



# MCRC Spark Gap



The Longest ARRL Affiliated Club  
in Michigan

## May 2018

### Volume 66 Issue 5

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## Don's Ditherings

Don K8THU  
MCRC President

We had an inspiring presentation by Jim, KD8HFX at our April Meeting on Raspberry Pi. It was impressive how much computing power can reside in such a small inexpensive box. The uses of this technology are only limited by our imaginations. Ham radio is merely one platform for this level of computing.

I am writing this on May 1, 2018, just days before the Metro Grand Spring Tour out of Willow Metro Park. I expect that many of us will be there supporting the bikers who will be out riding on the first tour of the season. The arrival of Spring, finally in May has me thinking of Field Day this year. Again, this year we will be having it at Centennial Farms on Grosse Ile. Thank you to Mike, W8MRA and Bruce, AC8KD for stepping up to act as co-chairs for our Field Day operations. Our May and June meetings will have programs for addressing operations during Field Day. This month we will focus on dealing with pileups and logging during contests. In June we will address the operating schedule for both stations and request your help with both operating and logging.

Have a radio-active Spring and Summer.

Don, K8THU

#### On-Air Activities:

##### MCRC 2 Meter Net:

Join us every Tuesday night at 9PM for the Motor City Radio Club 2 meter net on the 147.24 PL 100 Wyandotte Repeater, or use Echolink WY8DOT-R.

##### CW (QMN) Traffic Nets:

Net Name	MHz	Days	Time
Michigan Net	3563	Sn-F	18:30hrs
Michigan Net	3563	Sn-F	22:00hrs

##### Digital Traffic Nets:

Net Name	MHz	Days	Time-Mode
Michigan Digital Traffic Net (MIDTN)	3583	Tue, Thurs, Sat.	20:00hrs Olivia 8-500





## 2018 Fox Hunts start May 26th



Come and check out Foxhunting. Teams of "Hunters" using radio direction finding equipment try to sniff out the fox. Every one of the teams are trying to find the fox by figuring out where their radio signal is coming from. The winner is the team that finds the fox with least mileage.

It's a lot of great fun, and is a challenging contest. Transmitter hunting also has lots of practical uses. Amateur radio operators have been called on to use direction finding equipment to locate downed airplanes, boaters in distress, and sources of radio interference. It can also be used to find illegal and unlicensed radio transmitters. Hams use contests like fox hunting to test their equipment and practice their skills in preparation for more serious searches.

Motor City Radio Club's first Fox Hunt is May 26th, starting at 1030 hours from the parking lot of the Riverview Leo's Coney Island at Fort and Sibley Road. The Fox Hunts run once a month until October. Once you do it, you will be hooked. Before the hunt at 1030 hours, most meet for breakfast at 0900 at the same restaurant. Here's a list of the Fox Hunt dates for 2018:

- May 26th
- June 16th
- July 21st
- August 18th
- September 15th
- Season Finale October 20th.



## 2018 November Dinner

Mark your calendar now, and save the date for this year's Banquet. As of right now, the menu and price are expected to be the same as last year's. Location has also not changed from the last two years.

CW Sportsmen's Grill  
 (formally the Sportsmen Den)  
 15001 Sibley Road, Riverview, MI 48193  
 November 10th, 2018  
 6pm to 8:30pm

100% of the operation of the Wyandotte Repeater is paid through financial contributions. You may support the repeater in a couple of ways. You can give your donation directly to the club treasurer using this form, or mail the donation to the address on the form. Thank you so much for your support.

**Wyandotte Amateur Radio Repeater Association**  
 1885 Pinetree Dr  
 Trenton, MI 48183

Name \_\_\_\_\_ Call \_\_\_\_\_

Address \_\_\_\_\_  
 \_\_\_\_\_

E-mail \_\_\_\_\_

Donation amount \_\_\_\_\_



**Motor City Radio Club**  
P. O. Box 1337 Southgate, MI 48195-0337



### *April General Meeting Minutes*

Meeting called to order 7:10 p.m. Present: 26 Members and 7 guests

#### ***Club Meeting Minutes***

President's Report: Very excited about the Raspberry Pi presentation. General coverage of what will be discussed in meeting tonight.

