

The Zero Beat

THIS MEETING

October 11, 2017
7:30 P.M.
UFCW Hall
876 Horace Brown Dr.
Madison Heights, MI

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GENERAL MEETING

The next meeting of the Hazel Park Amateur Radio Club will be held Wednesday, October 11, at 7:30 PM. Socializing starts around 7:00 PM. Meetings take place at UFCW Hall, 876 Horace Brown Dr, Madison Heights. The location is south of 13 Mile Rd, between John R and the I-75 freeway. Turn south at the stoplight at Barrington St, then just before the dead end sign, turn right onto Horace Brown Dr. Turn left into the first parking lot. Enter the building on the east side.

Pete Matejck AAGK will present and demonstrate details regarding D-Star and Yaesu's System Fusion digital communication modes and operation. Pete was first licensed at age 14 in 1979, primarily working QRP CW. He currently holds an Extra Class License. He has worked with D-Star and currently is passionate about Yaesu's System Fusion. He runs the 443.825 MHz tri-mode repeater in Bloomfield Hills - D-Star, Fusion and analog FM.

Come early and visit with fellow hams. Everyone is welcome to come to the meeting and bring a friend along. The coffee will be hot when you arrive. Donuts will be provided during the break.

Anyone wishing to join the club, please go to the club website, www.hparc.org. Fill out the membership form and bring a printed copy to the meeting. Membership forms can also be filled out before the meeting starts.

SATURDAY BREAKFAST MOVED

It's official! The Saturday "Buddy Breakfast" has moved to Star Family Dining in Madison Heights. Breakfast still starts around 9 AM. Star Family Dining is located at 26623 John R Rd, Madison Heights, one block south of 11 Mile Rd. It's a white building with red roof and green metal trim on the southbound side of the street. The Star has a large parking lot, so worry no more about feeding the meter. The menu is large, featuring homestyle cooking.

Closest freeway exit to Star is I-75 at 11 Mile Rd.

Jimi's of Royal Oak, our long-time venue, has become the Royal Oak Taphouse. It no longer has the proper facilities or inexpensive menu to cater to our group.

OFFICERS

- **President:** Jonathan
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- **Director:** Bill Ketel N8QVS
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VOLUNTEERS

- **Technical Coordinator & W8HP Trustee :**
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- **W8JXU Trustee:**
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Mike WD8S wd8s@arrl.net
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- **Webmaster:**
Jim Haslett N8NZB
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- **Siren Tests:**
Marsha Fleming N8FE
248-320-9962
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- **Meeting Coffee & Donuts:**
Brenda White KD8SGB
- **Sunday Net:** Bob N8REL
Lee KD8TBC
Bill N8QVS
- **VUCC/WAS Awards Card Checker:** Sean Fleming
K8KHZ k8khz@arrl.net
- **Banquet:** (Open)
- **Field Day Chair:**
John Teagardin, AA8UU
aa8uu@arrl.net
- **HPARC Official Cook:**
Bill Ketel N8QVS
- **Hamfest Chair:** Hugh Boyle
KE8BED (248) 755-6094
HazelParkSwap@gmail.com
- **Holiday Party:** The Board
- **Oak Apple Run Royal Oak:**
Mike Van Buren WD8S
wd8s@arrl.net

FROM THE EDITOR

Last spring, I passed the five year mark as editor of the Zero Beat. It's been a labor of love, though far from perfect. I've tried to fill the newsletter with items that members find interesting and useful. But five years is long enough. It's time to hand over the reins to someone new.

The qualifications to run the newsletter are simple. The editor runs the newsletter and decides what to include. He or she needs to commit six to ten hours each month to the task. The editor needs to be able to write clearly. Also, the editor needs to twist arms to get information and articles from the membership. Last, he or she needs to produce nine print-format issues from September to June each year, preferably using Microsoft Publisher, and e-mail issues to members at the beginning of each month.

What can HPARC members expect from the Zero Beat in the next few months? It depends...

If a new editor steps forward, expect something new from the newsletter. The next editor will bring his or her own ideas and outlook to the table. If not... expect issues to become smaller and more bare-bones.

