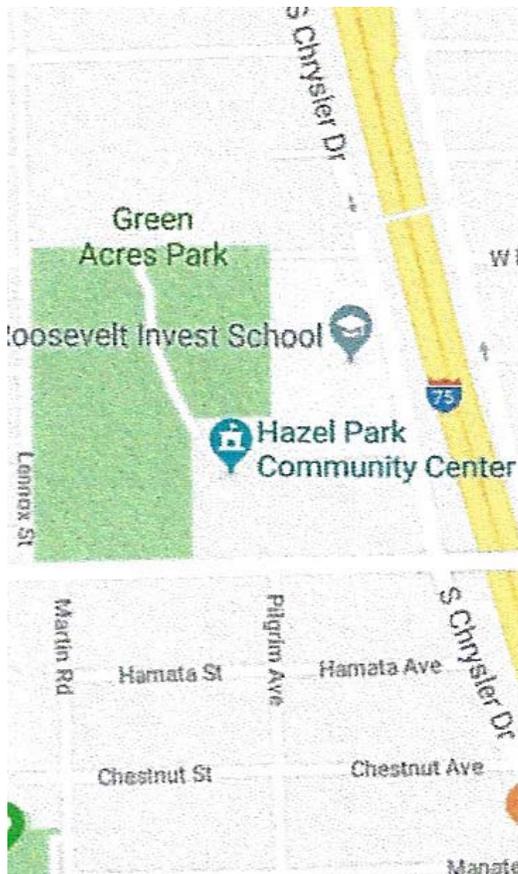




General Meeting
Wednesday March 11th
7:30 pm

Meeting Location
Hazel Park Community Center
Dining Room
620 N. Woodward Heights
Hazel Park, MI



Zero Beat

March 2020

President's QRM

The annual HPARC Banquet details are finalized. It will be held on June 10th at Camp Ticonderoga in Troy. It is at this event the new club officers are installed and sharing some of the past occurs. The club members and their guests enjoy great company and a fine dinner. I encourage all members and their guests to attend the HPARC Banquet. Tickets will be available for sale beginning at the March Member Meeting...

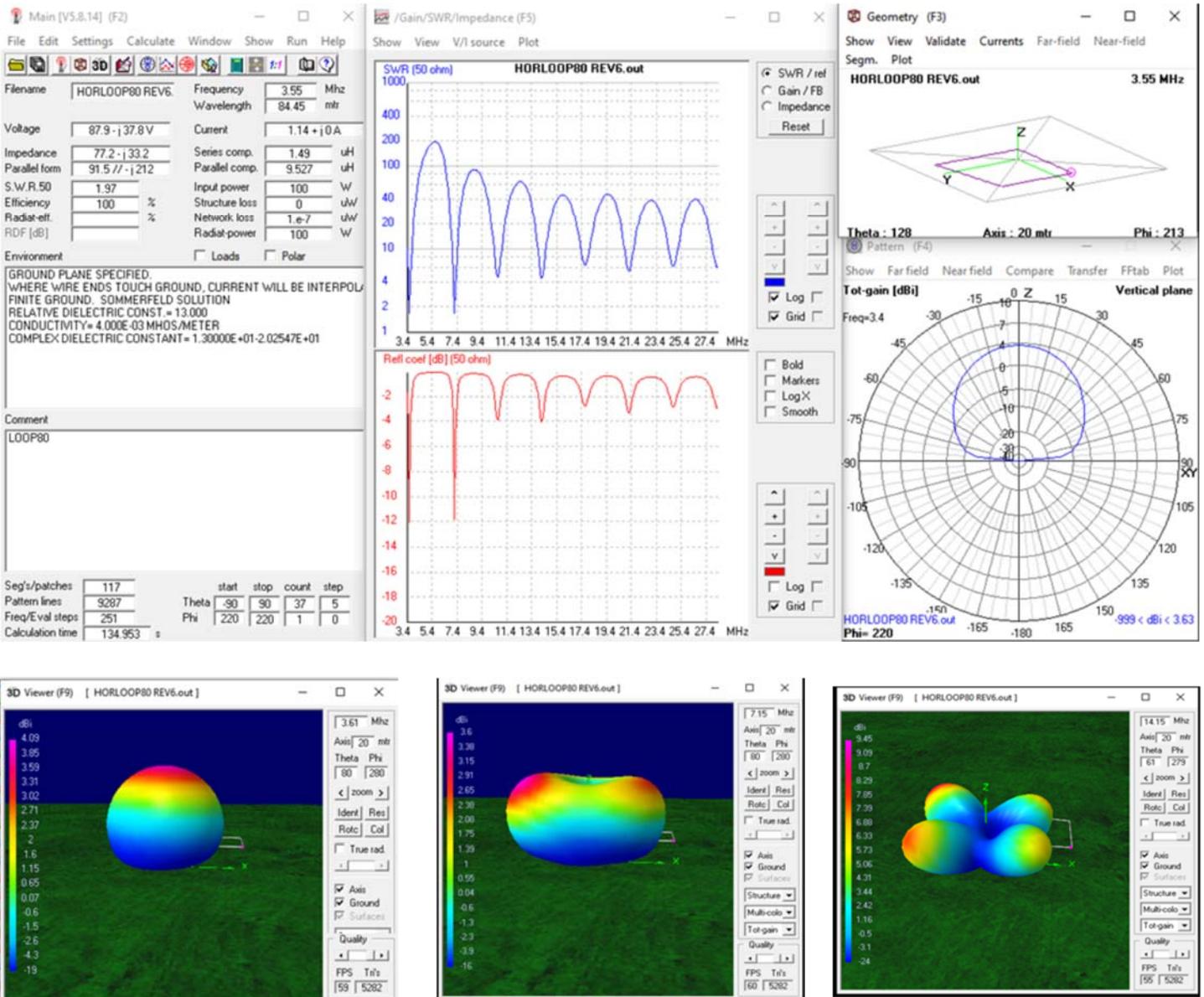
I have been thinking about what the impact would be on my amateur radio hobby if there were restrictions on antennas in my community. I currently have a 160m/80m dipole, a 40m/30m dipole, a 20m through 6m vertical, 2m/7cm vertical and a 2m beam. Most likely installing these in a condominium community may cause some additional discussion and issues.

