



# ZERO BEAT

<http://hcra.org>

April 2020

*Special points of interest:*

**Next Meeting:**

**HCRA meetings are currently postponed until we have access to the meeting rm at Holyoke Hospital**

[Visit the HCRA facebook page.](#)

- Don't forget to check out [hcra.org](http://hcra.org)
- Our section webpage—[WMA.ARRL.org](http://WMA.ARRL.org)
- [Visit Summits on the Air](#)
- [Visit POTA413 facebook page](#)

New Member—Welcome!!

KC1MOH Vincent Melling

KC1MTW Sarah Oelker

KC1MTW Peter Goode

KC1MQJ Howard Tuber

N1LJQ Bill Cook

**Inside this issue:**

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Hello everyone,

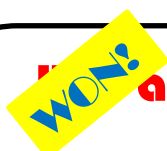
The Covid-19 has changed things for sure. It brought to my attention that we, as hams, have an ability to help if things get worse. So, while I was “too busy” to sign up in ARES at the hamfest, I signed up online last week. I, along with several others are working with our section ARES leaders to see where we can fit in, and learning more about it. I hope more of us become involved in various parts of public service.

Another result of the Covid-19 social distancing and public closures is that we aren't having meetings... at least together in one room. However—WE ARE HAMS!! We have a 10M (28.375) net on Monday @ 1930 and a 2M (146.715 PL100) net on Thursday @1930. There are several other nets, nationwide you can listen / talk on (try netlogger program to see what is active)

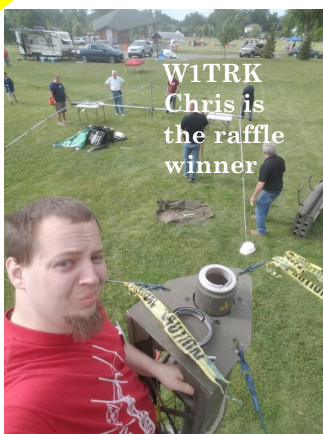
Other regional nets on HF are also fun. As I write this, I am listening on the Maine Potato Net, where discussion covers a range of topics from sauerkraut vs kimchee, internet vs cable and corona virus impacts around the region. So, while we are all impacted by the societal restrictions, let's not lose touch with each other all over the world!!

As many have heard—Boroboro Hamvention has changed—date, name and location. Not sure if it will be affected by COVID19 restrictions, but here is the info—more in later issue if it looks like it will happen. <https://ema.arrl.org/2020/01/23/2020-northeast-hamxposition-new-venue-and-new-date/>

73, John N1JIE



## Win a Honda EU2200i Generator



# FROM THE SHACK

LARRY KRAINSON W1AST



## April President Message

It's mid-March and plants are starting to spring up from their winter hibernation's. It's usually a very happy time of the year, when we look forward to the green of Spring replacing the blahs of Winter. But this is no ordinary March, as we all know all too well.

The HCRA is adjusting and adapting to everything going on too. The Tech class which we were all excited about, has been postponed. Not canceled, but postponed. We're working on some ideas to help the students learn from home to help them jump start their class experience once we get it rescheduled.

We're rescheduling the April Show and Tell meeting to September. So, now while many of us are home bound, maybe you're working on a new project or completing one that need completing or looking for a new one to keep you busy. Either way, now is a good time to start one and to jot some notes down and show it to the members in September.

This time you're spending at home is also a great time to sit down and compose that article you keep thinking about but never seem to have found the time to write. John, N1JIE needs articles and you're just the one to write them! Once done, send it in Word format to [N1JIE@arrl.net](mailto:N1JIE@arrl.net). Your contribution helps to make ZeroBeat an even better & more interesting newsletter and the HCRA and even better club. Please consider contributing!