The next editor will get my full support, as well as help getting acquainted with the ins and outs of the job. Anyone interested, please contact me by phone or e-mail, or else contact any Board member.

73,

Wes Plouff AC8JF

H A M R A D I O N E W S

At long last, the new **630 and 2200 meter** amateur bands will open to U.S. operators on October 16. At these wavelengths, amateurs will face many challenges, beginning with antennas much shorter than 1/4 wavelength. The bands are so narrow that CW and digital modes will be mandatory.

But there's a hitch. Amateurs are secondary users. Public utilities use power line communications (PLC) for remote control of equipment using these frequencies and others. So any ham wanting to operate on these bands must coordinate with the Utilities Technology Council first. Expect to see detailed instructions soon as hams move above 200 meters for the first time in decades.

Expect to hear more than the usual number of **Canadian call signs** through the rest of the year. Canada is celebrating — politely — the 150th anniversary of Confederation. In 2017, stations with VA-prefix call signs may use CF instead. VE stations may use CG, VO may use CH, and VY may use CI. Also, Radio Amateurs of Canada will be operating special event stations using all 14 prefixes through the end of the year. Watch for VxxRAC calls to work the rarer parts of the nation.

Hams wanting to bring **ham equipment through airports** should have a look at Ham Radio Now episode 344. Gary KN4AQ shows how to prepare for airport security and get through with minimum hassle. See the episode at <http://www.youtube.com/user/HamRadioNow/videos> or https://www.youtube.com/watch?v=VE_yj7hZkQI.

This month marks the 60th **anniversary of the Space Age**. On October 4, 1957, the Soviet Union launched Sputnik 1, a crude satellite that started the space race. This led to many things, including better weather forecasts, instant news video from around the world, humans living in low orbit, and, of course, amateur radio satellites.

WELCOME NEW MEMBER

Lee Brackney KE8HOV

E M E R G E N C Y C O M M S I N P U E R T O R I C O

Faced with devastation in Puerto Rico from Hurricane Maria, the Red Cross has taken the unprecedented step of asking ARRL for emergency communications help. The ham radio community has responded by sending 25 two-man volunteer teams, along with equipment, generators and solar panels. Puerto Rico is slowly recovering, but ham radio remains active in providing communications to hard-hit parts of the island.

According to ARRL, nearly 2 dozen ARRL volunteers from the mainland and five local radio amateurs have been working in concert to do what needs to be done. 14 volunteers have deployed to hospitals, while five are embedded with Red Cross reunification teams. One volunteer apiece has been stationed at the precarious Gaujutaca Dam and at the Juncos Fire Station. Another seven operators are handling net control duties at the Puerto Rico Emergency Operations Center. Five volunteers have been redeployed to remote hospitals that are without communication.

The effort continues to resurrect the devastated electrical power infrastructure in Puerto Rico, and 40 to 50 Puerto Rican radio amateurs have been assisting the power company to maintain communication in an effort to restore power. Twenty new transceivers and a 2-meter repeater have arrived. The repeater will be installed at Arecibo Observatory.

Since the hurricane, hams have relayed thousands of welfare messages back to the mainland. They have also handled requests for medical supplies and repair parts while cellular phone service has been nearly wiped out.

There have also been reports of local nets and the Salvation Army SATERN net being active on other islands hit by the storm.

Some frequencies to leave clear are the CEWN net on 3815 and 7188 KHz, informal emergency nets on 7175 and 14270 KHz, and the SATERN Net on 14265 KHz. Of course, any net carrying weather information or message traffic should be given priority.