Vice President's Report – The 86<sup>th</sup> Club Birthday will be celebrated.

Admin Report – Brief review of last month's report. Minutes accepted and seconded.

Treasurer's Report - Accepted subject to audit.

#### ***Committee Reports***

Fox Hunts – Bruce AC8KD - The first Fox Hunt will be on May 26th. 10:30 start from Leo's Coney Island on Fort and Sibley. The fox will be Stan K8SB. There will be a breakfast there one week before the Fox Hunt and also on Fox Hunt day. All the breakfasts will be in Riverview.

History – Bruce AC8KD working on it.

Special Events/Publicity – a volunteer is needed.

VE Program – Woody N8MWQ – there will be VE sessions in May, June and July.

Webmaster – Jim KD8HFX – the website has been redesigned.

Field Day – Everything is organized and we are good to go.

Refreshments: Coffee – Dale WA8FRD. Soda – Rick KE8BPZ.

#### ***In General***

In the May meeting we will be discussing pileups. We will need equipment.

The club has a table at the Monroe Swap. If you sell something there donate 10% to the club.

The Metro Grand Spring Tour will be on Sunday, May 6<sup>th</sup>. The Motor City Radio Club has been asked by the Downriver Cycling Club to provide communications. As many operators who are available are requested to help with this ride. Contact Dale Poblenz WA8FRD for more information.

## 2018 ARRL Field Day is June 23-24



Greeting fellow MCRC members. Field day is fast approaching and we are in the final stages of planning for this great event and there is still plenty to do!

First and foremost we looking for operators and loggers for the W8GTZ station. Don K8THU is the tent captain for W8GTZ. We have a number of members who have expressed interest in being at the W8GTZ tent to act as coaches for new hams to get on the air and try their hand at HF.

When ordering T-shirts, please indicate if you would like your call, your name, or both your call and your name on your

T-shirt. There is no difference in cost, depending on what you would like on your shirt.

**Orders are due by June 1st please.**

You can mail your order to the club mailbox, give to any board member at the May meeting, drop or mail the order to Dale's house, or order online on the club website.

Club Address:

P.O. Box 1337 Southgate  
48195

WA8FRD Dale's Address

2095 22nd Wyandotte  
48192

Club website:

[www.w8mrm.net](http://www.w8mrm.net)



There are a few operating times left on the W8MRM station as well. If you are interested in operating the contesting station get in touch with W8MRM tent captain Dale, WA8FRD, at the next club event. Reminder, the W8MRM station is for experienced operators who are comfortable with contesting.

The May General Membership meeting program is about Logging and working pileups. This is a perfect time to familiarize yourself with the N3FJP field day logging software. There is a video training that is posted on our website [w8mrm.net](http://w8mrm.net). Go to Field Day page then look under Field Day Education. The short video takes you though the basics of using the N3FJP software. You can also download the software yourself from the N3FJP website and practice at home.

Looking forward to a great Field Day this year.

73, Bruce AC8KD and Mike W8MRA  
2018 Field Co-Chairs



### Field Day Steaks and T-Shirts.

**Order your steaks and T-shirts here. Give to Dale WA8FRD or any board member.**

This year, the steaks are \$5, and the T-shirts are \$15 each.

