



MCRC Spark Gap



The Longest ARRL
Affiliated Club in Michigan
September 2020
Volume 68 Issue 9

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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 Wyandotte Repeater. 100 Hz tone. or use EchoLink WY8DOT-R.

CW (QMN) Traffic Nets:

<u>Net Name</u>	<u>MHz</u>	<u>Days</u>	<u>Time</u>
Michigan Net	3563	Sun-Sat	18:30 hrs
Michigan Net	3563	Sun-Sat	22:00 hrs

Digital Traffic Nets:

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

Southeast Michigan Traffic Net:

2215 hours each night on the Spirit of 76 repeater. 146.76 with a 100 Hz pl.

General Membership Meeting Via Google Meet September 11th



What is Google Meet?

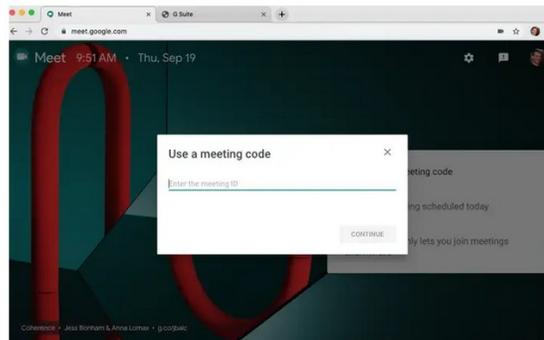
Google Meet is a video-chatting service which lets colleagues chat over video and text. Anyone with a standard Google account can join and participate in Google Meet meetings at no cost.



Google Meet is designed for professionals, but can be used by anyone. Westend66/Getty Images

You join a Google Meet session by using a code that's created when the event organizer schedules the meeting. See link below.

On both the Meet mobile app and on a computer, simply [pull up Google Meet](#) and click or tap "Use a meeting code" (it may say "Enter a meeting code" on mobile). Once your code is in, provided the session has started, you'll enter the call and can join the meeting.



You'll be asked to enter a customized meeting code before you join. Steven John/Business Insider

Just remember that you need to allow Google Meet to access your phone or your computer's camera and microphone when you set it up, or the program won't function properly.

Here is the link to join the General Membership meeting on September:

<https://meet.google.com/hrr-zmqp-mqs>

The meeting starts at 19:00 but we will have the Google meeting room open fifteen minutes prior to the start of the meeting. Topics for the meeting will be posted soon. If you have other questions on how to use Google Meet, please reach out to one of the Board members.

Our next Ham Radio Test Session will be held at the First United Methodist Church, 72 Oak Street in Wyandotte on Saturday, September 12th at 9AM. Please check our website at w8mrm.net to confirm the date and to register. Those interested can register for the exam ahead of time on the Motor City Radio Club's website. Go to 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.



Credit Cards accepted online. Only cash will be accepted at the exam site.

Items to bring with you:

1. \$15.00 exam fee (Exact Amount Required, No change will be given.)
2. Number 2 Pencil and a Black Ink Pen
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 email receipt if you choose to pay online
7. Your FRN Number if you choose to pre-register

Please arrive at 9:00 am. Testing will begin after paperwork is completed and we should be finished by 11:00am.

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

To find out how to obtain an official FCC license copy, click on the link below:

[Obtain License Copy 2015.pdf](#)