H A M F E S T S

09/09/2017 GRAHamfest Wyoming, MI 8-1
Home School Bldg, 5625 Burlingame SW, Wyoming
<http://w8dc.org>
Talk-in: 147.26 (PL 94.8)

09/10/2017 Findlay Hamfest Findlay, OH 8-1
Hancock County Fairgrounds, 1017 E. Sandusky St
(Use right lane in I-75 construction zone near Findlay)
<http://www.findlayradioclub.org>
Talk-in: 147.75

09/17/2017 Adrian Hamfest Adrian, MI 8-1
Lenawee Co. Airport, 2651 Cadmus Rd, Adrian
<http://www.w8tqe.com/>
Talk-in: 145.37 (PL 85.4)

9/17/2017 London ARC Hamfest Dorchester, ON 9-12
Dorchester Fairgrounds, 4939 Hamilton Rd
(2.5 hours from Hazel Park, passport or enhanced driver's
license required)
<http://www.larc.ca/>
Talk-in: 147.06 (PL 114.8)

09/23/2017 GMARC Fall Trunk Swap Shelby Twp 8-12
Packard Proving Grounds, 49965 Van Dyke (S of 23 Mile)
<http://www.gmarc.org>
Talk-in: 443.075 (PL 123)

09/24/2017 Cleveland Hamfest Berea, OH 8-2
Cuyahoga Co. Fairgrounds, 19201 E. Bagley Road,
Middleburg Hts, OH
(3 hours from Hazel Park)
<http://www.hac.org>
Talk-in: 146.73 simplex

Upcoming:
10/07-08/2017 Great Lakes HamCon, Brooklyn, MI
(ARRL Great Lakes Division Convention)

A R O U N D T O W N

HPARC Buddy Breakfast every Saturday @ 9:00 AM (or so)
Star Family Dining, *new location!*, 26623 John R Rd,
Madison Heights, one block south of 11 Mile Rd. Come for
the socializing – we're likely to be at the big tables in the
back. Park in the restaurant parking lot.

Oakland Co. ARPSC Siren Testing, 1st Saturday @ 1 PM
March through November except in April. Contact **Marsha**
N8FE at n8fe@arr.net to be assigned a siren to test.

Amateur Radio License Testing

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

N E T S

HPARC Official Sunday Night 2-meter Phone Net
Every Sunday at 9:00 PM local time on the DART
repeater, 146.64 (PL 100), catch up on club news
and information, and just to keep in touch. All
amateurs are welcome to check in.

Oakland County ARPSC

Every Thursday @ 8 pm on 146.90 (PL 100). Hospital
Radio Net on the last Thursday of each month @7:30.
(W8OAK-3 will run packet on 147.56 MHz for those
wanting to practice and test their equipment)
<http://www.arpsc.com/>

2017 FIELD DAY RECAP

By John Teagardin AA8UU

The 2017 club Field Day operation at Scout Park in Hazel Park turned out pretty well. The results this year were promising. The trend of increasing score against falling sunspot activity shows we had a good turnout. 47 people signed in at the site. 21 people entered their call signs in the log.



We made 1258 QSOs and 5308 points in class 4A. Thanks to all the operators for this great score. Hopefully next year we will be even a better score, and at least as much fun.

Thanks to Marsha N8FE for the GOTA coach job. This gets us additional points and hopefully more people who like contests. The additional operators also provided more Qs. N8NZB Jim Haslet's PSK station also provided additional points over last year. Each digital Q is worth 2 points just like CW. Stations brought by Mike WD8S, Gerry K8GT, and Wes AC8JF provided the substantial base score we had this year. Once again 6 meters opened on Sunday morning. My VHF station worked 6 meters; only one 2 meter station was worked.

We weren't perfect. There was a mixup getting sides for

the big operating tent. Station setup and raising antennas were less organized than last year. We still have problems with our radios desensitizing each other. To solve some of these problems, I hope to finalize plans during field day meetings next year.

On the other hand, operators were pretty good this year about giving everyone a turn at the microphone or key. We didn't have long stretches where rigs sat idle. Except for some wind, the weather was pretty cooperative. Bill had quite a time with the grill in the wind. He has asked for helpers next year. The generator were so reliable our biggest problem was remembering to fill the gas tank.

My goal this year was to get a lot of Hazel Park members on the air. I think we succeeded and still made a decent score.

Next year I'd like to add another station and run as class 5A, providing we have enough participation. Planning for next year's event should begin after the start of the new year. Hopefully better planning can make the event run smoother.