Please check if you would like your: \_\_\_\_\_ Number of steaks at \$5 each

\_\_\_\_\_ Number of T-shirts circle size:

\_\_\_ Name S M L XL XXL XXXL

\_\_\_ Call or Name and Call \_\_\_\_\_

\_\_\_ Both on your Telephone \_\_\_\_\_

T-Shirts. Total amount enclosed \$ \_\_\_\_\_

*"In days of old, when ops were bold, and sidebands not invented, The word would pass, by pounding brass, and all were well contented."*

## MOTOR CITY RADIO CLUB VE EXAMS

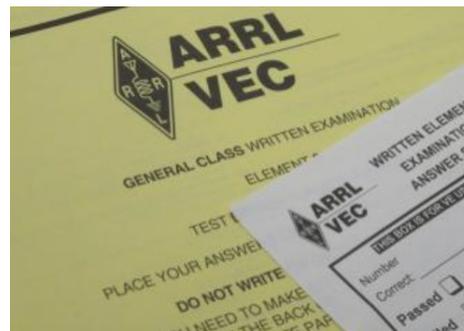
Our next exam session will be held on Saturday, May 12, 2018 at the First United Methodist Church, 72 Oak St, Wyandotte at 9:00 AM. Another exam session is scheduled for June 23, 2018 at 10:00 AM at our Field Day Site, the Grosse Ile Centennial Farm, [25797 3rd Street, Grosse Ile](#) in the outdoor pavilion.

The above dates are the last two Technician exam sessions using the current question pool. The NEW Technician class question pool takes effect on July 1, 2018.

You can download the new Technician class question pool here: <http://ncvec.org/page.php?id=369>

Items to bring with you when taking the exams:

1. \$15.00 exam fee (Exact Amount Preferred)
2. Number 2 Pencil
3. An original of your current FCC license (if you have one)
4. A copy of your current FCC license (if you have one)
5. Two pieces of Identification (at least one photo)
6. Your PayPal Receipt if you choose to pay online
7. Your FRN number if you choose to pre-register



Although not mandatory, we strongly recommend you pre-register for your FRN number at: <http://wireless.fcc.gov/uls> to avoid using your Social Security number on the NCVEC QUICK-FORM 605.

Those interested can register for the exam ahead of time on the Motor City Radio Club's website. Go to [w8mrm.net](http://w8mrm.net). Click on the "Operating and Events" tab on the top, then click on the exam announcement date. On that page, you can register for the exam and also pay beforehand using PayPal.



Woody N8MWQ  
V.E. Liaison

## Bob Lawrence K8HV honored as lifetime member of Motor City Radio Club



Anyone who has been a member of the Motor City Radio Club for more than 10 years, and has been licensed for at least 50 years, is eligible to become a life member of the club.

Bob Lawrence K8HV achieved this great milestone, and was awarded a plaque of recognition, along with a Life Member call sign badge.

Club President Don K8THU (left) honors Bob at the April 2018 meeting. Congratulations Bob.



## 220, 330 ... 470? Why we have the resistor values we do?



If you've spent any time in electronics, you'll probably have noticed that resistors and capacitors tend to come in standard values such as 220 ohms, 330 ohms and 470 ohms. Why these values? and what happens if you want a 320 ohm resistor?

The first thing is that we rarely need exact resistor values in electronics. We often need one 'around 200 ohms' or 'to keep the current between 10ma and 20ma'. The series of values we have is useful not because we need exactly these values, but because one of these values is usually good enough.

Likewise, when making electronics, there's a tolerance. This is usually specified on the product. It specifies the degree to which a component can be 'out' by. A 220 ohm resistor with a 5% tolerance will be between 209 and 231 ohms. 5% might not be considered that accurate these days (but still easily accurate enough for many uses). Years ago, 20% was also a common tolerance, where a 220 ohm resistor with a 20% tolerance might be between 176 and 264 ohms. A 330 ohm resistor with a 20% tolerance will be between 264 and 394 ohms.

Did you notice that? At 20% tolerance, there's a cut off at 264 ohms between 220 ohm resistors and 330 ohm resistors. Likewise, the cut off between 330 ohm and 470 ohm is about 380ohms (about because there's a bit of rounding in the numbers).