In the last few months, I presented the board with a plan to Grow the HCRA. It's a plan for the next 3 to 4 years. Some of the things discussed and planned are the following:

- Plan Tech classes at least once a year
- Follow up those classes with Mentoring those new hams to help get them on the air
- The creation of a HCRA 2m net on the W1BR 146.715 (PL 100.0) repeater to help new hams get comfortable pressing that mic key AND a welcome place for HCRA members to answer new hams questions and just discuss anything of interest. We started on Thursday the 12<sup>th</sup> and will continue every Thursday at 7:30 pm. A sort of Mentoring on the air.
- Give new hams a friendly and safe place to chat and ask questions. I have unfortunately heard some nasty, inappropriate, incorrect and very mean comments said to newer hams on other local repeaters. What a way to ruin new hams entry into our hobby. We aim to repair and prevent that. The HCRA has permission to use the W1BR repeater to accomplish this and also generate new activity on the repeater.
- Help new hams get on HF. Do this by inviting them to your shack and conversing with them and possibly getting them on the air. This will build excitement and generate interest in upgrading.
- Plan General Upgrade Classes at least one a year. A few months after the Tech classes.
- Schedule at least 3 Share The Knowledge sessions per year
- Add 8 to 10 new members each year
- and more

# FROM THE SHACK CONT'D

The board and I are hoping that some of these new hams will join the HCRA and start contributing to make the HCRA a better club.

We all know how easy it is to just sit and let everyone else make the plans and do the work. It's so easy to come to each meeting, grab a donut and coffee, chat with friends, watch the guest speaker, chat some more and leave.

How can YOU help?

YOU can contribute, even if you are not a board member. If you have an idea, approach a board member and tell them about it. It will be mentioned at the next upcoming board meeting.

That You are contributing is a big thing. Just pick one thing you can help with and do so. Here are a few ways you can help:

- Volunteer to be a backup net control for the 10m Monday night net
- Volunteer to be a backup net control for the 2m Thursday night net
- Volunteer to help Bruce with the donuts and coffee at each meeting
- Volunteer to help teach some modules in the ham classes
- Volunteer to organize or assist in Share the Knowledge sessions
- Volunteer to be in charge of FOOD for Field Day
- Volunteer to organize and run a Club Special Event Station
- Submit ideas and a possible guest speaker for our monthly meetings

Volunteer to join the board and contribute even more!


**You CAN help to make this an even better HCRA!**

Everyone stay safe and healthy.

73,


Larry – W1AST  
HCRA President  
W1AST@arrl.net

## SCHEDULED MEETINGS AND SPEAKERS:


 **September** ✓ Everything you wanted to know about Mag Loop Antennas by Ted Robinson, K1QAR

**OCTOBER** ✓ Rich Collins, K2UPS of the Long Island CW Group & showcase his key collection

 **November** ✓ The Amazing Transatlantic Feat of 1901 by Marconi – K1ZM, Jeff via Skype as he is in PEI


 **DECEMBER** ✓ The annual HCRA / MTARA Holiday party

 **JANUARY** ✓ Bob Hassett Springfield emergency preparedness & EOC facility

 **FEBRUARY** ✓ Bob, K1YO – ARES and it's recent come back in Western MA

 **MARCH** ✓ Rob Macedo KC1DY talks all about Skywarn and how important it is for weather tracking

 **April** Show & Tell — members bring in their projects and show them off!!  
*Postponed to September!!* 🧐

 **MAY** Marty Sullaway, NN1C: Team Exuberance – teens and contesting

 **JUNE** Elections, Field Day and more?

# ARRL STUFF

Things are happening in the world of Amateur Radio. ARRL is our advocate for Government, education and organization. I hope everyone that is a member of HCRA is also a member of ARRL.

## Lots of news from ARRL Headquarters:

- Headquarters is shutdown per CT Governor direction from the COVID-19 pandemic. Many of the headquarters staff will be working remotely to keep things going as much as possible.

<http://www.arrl.org/news/arrl-headquarters-is-closing>

- W1AW code practice and bulletins will continue
- QST will continue, and the May issue will be out on time
- Warehouse has reduced staff, and orders may be delayed
- VEC will continue operations, email is the best contact method
- As everyone knows—Dayton Hamfest 2020 is cancelled

As you can tell, the COVID-19 virus is affecting many things.