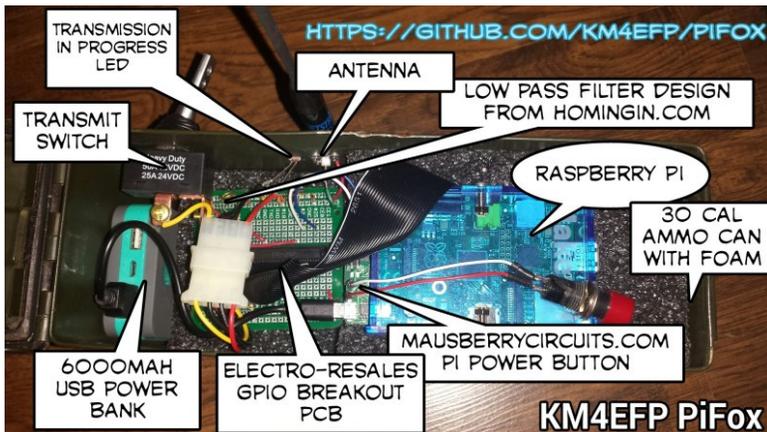
Contact: Woody Kirkman - VE Liaison

Cell: 734-818-0484

Email: N8MWQ@arrl.net



FOX HUNTING WITH A RASPBERRY PI



<https://hackaday.com/2014/11/06/fox-hunting-with-a-raspberry-pi/>



<http://museumofmagneticsoundrecording.org/>

The Wyandotte Amateur Radio Repeater Association maintains the repeater on 147.240. This group is all volunteer, and maintenance of the machine depends on contributions from users like you. If you use the machine, consider donating to the repeater fund. It's easy to do, just fill out the form below, clip and mail this form and your donation to the address on the form.
Or give this form and your donation to any MCRC board member.

Wyandotte Amateur Radio Repeater Association	
1885 Pinetree	
Trenton, Michigan 48183	
Name _____	Call _____
Address _____	

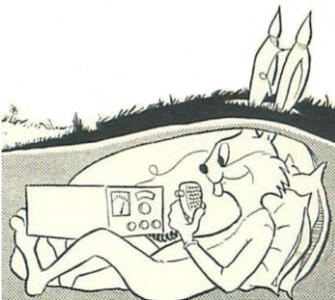
Email _____	
Donation Amount _____	

Checks and money orders can be made to the: **"WYANDOTTE AMATEUR RADIO REPEATER ASSOCIATION"**.

Come and check out Foxhunting. Teams of "Hunters" using radio direction finding equipment try to sniff out the fox. Every team tries 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.

Ham Radio Fox Hunts



Motor City Radio Club's Fox Hunts start 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.

The 2020 season schedule, subject to change, is:

May 30th, June 20th, July 18th, August 15th, September 19th and October 17th.

Congratulations to the May 30th hunters Bob K8HV and Larry KE8HCD for finding the first fox of the season.

Congratulations to Woody N8MWQ and Linda for finding the elusive foxes on June 20th.

Bruce AC8KD, Rena KE8NKC and John KE8NKD were the first to find the fox on July 18th.

Great job Bob K8HV and Larry KE8HCD for winning the August 15th fox hunt.

Please keep abreast of any changes by listening to the Tuesday night Net, and visit the club website at www.w8mrm.net



from arrl.org

Here is a list of the some of the VHF/UHF nets here in the Southeastern Michigan area

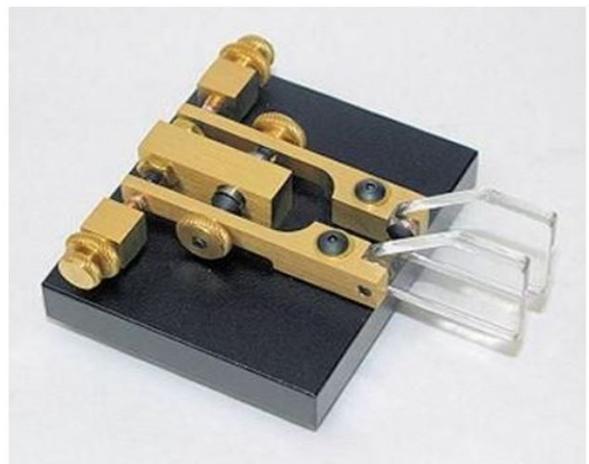
courtesy of kb6nu.com:

