



ZERO BEAT

<http://hcra.org>

February 2019

Special points of interest

Next Meeting:

February 1, 2019—Grounding and Bonding, Tech class info, Winterfest GOTA, raffle tix ;-)

[Visit the HCRA facebook page.](#)

- Don't forget to check out hcra.org

Technician licensees, and students— there will be a General License class at Greenfield Community College that will follow right behind our current technician class.

Franklin County Area Radio Club is sponsoring it, and it will put you on HF for summer!! See the FCARC FB page for info.

February Meeting

This month, we have DX Engineering coming to get us all well grounded in grounding and bonding. This is an important part of safety and efficiency with our radios whether it be in our home shack or our mobile units. We will also fill everyone in on our tech class, and our GOTA station for the Easthampton Winterfest. Lots of activity for the doldrums of winter, wouldn't you say??

Don't forget—raffle tickets are still available for that wicked good IC-7300—Get them NOW!

Hello everyone.

Winter is boring, there is nothing going on.... Hahahahaha We have a new tech class going, that will introduce new hams to the fun of amateur radio.

It's also the start of QSO party season-many states and even international contests setup to make contacts within the contest area. Give one a try, it's a lotta fun, and easy to do. Even if you aren't a contest, it's a fun way to make a lot of contacts, learn how to work through a pileup, and be a contest point for someone else.

And we are setting up a demo / GOTA station alongside Nashawanuck Pond in the center of Easthampton to participate in their Winterfest. It'll give us a chance to introduce non-hams to our hobby, maybe let someone new make a dx contact.

73, John N1JIE

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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

LARRY KRAINSON W1AST



During the January's meeting roll call, I had one of those "aha" moments. I realized that the person I bought my very first ham radio from was at the meeting. That was Steve, WA1ZEV. I was in middle school, barely had a budget and bought a Heathkit DX-40 transmitter and HR-10 receiver and 2 or 3 crystals came with it. All for \$140 which back in 1977 was a fortune for this brand new ham. A lot of lawns were cut to earn that. Fast forward to my married life and WA1ZEV is a relative on my wife's side of the family and the connection has been re-established after all these years.

That rig really opened my world to ham radio. I was a novice and operating cw only and talking to people everywhere. My favorite thing was to go home from school and operate until dinner and then do home work after dinner. Radio first!

One day my dad came home from work and said he met this guy name Steve who was a ham and thought he could help me with ham radio stuff. That person was Steve, N1SR. He was my Elmer for a few years and really helped me a lot. Steve helped me get a VFO for my station which took my single frequency crystals and opened the whole band up. He got me set up with a T/R relay so I didn't have to manually switch both the transmitter and receiver into transmit or receive. Steve took me to hamfests,

helped me enhance my antenna and really broaden my ham radio experience. Thank you Steve, N1SR. You helped to light my ham radio fire and it has never gone out and I have never forgotten what you did for me.

Once those doors were opened, they stayed open and are wider than ever now. One person back then, helped me get a big jump in ham radio. That person historically is called an Elmer. Today that's been changed to a Mentor or a Ham Radio Helper. All the same meaning. Someone who helps another ham in any aspect of ham radio and is always there to answer questions and help when needed.

(If you are a ham with questions and not sure where to go, visit: <http://www.hcra.org/ham-radio-help-for-members/> This is the HCRA Ham Radio Help for Members)

Are you in this category? Most of us are by nature. These days, 41 years since I was first licensed, my needs are more specific when I need help. I usually ask and get it thankfully. I also work by the "Pay it Forward" method which means I may not be able to return and help my helpers, but, I can certainly be there to help others. That is exactly what I do. When was the last time you did that?

The Elmering/Mentoring system is an essential way to help the new hams that enter our hobby. Today's hams are faced with repeater access usually with an HT. Not much action there. If you've put a call out on a repeater lately – it's dead. For 4 years going up and back to my sons college in western NY, I programmed every repeater along the way. I occasionally spoke to someone on 52 and did regularly speak with hams on the Syracuse repeater and Greylock repeaters, but no others. That was a 350 mile; 6 hour stretch of driving. 95% dead. Not a welcome to ham radio, for new Tech class licensees.