IARU headquarters in Geneva is also closed. <http://www.arrl.org/news/international-amateur-radio-union-adjusting-to-covid-19>

Many restrictions around the world—Limited support for various region field day activities, moving conferences online, etc. However, at this time, the EU Hamfest scheduled for June is still scheduled. I guess they are hopeful for a quick return to normal.

IARU is encouraging hams to do single on the air ops to practice social distancing. So, you have probably noticed a lot more activity on the bands especially during local daytime ops. I know that I have seen much more of the EU stations on <http://www.dxsummit.fi/#/>. Well, maybe I will pickup a few more dx countries....

## ARRL Public service

Once again—a plug for ARES. Bob, K1YO is still working to improve the Western Mass ARES. On 3/25 Marcel AA1WH had a 2M test with several hams along the Pioneer Valley to determine if there was good simplex relay path between Springfield EOF and Greenfield. There were several good candidates on 2M, and it was interesting to participate. While I am not in a good physical location to relay (I live in the shadow of Mt Tom) testing will continue with other frequencies, so we can get communication along the valley when repeaters are down. This is important.

Public service is way more than supporting the Boston Marathon. I hope that many of us look into being involved. Not too long ago, I thought I was too busy to get involved, but I am reevaluating this.

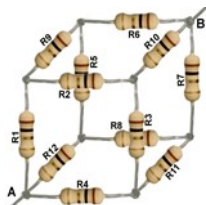
<http://www.arrl.org/ares>

Membership is just \$49/yr, less than a weekly coffee at Cumbys...

To learn more about membership, and how it can help you—<http://www.arrl.org/membership>

## TECH TEASER—THE ANSWER!!

Here is the answer to last month's tech teaser. Thanks again Jeurgan for helping us to understand that there is a reason for everything in radio!!



### Resistor Cube

Each of these resistors that make up the cube is  $1\Omega$ . (R1 to R12)  
What is the total value  $R_{total}$  between "A" and "B"?

Using Ohm's Law the equation for the cube is:

$$R_{cube} = \frac{V_{AB}}{I_{total}} \quad [a]$$

*Kirchhoff's current law states that current flowing into a node (or a junction) must be equal to current flowing out of it.*

The total current flowing into the cube at point "A" is:

$$I_{total} = I_1 + I_4 + I_{12}$$

The total current flowing out of the cube at point "B" is:

$$I_{total} = I_6 + I_7 + I_{10}$$

Because all resistors are equal ( $1\Omega$ ) results in:

$$I_1 = I_4 = I_{12} = \frac{1}{3} I_{total}$$

$$I_6 = I_7 = I_{10} = \frac{1}{3} I_{total}$$

$$I_2 = I_9 = I_5 = I_8 = I_3 = I_{11} = \frac{1}{6} I_{total}$$

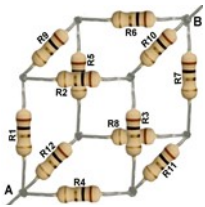
The voltage across the cube from "A" to "B":

$$V_{AB} = V_{R_1} + V_{R_9} + V_{R_6}$$



## TECH TEASER (CONTINUED)

Here is the answer to last month's tech teaser. Thanks again Jeurgen for helping us to understand that there is a reason for everything in radio!!



### Resistor Cube

Each of these resistors that make up the cube is 1Ω. (R1 to R12)  
What is the total value  $R_{total}$  between "A" and "B"?