- Southeastern Michigan Traffic Net (Detroit): Daily at 10:15pm on 146.760- PL 100.0
- Utica Shelby Emergency Communications Association Information Net: Sundays at 1pm on 147.180+ PL 100.0
- University of Michigan Amateur Radio Club Net (Ann Arbor): Sundays at 8pm on 145.230- PL 100.0
- South Lyon Area Amateur Radio Club Net: Sundays at 8pm on 147.040+ PL 110.9
- Tin Lizzy Net (Dearborn): Sundays at 8pm on 145.270- PL 100.0
- Utica Shelby Emergency Communications Association Traders Net: Sundays at 8pm on 147.180+ PL 100.0
- Washtenaw County ARPSC Net (Ann Arbor): Sundays at 8:30pm on 145.150- PL 100.0
- Toledo Mobile Radio Association Information Net: Sundays at 8:30pm on 147.270+ PL 103.5 and 442.850+ PL 103.5
- Livingston Amateur Radio Klub Net (Howell): Sundays at 9pm on 146.680- PL 162.2
- Hazel Park Amateur Radio Club Net (Oak Park): Sundays at 9pm on 146.640- PL 100.0
- ARROW Communications Association Net (Ann Arbor): Mondays at 8pm on 146.960-
- Clarkston Repeater Association Net: Mondays at 8pm on 146.840- PL 100.0
- Monroe County ARPSC Net: Mondays at 8pm on 146.720- PL 100.0
- Chelsea Amateur Radio Club Net: Tuesdays at 8pm on 145.450- PL 100.0
- Motor City Radio Club Two Meter Net (Trenton): Tuesdays at 9pm on 147.240+ PL 100.0**
- Livonia Amateur Radio Club Net: Thursdays at 8pm on 145.350- PL 100.0
- Oakland County ARPSC Net (Pontiac): Thursdays at 8pm on 146.900- PL 100.0
- Macomb County ARPSC Net (Mt. Clemens): Thursdays at 8pm on 147.200+ PL 100.0
- L'Anse Creuse Amateur Radio Club Net (Sterling Heights): Thursdays at 8:30pm on 147.080+ PL 100.0
- Novi Amateur Radio Club Net: Thursdays at 9pm on 444.800+ PL 110.9
- Utica Shelby Emergency Communications Association Hoot Owl Net: Saturdays at 11pm on 147.180+ PL 100.0

For a list of all repeaters in the southeastern Michigan area, check out the [W8SRC Repeater Guide](#).

Code Practice on the Wyandotte Repeater

Every Tuesday night, 15 minutes before the Motor City Radio Club Two Meter Net, Bob K8HV provides CW Code Practice sessions. So many in the club are saying this has been a great way to learn the code. Others who already know it, but don't use it as frequently as they would like, are also saying how nice it is to refresh their skills in remembering code. So tune in every Tuesday night at 2045 hours and give it a listen. Special thanks from the club to Bob for doing this.





Understanding these concepts will help you solve more than theoretical problems

Understanding electronics and electronic troubleshooting starts with knowing Ohm's Law. This is not difficult and can make your work so much easier. Ohm's Law was a constant companion over my long career as a radio broadcast engineer. The relationships among volts, amperes, ohms and power made it all so understandable. German physicist Georg Ohm published the concept in 1827, almost 200 years ago. It was later recognized as Ohm's Law and has been described as the most important early quantitative description of the physics of electricity.

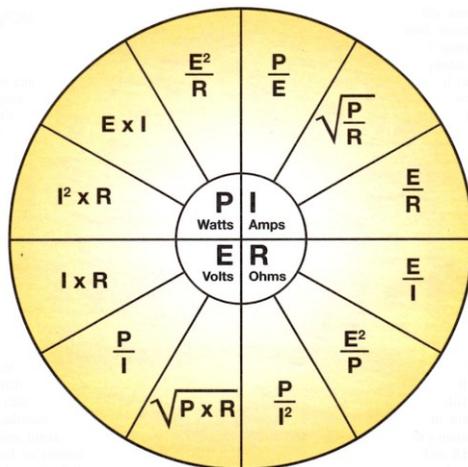


Fig. 1: Ohm's Law chart

Fig. 1 is a list of simple formulas for using Ohm's Law. Nothing complicated, just good answers to your questions. You don't need to be a mathematician to run the calculations. The calculator on your Smartphone will handle this easily. P is for power in watts, I is current in amperes, R is resistance in ohms and E is voltage in volts. Solve for any of those knowing two of the other parameters.

OHM'S LAW ON CURRENT

When I look at a 100 watt light bulb, I think 120 volts at about 0.8 amperes (0.8333 amperes is more exact). That is 100 watts of power being consumed. So how many lights can be put on a 15 ampere circuit breaker?

Let's see — 15 ampere circuit capacity, divided by 0.8333 amperes for each bulb in parallel = 18 lamps. Conversely, it is 18 lamps X 0.8333 amperes per lamp = 14.9994 amperes ... right at the limit of the circuit breaker. The rule here says you don't put more than an 80-percent load on any circuit breaker for fuse, which is 14 lamps in this case. Always keep some headroom in a circuit. As you know, breakers and fuses are used to protect against fires or other dramatic failures during circuit problems. They get unreliable at their current limit. You don't need nuisance break trips or fuse burn-outs from running too close to the line.

