



The SPARC

Amateur Radio - Communicating Worldwide for A Century
Newsletter of the Boston Amateur Radio Club
Serving Hams in the Greater Boston Area
August 2012 - VOLUME 24, NUMBER 8
www.barc.org - w1bos@arrl.net



Message from the President – Joe Chapman, NV1W

I hope everyone's summer is going well. As I write this, the Boxboro convention is a few weeks off, and Labor Day won't be far behind. Last month I attended the ARRL New England Division Cabinet meeting in preparation for the convention along with Bob, WA1IDA, whom I want to thank for his continuing work with the League and for introducing me to people at the meeting.

During the summer I've been focusing on planning meetings for the next few months and also working with the Repeater Committee on getting an inventory of the club's property at the Federal Reserve and dealing with the now-silent UHF repeater. Thanks to Linda, NA1I, and Joe, N1QD, for all their efforts in this regard.

The first General meeting of BARC's 2012-2013 season will be on Thursday, September 20. We will have the pleasure and honor of welcoming Harold Kramer, WJ1B, as our guest speaker. Harold is Chief Operating Officer of the ARRL, and an excellent speaker, so the meeting promises to be a treat. Two Field Day hats will also be raffled off at the meeting to lucky attendees. Please consider attending, especially if you haven't been to a meeting in a while.

On the subject of meetings, I would like to pick up the pace of the business portion of our General meetings. Some matters obviously need to be discussed and voted on at a General meeting, but the many lesser details of running the club really ought to be dealt with in the quarterly Business meetings. Note that Business meetings are open to all members, and in fact all interested members are encouraged to attend. As the year progresses I welcome comments on the change.

Do you know a lot about a subject of interest to hams? Of course you do! Volunteer to speak at a meeting and tell us about it. Whether it's PSK31, RTTY, making a keyer with an Arduino, operating in a hotel room, operating in a hotel room in Bangui, your CW key collection, satellite, moonbounce, batteries, putting together a jump kit, contesting, antenna modelling with Mathematica, making Yagis from measuring tape, foxhunting, learning QSO Turkish, or making a Steampunk enclosure for your IntelliTuner, we want to hear about it. Contact me for details and encouragement.

A new Extra Class question pool went into effect on July 1, and will be in use until the summer of 2016. This is an excellent time to upgrade your license. There's a great deal of satisfaction to be had from going as far as you can in the hobby, at least as far as licensing is concerned. The additional pieces of the HF spectrum you gain aren't large, but they're pretty nice real estate. What's more, your Extra ticket makes you eligible to serve (upon accreditation) as a VE capable of giving tests for all license classes. Giving exams is an excellent way to give something back to Amateur Radio.

I'm looking forward to the upcoming season and wish everyone good health and good radio in that order.

73, Joe Chapman, NV1W

BARC End-of-Summer Cookout

BARC will again be hosting our annual cookout. Mark, KB1EKN, has arranged the use of the Bare Cove Fire Museum facilities in Hingham. The cookout will be on **Sunday, September 9**; from 1PM to 4PM. Bring family and friends for a social good time.

To help determine serving needs, send your attendance numbers to Mark at [<emgmt@comcast.net>](mailto:emgmt@comcast.net).

An HF station will be set up for use. Come join us for food and camaraderie!

Note: The MBTA has suspended Greenbush service on weekends. The 220 bus from Quincy Center to Hingham Center does run on Sundays. If you need (or can furnish) a ride to Bare Cove, check in on the Monday night nets.

The SPARC

Boxboro is the Place to Be!

August 24, 25, and 26 is the 2012 ARRL New England Convention in Boxboro! There is so much to do at the convention, starting with the DX Dinner on Friday night which features Don Greenbaum, N1DG, telling about the VP8ORK South Orkney Island DXpedition. Saturday night is the Grand Banquet featuring Fox 61 Meteorologist Geoff Foxx, K1GF.

The forums and talk schedule are second to none. VE exams and DXCC card checking are available, and, of course, there's the outdoor flea market and indoor exhibit area with all the major manufacturers and many others. Don't forget the Wouff Hong ceremony at midnight on Saturday.

