



The SPARC

Amateur Radio - Communicating Worldwide for A Century
Newsletter of the Boston Amateur Radio Club
Serving Hams in the Greater Boston Area
November 2013 - VOLUME 25, NUMBER 11
www.barc.org - w1bos@arrl.net



Message from the President – Joe Chapman, NV1W

One of the odder things around my apartment, excluding myself, is a Chinese slide rule from the 1960's, a Tianjin "Soldier/Worker/Peasant" model. The instruction manual features an introduction written by Chairman Mao! As near as I can tell with my bad Chinese, the introduction does not mention one of the rule's neatest features: an F scale ($\frac{1}{2\pi}$) that saves a step in several common resonant frequency calculations. I never would have imagined that peasants do a lot of circuit design, but there you are.

Last summer I bought one of the inexpensive oscilloscopes made by Rigol that have been getting a lot of good reviews. My 100 MHz model cost about \$350, or it would have if I hadn't had a bunch of Amex reward points to use up. It's about the size of a lunchbox and well made; not a Tektronix 'scope to be sure, but it does the job and it sure was easy on the wallet. Looking through the instructions it would appear that high Chinese party officials no longer dabble in technical writing.

I was delighted to find that there's an auto button which means "you know all that fiddling with the sweep and vertical deflection that I'd do at this point? Let's pretend I've done it." And it even seems to work.

Once I unpacked the 'scope and calibrated the probes I found myself in the familiar state of someone who's just bought a fancy new hammer and needs to find some nails nearby, and quick.

Experiment #1 was to make a simple voltage divider and connect it to the probe through a coupling capacitor to sample the output of my KX3. Despite knowing what to expect it was a treat to actually see it on the small screen.

Experiment #2 was to make a simple AM detector out of some diodes and a few other parts I had lying around (a Google search will yield plenty of circuits to try out). It, too, delightfully yielded the expected waveform. I often forget that a useful radio circuit can be built out of a few parts from the junk box stuffed in a breadboard. As fond as I am of the awesome receiver on the KX3, I was rather proud of my trashy AM detector.

So now I'm waiting for something to stop working, or a third experiment, perhaps one that will require the use of a Chairman Mao signature slide rule.

*Happy radio and 73
Joe Chapman, NV1W*

Explore the ARRL National Traffic System! BARC General Meeting – Thursday, 21 November

BARC's November General meeting will be held on Thursday, November 21 at 7:30 at Brookline Police Headquarters. Our speaker will be Marcia Forde, KW1U, the NTS manager for the ARRL Eastern Massachusetts Section. She will talk about the National Traffic System structure and how message traffic is handled within it.

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Signal Reports Wanted for 145.23, W1BOS/R – Joe Harris, N1QD

As many of you know, the club's VHF repeater antenna was badly damaged last winter as a result of a windy ice storm. We have been operating since the spring with a temporary antenna.

I am pleased to report that the permanent antenna has now been installed! The new antenna is a Laird FG1443.

Signal reports would be greatly appreciated. Please direct your reports, including your location and operating conditions (portable, mobile, base, what antenna used, etc.) to Joe Harris, N1QD, at <n1qd@n1qd.org>.

BARC to Participate in Skywarn Recognition Day 2014 – Mark Duff, KB1EKN

On December 7th, 2013 and for the 11th consecutive year, BARC will once again participate in Skywarn Recognition Day. SRD is a joint event support by the ARRL and the National Weather Service where weather stations and weather buffs from across the country contact each other for fun and to promote the Skywarn Program. Our station will be located at the summit of Great Blue Hill in Milton MA.

For several decades, hams have assisted the National Weather Service by providing real-time reports of severe weather and storm conditions. Although the NWS operates a network of 120 Doppler radars to track severe storms, at greater ranges weather radar has a difficult time sampling conditions close to the ground. The information radio operators located near a storm provide plays a key role in aiding forecasters. Stations will exchange signal reports, location and a brief description of the current weather at their respective locations ("sunny," partly cloudy," "windy," etc.). BARC will be on the air as W1BOS from approximately 0900 to 1500 local time.