OHM'S LAW ON WATTS

There are not many high-level plate modulated AM transmitters around anymore. The Gates BC-1 series is an example of this 1950 to 1970s technology. The design typically has 2600 volts running the RF Power Amplifier tubes. Power supplies like that need a "bleeder" resistor between the high voltage and ground to bring down/bleed the high voltage to zero when the transmitter is turned off. This should happen in only a second or so of time. The power supply could stay hot with high voltage for minutes or hours if the bleeder resistor fails open. That is a serious safety issue for the engineer working on it, if he or she fails to short the high voltage filter capacitor before touching any part of the transmitter.

- continued on page six

The bleeder in a Gates BC-1G transmitter is R41, a 100,000 ohm/100 watt wire-wound resistor. You see one hand-held on the left side of the photo in Fig. 2. Ohm's Law tells us that 2600 volts across the resistor squared (times itself) then divided by 100,000 ohms resistance equals 67.6 watts of power dissipation required on a continuous basis on a 100 watt resistor. You would think that the 32.4-percent safety margin would be enough. This resistor typically failed after 10 years of use. The answer is in the ventilation the resistor gets for cooling. The 67.6 watts in heat has to go somewhere. This transmitter model has some, but not a lot, of air flow on the bottom where the resistor is located.



My answer was to replace the 100 watt resistor with a resistor rated at 225 watts, as seen in the center of the photo. It gave more surface area so it ran cooler, thus longer. A 100 watt resistor is \$15.14 vs \$18.64 for a 225 watt unit. It is only a \$3.50 difference for a huge increase in reliability and safety. The screw that holds it in place will need to be longer if you do this modification. No big deal.

Yes, there is a meter multiplier resistor string next to the resistor and high-voltage capacitor. It samples the high voltage for the PA voltmeter. Dirt has accumulated on the high-voltage end of the string. It is high voltage that attracts dirt, requiring frequent cleaning to maintain transmitter reliability. It's maintenance. The RF dummy load in this transmitter has six 312 ohm/200 watt non-inductive resistors. The transmitter sees the 52 ohms because the resistors are in parallel. Simple math, 312 ohms divided by 6 resistors = 52 ohms. Yes, 52 ohms, 51.5 ohms, 70 ohms and other impedances were common in the past before solid-state transmitters more or less forced the standard to be 50 ohms. Tube-based transmitters will tune into almost any load while solid-state transmitters are designed to perform into 50 ohm loads....and don't give me no VSWR!

OHM'S LAW ON VOLTAGE

Let's say we know that 2 amperes of current is going into a 100 ohm resistor. What is the voltage across the resistor? The formula is 2 amperes x 100 ohms resistance = 200 volts. From that, we can solve for power in the resistor. It is 200 volts x 2 amperes current = 400 watts.

- continued on page seven

OHM'S LAW ON POWER

A Continental 816R-2 FM 20 KW FM transmitter might have 7000 volts on the plate of the PA tube with 3.3 amperes of current drawn. Ohm's Law tell us that 7000 volts x 3.3 amperes = 23,100 watts of power. That is transmitter power input, not output. The power output is subject to the power amplifier efficiency, which is typically 75%. Then, the transmitter power output is 17,325 watts. That also means that 25% of the input power is lost in heat. That is 23,100 watts of input power x .25 = 5775 watts of heat. Be sure to check the manufacturer's data sheets for exact numbers for each transmitter model.

HALF POWER?

Half power doesn't mean the transmitter's PA voltage is half. If it was half, then the PA current would be half and RF output would be one-quarter. You'll remember when local Class 4 (now Class C) AM stations ran 1000 watts day and 250 watts at night. A Gates BC-1 transmitter might have 2600 PA volts and 0.51 amperes of PA current during the day. We can determine the resistance of the power amplifier by taking the PA voltage of 2600 and dividing it by PA current of 0.51 amperes. The answer is 5098 ohms. That same PA resistance applies regardless of the power level of this transmitter. At quarter power, the PA voltage is 1300 volts. Ohm's law, using the same 5098 ohms, tells us that the PA current should be 0.255 amperes. Yes, it worked out that way in practice. The simple trick was to connect 120 VAC to the primary of the transmitter's high voltage transformer for night operation in place of 240 VAC in the day. With quarter power, the antenna ammeter read half and the signal field intensity was half, not one-quarter. Let's examine this. If you have a 50 ohm antenna and 1000 watts of power, what is the antenna current? Using Ohm's Law, take 1000 watts divided by 50 ohms = 20. The square root of that is 4.47 amperes. Divide 250 watts by the same 50 ohm antenna resistance and you get 5. The square root of that is 2.236 amperes, half of the day antenna current. It's Ohm's Law.

