Hampden County Radio Association W1NY

ZERO BEAT

http://hcra.org

October 2018

Special points of interest:

Next Meeting:
A visit from Ray KB1LRL, WMA section manager.

- Visit the HCRA facebook page.
- Don't forget to check out hcra.org
- Visit Summits on the Air
- Visit POTA413 facebook page

Thank you to a local HAM (KB1ZVN, James Gebryel from Westfield) for a $50 donation to our club.

The HCRA is looking for some one to assist K3FEC with the HCRA web page. To volunteer you must be fluent in Word Press. If interested, please contact Larry, W1AST at wb1dby@comcast.net.

Inside this issue:

From the Shack	2
MTARA Holiday Party	3
Building the 160m Inverted-L	4-5
Upcoming meetings and speakers *QSL Card member benefit*	6
Dots & Dashes	7
A bit ah humah ;-)	8
Contacts / local happenings	9

November's Meeting

Join us Friday November 2nd at 7:30, in the Holyoke Medical Center Auxiliary Conference Center .

For directions to The Holyoke Medical Center Auxiliary Conference Center:

http://www.hcra.org/meeting-location/

Hello everyone,

This will be our first Zero Beat issue together. I have not done a newsletter since my motorcycle days in the 80s, and that was using frames… So bear with me as I learn my way around, and try to share information amongst our members. Suggestions are always welcome - email, phone, in person, over a beer, however.

I am fairly new to ham radio– got my general 2017. This year's field day was an awesome experience, and I learned a lot from everyone. I'm not a contester (as far as awards and stuff) but I enjoy being a point on other's entries.

I hope I can do justice (in time) to past issues, and grow with our club. I know that the board is working towards getting more involved as a service club, and involving new members. So off we go!!

73, John N1JIE

Win a IC-7300

Tickets only $10 each

Only 250 to be sold

Drawing to be held at the MTARA HamFest March 2019 or when all tickets sold.

From The Shack

Dave Fant WM1B

As I sat down to write this, I began to think what is happening in Amateur Radio that affects HCRA and the territory that we call our home area. Yes, an awful lot is going on in HCRA and ARRL.

First, in ARRL, we have an Election for our Area Director. Our current Director, Tom Frenaye (K1KI), is running for re-election against Fred Hopengarten (K1VR). Both have been speakers at our meetings in the past. If you are a member of ARRL, you should have received your Ballot directly in the mail with a bio that the candidates have prepared. Be sure to mark your ballot and return it in in the furnished envelope. I know that our Section Manager has expressed some frustration on the lack of people in the section who are not stepping up to work on the committees. The least each of us can do is to cast our votes in this important election.

ARRL has a few contests coming up that the Club takes part in. Before we can we need to update and send our list of eligible members to ARRL, whose score will count towards the Club score. This list is being refreshed at the present time. It will include only those who have paid their 2018-19 dues. If your name is not on the membership list, get your dues in so we can update the list. The list must be submitted before the contest.

HCRA has been hard at work this Fall. We have only had one Board meeting but a lot of work has been done since that meeting to begin to bring HCRA up to the club it was 10 to 12 years ago. We are looking to get the club back to a (SSC) "Special Service Club". This requires that we do a number of different types of activities. You may ask why is it important to be a SSC. Good question – It shows that we are a club that is active and doing various activities. Not everyone doing everything, but that we have enough activities in which our members can become engaged. Our application has a check list of interests that is updated every year when you renew: How many actually fill it out each year or how many of the items are we actually doing?

One of the required items that we have already begun to work on is to hold a training program for new hams. We have already begun the planning of this event which will be conducted starting in January. Currently we have feelers out for locations. We are also looking for instructors for the different segments of the curriculum. If you are interested in conducting a session, let me know by dropping me an EM at WM1B@ARRL.net . This will be a series of probably 6 or 7 sessions to cover all the material. Already we have had inquiries from some of the new (and not so new) hams, whether they can attend the course to gain a deeper knowledge. They sure can and if this hits home with you, you can also! Some of you new hams may want to lead a session. There is nothing that will require you to become more knowledgeable about a subject than to have to study to teach it. More information will be forthcoming during November and December. In the meantime, if you know someone who is interested, have them drop me or you drop me and EM at WM1B@ARRL.net .