What stealthy antenna could be installed that would allow me to work all the HF bands 80 meters through 10 meters including the WARC bands? To help answer this question, it is a good practice to model the proposed antennas with an analysis program. The 4Nec2 antenna modeler software is what I chose to help me answer the question. The 4Nec2 antenna modeler and optimizer software is totally free and it contains sample models that can be modified to meet your specific condition. Based on this study if there was a sufficiently large wood behind my future condominium, I would consider a full wave 80m loop antenna with a remote automatic tuner at the antenna feed point as my antenna of choice to work the 80m through 10m bands. The automatic tuner could be made to look like a bat box. I provided example 4Nec2 panels for the 80m horizontal loop antenna designed for my current QTH. I trust this should help with your future stealth antenna decisions

Volunteer, Attend and Have Fun

73, David, AA8IK

President - HPARC



2020-02-12 Hazel Park Amateur Radio Club at Hazel Park recreation center

Meeting called to order by President David AA8IK @ 7:29pm

Pledge of allegiance

Introductions

Recognitions

Milt N8AYD upgraded to extra

Birthdays announced- Club wishes happy birthdays to members with February birthdays

Contest calendar review

Jay WB8SBI presentation on AMSAT

Break for coffee and donuts

Thank you to Bob N8REL for running the swap last month.

Swap attendance 340-360 or so. Treasurer's report on financial details. Collected \$3761, cost \$1620, so \$2141 profit. About \$300 lower than last year; we had one vendor who failed to show. \$391 of the profit was from sale of club equipment. Not bad considering the weather.

Treasury income \$5531, expenses \$3742, so in the black by \$1789. Bank balance is now \$9715.71. Bill N8QVS had \$10 that he turned in from swap profit, so numbers will go up by \$10 on the next report.

Joe on repeater: Making progress, voter issues, recently put in test points and zeroing in on the issues. Please come by for the extra course Tuesday 6-9 at hazel park schools admin building. Even if not studying for the exam feel free to visit. Various numbers of students, 9 or 10 folks peak.

Member to member:

Discussion about the price increase for swap and meetings at the union hall. If you know if potential venues let the board know.

John W8TOY - Please check in to the net on Sundays at 9pm.

Discussion about FT8 operating.

Meeting adjourned at 8:44pm

Respectfully submitted,

Reuven Gevanyahu KB3EHW

HPARC Secretary

**Why does it take
5-7 business days
to refund my
money when it
took 5-7 seconds
to take it out of
my account?**

Cool Funny Quotes.com

HPARC Nets

HPARC Official Sunday Night 2-meter Phone Net

Every Sunday a 9:00 Pm local time on the DART repeater, 146.64 (PL 1 00), catch up on club news and information, and just to keep in touch. All amateurs are welcome to check in.