This is where you come in. Introduce yourself to new faces at the HCRA meetings and talk to them. Make them feel welcome and a member of the HCRA family. Then invite them to your shack and get them on HF with you as control operator. Once they see how much fun HF is, the desire to get on HF is great and the desire to upgrade to General is great. The need for help and advice in building their station will be there and the help you provide may be the lighting of the fire of ham radio. You WILL make a difference and that matters.

Who was your Elmer/Mentor?

Make a difference. Become a Ham Helper/Mentor/Elmer.

73,

Larry, W1AST

HCRA Presidents Message: February 2019 (cont'd)

Presidents Message #2 for February 2019

Excitement!

Lots of activity planning in the works for 2019 for the HCRA!

John, N1JIE is planning a ham radio demo for the Easthampton Winter Fest on Saturday, February 9th. The fest is one day and runs from 10:00 am to 5:00 pm. He figures he needs help from 8:30 to closing/tear down. John is planning on a HF station running on 20m SSB running the club W1NY call sign. Volunteers will be operating and talking to the public. All this will be run out of a tent. Plans are being made for a generator to run a heater and possibly the rig too. Or may run the rig on battery. Would you like to volunteer for an hour or more? Please contact John, N1JIE at ewelljohn188@gmail.com. John is super excited about this, help him make it a reality and a blueprint for future club public demo's.

On the board, we are talking about possibly doing a Special Event Station. We're just talking and kicking around ideas right now. Once things get firmed up a little more, we will be announcing what and when and do a special QSL card for the event. Stay tuned, more info forth coming.

At the January meeting I mentioned that myself, WA1OJN and WM1B went on the New Years Day fox-hunt that the Bears of Manchester sponsored. It was very last minute, but we got our stuff together and gave it a try. We had a blast! It was Dave and Bobs first fox hunt. You can read about it on the HCRA blog on the web site: <http://www.hcra.org/hcra-blog/>. I asked those present at the meeting, who would be interested in a possible fox hunt in the future and there was a lot of interest.

In the works is a Saturday Share the Knowledge class in which we will build a tape measure 2m beam and an attenuator. You will learn how to use an antenna analyzer and what it does, how to solder, and a mini class in how to direction find and use the attenuator. Plus how to plot those readings on a map and a discussion on how to hunt down that elusive fox. It will be a fun day and you will leave knowing you are ready for your first fox hunt. You will need to bring a 2m HT or portable 2m rig.

Right now it's in the idea to planning stages. We have a attenuator kit on order to evaluate. Once we have done that and if it works properly, we will figure the cost and plan the class. If all goes well, we may be able to announce it at the February meeting and have you ready to hunt by March or April. And show off your building skills at the April Show and Tell meeting!

We continue to tweak and add content to the HCRA web site. We urge you to check it often for new stories, projects, contest results and more. Past issues of ZeroBeat are there from the present to way back in 1948. I recently spent some time reading some very old issues and found them very interesting. Back then they were created on a typewriter. It really makes me feel spoiled typing this on a word processor on my computer. But the content was interesting nonetheless. You can read the September 1948 issue here: <http://www.hcra.org/zb/download.php?file=sep48.pdf> And work your way to the present.

It may be cold outside, but it's a perfect time to chase some DX and make contacts on the HF bands. While doing this, upload your log to the HCRA ClubLog page. First join ClubLog for free, then upload your log. It takes about a day for your results to be displayed. Then join the fun as your accomplishments are listed with others. I find it interesting to see how I progress thru the year as compared to everyone else. <https://secure.clublog.org/league.php> Click filter by club – HCRA is your choice and then click Generate DXCC League. If you've signed in, you will be highlighted in light green.

That's it for now. More exciting info and updates coming next month!

73,

Larry, W1AST

What's goin on!!!