Our Vice President, Larry (W1AST), is hard at work on a number of issues that the Club needs to move forward. He has been recruiting members to Chair different activities or areas that need to be covered. Ted (K3FEC) has been recruited to be our WebMaster, Nick (K1NZ) has been recruited to be our lead Contest promoter on FaceBook and Paul (NF1G) to Chair our Outgoing QLS Card program. In addition, he was instrumental in recruiting candidates to fill the Board in June. While giving up the position of Program Director, he has been helpful in providing contacts for our Current Program Director, Najm (AB1ZA) . We now have new Trustees for our Club Call Signs; Todd (N1GNX) is the new Trustee for WB1Z, and Dave (WM1B) is the new Trustee for W1NY. Reminder: To use either of these call signs, you must obtain permission from the trustee.

Other Board members are volunteering to complete many of the different tasks that have been undone over the past year or so as we work to bring the Club back to the premier club it can be. If I listed all the things that they have done and all their names, this would be a loooonnnnggg article. To all the members of Your Board, Thanks for stepping up. You are doing GOOD!

If you think of tasks or items that you would like to do, please let the Board know. In the meantime, be sure to attend the November meeting for more information and announcements.

Until next month, May the Bands be Open and the signals be 59 .

73

Dave, WM1B

MTARA Holiday Party

Get your tickets now!!

Building the 160m Inverted-L

By Mike DeChristopher, N1TA

mfdechristopher@gmail.com

We debunked some myths of the monoband inverted-L and laid out "ten commandments" for its construction in the March 2018 issue of *ZeroBeat*. In this edition, we'll be building one for 160m at my place in Westfield. My constraints were fairly minimal, as the lot contained an area with space for almost 100 foot long radials in every direction and tall pines to hold the vertical element. Although I did model the antenna, 4nec2 and EZnec do not do an accurate job of modeling our New England ground and, in the case of the inverted-L, the ground is half of the antenna.

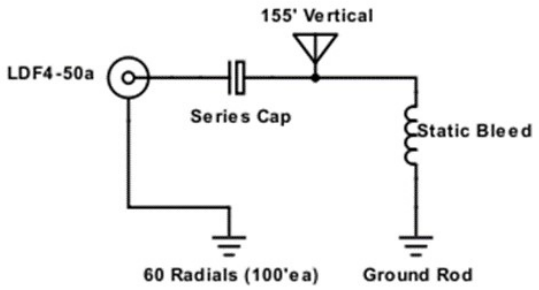
I did conclude that I would need at least sixty radials on the ground, or eight radials ten feet in the air. Elevated radials are more sensitive to symmetry and length (see: N6LF's papers). They also tend to interfere with goings-on in the yard, not to mention decreasing the height of the vertical section by ten feet. On the other hand, ground mounted radials would require *thousands* of feet of wire and each would need to be stapled to allow for mowing -- but this is the design prefered by the broadcast industry when given the space. After weighing the options, I decided to lay many radials on the ground.

At around this time, we decided to remove a filled-in swimming pool on the property and regrade the entire back yard. This process left me with two open acres of virgin dirt, upon which I laid over 40,000 square feet of galvanized hardware cloth as a groundscreen. You can find this at your local farm supply near the chicken wire; it is relatively inexpensive in bulk.

I also had to build a matching system for the antenna. Since I designed the vertical element to be greater than a quarter wavelength (155 feet), it would present inductance at the base. I procured a variety of fixed doorknob-style high-voltage capacitors to bring the load to near 50 ohms. *Why longer than a quarter wavelength?* As we discussed in the March edition, we want to bring the current maximum higher up in the vertical section of the antenna, instead of leaving it right at the base. The easiest way to do this is to lengthen the antenna slightly. This is not an antenna you can evaluate simply by checking SWR, as **SWR is a poor design metric**.

Finally, I had to construct a choke. I could have purchased a commercially available model, and I have used the DX Engineering feedline "isolators" in the past. However, as there was construction going on in the yard delaying my antenna build, I had the time to design a choke myself. I settled on K9YC's design, which calls for seven loose turns of RG-8 thru five 2.4" o.d. #31 toroidal cores, obtained from Fair Rite. The materials cost was about half of the cost of the DX Engineering option and the labor was free! I placed the choke at the feedpoint and buried LDF4-50a hardline to the shack. I also tested an air core "ugly choke" for posterity, but I remain unconvinced these actually function at all.