Continued from previous page:

The voltage across each of these resistors according to ohm's law:

$$V_{AB} = R_1 I_1 + R_9 I_9 + R_6 I_6$$

$$V_{AB} = R_1 \frac{1}{3} I_{total} + R_9 \frac{1}{6} I_{total} + R_6 \frac{1}{3} I_{total}$$

$$V_{AB} = \left( \frac{1}{3} R_1 + \frac{1}{6} R_9 + \frac{1}{3} R_6 \right) I_{total}$$

Because all resistors are equal you can transform the equation to:

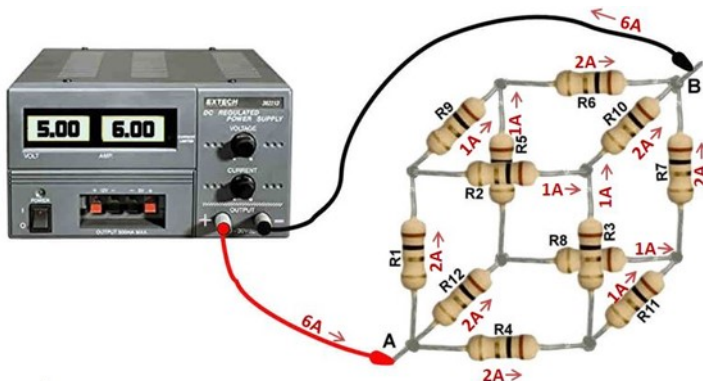
$$V_{AB} = \left( \frac{1}{3} + \frac{1}{6} + \frac{1}{3} \right) R I_{total} = \frac{5}{6} R I_{total} \quad [b]$$

Using equation [a] and substitute it with above [b]:

$$R_{cube} = \frac{V_{AB}}{I_{total}} = \frac{\frac{5}{6} R I_{total}}{I_{total}} = \frac{5}{6} R$$

$$R_{cube} = \frac{5}{6} * 1\Omega = 0.8\bar{3} \Omega$$

This picture shows the current distribution inside the cube if a power supply is connected and set to 5V. The current leaving the supply will be 6A.



$$R_{cube} = \frac{5V}{6A} = 0.8\bar{3} \Omega$$

**Clublog update:** Clublog can be accessed at <https://clublog.org/league.php> Signup is free, and there are a number of ways to lookup information. Give it a try.

**DXCC Leagues**  
The leagues are rebuilt once per day. Only callsigns active in the last 12 months are included in the league tables. The maximum size of a league is 2000 participants.

☒ No Mode Filter    ☐ CW    ☐ Phone    ☐ Data  
☒ Rank by DXCCs    ☐ Rank by slots    Rank by band: **Totals ▼**  
☒ 160M ☒ 80M ☒ 60M ☒ 40M ☒ 30M ☒ 20M ☒ 17M ☒ 15M ☒ 12M ☒ 10M ☒ 8M  
☒ Current entities    ☐ Current and deleted    ☒ Worked    ☐ Confirmed  
☒ No Date Filter    ☐ 2020    ☐ 2019    ☐ Last 12 months  
 Filter by club/continent: **HCRA - Hampden County Radio Association ▼**

**Generate DXCC League**

League for HCRA - Hampden County Radio Association

Rank	Callsign	160	80	60	40	30	20	17	15	12	10	6	DXCC ▼	Slots	Range
1	NU1O-1	18	149	9	268	240	325	272	322	230	308	4	335	2145	32 yrs
2	NV1Q-3	27	135	0	180	111	308	257	314	232	258	2	329	1822	41 yrs
3	KK1W-1	133	188	7	267	208	304	272	276	211	231	20	328	2115	44 yrs
4	NF1G	0	140	0	215	239	239	248	216	141	73	14	294	1525	5 yrs
5	W1PY-1	34	113	0	192	83	237	199	238	128	204	3	288	1411	10 yrs
6	K1VOI	5	55	2	105	50	199	138	159	85	142	3	246	922	19 yrs
7	KX1X	62	113	53	170	121	190	103	201	26	191	4	243	1234	23 yrs
8	K1NZ-1 *	111	140	72	158	173	172	135	128	16	54	1	230	1158	9 yrs
9	AB1WT	2	32	1	52	4	126	123	126	83	89	1	211	819	6 yrs
10	W1AST-1	2	60	9	99	24	163	99	121	7	120	7	200	711	11 yrs
		160	80	60	40	30	20	17	15	12	10	6			
11	NT1K-2	6	49	2	103	33	182	44	141	47	123	1	197	731	10 yrs
12	N1FTP	0	7	0	59	0	165	45	117	16	109	1	181	519	12 yrs
13	W01S-2	49	57	1	115	23	148	40	95	11	98	2	176	639	7 yrs
14	AB1XW-1	0	7	1	75	22	110	42	107	29	94	0	144	487	7 yrs
15	N1JIE	0	4	0	21	2	45	19	5	1	4	1	65	102	3 yrs
16	AB1ZJ	0	0	0	14	0	38	0	0	1	0	0	45	51	4 yrs
17	N1FJ	0	0	0	3	0	14	0	14	3	16	0	38	50	7 yrs
18	KB1V SX	0	2	0	4	0	30	4	1	0	2	0	33	43	4 yrs