There are hourly prizes, and some big prizes at the end. Visit www.boxboro.org to purchase tickets in advance and to see the forum schedule.

ARRL Offers Online Emergency Service Training – *The ARRL Letter, 28 June 2012*

The former Amateur Radio Emergency Communications (AREC) series of three levels of emergency communications courses has been reconfigured into two new courses: An introductory course for radio amateurs who want to volunteer to provide services for public service and emergency communications, and a course for leaders and managers who are responsible for training and coordinating response efforts. The course descriptions for both of these courses that make up the ARRL's ARES® training program can be found in the ARRL Online Course Catalog. Links to register for each course are included in the course descriptions. More information at: www.arrl.org/news/arrl-offers-online-public-service-training.

Looking Ahead At Public Service -- *Bob Salow, WA1IDA*

When hams engage in public service as mandated by the FCC Rules, the benefits go well beyond just following the rules. We can enjoy our hobby - have fun! We protect the health and safety of event participants. We support worthy charities. We learn to work within an organized effort. We experience the technical aspects of operating under adverse conditions. We practice communicating under emergency conditions. We can demonstrate these qualities to the communities we serve and thus promote our service for their acceptance.

Throughout the year BARC coordinates numerous public service events. Most of these are open to hams who are new to helping at such events as well as experienced hams. For 2012, we have already been tasked with several events, and more may be expected for 2013. Feel free to contact Bob Salow, WA1IDA, at 508.650.9440 or wa1ida@arrl.net.

- *BAA Half Marathon – 7 October* – (Boston)
- *SKYWARN Recognition Day - 1 December* - (Blue Hill, Milton)

Other events may jump in on short notice. Among our skills is the ability to apply our technical, organizational and staffing quickly and proficiently. Join our team and join in the fun and learning.

Vanity Call Sign Fee to Increase September 4

On August 3, the FCC announced via a *Final Rule* in the *Federal Register* that the cost of an Amateur Radio vanity call sign will increase 80 cents, from to \$14.20 to \$15. The new fees take effect 30 days after publication, making September 4, 2012, the first day the new fee is in effect. Earlier this year, the FCC released a *Notice of Proposed Rulemaking and Order*, seeking to raise the fee for Amateur Radio vanity call signs. The vanity call sign regulatory fee is payable not only when applying for a new vanity call sign, but also upon renewing a vanity call sign for a new 10 year term.

The SPARC

SKYWARN Spotter Training

The National Weather Service in Taunton MA gives SKYWARN spotter training at several locations in Southern New England. Anyone interested is welcome to attend. The training session is free of charge, and there is no need to register. However, participants will be asked to fill out a short form during the class.

Friday, August 24th, 2012, from 1:00 to 4:00 pm
Holiday Inn – Boxborough
242 Adams Pl
Boxborough MA

Preregistration not required. This is prior to the start of the ARRL New England Division Convention. No admission will be charged on Friday for those attending this SKYWARN Training session.

BARC Growth

It's a rare month when we fail to add or upgrade a few members. Periodically we publish their names so that you can give them a special welcome. There may also be some upgrades and long lost members who rejoin, so greet them, too.

John Barbuto call change – from K1BBM to KS1Q

Please welcome new BARC members and congratulate the new upgrades. Make it a point to introduce yourself when you see them at a meeting. In addition, we would like to note here all call sign changes. If you fit any of these categories, please promptly notify the Keeper of the Database, Bob Salow, WA1IDA, at: 508.650.9440 or email: <wa1ida@arrl.net>.

Volunteer Examiners Needed – *Hank Buccigross, K1QK*

BARC is in need of more Volunteer Examiners (VEs) for our exam sessions. In some cases we have only the required 3 VEs for our sessions. If any unforeseen situation arises and a VE is not able to make a session we would be forced to cancel the test.

There are some BARC members who are qualified VEs that have not been participating in the testing. We urge these VEs to attend our test sessions. If you can spare one night a month please come to a session.