This sequence of numbers where each is a certain percentage above the last is known as the E series. It's useful for electronics for two reasons. It means that you'll always be able to get a component within a certain percentage of your ideal components, and it means that if you manufacture components with random values, they'll always fit into a particular tolerance bucket (this, hopefully, isn't a big deal with modern manufacturing techniques, but we established these standards decades ago).

There's more details on the math behind this series of numbers on Wikipedia at [https://en.wikipedia.org/wiki/E-series\\_of\\_preferred\\_numbers](https://en.wikipedia.org/wiki/E-series_of_preferred_numbers).

They might seem a little unusual at first, but you'll quickly find yourself thinking automatically in terms of this sequence of numbers.

## Upcoming Hamfest:

### Great Lakes Division Convention (Dayton Hamvention)

May 18th to 20th, 2018.

**Location:** Greene County Fairgrounds & Expo Center

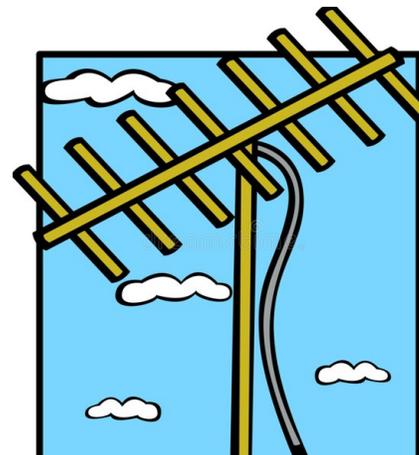
120 Fairground Road

Xenia, OH 45385

**Website:** <http://hamvention.org>

**Sponsor:** Dayton Amateur Radio Association

**Talk-In:** 146.940- (PL 123), Bulletin System - monitor 145.525



## It's Metro Grand Spring Tour Time May 6th



Once again the Motor City Radio Club has been asked by the Downriver Cycling Club to provide communications for the 35th Annual Metro Grand Spring Tour (MGST). MGST is one of Michigan's oldest, continually recurring rides and is generally acknowledged to be the start of the ride season in SE Michigan. Up to 1,200 riders from southeast Michigan and beyond participate in this day-long supported tour through Huron-Clinton Metroparks and rural roads in southern Wayne and Monroe counties. We need as many operators as possible, hopefully 20 or more, to cover all the routes. More details will be coming as plans are finalized. Please contact Dale WA8FRD for more information.

Motor City Radio Club General Membership meetings are held at the Copeland Center at 2306 4th Street in Wyandotte at 7pm. Meetings are the second Friday of each month, except there is no meetings in August and November. August is the Club Picnic, and in November, there is the 2018 Annual Banquet.



## Belle Isle IEEE Milestone Re-dedication

Amateur Radio enthusiasts were invited to come to Belle Isle on April 7th to help us 'work' the Special Event station **KOP** and celebrate the 90th anniversary of the first Radio broadcasts to police patrol cars.

it was only 25 deg F when it started, with a high temperature of about 35 deg F, and a nice cool breeze coming in off of the Detroit River. Everyone had a great time, enjoyed the day, the company and the chance to meet different fellow hams.

It turned out to be a good time to check out emergency communications gear with minimum preparation and quick and easy antenna setups.



MCRC member Larry Van Belle KE8HCD operating on Belle Isle during the event.

The first radio broadcast to police car radios began at the police station on Belle Isle.

In 1928, Commissioner William P. Rutledge of the Detroit Police department became intrigued by radio. He envisioned a fleet of automobiles that were linked by radio to police headquarters. Rutledge contacted his nephew, Bernard (Barney) Fitzgerald, an amateur radio operator with call sign (W8FS). Rutledge and Fitzgerald worked together to first prove the concept, then to spread the results to the Detroit police department patrol cars.