This is the clublog with open dates—basically a history from the start of each persons log. As you can see, many of the top members have many years on the air.

Info from 3/23/2020

**DXCC Leagues**  
The leagues are rebuilt once per day. Only callsigns active in the last 12 months are included in the league tables. The maximum size of a league is 2000 participants.

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**Generate DXCC League**

League for HCRA - Hampden County Radio Association

Rank	Callsign	160	80	60	40	30	20	17	15	12	10	6	DXCC ▼	Slots	Range
1	KK1W-1	37	41	0	74	30	53	15	10	0	0	1	190	281	44 yrs
2	KX1X	44	88	26	121	70	119	82	56	0	4	1	160	571	23 yrs
3	W1PY-1	0	31	0	71	0	131	0	45	0	1	0	155	279	10 yrs
4	K1NZ-1 *	52	81	31	83	70	99	74	24	3	1	1	142	499	9 yrs
5	NU1O-1	1	19	0	50	22	122	11	37	0	5	0	138	287	32 yrs
6	NF1G	0	39	0	50	42	47	43	27	12	7	0	131	287	5 yrs
7	NV1Q-3	8	10	0	55	0	101	2	50	0	5	0	110	231	41 yrs
8	W1AST-1	2	32	0	42	1	87	4	14	0	0	1	85	183	11 yrs
9	NT1K-2	5	1	0	10	13	56	0	3	0	0	0	62	88	10 yrs
10	K1VOI	1	6	0	30	2	22	4	1	0	0	0	44	66	19 yrs
		160	80	60	40	30	20	17	15	12	10	6			
11	AB1WT	1	2	0	2	0	12	5	2	0	1	0	20	25	6 yrs
12	N1JIE	0	3	0	1	0	10	0	0	0	1	0	11	15	3 yrs
13	KB1V SX	0	0	0	1	0	6	0	0	0	0	0	6	7	4 yrs
14	N1FJ	0	0	0	2	0	3	0	0	0	0	0	5	5	7 yrs
15	AB1ZJ	0	0	0	0	0	3	0	0	0	0	0	3	3	4 yrs
16	N1FTP	0	0	0	1	0	1	1	0	0	0	1	2	4	12 yrs

You can link to your club here: <https://clublog.org/league.php?club=189>

This is the clublog for 2020. You can see a different order of participants. But also some newer Hams getting active—awesome!