A few things happening involving the HCRA

Technician License Class

First meeting—Jan 15

Our first class meeting was January 15th, at 1830. We met at our normal club meeting location, the conference room at Holyoke Hospital. We had 8 new students. Dave WM1D made introductions, Jeff NT1K provided an explanation of the exam process, Jim KK1W, Vanessa KC1IRL, and John N1JIE were some of the instructors that were there, and it looks like it'll be a fun class. The students all had good questions and were very interested.

We are following the ARRL study materials. While there are various licensing study methods and sources, the ARRL provides us (HCRA) with a powerpoint presentation, and other assistance to the instructors. Our class will be completing on Feb 26th with an exam.

Coincidentally, the Franklin County Area Radio Club is holding a General License class at Greenfield Community College, starting Mar 25 thru April 10th. A good follow up to our tech class, and for any members that want to take that step to HF privileges. Signup on the GCC workforce development class page.

Upcoming event—February 9, 1100-1600 est.

GOTA (get on the air) station at Easthampton Winterfest!!

HCRA will be setting up a demonstration station at the edge of Nashawannuck Pond as part of the Easthampton Winterfest. We will setup between the boardwalk and the cemetery, near the observation platform. We plan to operate a simple station as W1NY, on 20m (hoping for good daytime conditions) and help members of the public to actually operate under our direction and make contacts on HF. This could be a great way to spark some interest, especially in young people in Amateur Radio. Carol W1LGU is planning to also setup her QRP station, and a couple of folks will be bringing HTs to demonstrate 2m.

Come help, enjoy the other activities, operate with someone that has never been on air, assist with setup / teardown. We will operate up until near 1600, when the town campfire starts (next to our site).

Dress warm, bring your smile, and your contact stories, and have fun with us !!

Scheduled meetings and speakers:

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)

Tech Talk— [Antenna Modeling](#), by Najm J. Choueiry, AB1ZA (brief summary)