This year it is especially significant as the Blue Hill Observatory has just celebrated the 75th anniversary of the Hurricane of 1938, an event that recorded a peak wind gust at the summit of 186 MPH and a sustained 5-minute wind speed of 121 MPH. The BHO also has the distinction of having oldest continuous weather records in North America.

The event itself is a great way in a low-key environment to make HF contacts and get your feet wet in the HF Spectrum.

In past years we have endured all kinds of weather including warm and cold days, clear and cloudy days, and yes even a blizzard.

Access to the summit is gained by a 20 minute hike from the base of Great Blue Hill located on RT 138 next to the DCR Trailside Museum or if you arrive early in the day by car.

Further information is available by contacting Mark Duff/KB1EKN at <emgmt@comcast.net>.

Repeater: 145.230 (-) CTCSS 88.5

Simplex: 147.420



L to R: KB1EKN, K1QK, KB1IXK (now N1QD), and WA1IDA braved a blizzard to participate in the 2003 BARC SRD. Photo: KB1ISG

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BARC Meeting Calendar for 2013

Unless otherwise noted, all meetings will take place at the Brookline Police Headquarters; the map is later in this newsletter. These dates will be published again in the newsletter as needed.

General Meetings

November 21 Thu 7:30 pm

VE Sessions

November 16 Sat 10:00 am

Business Meetings

December 5 Thu 7:30 pm

Uno, Dos, Tres – Dan Romanchik, KB6NU

If you have done any amount of listening to shortwave radio outside of the ham bands, you have undoubtedly run across “numbers stations.” The broadcasts from these stations consist of streams of numbers or letters, often in a computer-generated female voice speaking in Spanish. Every now and then, a numbers station pops up on 30m, sending five-character groups in Morse code.

According to the Conet Project <<http://www.irdial.com/conet.htm>>, “Shortwave Numbers Stations are a perfect method of anonymous, one way communication. Spies located anywhere in the world can be communicated to by their masters via small, locally available, and unmodified Shortwave receivers. The encryption system used by Numbers Stations, known as a ‘one time pad’ is unbreakable. Combine this with the fact that it is almost impossible to track down the message recipients once they are inserted into the enemy country, it becomes clear just how powerful the Numbers Station system is.”

The Conet Project sells a CD with a number of recordings for \$55, but you can find a bunch of mp3 files at <<http://www.archive.org/details/ird059>> for free.

Recently there was a thread on the Glowbugs Google Group about numbers stations. One fellow mentioned “The Numbers Station,” a movie released earlier this year starring John Cusack. IMDB <<http://www.imdb.com>> says that The Numbers Station is about “a disgraced black ops agent dispatched to a remote CIA broadcast station to protect a code operator. Soon, they find themselves in a life-or-death struggle to stop a deadly plot before it’s too late.” It’s currently available for streaming on Netflix, and I watched it recently. It’s kind of violent (lots of people get shot), but it’s a decent thriller.

Jim, K6FWT, mentioned ENIGMA 2000 <<http://www.apul64.dsl.pipex.com/enigma2000>>. The group’s website describes ENIGMA 2000 as “a UK based online group, whose aims are to bring together listeners and enthusiasts who monitor and gather information on ‘Number Stations’ and other related radio transmissions. Through our Yahoo Group monitors can share their logs, discuss frequencies, thoughts and opinions on this most emotive subject.” Jim says, “These folks are SERIOUS enthusiasts. I have heard that they surpass many intelligence services with their thoroughness. You can get in up to your eyeballs if you don’t watch it.”

These stations have been around since World War II. I remember as a kid in the 1960s and 1970s, reading articles about numbers stations in Popular Electronics and Electronics Illustrated. They’re as much of a mystery today as they were back then.