Think Ohm's Law when you are on the job. It answers your questions and makes perfect sense.

Mark Persons, WOMH, is an SBE Certified Professional Broadcast Engineer; he was named the Robert W. Flanders SBE Engineer of the Year for 2018. Mark is now retired after more than 40 years in business. His website is www.mwpersons.com.

This is a reprint of the article which appeared in the online version of Radio World at: <https://www.radioworld.com/columns-and-views/ohms-law-answers-your-questions> Comment on this or any article. Write to radioworld@nbmedia.com.

Candidates Set for 2020 ARRL Division Elections

08/25/2020 ARRL News

The candidates for the 2020 ARRL Division Elections are now official.

In the Great Lakes Division, incumbent Director Dale Williams, WA8EFK, who has held the seat since 2014, will face off against Michael Kalter, W8CI, who is treasurer of the Dayton Amateur Radio Association.



Dale WA8EFK



Mike W8CI



Scott N8SY

Also in the Great Lakes Division, ARRL members will choose from among three candidates to succeed incumbent Vice Director Thomas Delaney, W8WTD, who is not running for another term. They are current Ohio Section Manager Scott Yonally, N8SY; Jim Hessler, K8JH, who is vice president of the Grand Rapids Amateur Radio Association, and Frank Piper, K18GW, Yonally's predecessor as Ohio Section Manager.

Balloting for contested seats will take place this fall. Votes will be counted, and successful candidates announced, in November.



Jim K8SH



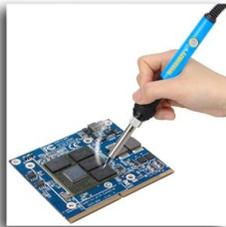
Frank
K18GW

USING A SOLDERING PUMP

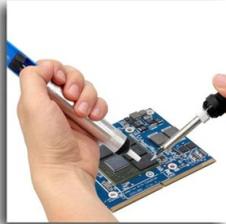
courtesy <https://borealit.com/>



Press plunger down until a clicked sound!!



Point the iron to the soldering dot until melted.



Use the sucker to suck dot to delay melting when tin is almost melted.



Point the sucker directly to melted dot and press sucker button.

SOLDERING

20-60W

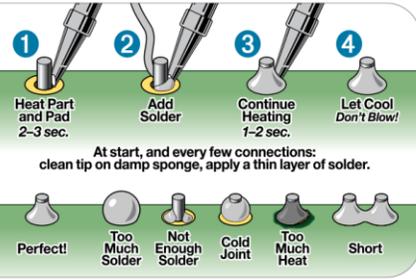


Chisel Tip



Pointed Tip

SOLDERING



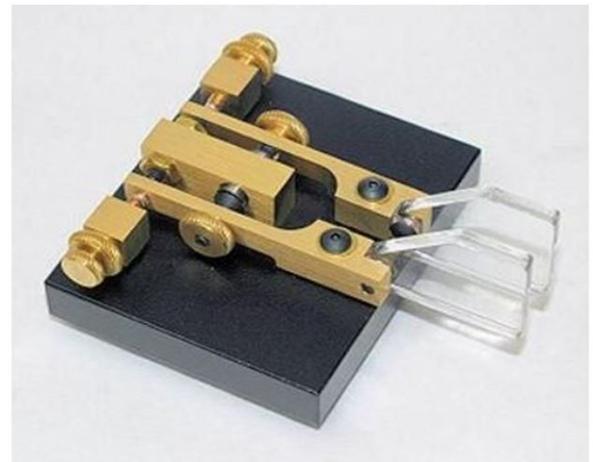
courtesy <https://www.adafruit.com/>

“ Hardware eventually fails. Software eventually works”

[Michael Hartung](#)

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Jeanette Epps KF5QNU joins Starliner mission to ISS

Astronaut and radio amateur **Jeanette Epps KF5QNU** has joined the Boeing CST-100 Starliner-1 crew for a mission to the International Space Station

She joins fellow crew members **Sunita Williams KD5PLB** and **Josh Cassada KI5CRH** on the first operational crewed flight of Starliner.