We laid the first radials on an insufferably hot July day. Nothing can prepare you for such a job: it's hot, you're bent over much of the time, and you're likely trudging through tick-laden wilderness. Nevertheless, we managed to lay sixty radials, the majority of them over 100 feet long in most directions. Next, the antenna wire itself went up; nearly 100 feet vertical and the remaining 55 feet horizontal. I'm lucky to have tall trees here, but I was shopping for them, of course. The rope had been in the tree since May, when K1YO visited with his air cannon.



In certain directions, the radial met a fence or other boundary; my methodology was to end the radial there and staple it. Some will tell you to bend the radial to preserve its length. Others will tell you that current doesn't like bends. There's even an anecdotal story of a broadcast engineer with constrained space laying his radials in a spiral pattern! My obstacles were all at least 70 feet from the feedpoint, and knowing that the majority of the ground loss happens close to the feedpoint, I decided the length that far out wasn't terribly critical. I paid far more attention to the spacing between each radial, especially near the base of the antenna, to ensure a symmetrical and efficient return path for the current. The underlying giant groundscreen certainly didn't hurt in that regard.

Building the 160m Inverted-L (continued)

By Mike DeChristopher, N1TA

mfdechristopher@gmail.com

The radials were welded at the base to a circular bus of copper refrigerator tubing. This provided a neat way to attach radials without spending $70 on the DX Engineering option. I used a Harbor Freight torch to perform the brazing. The bus is then connected to the coax shield, while the pin connects directly to the vertical element via a high voltage series capacitor.

There is a shunt coil between the vertical and ground intended for static bleed. This is simply an 8"-long 1.5" o.d. PVC pipe wrapped with 16 gauge wire. It is invisible to RF, and measures about +j 850 ohms at 1.8 MHz. Array Solutions offers a nearly identical product if you don't want to roll your own.

This feedpoint arrangement is both cheap and ugly. You could get fancy with a weatherproof box and bring things up to broadcast industry standards. I deemed this unnecessary and I anticipated the ongoing need to rearrange things for testing; all components are accordingly attached with terminal lugs for easing swapping.

I've tested the antenna with a variety of ground configurations. There is no real-world difference between using the groundscreen as sole counterpoise, using the groundscreen connected to the radials, and "floating" the radials (disconnected) atop the groundscreen. I attribute this to the symmetry of my radial field; if I had less space for radials, the groundscreen would probably be much better than the radials. I do not have sophisticated test equipment to perform effective measurement of eddy currents on the groundscreen in any scenario, but the granularity of an RBN test is enough for me: not even a dB difference in any configuration on any given night. I'll be continuing these tests throughout the winter.

Transmitting is only half the equation on topband. You have to hear them to work them! While the ears on a vertical or inverted-L might be good enough for day-to-day domestic FT8 or WSPR, serious DX work calls for serious RX antennas. I'll address low-cost RX antennas and explain how you might improve your hearing from a small lot in a future article.

This has been a condensed treatment on an extensive project. I am happy to provide more in-depth information (models, test spreadsheets, and more) to those interested. I am also available to help other "locals" get on 160.

CU on topband,

Mike, N1TA

Scheduled meetings and speakers:

November 2, 2018: Ray KB1LRL, WMA section manager.

December 2, 2018: Holiday Party

January 4, 2019: Najm, AB1ZA - EZ-NEC

February 1, 2019: Grounding and Bonding presentation by DX Engineering.

March 1, 2019: John Ellsworth from the Vintage Radio Museum.

April 5, 2019: Show and Tell

May 3, 2019:

June 7, 2019: Elections

Field Day 2019 (June 22, 23)

NEW BENEFIT TO MEMBERSHIP!!

If you attended the September meeting you heard that there is now a new benefit to membership for those who use the ARRL's Outgoing QSL Bureau to exchange DX QSL cards. Paul Kelliher, NF1G, will be coordinating this benefit for the club. Sometime ago the ARRL imposed a new $7 fee (on top of the cost per ounce) for those wishing to use the bureau. This has made the cost of using the bureau much higher, particularly for those sending only a few cards. There is, however, a solution!!

Affiliated clubs, of which HCRA is one, are allowed to "pool" their cards and will only incur this $7 charge once for all cards submitted. The only requirement is that you be a member of BOTH the HCRA and the ARRL.