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When he’s not listening to numbers stations, Dan, KB6NU, enjoys working CW on the HF bands and teaching ham radio classes. For more information about his operating activities and his “No-Nonsense” series of Amateur Radio license study guides, go to <kb6nu.com> or email him at <cwgeek@kb6nu.com>.

The ARRL Centennial QSO Party Starts January 1, 2014!

In conjunction with the 100th anniversary of the ARRL, the **ARRL Centennial QSO Party** is set to kick off January 1 for a year-long operating event in which participants can accumulate points and win awards, as well as working new stations and making new friends. During 2014, W1AW will be on the air from every state (at least twice) and most US territories, and it will be easy to work all states solely by contacting W1AW portable operations. This marks the first ARRL-sponsored operating event where every member is worth at least one point. The event is open to all, although only ARRL members and appointees, elected officials, HQ staff and W1AW are worth **points**. Working ARRL's president, for example, earns 300 points!

To qualify for points all contacts must be two-way (no cross-band or cross-mode contacts), using CW, phone (FM, SSB, AM, digital voice), digital (any digital mode, such as PSK31, RTTY) on 160, 80, 40, 30, 17, 15, 12, 10, 6, 2 and 1.25 meters, plus 70 centimeters and satellite.

Stations **exchange** signal report and ARRL abbreviation. Contacts do not have to be contest-style and it isn't necessary to give the ARRL organizational information. A centennial database will assign point values to all logs submitted electronically. Those not submitting electronically, however, will need to obtain the QSO information during the contact. This event is not a contest, so participants may make contacts in any fashion they prefer.

The Centennial QSO Party is scored by totaling the values of all eligible contacts. There are no multipliers or bonus points. Logs submitted via Logbook of the World will be scored automatically.

Awards

Work W1AW operating portable from all 50 states. Working W1AW in Connecticut does not count for Connecticut, however. Participants can earn W1AW Connecticut credit only for working W1AW/1 in Connecticut. A W1AW WAS certificate and plaque will be available (pricing not yet announced). For an extra challenge, work all 100 W1AW portable operations -- essentially a double WAS with W1AW!

Endorse the W1AW WAS Certificate with the Territorial Stickers for working W1AW/KH2, W1AW/KP4, W1AW/KP2, and any others that may be active, and also endorse with W1AW/3 from the District of Columbia (stickers are \$1 each).

Centennial Points Challenge

To compete in the Centennial Points Challenge, submit logs via Logbook of the World. The system will automatically look for points-qualifying contacts from submitted logs and apply them to each participant's Centennial QSO Points table. QSOs do not have to be matched in LoTW for points to be achieved -- this is an honor-based event. No paper forms or information will be accepted for the Centennial Points Challenge, however. Some points worth noting:

- Club call signs do not count for points.
- Repeater contacts are not valid for credit.
- Mobile and portable operations are okay but do not count for points in addition to home operation -- i.e., a contact with KØGW counts for KØGW, whether it is made with KØGW/4, KØGW/m, or PJ4/KØGW.
- Stations outside of the US may also count for points. More than 10,000 ARRL members live outside the US, and some of these are also volunteer examiners or DXCC card checkers.
- ARRL appointees, staffers, and officers should choose for their contact exchange the appointment or office held that offers the highest point value (this is how the database will work also). For example, KI9XX is an ARRL Life Member (a LM is worth 2 points), a Volunteer Examiner (VE is worth 5 points) and a State Government Liaison (SGL is worth 30 points), so KI9XX should use "SGL," since that offers the highest point value. In any event, the database will give credit for the proper point value.
- The top-scoring operator from each ARRL Section, Canadian Province and DXCC entity will receive a First Place certificate. The Top Five overall point scorers will receive awards. There is a charge for award certificates.

For complete information, visit the **ARRL Centennial QSO Party** web page. **Contact us** if you have questions.