# A bit ah humah :-)

shamelessly collected from the internet

## The Handshake



The greeting that spreads the most germs



## The High-Five



Transfers half the bacteria of a handshake



## The Fist Bump



Transfers 90% fewer germs than the handshake



## THE QSO



**100%  
Safe**

# #Hamvention2020

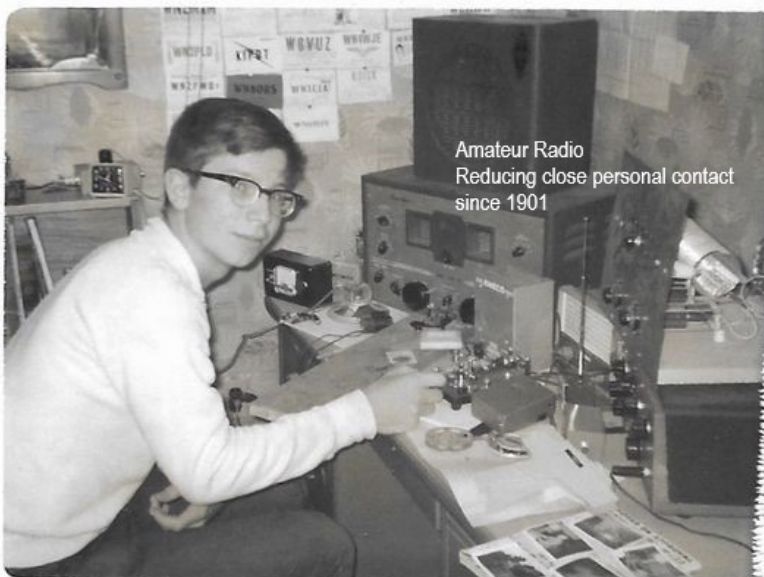


## Dayton or Bust !!!

## CORONAVIRUS HAM RADIO RESPONSE VEHICLE



## REPORTING FOR DUTY



Amateur Radio  
Reducing close personal contact  
since 1901

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

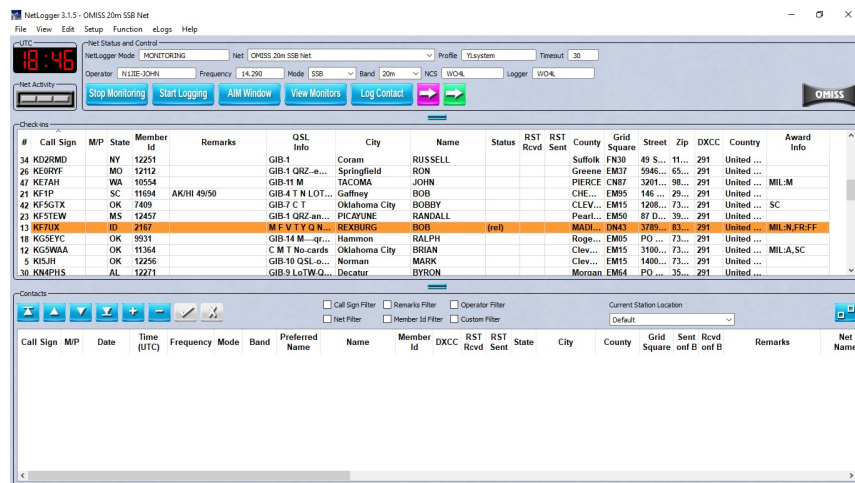
## INTERESTING HAM RADIO WEB SITE:

### Netlogger

Are nets something you are interested in? A chance to talk in roundtable net format is a great way to start long term contact with other hams. There are many nets, with many different things in common. Breakfast club is a bunch of early risers, OMISS is a WAS contest net. There are ARES nets, traffic nets, all kinds.

And Netlogger (<https://www.netlogger.org/>) is a way to keep track of what is on, and who is on. It's a standalone program you can download, that shows net status. And logs your contacts in that program, and it will update eLogs (eQSL / LOTW) to keep track of contacts. So, with social distancing in effect—we have another tool to

keep in touch with other hams!



## INTERESTING “EVENT”

Apr 19 1800Z-2359Z ARRL Rookie Roundup

New Hams

[www.arrl.org/rookie-roundup](http://www.arrl.org/rookie-roundup)

This is an event especially for new hams—licensed in 2018, 2019, 2020. Make as many contacts as possible in that 6 hour span. It's a great way to get over that 'mike shyness'. Experienced hams are encouraged to provide contacts for rookies. So, new or old, get on the air and make some contacts!!