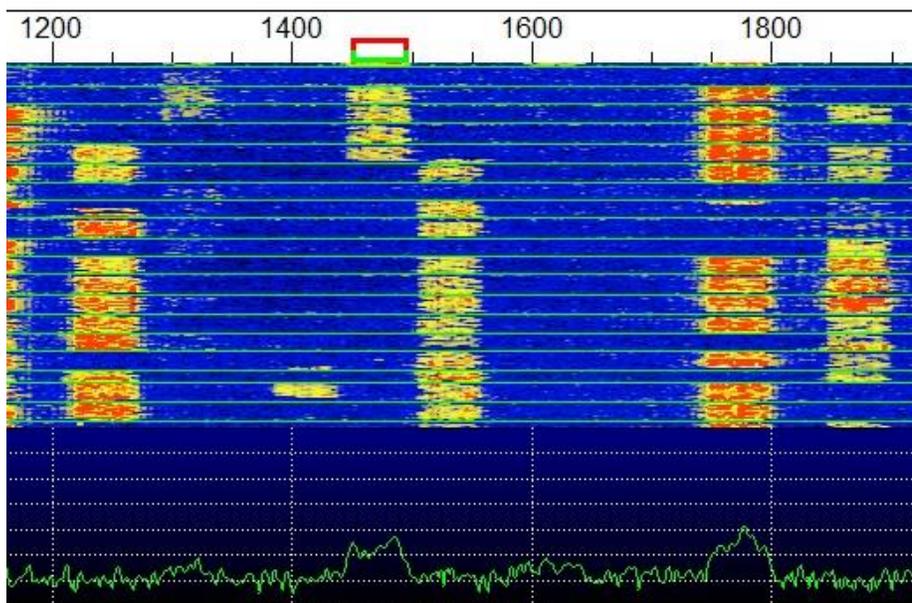


EXPLORING FT8 MODE OPERATION

By Wes Plouff AC8JF

This summer, ham radio became infatuated with the FT8 digital mode. Suddenly it was mentioned everywhere. FT8 has taken over VHF contesting. On HF, it has pulled a lot of activity away from RTTY and PSK31 modes. It's been written up in CQ and QST. So I decided to try it out.

FT8 is a "weak signal" mode that works with signals below the receiver noise level, about 10 dB better than CW and 15 dB better than RTTY. It works so well that hams can make DX contacts with low power and modest antennas even when propagation is lousy. More remarkable, it has taken over the lion's share of digital mode activity since it first appeared at the end of June 2017, just three months before this article was written. Tune to 7074 or 14074 KHz USB just about any time, and the frequency will be full of the slightly wavering tones of FT8.



Running FT8 requires the same equipment as other digital modes: a transceiver, a recent model computer, a rig control cable and an audio interface, at my station, a Signalink box. The required software is WSJT-X version 1.8.0-RC2 or later. The "RC" means it is not yet a stable release. WSJT-X requires the computer's clock to be accurately synchronized with UTC, so "NTP Client" software

such as Meinberg NTP or Dimension 4 must also be installed. This free software is available for Windows, MacOS and Linux.

I got everything set up, then entered my call sign, grid square and some other configuration settings into the software. Soon I was listening to live FT8 QSOs. I couldn't transmit, though. It turns out that the Signalink output had to be set to both channels, not monaural, for the setup to work. Because it is important to avoid distortion in transmitted signals, I set my output power to 30 watts, and audio levels so that the ALC meter would barely budge during a transmission.

Then I started answering CQs. In the first hour of operation, just after sunset, I contacted stations in California, Pennsylvania, New York and France. Here's the actual QSO with New York.

```
CQ N2ADV FN23
N2ADV AC8JF EN82
AC8JF N2ADV +06
N2ADV AC8JF R+01
AC8JF N2ADV RRR
N2ADV AC8JF 73
AC8JF N2ADV 73
```

N2ADV sent CQ and his grid square, I replied with mine, we exchanged signal reports as signal-to-noise ratios, then signed off with 73s. That's it! The whole thing took under 2 minutes.

FT8 is a bare bones mode. Every QSO looks just like this example. Sometimes a station will send a free-form message like 73 ES GL instead of the standard sign-off, but custom messages are limited to 13 characters. If this looks a little robotic, well, it is.