We can surely use additional VEs. The test procedure for qualification is simple. Materials are available from the ARRL and the examination is an open book test. Hams with General and Amateur Extra class licenses are eligible to become VEs. If you would like to become a VE and help with the testing please contact Hank, K1QK, or Jim, N1ICN.

ARRL Board Plans for 2014 Centennial Celebration - -- Extract from *The ARRL Letter*, 26 July 2012

The ARRL Board of Directors met for its 2012 Second Meeting on 20-21 July in Windsor CT. Among many other items, the Board voted to hold the 2014 ARRL National Convention 17-20 July in Hartford CT, the birthplace of the League in 1914.

Discover Digital QST!

If you're an ARRL member, you now have access to the new digital edition of the June 2012 issue of *QST*. It is available to all ARRL members at no cost. All you need to do is log on to the ARRL website. Also available: digital editions of the January through May 2012 issues. You will find links to all the digital editions on our website at <www.arrl.org/qst/>.

But wait - there's more! All ARRL members now also have access to every issue of *QST* via the Periodicals Archive at <www.arrl.org/arrl-periodicals-archive-search> - from the first issue, published in December 1915, through the December 2011 issue. You'll find more information about the digital edition in the FAQ section <www.arrl.org/digital-qst-faq>.

We hope you enjoy the new digital editions of *QST*. Unless you have chosen to opt out of the print edition, you will continue to receive *QST* in the mail each month.

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.

Proper Grounding Technique? NOT!

A bucket of gravel would not make the ground you are looking for.





I See the Future

Note that VE sessions are suspended in August and October

- 12 Aug NoBARC Flea (Adams)
- 19 Aug MIT Flea (Cambridge)
- 24-26 Aug ARRL NE Convention (Boxboro)
- 6 Sep BARC Business Meeting**
- 8 Sep BVARC Flea (Woonsocket, RI)
- 9 Sep BARC Cookout (BCFM, Hingham)**
- 10 Sep BARC VE Session (Reservation required)**
- 15 Sep RIAFMRS Flea (Forestdale, RI)
- 16 Sep MIT Flea (Cambridge)
- 20 Sep BARC General Meeting**
- 29 Sep WMARC Flea (Center Conway NH)
- 7 Oct BAA Half Marathon (Boston) (Rp)**
- 12-13 Oct NEARFest (Deerfield NH)
- 18 Oct BARC General Meeting**
- 21 Oct MIT Flea (Cambridge)
- 2 Nov HCRA Auction (Feeding Hills)
- 3 Nov FARA Flea (Bourne)
- 3 Nov IRS Flea (Londonderry, NH)
- 15 Nov BARC General Meeting**

(Rp) = BARC Repeater may 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.

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 September issue must be received by September 8.

Change to Future ARRL Field Day Rules - Extract from *The ARRL Letter*, 26 July 2012

Due to concerns regarding extreme heat and weather conditions in many parts of the country, the ARRL Board of Directors voted to change the Field Day rules to permit Class A and B stations to begin to set up earlier. Prior to the rule change, these stations were not allowed to begin setting up their stations before 1800 UTC on the Friday before Field Day. Now these stations can begin setting up as of 0000 UTC on the Friday before Field Day (Thursday afternoon or evening, local time). Even though the rule change permits setup to begin 18 hours earlier, *cumulative setup time shall not exceed 24 hours*. This is the first major change to the Field Day rules since 2003.

Ham Hearing Aids -- Ward Silver, NOAX

I wear hearing aids in both ears and have for nearly twenty years - even during contests! Here are a few tips and thoughts on hearing aids that might be of interest to those of you who need a little help with your hearing or who aren't getting any younger and thinking about it. Bear in mind that my hearing loss is basically a high-frequency roll-off above a couple of kHz. Your specific need should be evaluated by a professional and may have stronger bearing on what type of hearing aid you need than the following topics.