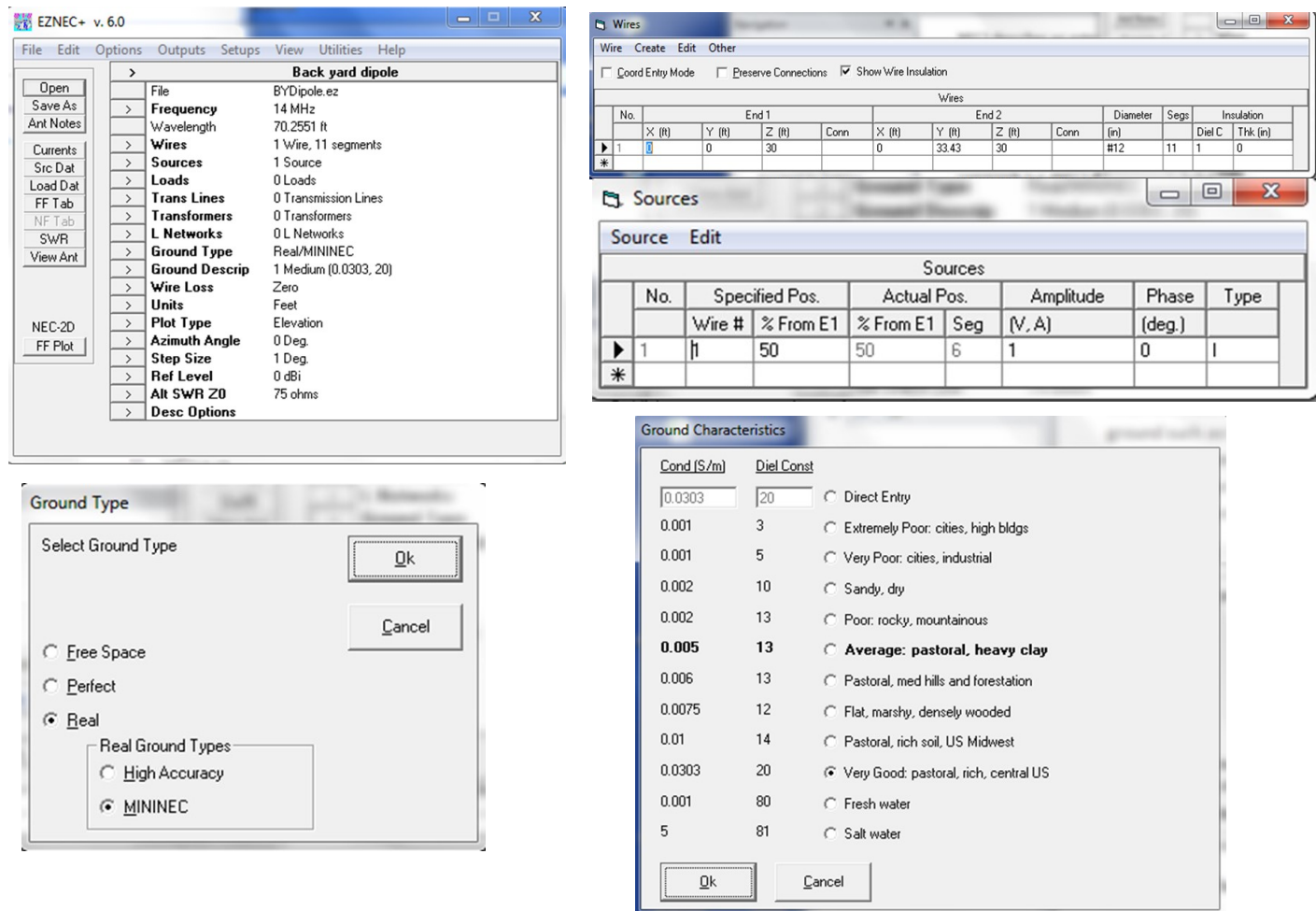
In this introduction to antenna analysis and modeling, I will focus on two well-known software packages, EZNEC developed by Roy Lewellen W7EL and 4Nec2 by Arie Voors with a heavier emphasis on EZNEC. EZNEC is currently version 6 and a demo version can be downloaded from Roy Lewellen's website www.eznec.com. The EZNEC demo is limited to a maximum number of 20 segments. Even with this limitation, it is a great tool to learn to analyze simple antennas such as dipoles, 3 element yagis or quads. Paid versions of EZNEC extend the maximum number of segments.

Both software packages are based on a core calculation engine called NEC2. NEC stands for Numeric Electromagnetics Code, and is a numeric mathematical technique based on the Methods of Moments that calculates the radiation field surrounding an antenna, but summing the field contribution of each segment and pair of segments to generate the field at every angle of elevation and azimuth angle of an antenna. NEC2 was developed at the Lawrence Livermore Laboratory in Livermore California.

NEC2 describes an antenna in terms of wires consisting of segments. A wire is a straight line, an arc or a circle are approximated by a number of wires connected end to end. A source connects to a middle of a segment, so to model a dipole a single wire consisting of an odd number of segments is used and the source location will always be at the geometrical center of the wire.

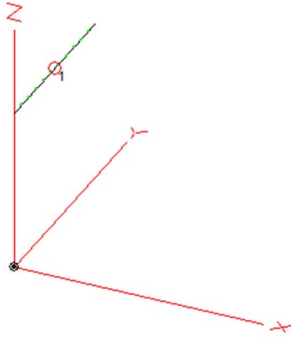
EZNEC and 4NEC2 hide the complexity of entering NEC commands behind a Graphical User Interface (GUI) that is common to modern software. EZNEC does not generate a list of NEC commands but 4NEC2 does. 4NEC2 can open an EZNEC file with an extension of .ez and converts to its internal format .nec.

An example of a backyard dipole—data entry screens and 2d / 3d plots. There are several data entry screens that allow you to set the parameters to model the antenna.

