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 ID (picture ID preferred)
- 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 the Editor, Joe Chapman, at nv1w@arrl.net.

BARC Officers and Staff

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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 Special Service 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 9 pm	BARC Club Net	145.230 (PL 88.5)
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)

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