The six-month expedition is planned to launch to the ISS in 2021 following NASA certification after a successful uncrewed Orbital Flight Test-2 and Crew Flight Test with astronauts.

NASA press release

<https://www.nasa.gov/press-release/nasa-astronaut-jeanette-epps-joins-first-operational-boeing-crew-mission-to-space>



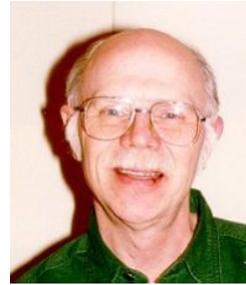
Dues for the Motor City Radio Club are due every October 1st.

There are three ways to renew:

If we do have an October meeting, you can bring your dues and give them to the Club Treasurer Dale WA8FRD.

You can mail your dues to the club at the P.O. Box 1337 Southgate 48195.

Or you can renew with PayPal or a credit card on the club's website at www.w8mrm.net.



Dale
WA8FRD
Club
Treasurer

To renew via the website, log in. After you log in, you'll see your name on the upper left hand corner of the page. Click on your name to bring up your profile.

Scroll down and click on the "Renew to "10/01/20" box.

Peruse the current info about yourself, make any changes you desire.

Click on the box that says "Update and Next" in the lower right hand corner.

Click "Invoice" to pay at the meeting or mail your payment in. Or click "Pay Online" to pay with PayPal.

*The Hazel Park Amateur Radio Club is pleased to offer their Licensing Courses **Online through ZOOM**. They are as follows:*



Technician: Thursdays, from September 10 to November 19, 7-9PM.
Instructors: W9NPI, N8REL, KE8BED

General: Mondays, from September 14 to November 30, 7-9PM.
Instructors: AC8JF, N8HZM, AA8UU

Extra: Tuesdays, from September 8 to December 15 (excluding Nov. 3).
Instructors: WB2ADX, K8MU

A ZOOM room and password will be assigned prior to class time.

Pre-registration is necessary.

To register, Contact W9NPI@comcast.net

At this time, the Hazel Park club is not conducting exams, but they will advise students of both in-person and Online exams that are available in the area. The Motor City Radio Club host exams every second Saturday of every other month. See page 2 of this Spark Gap for more details.

Here's a few interesting links courtesy of DX Engineering

Troubleshooting your transmitter:

<https://www.onallbands.com/troubleshooting-your-transceiver%ef%bb%bf/>

Maintaining and Troubleshooting your HF Station:

<https://www.onallbands.com/maintaining-and-troubleshooting-your-hf-station/>

New Ham Info How To's:

<https://www.onallbands.com/just-got-your-license-avoid-these-mistakes-and-get-off-on-the-right-foot%ef%bb%bf/>





AmazonSmile is a simple and automatic way for you to support the Motor City Radio Club every time you shop, at no cost to you. And Amazon Smile works with Prime just the same as it does on regular Amazon. When you shop at smile.amazon.com, you'll find the exact same low prices, vast selection and convenient shopping experience as Amazon.com, with the added bonus that Amazon will donate a portion of the purchase price to the Motor City Radio Club

On your first visit to AmazonSmile smile.amazon.com, you can select the MCRC to receive donations from eligible purchases before you begin shopping. Amazon will remember your selection, and then every eligible purchase you make at smile.amazon.com will result in a donation to the club.

The AmazonSmile Foundation will donate 0.5% of the purchase price from your eligible AmazonSmile purchases to the Motor City Radio Club. The club is happy to report that we have already had money donated to the club due to purchases made on Amazon.

MOTOR CITY RADIO CLUB TWO METER NET

Every Tuesday night at 2100 hours is the Motor City Radio Club Two Meter Net. Mark your calendar to check in each week.

Net control is John N8KAM.

The net starts with announcements, then check in's are taken. Everyone has a good time, and the net is a great place to hear of any cancellations or postponements of club events due to the governor's mandates.

Listen on the Wyandotte Repeater. 147.240 with a 100 Hz pl tone.