ARPSC Thursday Night 2-meter phone net

Every Thursday at 8:00 PM on the W8OAK repeater, 146.90 (PL 100). The Hospital radio check net takes place on the last Thursday each month at 7:30 PM on the W8OAK repeater. <http://www.arpdc.com>

Around Town

HPARC Buddy Breakfast every Saturday at 9:00 AM (or so)

Cozy Cabin Diner, 2129 E. 12 Mile Rd, Warren, MI
Come in early for the socializing. Park in the restaurant parking lot.

Oakland County ARPSC Siren Testing, 1st Saturday at 1:00 PM.

March through November except April. Contact Marsha, N8FE, at n8fe@arrl.net, to be assigned a siren to test.

Amateur Radio Licensing Testing

HPARC and the City of Oak Park offer amateur radio licensr testing on the first Tuesday of even numbered months at the Oak Park Community Center, 14300 Oak Park Blvd, Oak Park, MI, 48237, starting at 7:00 PM. Contact Jerry, W9NPI at w9npi@arrl.net.



Club Officers

President: David Koch AA8K

davidkoch@comcast.net

1st VP Jim Poehlman K8ABZ

k8abz@arrl.net

2nd VP Joe Raznic WB2ADX

joeraznic@gmail.com

Secretary Reuven Gevaryahu KE3EHW

kb3ehw@arrl.net

Treasurer Robert Lauer N8REL

rlau@aol.com

Director Bill Ketel N8QVS

n8qvs@arrl.net

Parliamentarian Hugh Boyle KE8BED

photoink7@hotmail.com

Volunteers

Lotw Manager

Murray Scott KE8UM

Break Time

Brenda White N8AQ

Club Cook

Bill Ketel N8QVS

Holiday Meeting

Board

Equipment Inventory

Jim Poehlman K8ABZ

Audio Video Support

Ken Simpson

Lark in the Park

John Teagardin AA8UU

Meeting Greater

Edgar Walton N8LBS

Chairmen

Repeater

Joe Raznik WB2ADX

W8HP Trustee

Joe Raznik WB2ADZ

W8JXU Trustee

Bill Ketel N8QVS

Swap

Bob Lauer N8REL

Field Day

John Teagardin AA8UU

Education

Jerry Begel W9NPI

Sunday Net

Bob Lauer N8REL

Zero Beat Editor

Rick Laird KB500

Public Information Officer (PIO)

Rick Laird KB500

Webmaster

David Koch AA8IK

Banquet

John Little W8TOY

Club Picnic

Jay Schwartz WB8SBI

Wouldn't it be great if we
could put ourselves in the
dryer for 10 minutes and
come out wrinkle free
and three sizes smaller?

Cool Funny Quotes.com

Exploring Edison Batteries.

Chris Warren January 26, 2020

Revisiting the old school.

Most radio amateurs have never even heard of Edison batteries. Edisons been around for over 100 years, and while they enjoyed some early popularity, they more or less left the scene by 1910. Lately though they've been getting more attention from the off grid community. So what's the deal with Edison Batteries? What makes them different than the rest? Are they for you? Here we go....

A quick history lesson.

Edison batteries, also known by the common noun nickel-iron (NiFe) batteries, were patented by Thomas Edison in 1901. This seems odd because Edison did not actually invent the device. That credit goes to Swedish researcher [Waldemar Junger](#) in 1899. The nickel-iron battery was supposed to be an improved version of the nickel-cadmium battery, which Junger also invented. He was never able to develop his nickel-iron battery into a practical technology so he abandoned the idea entirely, although he got far enough to earn a patent. Along comes Edison who brought his own ideas to the product, resulting in separate patents for what became the proper noun Edison battery.

Edison batteries were popular in early electric cars, then quickly faded into obscurity as gas engines took over the automotive market. For many decades after that, only niche applications used iron-nickel technology. Edison-branded batteries ended production in 1975 while other manufacturers continued to make generic versions in limited quantities to serve the few clients who still used them. For the purpose of this article I will use the terms "Edison" and "nickel-iron" interchangeably.

Are Edison batteries a good choice for the off grid ham?

There is a lot to consider before jumping into nickel-iron batteries. Whether or not they are a good option for you depends on your situation, needs, and budget. More importantly, are you willing to give up the battery technology you're currently using and replace it with something totally different? Laying out all the pros and cons may help you decide.

Edison battery-pros.

Very long service life: This is probably the biggest selling point of nickel-iron batteries. They can last decades with simple maintenance. You'll probably hand them down to your children and possibly grandchildren. These batteries are usually rated for a 30 year service life, but this is an understatement. There are 60-plus year old units still out there chugging along! It is likely the last battery you'll ever buy.

Survivalists/preppers planning for a complete societal collapse logically also believe the collapse will end commercial battery production. Therefore, what you have when [SHTF](#) is likely all you'll ever have and procuring replacements will be difficult if not impossible. If this is your mindset, nickel-iron batteries should be a very serious consideration.