In 1987, the 9<sup>th</sup> IEEE Milestone was placed at the Belle Isle Detroit Police Station to honor the first mobile communications systems. The event on April 7th celebrated the 90<sup>th</sup> anniversary of that achievement with a re-dedication of this milestone.



The world's largest technical professional organization for the advancement of technology

**April 7, 2018 Belle Isle, Detroit, MI**  
Michigan State Park

# KOP

**IEEE Rededication of One-Way Police Radio – 1928**

[http://ethw.org/Milestones:One-Way\\_Police\\_Radio\\_Communication\\_1928](http://ethw.org/Milestones:One-Way_Police_Radio_Communication_1928)  
Lat 42° 20' 25" N Long -82° 59' 12" W GRID EN82mi

Confirm QSO	Date	UTC	MHz	RST	Mode



The world's largest technical professional organization for the advancement of technology

**April 7, 2018 Belle Isle, Detroit, MI**  
Michigan State Park



Detroit Patrolman Kenneth Cox and engineering student Robert L. Batts built and installed a stable radio receiver and antenna system on Belle Isle, MI in April 1928. The Detroit Police Department was the first to regularly dispatch patrol cars by radio.

In February 2018's QST was a very interesting and scholarly article, the cover story actually, on the effects of live trees on the performance of both vertical and horizontal antennas. Things to ponder:

1. Living wood (trees, as opposed to dry dead wood such as boards) absorbs EMF from vertically polarized antennas.
2. Living wood resembles human tissue in terms of dielectric properties, so wearing your HT on your belt will greatly reduce your effective antenna power. Presumably, unless you're a real fathead like me, talking into HT held at your face should not be too bad.
3. A single vertical tree has next to no effect on horizontal antennas, such as dipoles.
4. A forest, containing lots of vertical trees, is even worse than a single tree like in your backyard, so for us backpackers and hikers, we need to find a clearing when trying to use our HT's in the woods.
5. Worse, a forest will affect both vertical and horizontal antennas so when we're operating in the field, for POTA or SOTA for example, we should look for a Goldilocks spot with enough trees to launch the, say, dipole, but not too many. Better in Winter after leaves fall, though.

- Thanks to Wayne, k4wk, <http://www.hamdom.com>.

## The Raspberry Pi 3B+ as an SDR – without the SDR!

What about the idea of Software Defined Radio without any external hardware? Instead of plugging something into your Raspberry Pi, how about using the Pi itself, unmodified? That's just what the Nexmon SDR project has achieved, and this has been made possible through clever use of the on-board Broadcom 802.11ac WiFi chip. The result is a TX-capable SDR, albeit one only capable of operating within the 2.4 GHz and 5 GHz spectrum used by WiFi. Here's a link for more information.

<https://hackaday.com/2018/04/14/the-raspberry-pi-3b-as-an-sdr-without-the-sdr/>

- Via rtl-sdr.com.

### MCRC Officers

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MOTOR CITY RADIO CLUB, INC.



## FIRST CLASS MAIL

### Coming Events

**May 6th. Metro Grand Spring Tour**

**May 11th General Membership Meeting.** 7pm. Copeland Center. 2306 4th Street Wyandotte 48192.

Topic: **Pileups and Logging**

**May 12th** Ham Radio Exam 9:00am First United Methodist Church, 72 Oak St, Wyandotte.

**May 17th Board Meeting** at 7:30pm. Leo's Coney Island, 19230 Fort St., Riverview, MI 48193

Everyone is welcome at all Board Meetings.

**May 19th Club Breakfast** 9am. Leo's Coney Island, 19230 Fort St., Riverview, MI 48193.

**May 26th Fox Hunt breakfast** at 9am. Leo's Coney Island, 19230 Fort St., Riverview, MI 48193

**May 26th First Foxhunt** of the season starting at 10:30am from the parking lot of the foxhunt breakfast.

**June 8th General Membership Meeting.** 7pm. Copeland Center. 2306 4th Street Wyandotte 48192.

Topic: **Field Day.**