Because FT8 works well "below the noise," it is slow. Each transmission takes about 13.5 seconds plus decoding time, synchronized to 15-second intervals. That means the operator has only a second or so to decide whether to answer a CQ that pops up on the screen. Once a distant station answers, though, the rest of the QSO is automated.

FT8 MODE, CONT'D

The screenshot shows the WSJT-X software interface. The main display area is divided into two sections: 'Band Activity' on the left and 'Rx Frequency' on the right. Both sections show a list of signals with columns for UTC, dB, DT, Freq, and Message. The 'Band Activity' section shows signals from 040000 to 040015, with messages like 'KG7CW K7UA R+04', 'CQ HA7EG JN97', 'WB4KDI N9OK 73', 'KK6NON K7YCH R-05', 'CQ N2ADV FN23', and 'CQ DX LZ2WP KN43'. The 'Rx Frequency' section shows signals from 035400 to 035730, with messages like 'F4HQL LZ2WP 73', 'LZ2WP AC8JF EN82', 'CQ N2ADV FN23', 'N2ADV AC8JF EN82', 'AC8JF N2ADV +06', 'N2ADV AC8JF R+01', 'AC8JF N2ADV RRR', 'N2ADV AC8JF 73', 'AC8JF N2ADV 73', 'CQ DX F5BZB JN03', 'CQ DX F5BZB JN03', 'F5BZB AC8JF EN82', and 'CQ DX F5BZB JN03'. The control panel at the bottom shows a frequency display of 3.573 000, a DX call of F5BZB, a DX grid of JN03, and a date/time display of 2017 Sep 15 04:00:35. The status bar at the bottom indicates 'Receiving FT8' and 'Last Tx: F5BZB AC8JF 73'.

Most of the time I ran at 30 watts into a dipole 60 feet up.

I heard FT8 signals on all bands from 160 to 15 meters, though I didn't listen to 60 meters. I never heard even one signal on 10 or 12 meters. 40 and 20 meters were active at almost any hour. There was a surprising amount of DX on 40 and even 80 meters.

FT8 will not replace older modes on the air, but it is a nice way to work lots of DX as the sunspot cycle declines. There are a lot of internet presentations and videos showing how to use FT8 mode and WSJT-X software. Some HPARC members are already active on FT8. I know I'll keep using it.

The operator just needs to double-click to capture a call sign, click to answer a CQ, then click to log the QSO and click to stop transmitting. It's a lot different from CW, SSB, and more conventional digital modes.

The software has options to make things even easier. It decodes the entire audio bandwidth, about 2 KHz, at once. Received CQs can be color coded to show stations already worked, new calls and new DXCC countries. The software can be set up so that a double-click will answer a CQ immediately, or even to answer CQs with no move by the operator at all.

Is this way of operating any fun? Not for a ragchewer, certainly. I thought that the novelty of "point and shoot" operation would wear off quickly. I decided to make 50 contacts to get a good sample for this article. When I made that 50th contact, though, I decided to push on for 100. At 100 contacts, I just kept going. The lure of "bagging" an exotic callsign is pretty strong. During busy hours, the waterfall display can show 20 or more signals much of the time. Calling CQ is interesting, too. Under the right conditions, an operator can make at least 15 contacts an hour.

Here are the results when I finally did stop to write this article. In ten days of operating, I made 197 QSOs with few duplicate call signs. I worked 21 DXCC countries, 38 states and 4 Canadian provinces. My best DX was Tasmania.