Deep discharge capability: Up to 80% discharge is not harmful to nickel-iron batteries. This is comparable to modern lithium batteries and far superior to lead acid flooded batteries.

Low maintenance: Top off the electrolyte every few months, and completely replace the electrolyte every 3-5 years. That's it! There is no need to measure electrolyte density as it is not relevant to the state of charge. Also, you do not need to periodically equalize the cells.

Environmental impact: Edison batteries do not contain any heavy metals so their environmental impact is much less compared to conventional batteries.

Nearly indestructible: Edison batteries will easily tolerate overcharging, undercharging, deep discharge, and shorts. Aside from physically damaging the battery or willful abuse, it's pretty hard to ruin one. They also cannot freeze and are unaffected by extreme temperatures. Typical operating temperature is -22F (-30C) to +140F (+60C).



Photo courtesy of ironedison.com

Edison battery-cons.

High self-discharge: Edison batteries will self discharge at a rate of 1% per day. This effects the overall efficiency of the battery (which we'll address in a moment). It does not sound like a lot, but cumulatively that's a lot of energy you'll have to account for just from your batteries sitting there. Think of self-discharge as a hole in the bottom of a water bucket. The bigger the hole, the harder it is to keep the bucket full.

Low charging efficiency: Charging efficiency is another manifestation of the hole in our "bucket". Nothing is 100% efficient. You'll never get as much out of any battery as you put into it. Edison batteries run about 65% efficient when charging. If your battery is being fed by a 100 watt solar panel, thirty five of those watts will be lost right off the top. This is above and beyond any other system losses.

In addition to the cost of the actual battery, amateurs should consider adding more charging capacity to offset the low charging efficiency. The table below compares the characteristics of common battery types with iron-nickel. The numbers are rounded/averaged due to variations between manufacturers. The weight measurements are for a 100 amp-hour battery:

TYPE	ENERGY DENSITY	SELF DISCHARGE	CHARGE EFFICIENCY	TYPICAL WEIGHT
Edison/nickel-iron	20 watt-hours/kg	30%/month	65%	140 lbs/64 kg
flooded lead	35 watt-hours/kg	5%/month	75%	65 lbs/29 kg
lithium	150 watt-hours/kg	2%/month	85%	28 lbs/13 kg

www.offgridham.com

Things that may not matter, depending on your situation.

There are a few things about nickel-iron batteries that can be either pros or cons, or may not matter one way or the other, depending on your needs and priorities:

Low energy density: This may not matter if you have a lot of storage space and do not require portability. As illustrated in the table above, nickel-iron batteries are quite large and heavy for the energy they produce. It's more than double the weight of a flooded lead battery of the same capacity, and about five times that of lithium!

True cost of ownership: When amortized over their service life, the real cost of Edison battery ownership is comparable to conventional batteries. It's also a hedge against inflation. But for the average off grid ham, it's quite a stretch to justify laying out thousands of dollars today in exchange for a payback spread over decades.

Very high up-front cost: Prepare for massive sticker shock. In 2020 a standard 100 amp-hour flooded deep cycle lead battery costs, oh maybe \$100.00 or so? A lithium is around \$875.00. A similar capacity nickel-iron version will hit you for over \$1000.00. That's not a typo. On the upside, the Edison battery may last beyond your lifetime. Off grid hams have to decide for themselves if the long term savings is greater than the one time front-loaded cost.

Where do we go from here?

Jumping into Edison batteries requires a great deal of careful thought and calculation. My honest opinion is that very few off grid amateurs would benefit from them. In my mind, exceptionally long service life and tolerance for abuse does not supercede the high initial cost and other compromises inherent to nickel-iron batteries. After all, there is a reason why this technology has not been mainstream for over 100 years and is now used only in very specialized applications.

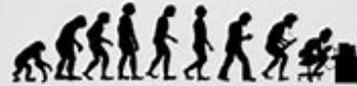
But that's me. Your situation may be different. No matter which side of this you may fall on, you now have some clarity on which to base a decision.

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The Evolution of Ham



February 26, 2020
2878 Ticknor Ct
Ann Arbor, MI 48104-6921

Dear Michigan Amateur Radio Club Members and Friends,

Once again, it is that time of year when lots of hams around the world start thinking of the Dayton Hamvention. After all, with 28,000 attendees from all amateur radio interest areas, what's not to like!

Don't you wish you were going? You're not looking forward to that long drive? Don't drive! Take the Arrow bus! It's inexpensive and easy. Even if you come from out of the Metro Detroit Area, you still relieve yourself of more than 8 hours of drive time!