To participate you simply need to fill out a form and sort your cards in accordance with the instructions attached to the form. The sorting rules are the same as you would use if submitting to the bureau directly. You can obtain the form by downloading one from the files section of the HCRA Facebook page, obtain one at a meeting or by contacting Paul Kelliher, NF1G, directly at paulkelliher@comcast.net and he will email you one. In the near future this form will also be downloadable from the club's website.

Cards and the completed form may be brought to a meeting or brought to Paul at his QTH. Paul and the club will take care of the rest.

Paul will bring or mail the cards to the Bureau a minimum of twice per year or more often if demand dictates. The two submissions will generally coincide with the end of the Fall and Spring contest seasons (December/January) and (May/June).

Good DX!!

Paul's contact information is:

Paul G. Kelliher, NF1G

520 Audubon Road

Leeds, MA 01053

Email: paulkelliher@comcast.net Cell: 413-530-5122

DOTS & DASHES: Things I can't think where to put, but are interesting.

Item #1

Technician License Course

Our club is setting up a Technician course. If you are interested in helping, contact Dave WM1B. We are tentatively looking at starting in January, and looking into locations.

This is part of restoring our "service club" designation with ARRL. It is also a way to get new hams into radio. It will be a several session (not a tech in a day) class.

Item #2

I found this off the ARRL training page—it's not real local—but I'm going, and gonna get my Extra ticket!!

https://www.n1fd.org/amateur-radio-license-class/

They are having a weekend 3 day course (11/30-12-2), finishing up with the Element 4 test. While some purists will claim they are only teaching the test, it'll give me that Extra license. I will learn a lot more than I know now, and I'll have a chance to ask questions, and meet other hams. I have zero electronics background and most of that part of the book is over my head. It's the nearest course to us, and this is a big club that can support license training. As you can see, they offer all 3 levels of classes.

If anyone else is interested, contact me– maybe we can travel / study together. Although it does mean missing the Holiday Party :-(

Interesting Ham Radio Web Site:

https://www.ylsystem.org/

This is a communication system (not a net) setup in the 60s by a Dr's wife. They are on the air 365 days a year during several periods of the day. It is an emergency communication system, but in times of no emergency, it can be a way to contact other hams on SSB. Try 14.332 Mhz and check in. There are usually several folks listening, so if you want a ragchew, mention that, and move to another frequency. I haven't been on it much (but it seemed interesting enough to join.

Area Swap/Hamfests:

Oct 21	Connecticut Convention (Nutmeg Hamfest)	Meriden, CT	http://nutmeghamfest.com
Oct 21	The flea at MIT	Cambridge, MA	http://www.swapfest.us
Oct 27	Tri-City ARC of Connecticut Fall 2018 Auction	Gales Ferry, CT	http://www.qsl.net/tricityarc

Upcoming Contests (just a few…)

October			
Oct 21- 22	Illinois QSO Party	www.w9awe.org/ILQP.html	CW,Ph, digi
Oct 27-28	CQWW SSB DX Contest	https://www.cqww.com/index.htm	Ph
November			
Nov 1	NRAU 10M Activity Contest	www.nrau.net/activity-contests	CW,Ph, digi
Nov 3	ARRL Sweepstakes Contest, CW	http://www.arrl.org/sweepstakes	CW
Nov 17-19	ARRL Sweepstakes Contest, Ph	http://www.arrl.org/sweepstakes	Ph
Nov 17-18	LZ DX Contest	http://lzdx.bfra.org/rulesen.html	CW, SSB
Nov 18	Homebrew and old-time equip party	http://www.qrpcc.de/contestrules/	CW
Nov 22	NAQCC CW Sprint	http://naqcc.info/sprint	CW
Nov 30-Dec 2	ARRL 160 Meter	http://www.arrl.org/160-meter	CW
December			
Dec 8-9	ARRL 10 Meter Contest	http://www.arrl.org/10-meter	CW, SSB

A bit ah humah ;-)

"Hang on a minute Larry...my SWR is jumping...I'm going outside and see what the problem is..."

A few definitions for us newer hams...

QSL Manager -- The station you worked in Juan De Nova tells you to send a "Green Stamp" to a ham in Germany who is called a "QSL Manager". It is his duty to send your card to a ham in California, who then (after holding it for 8 months) sends you a QSL card.