Digital or Analog? There's not even a question - get digital aids. They use similar signal processing to what we have in our radios, with similar effects on the audio output. This is now the dominant technology and rapidly replacing analog instruments. Your main questions will be about the signal processing features discussed below. Digital aids act as a multi-band graphic equalizer, very similar to those used in audio systems. In addition, the digital aid will have several "programs" that set up the aid's features in different ways for different environments. The hearing aid technician will explain this to you in detail. It would be a good idea to make it known that you have some technical background so the discussion can take advantage of your expertise.

Behind-the-ear or In-the-ear? I started with behind-the-ear aids because at the time, the smaller in-the-ear aids were too expensive. This has changed, with the new "open ear" style offering a lot of features without the molded housing that goes in the ear canal. I have tried the open-ear style and I do like the sound quality. I changed to in-the-ear aids, however, because placement of the microphone in behind-the-ear aids tends to skew its pattern to above, behind, and to the side of the listener. This may not help with face-to-face conversation and dead-ahead audio sources, such as TV. In-the-ear aids can take advantage of the natural focusing provided by the external ear. Behind-the-ear microphones also don't help as much with most telephone handsets - you have to learn to hold a cell phone farther back so that the speaker is closer to the aid's microphone, for example.

Behind-the-ear aids are also generally quite uncomfortable with earmuff-style headphones that many of us prefer in the radio shack - if they can be worn under earmuffs at all. If you have to take the aids out when wearing headphones, they can't help you with receiver audio. So I wear a mid-sized, in-the-ear aid that has worked out well. Many vendors will let you try open-ear-style aids as way of finding out what features and settings you like whether you buy behind-the-ear or in-the-ear aids.

Signal Processing The first component of audio processing you'll notice is compression or AGC. Compression is good in a hearing aid because it prevents overload and distortion. The cost is somewhat increased background noise. In addition, if you are using the aids with a radio, the two AGC systems - one in the radio and one in the aid - increase the amount of compression. The interacting time constants of the compressors can actually hurt intelligibility of the received audio. You'll also notice that just like a ham receiver's DSP, some of the features of the hearing aid will color the audio in perceptible ways. For example, feedback cancellation is a nice feature but it will also try to get rid of single-tone signals like CW!

The effects of noise reduction in the hearing aid are also similar to a receiver's DSP. You get used to them and the benefit of reducing noise generally outweighs the presence of artifacts. This is where the different programs of the digital aids become really handy.

While the advanced features are great in normal conversation, they get in the way when on the radio, so be sure to have one program in which compression is turned off along with feedback cancellation and other artifact-inducing features. Say to the technician, "I want one program that has only gain and frequency response correction." If you have enough programs, you might even want to try to set one up for CW and one for voice! It would be a good idea to take an audio player with recorded CW and voice signals to use when the aid is set up for you. The gain-and-frequency response program has also turned out to be the right one for me to use when I'm listening to music, as well.

Selecting a Vendor There are number of good hearing aid companies. The mid-range to high-end hearing aids are all very good. Initially, I selected independent local hearing aid companies with good prices and excellent service, but both struggled and were eventually purchased by a national manufacturer. My current set of aids is of a national brand with offices in shopping malls around the country. Because I travel frequently, I like knowing an office is probably handy as I have had to get a microphone port unplugged while on the road. Your circumstances will dictate your choice but I strongly recommend making service following the sale a primary evaluation criterion.

The SPARC

Do I Need Them How can you tell if you need a hearing aid? Ask your family for their honest opinion and then listen to what they tell you. “Green-bar guys” are an industry legend, referring to the volume control on the TV that they are always turning up and up and up. Meanwhile, they insist that their hearing is just fine and why does everybody mumble? If you’re not hearing the phone, if you can hear someone talking but can’t understand what they say, if the pileups all sound like mush - you probably need help with your hearing. One way to experiment before trying a hearing aid is a pocket graphic equalizer, such as the Koss three-band Portable Stereo Equalizers that can be found on the Internet for about \$20. Wire it up to your radio or audio player and experiment with the settings. You may find that a little boost on the high frequency channel or dropping the low frequencies helps or maybe just some additional gain is what you need. The cost is low and you’ll learn something without having to make an office visit.