<https://w8rp.org/activities/dayton-bus-trip/>

As in years past, The Arrow Communication Association is sponsoring a bus trip from Ann Arbor, Michigan to the Greene County Fairgrounds and Expo Center in Xenia, Ohio and back. The date is Saturday, May 16. We leave the park-and-ride at **5:00 am** (show up a bit earlier for free continental breakfast!) and get to the show at 9:00 am. We leave Xenia at 5:30 pm and arrive back to our large park-and-ride site by 9:30 pm. What more could you ask for?

We have had riders from both the Lower and Upper Peninsulas of Michigan and passengers from several areas of Ontario!

Please Note: We have kept our rate the same this year (\$55 before April 1 and \$65 on April 1 and after). **IT WILL GO UP NEXT YEAR!** You get the same deal (for the last time!) even though our bus rental rate has gone up every year from 2017 and onward.

Check out our YouTube video!

<https://www.youtube.com/watch?v=j5p8mevKES4>

There is more. If you want to sell your stuff in the flea market, we have reserved a space there just for you! Every year, Arrow reserves a swap spot just for the bus trip crowd. You save \$70.00. All we ask is that you keep your items to a reasonable limit and that you volunteer at least one hour of your time at the swap tables.

The cost is \$55.00 for the round trip. (This increases to \$65.00 on or after April 1.) Please mail all applications to ARROW Communication Association, 2545 S. Lima Center Rd., Chelsea, MI 48118. ***Please note that this does not include the Hamvention ticket.*** That one you'll have to do yourself! You may also use the link below to purchase a seat using **PayPal**.

We are trying to generate as much publicity as possible, which is why we are writing you. If you can, please share this information as widely as you are able. If you have a web page and/or a Facebook page, please consider adding a link to <https://w8rp.org/activities/dayton-bus-trip/>.

Talk it up on the air! If you check into a state wide or regional net, please mention it there, also. Feel free to include us in your publications.

Also, click on our link to see all of our bus prize contributors of 2019. Our top gift in May of last year was a Begali Expedition Paddle. Digi Key Electronics was second with an Analog Devices PLUTO SDR Experimenter's Kit. And that was not all!....

We at Arrow deeply appreciate your help in this matter and we thank you.

73,

John Wasciuk,
 WA8TON / VO1TON / VO1HV
 Activities Coordinator, ARROW Communication Association
www.w8rp.org
 Ann Arbor, Michigan:
 jwasciuk at gmail dot com
 (616) 560-3365

Some Amateur Radio Definitions

For those new to ham radio, here are some useful definitions, pertaining to antennas and DX-ing.

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.

Traps -- Devices installed in antennas to collect rain-water, to keep it from running further down the antenna.

Wind Loading -- The measure of how much more awkward it gets to handle a big beam as you ascend the tower.

Balun -- (Pronounced: "balloon" by many). An anti-surveillance device, installed in coaxial lines at the antenna, to prevent nosy neighbors from eavesdropping on you through their TV sets.

Transmatch -- A device mistakenly believed to decrease S.W.R.. The premise is that this device allows you to load up into a mis-matched antenna. Unfortunately, it's the cost of one that lowers your S.W.R.

House Bracket -- A device which secures the house and the tower together. It lets the tower do double-duty by holding up the house during severe windstorms.

Rotator Control Box -- A device which is designed to let you monitor antenna "windmilling".

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

Dummy Load -- A measure of the stress exerted on a tower by a ham who climbs the tower without a safety belt.

Coax -- (Usually mis-pronounced as two syllables). A term applied to the maneuvering of a piece of transmission line through the attic or walls of a house.

Db's Gain -- A bunch of yellow-jacketed wasps found a great place to build their nest, at the bottom of the rotator housing on my tower.

Db's Loss -- Fortunately, lightning struck the tower and the wasps were totally destroyed.

***You are invited to join us
at the***



**Installation of Officers Banquet
at**

NEW VENUE



Sylvan Glen Golf Course

5725 Rochester Rd., Troy, MI 48085

on Wednesday, June 10, 2020

Gathering 6:30 p.m. Dinner 7:00 p.m.

Buffet Dinner with Pecan Baked Chicken & Roast Beef

*Includes Mostaccioli, Redskin Potatoes, Caesar Salad, Mixed Vegetables,
Bread and Butter, Coffee, Tea, Soft Drinks and Dessert.*

Cash Bar

Door Prizes

Cost \$35.00 per person

For tickets or questions contact WD8S Mike at his email - WD8S@comcast.net

Please make checks payable to: Hazel Park Amateur Radio Club