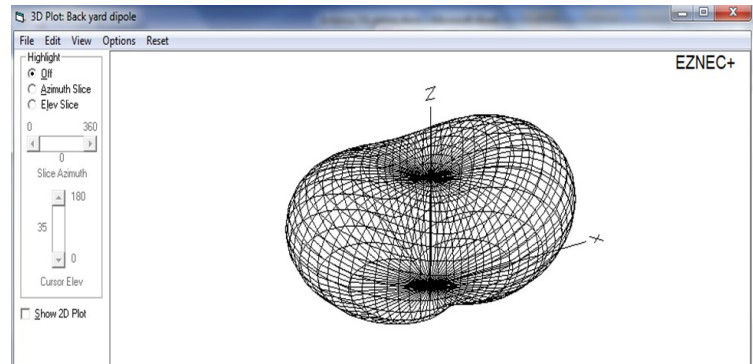


Tech Talk— [Antenna Modeling](#), by Najm J. Choueiry, AB1ZA (brief summary cont'd)

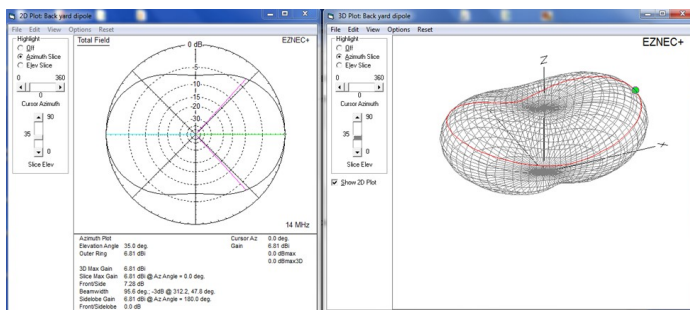
At this point we have defined the geometry of the antenna, the source, the frequency and ground type so let's see how it translates to NEC code. Click View Antenna. Notice the circle in the middle of wire 1 that indicates the location of the source.



Use Plot type to change plot to 3 Dimensional. Select a step size of 5 degrees. Click FF Plot.

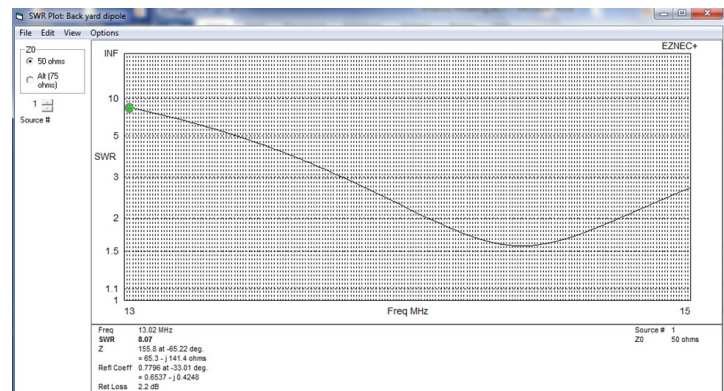


Check the Show 2D Plot. Arrange the windows side by side. Click the Azimuth Slice and change the elevation angle. Notice how the change carries over to the next window.



Click SWR. Enter a start frequency of 13 MHz, a stop frequency of 15 MHz and a step frequency of 0.01 MHz (10 kHz). Click Run.

Position the cursor on the green dot and move to change the frequency while noticing the SWR and impedance values.



This is a start, a brief summary of the demonstration. Further information is on the HCRA web page at <http://www.hcra.org/antenna-modeling-presentation-by-ab1za/>

DOTS & DASHES:

Things I can't think where to put, but are interesting.

INTERESTING HAM RADIO WEB SITE:

<https://www.qrz.com/gridmapper>

Now, we all know about QRZ—it's the easiest fastest way to lookup info on a contact. But this little jewel popped up as I was preparing for our tech class, and wanted to talk about grid squares. Lo and behold, there is a map, and it shows many (not all) hams on the map in a grid square. I think it lists them by membership level in QRZ. But still—I thought it was interesting...