S.W.R. -- A term, applied to any part of the antenna system, which means: "Savings-to-Watt Ratio". Based on the inverse relationship of dollars in the bank and effective radiated power. Characteristic Impedance The usual reaction of your spouse when told about the proposed antenna system.

QRP -- Restricting final input power to the transmitter to anything less than 500 watts, on 20 meters.

Windmilling -- A technique whereby prevailing winds are allowed to rotate the antenna, enabling the operator to "scan" the radio horizon.

Local happenings

Sundays: 0845: Western Mass Emergency Net 146.94, PL 127.3 - W1TOM/R

First Monday: Southwick Regional RACES Drill, 1845, 146.49 Simplex

Mondays: 1930: HCRA 10m Net 28.375

Tuesdays: 1930-2000: 146.94, PL 127.3 - W1TOM/R - Hampshire County Emergency Net

Wednesdays: 1930: MTARA Info net 146.94, PL 127.3 - W1TOM/R - includes NTS Net

2000: MTARA Swap net: 146.94, PL 127.3 - W1TOM/R

2000: MTARA Simplex Net - starts on 146.94 - PL 127.3, then goes to 146.42 direct (simplex) Usually starts immediately following the swap net.

Thursdays: 2100: Weather Net (Roger, K1PAI Net Control), 1st Thursday of every month: 147.090 MHz, All other Thursdays: 147.000, PL 127.3 - W1TOM/R

Fridays: 1200: BB's (Brown Baggers Luncheon)
Munich House
13 Center Street
Chicopee, MA 01013
Expect between 6 and 12 attendees every Friday. Good food, great company!

Club meetings & VE sessions

1st Friday of the month 7:30 PM, HCRA Club Meeting, Holyoke Hospital Auxiliary Conference Center, 575 Beech St. Holyoke MA 01040 (no meetings held in July or August.) **http://www.hcra.org/meeting-location/**

3rd Friday of the month 7:30 PM, MTARA Club meeting, Red Cross building, 150 Brookdale Dr. Springfield, Mass. (no meetings held in July or August)

4th Friday of the month 6:00 PM, Technician, General, and Extra Class License Exams, Holyoke Hospital Auxiliary Conference Center, 575 Beech Street, Holyoke, Mass. Hosted by the Western Mass VE Team (WMVET). Contact: David Cote, w1fab@arrl.net

Third Monday of the month 7:00 PM, Franklin County Amateur Radio Club meeting, Greenfield Community College. (no meetings held in July or August) http://www.fcarc.org/

4th Monday of February, May, August, November 7:00 PM, FCARC VE Exams, Unitarian Church, Main Street, Northfield http://www.fcarc.org/

Join the ARRL or renew your membership!

ARRL members enjoy:

- QST Magazine
- Members-Only Web Services
- Technical Information Service
- Member Discounts
- Outgoing QSL Service
- Continuing Education
- ARRL as an Advocate
- Regulatory Information Branch
- Public Relations for Amateur Radio
- ARRL Field Organization
- ARRL-sponsored contests
- Operating Awards
- Local Clubs
- Amateur Radio Emergency Service
- Hamfests and Conventions
- Volunteer Examiner Coordinator Program

http://www.arrl.org/membership

HCRA contact list

President, Dave Fant WM1B
wm1b@arrl.net
Vice-President, Larry Krainson W1AST
wb1dby@comcast.net
Treasurer, Juergen Malner NV1Q
nv1q@arrl.net
Secretary, Harold Woering N1FTP
n1ftp@yahoo.com
Programs, Najm Choueiry AB1ZA
njc2@cox.net
Membership, John Plaster K1VOI
k1voi_jp@charter.net
Technical, Bob Meneguzzo K1YO
k1yo@comcast.net
At Large, Ron Ford, AB1ZJ
rford6176@aol.com
Newsletter, John Ewell N1JIE
ewelljohn188@gmail.com
Skywarn Liaison, Eric Tuller N1QKO
et-n1qko@juno.com
VE Session Liaison, Dave Cote W1FAB
w1fab@arrl.net
Web Page, Ted Schiff K3FEC
tedschiff@gmail.com

Here is your exciting copy of Zero Beat!

Hampden County Radio Association
P.O. Box 562
Agawam, MA 01030-0562