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New Free QST App Available for Android Devices! -- *The ARRL Letter, October 24, 2013*

ARRL members using Android tablets and phones now can download a dedicated app to access the digital edition of *QST*. The app gives ARRL members access to read *QST* online or choose to download individual issues of the journal for offline reading. The *QST* app is free in the **Google Play Store** (search for “*QST*”).

The digital edition of *QST* includes every article, every column, every ad, everything in the printed magazine and more! After you've tried it, tell us what you think and **share** your feedback.

Members now have three great ways to access the current digital edition of *QST* and archives:

1. **Web edition** (laptops, desktop computers, and many mobile devices)
2. Apple iOS devices (iPhone, iPad, and iPod touch), available free from Apple's **App Store**
3. Android devices (tablets, phones, and more), available free from the **Google Play Store**

Members must have a valid ARRL website login to access digital editions of *QST*. Need help? Visit the **digital edition help page** for frequently asked questions. Need more help? Contact Member Services by telephone 860.594.0200 or 888.277.5289 (US only) or **e-mail**.

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 x 2 in. (business card)	\$15 per issue
1 col x 2 in. (business card)	\$75 per 6 consecutive months
1 col x 2 in. (business card)	\$125 per 12 consecutive months
1 col x 4 in. (1/2 column)	\$30 per issue
1 col x 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 Harris, N1QD, at 781.844.8684 or <n1qd@n1qd.org>; or Bob Salow at <wa1ida@arrl.net> or 508.650.9440.

I See the Future

21 Nov	BARC General Meeting
5 Dec	BARC Business Meeting
7 Dec	SKYWARN Recognition Day (Blue Hill Observatory, Milton)

NOTE: S.R.D. takes the place of the December General Meeting!

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.

Got a Story? Why Not Share It? -- *Joe Harris, N1QD*

We are always looking for articles for the newsletter. I have reserved this space for your articles, tips, how-to's, or other ham related information. Send your submissions to the Editor, Joe, N1QD, at <n1qd@n1qd.org>. Articles for the November issue must be received by November 3.

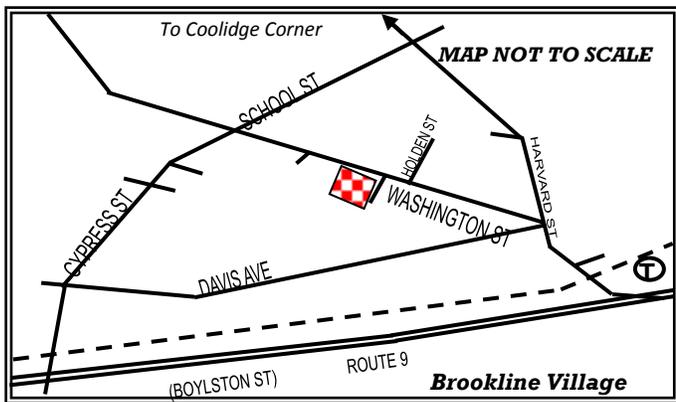
Quarterly Business Meetings -- Bob Salow, WA1IDA

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 **5 December 2013** 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.

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 Chapman, NV1W.

Directions to the Brookline Police Headquarters, 350 Washington Street, Brookline MA





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

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 2013 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@arrrl.net> or Linda Blair, NA1I, <na1i@arrrl.net>.

Repeater: 145.230 (-) CTCSS 88.5

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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 Harris, at <n1qd@n1qd.org>.

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 5:30 pm	Eastern Mass/Rhode Island Phone Net (NTS)	3.915
Daily 7 and 10 pm	Eastern Mass/Rhode Island CW Net (NTS)	3.658
Daily 8 pm	Eastern Mass 2M Traffic Net (NTS)	145.230 (PL 88.5)
Daily 8 pm	Slow Speed CW Net	28.160
Daily 10:00 pm	Heavy Hitters Traffic Net (NTS)	MMRA-linked repeaters: 146.610, 146.670, 146.715, 146.820, and all 222 and 440 repeaters
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)
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	HHTN Swap Net	146.640
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)