## UPCOMING CONTESTS (just a few...)

### April

Various QSO Party—NM/MS/LA/NM/CA/FL/MI

Lots of fun!

Apr 5 0000Z-0400Z North American SSB Sprint Contest

<http://ssbsprint.com/rules/>

80/40/20

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

Don't forget special event stations— <http://www.arrl.org/special-event-stations> These are fun contacts, usually with a special QSL card or certificate.

### Special Event Station

Apr 11-17 Apollo 13 50th Anniversary

<https://nasaontheair.wordpress.com>

14.271

# DOTS & DASHES: P2

## INTERESTING HAM RADIO WEB SITE:

On All Bands is a technical blog put out by DX Engineering. Any of you that remember their skype in session at a previous meeting at HCRA will recall how professional it was, and how easy the tech was to understand.

This month—and a timely one—is how to waterproof your cable / coax connections. <https://www.onallbands.com/how-to-make-your-coaxial-connectors-and-cables-weather-resistant/>

### TECHNICAL ARTICLES

## How to Make Your Coaxial Connectors and Cables Weather-Resistant

Posted by [Mark Haverstock, K8MSH](#) on March 20, 2020 at 7:54 pm

Moisture is the enemy of coaxial cable. Once water or condensation gets into your coax cable or connectors, it can cause problems such as corrosion and high SWR. Fortunately, you can fight back with some relatively simple solutions.

### Weatherproofing

Your choice of materials for weather protection is important. Not only should they be waterproof, but they should also be made of a material that is resistant to damage caused by UV light.

Coax Seal and other mastic sealing materials have been around for a number of years. Actually, they work pretty well for sealing out moisture and corrosion. However, it's a pain if you need to redo a connection. The gummy black material requires some effort to remove, with bits and pieces becoming stuck on threads and contact surfaces.

A better solution is to use a combination of two 3M products, [Temflex 2155 rubber splicing tape and Scotch Super 33+ vinyl tape](#). These materials can be used either indoors or outdoors, and they provide a double layer of protection that can be easily removed if necessary.

Start by cutting a piece of Temflex—eight inches if you're covering an antenna or balun connection, and 15 inches if you're covering a splice with a barrel connector joining two PL-259s. Remove the white backing. Place the Temflex at least one inch before the end of the PL-259 and stretch the tape as you wrap, overlapping 50% of the tape width with each turn until the connectors are covered.

To block UV radiation and provide an extra layer of protection, add a layer of Scotch 33+ tape. Start one inch before the previous layer of Temflex and wrap firmly, overlapping 50%—just as you did with the Temflex.

In the event you need to remove the weatherproofing, carefully cut the wrap lengthwise with a hobby or snap-off knife. Peel off the tape and look at the connectors—they should look nearly new.

### Got You Covered

Coax isn't the only item that needs to be covered. What about exposed screws and connections on wire antennas, coils, and traps? And don't forget any splices you have made. Simple splices can be weatherproofed in several ways. You can slide adhesive [heat shrink tubing](#) over a splice, blast it with a heat gun, and you've got it covered. Another option is using [heat shrink self-solder wire splice connectors](#) that let you make permanent, waterproof electrical wire connections with nothing more than a heat gun. Liquid tape also seals splices—just be sure to put on at least two coats.

Exposed hardware can corrode over time, making it difficult to remove and reducing electrical conductivity. A light coating of [Loctite](#) or [Permatex dielectric grease](#) can protect these connections, which can still be disassembled easily if needed. [Liquid tape](#) is a more permanent alternative since it can be difficult to remove.

So, while we are all getting more time at home, here is another bit of maintenance you can take care of to make your rig more reliable.

# 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:** 1930: HCRA New Ham Net 146.715, PL100—W1BR repeater, Holyoke. A friendly net with HCRA members and newer hams practicing net communications.

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

## 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

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WB1Z trustee, Vanessa W1IRL

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## Club meetings & VE sessions Please

contact site / organization to ensure it will meet.

**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/>





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

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