AREA SWAP/HAMFESTS:

Jan 19	WinterFest 2019	Whitman, MA	http://www.walnpo.org/WF/2019Winterfest.htm
Feb 2	Hoosic Amateur Radio Club Ham Fest	Hoosic Falls, NY	http://www.arrl.org/hamfests/hoosick-amateur-radio-club-ham-fest
Mar 9	Amateur Radio & Electronics Hamfest	Chicopee, MA	http://www.mtara.org/

UPCOMING CONTESTS (just a few...)

January

Jan 1-Dec 31	Canada POTA (all year)	https://cnpota.ca/	All
Jan 1-Dec 31	US Islands 25th ann (all yr)	http://usislands.org/	All
Jan 19-21	ARRL January VHF	http://www.arrl.org/january-vhf	All
Jan 26-27	Winter Field Day	https://www.winterfieldday.com/rules/	All

February

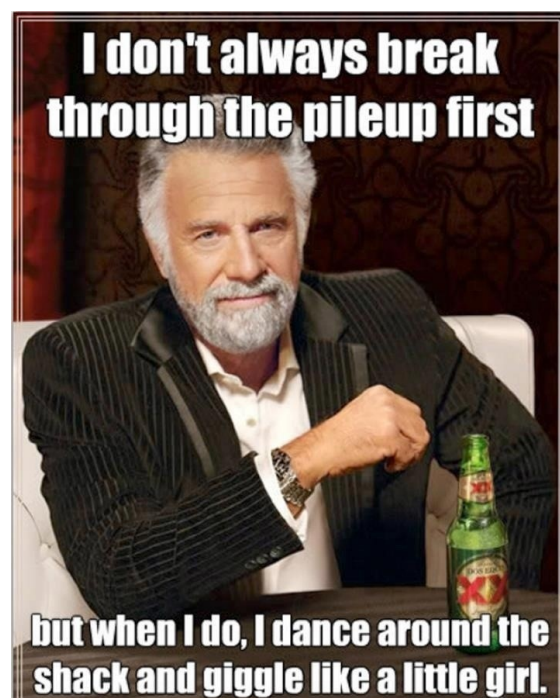
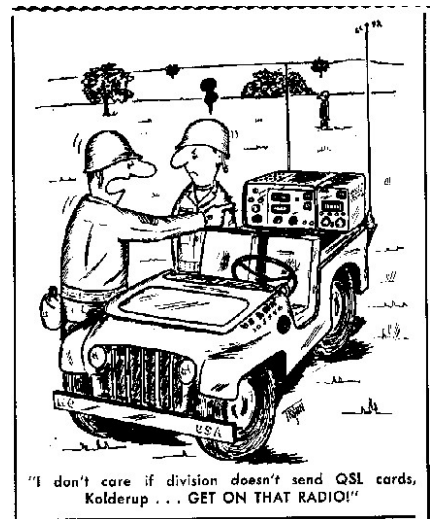
Feb 2-3	Vermont QSO Party	http://www.ranv.org/vtqso.html	All
Feb 2	Minnesota QSO Party	http://www.w0aa.org/docs/mnqp/MNQP%20Contest%20Rules.pdf	CW Ph FT8
Feb 11-15	ARRL School Club Roundup	http://www.arrl.org/school-club-roundup	CW Digi Ph
Feb 16-17	ARRL International DX CW	http://www.arrl.org/arrl-dx	CW
Feb 23-24	SC QSO Party	http://scqso.com/rules/	CW Digi PH

Many more contests listed at: <https://www.contestcalendar.com/contestcal.html>

A bit ah humah :-)



shamelessly collected from the internet



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!

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>

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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

Second Monday of the month 7:00 PM, Franklin County Amateur Radio Club meeting, Greenfield Community College, East Bldg. Rm 110 (no meetings held in July, August, December—check website) <http://www.fcarc.org/>

4th Monday of February, May, August, November 7:00 PM, FCARC VE Exams, <http://www.fcarc.org/>



**Here is your exciting copy
of Zero Beat!**

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