WHAT DO YOU CALL AN APOLOGY WRITTEN IN DOTS AND DASHES??

NOW WAIT FOR IT:

RE-MORSE CODE!!

*joke courtesy Bill NU3D
Royal Order of the Wouff Hong.*



The first ham to transmit from space via Amateur Radio was Owen Garriott.



W5LFL transmitted from the space shuttle in 1983.



New Contest for Portable Stations to Debut in October

08/18/2020

A new amateur radio contest for portable operators — the Fox Mike Hotel Portable Operations Challenge (POC) — will debut October 3 – 4. The event is aimed at leveling the competitive playing field between fixed stations and portable stations. Scoring for the POC, based upon a kilometers-per-watt metric, will be handicapped in favor of the portables “This is to encourage hams who don’t contest to give it a try,” National Contest Journal Editor Dr. Scott Wright, K0MD, said. “It will encourage activity by operators who are limited by real estate and do not have a full-blown contest station. Events like this stimulate more interest in contesting, and this will have an international scope to give chances to snare some new DXCC entities.”

- from ARRL News

In August, The Board of Directors, in consideration of the current State of Emergency and COVID-19 pandemic, respectfully asked the membership to extend the term of the currently serving Board to the General Membership Meeting in October of 202. At that time a new Board will be elected per the current rules and by-laws.



Voting was done online. The vote passed unanimously in favor of keeping the current board members in place for 2021. For the governance year of 2020-2021, (October 1, 2020 - September 30, 2021) members are free to call for a vote of "no confidence" and present a motion to the membership to open nominations for a change in leadership.

The Board of the Motor City Radio Club would like to extend a thank you to each member of the club that participated in the vote.

Mark your calendar for the February 2021 Dinner.

It may seem a little early to be even thinking about it. But things do sneak up on us. The date for the Banquet will be February 13th, 2021. So mark your calendar, put a sticky note on your power supply, or put a reminder in your phone. As of right now, the menu will still be the same. No carry-in White Castles allowed.



Membership Biographies

A suggestion was made during the last board meeting to have member biographies in the Spark Gap. We did this for a bit when Don K8THU was the president. But it kind of fell by the wayside.

Anyone interested in telling others in the club a little bit about yourself, and your interests in ham and other hobbies? Send the info via email to the Spark Gap editor at w8mra1@gmail.com.

Some of the things you could tell us about:

Where you grew up?

How did you get interested in ham radio?

What was your first radio and antenna and contact?

Anything at all you want to say.

Include some pictures of your radios, your shack, your antennas, whatever you would like to share.



some shacks are not quite this cluttered

MCRC Officers

President

John Russman W8BJZ
president@w8mrm.net

Vice President

Bruce Menning AC8KD
vicepresident@w8mrm.net

Secretary

Claudia Mayer-Smith KE8MIE
734-720-9890

Treasurer

Dale Poblenz WA8FRD
treasurer@w8mrm.net

Custodian

John Roberts N8KAM

Trustee(s)

Jim Baksa KD8HFX for W8MRM
John Roberts N8KAM for W8GTZ

Parliamentarian

Bob Cunningham W8RFC
rcl1101@aol.com

Committee Chairs

V.E. Liaison

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N8MWQ@arrl.net

Net Manager

John Roberts N8KAM
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Bob Lawrence K8HV
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QSL Manager

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w8mra1@gmail.com

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FIRST CLASS MAIL

Coming Events

September 3rd. Online Board Meeting at 1930 hours. All are welcome to any board meetings.

September 11th. Online General Membership meeting at 1900 hours. This will be a **Google Chat** meeting, not a Zoom meeting. See Page One of this Spark Gap for more details.

September 12th VE Exam at 0900 hours. First United Methodist Church, 72 Oak St, Wyandotte, MI 48192.

September 17th Board Meeting at 1930 hours. The board meeting may be in person at Leo's Coney Island at 19230 Fort Street in Riverview. Or it may be an online meeting. Monitor the net or check the website to keep abreast of any changes.

September 19th Club Breakfast at 0900 hours. Leo's Coney Island 19230 Fort Street in Riverview. Of course this may not happen because of the governor's mandates. Check for updates on the net or on the website.

Please listen to the Tuesday night net (see page 6 for more details on the net), and visit the club website <http://www.w8mrm.net/> to keep updated on where and when (and if) events will be held.