Summary All of us are getting older and hearing often takes a hit on the way. Younger hams that have grown-up with ear-buds cranked up to 11 are discovering that those fragile hair cells of the cochlea have worn out early. Meanwhile, the perceived stigma of wearing hearing aids is largely non-existent as people are wearing headphones and earpieces everywhere you look. Good hearing matters not only on the radio but in our personal lives, too, especially to the people around you. Take advantage of what is becoming ubiquitous technology to restore your hearing.

The Extra Class Question of the Day -- Dan Romanchik, KB6NU

As many of you already know, I have written study guides for the Tech and General Class license exams <www.kb6nu.com/tech-manual>. Until now, however, I’ve shied away from writing an Extra Class study guide. The two main reasons for this is that the material is much more complicated and there’s a lot more of it.

This year, however, the NCVET is updating the Extra Class question pool, and I’ve decided to bite the bullet and do it. So, I’m now in the process of writing a No-Nonsense Extra Class Study Guide.

After I got started on this, I had a *D’oh!* moment. It occurred to me that instead of just publishing this material in the study guide, I could also post some of it to my blog <www.kb6nu.com>. So, now I have the “Extra Class question of the Day” feature on **kb6nu.com**.

In reality, it’s usually more than just a single question because many of the questions are on the same topic. That’s OK, though, because in reality, I don’t post these every day. So, it all works out. Having said all that, here’s an example. The correct answer to the question is in bold.

Extra Class question of the day: meteor scatter

Amateur radio operators use many different ways to get signals from one spot to another. Perhaps one of the most interesting is meteor scatter propagation.

Meteor scatter propagation is possible because when a meteor strikes the Earth’s atmosphere, a cylindrical region of free electrons is formed at **the E layer** of the ionosphere. (E3A08) **28 - 148 MHz** is the frequency range that is well suited for meteor-scatter communications. (E3A09)

Unfortunately, these ionization trails are relatively short-lived, so to communicate via meteor scatter, you need to either be able to detect when these paths are available, or be transmitting when the paths are available. **All of these choices are correct** when talking about good techniques for making meteor-scatter contacts (E3A10):

- 15 second timed transmission sequences with stations alternating based on location
- Use of high speed CW or digital modes
- Short transmission with rapidly repeated call signs and signal reports

For more information on meteor scatter, go to:

- G3WZT’s Meteor Scatter page <www.qsl.net/g3wzt/g3wzt_ms.html>
- RSGB’s Meteor Scatter page <www.rsgb.org/psc/meteor-scatter.php>

For more Extra Class questions of the day, go to <www.kb6nu.com>.

The SPARC


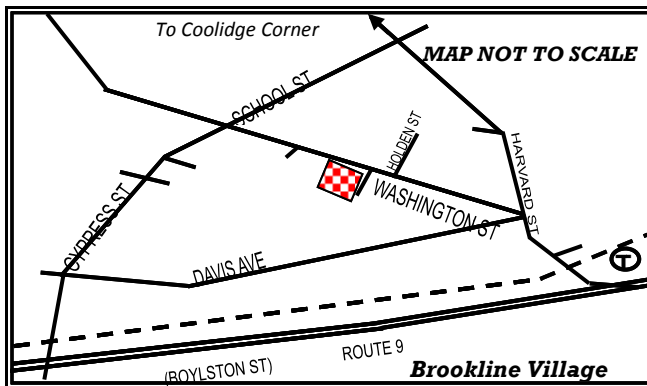
Quarterly Business Meetings -- Bob Salow, WA1IDA

We have 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 **6 September 2012** 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 holds monthly VE sessions on the second Monday of each month, except July, August, and October. Sessions are held at 7:00 pm at Brookline Police Headquarters, 350 Washington St in the Community Room across from 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 CSCEs 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 Hank
Buccigross K1QK, <k1qk@arrl.net>.

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443.550 (-) CTCSS 110.9 Hz

The SPARC

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>.

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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
Thu 8:30 pm	AMSAT 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 Newslite)	145.470