HAMFESTS

10/07-08/2017 Great Lakes HamCon Brooklyn, MI 8-5, 8-2 Michigan International Speedway, 12626 U.S. 12
<http://glhamcon.org/>
 Talk-in: 145.12 (PL 123)

10/21/2017 Muskegon Color Tour 8-12
 Fellowship Reformed Church, 4200 E. Apple Ave (M-46), Muskegon (about 3 hours from Hazel Park)
<http://mcecs.net/Hamfest.htm>
 Talk-in: 146.82 (PL 94.8)

10/22/2017 Kalamazoo Hamfest 8-12
 Kalamazoo Co. Expo Center, 2900 Lake St, Kalamazoo (about 2 hours from Hazel Park)
<http://www.kalamazoohamfest.org/>
 Talk-in: 147.04 (PL 94.8)

10/29/2017 USECA Hamfest 8-1
 UFCW Hall, 876 Horace Brown Dr, Madison Heights
<http://www.usecaarc.com/events/>
 Talk-in: 147.18 (PL 100)

Upcoming:
 11/18-19 Fort Wayne Hamfest, IN
 12/03 L'Anse Creuse Swap, Madison Heights

SEPTEMBER MEETING MINUTES

Informal introduction - Les asked about Lark, JD takes informal poll of whether members would attend a Lark at Belle Isle, reminded all that we are the sponsor club for Michigan State parks on the air for Belle Isle park

Meeting called to order at 7:35pm by President, JD KD8VXZ.

Pledge of allegiance said

Introductions were made - including

New hams (can become members after turning in their applications):

K3KGB Craig

KE8HOS from Troy

KE8HOP from Detroit

2nd VP David Koch AA8IK acknowledged that his son won an ARRL scholarship

David Introduced speaker, WB2ADX Joe Raznik

Presentation by Joe WB2ADX DART Trustee and Technical Director on the DART repeater system

Break for Coffee / Donuts

Education Update - Jerry W9NPI - All classes have started. Tech class has 16 people at Ferndale FOP lodge. General class has 8 people at I3 Detroit Classroom, and Extra class has 4 people at Ferndale FOP lodge.

Treasurer's report- N8REL - End of Fiscal year August 31. Last year took in \$7389, spent \$8677 resulting in year-end deficit (some caused from banquet expenses carried over). Overall doing well with \$9080.71 in the bank.

Contest report- Gerry K8GT - End of September is the CQWW RTTY contest. Aside for that, not many larger contests until end of October. Lots of smaller contests, see QST or other lists.

General Announcements - JD-

We need a new newsletter editor.

We also need an assistant swap chair to work with Hugh. GLHamcon is coming up next month and they are looking for volunteers. Also, we are looking for people willing to carpool there to help out some folks who can't drive.

We will be looking at a brand refresh with a new logo that will look better on electronic media.

David AA8IK - Does anybody have the extension cord that belongs to the club projector? It is missing.

Ken AD8M- Reminder that there is an "After meeting" at the VFW hall on 4th street.

Saturday morning breakfast discussion- Jimi's became the Royal Oak Taproom, and the new setup, sound, and prices don't work for the club. Consensus seems to be to move breakfast to Star family restaurant.

Marsha N8FE - We will be sharing a GLHamCon booth with YLRL, we are looking for volunteers to staff, including men during the YLRL forum.

Hugh KE8BED - Camping for the GLHamCon is only \$50, for whole weekend with electric, call the speedway not the HamCon organizers.

Bill N8QVS- Needs air launcher to help put up an antenna, somebody has it, please return it.

Meeting Adjourned 9:01pm

CONTESTS

October 2017

6-8 YLRL DX/NA YL Anniversary Contest

7-8 ARRL EME Contest

7-8 Oceania DX Contest, Phone

7-8 Russian WW Digital Contest

7-8 California QSO Party

7-8 WAB HF Phone

7-8 RSGB DX Contest

10 10-10 Int. 10-10 Day Sprint

14-15 Makrothen RTTY Contest

14-15 Oceania DX Contest, CW

14-15 Scandinavian Activity Contest, SSB

14-15 Arizona QSO Party

14-15 Pennsylvania QSO Party

16-20 ARRL School Club Roundup

21-22 JARTS WW RTTY Contest

21-22 10-10 Int. Fall Contest, CW

21-22 New York QSO Party

21-22 Stew Perry Topband Challenge

21-22 Worked All Germany Contest

21-22 South Dakota QSO Party

22-23 Illinois QSO Party

28-29 CQ Worldwide DX Contest, SSB

November 2017

4-5 ARRL EME Contest

4-6 ARRL Sweepstakes Contest, CW

MARK YOUR CALENDAR

2017 Meetings

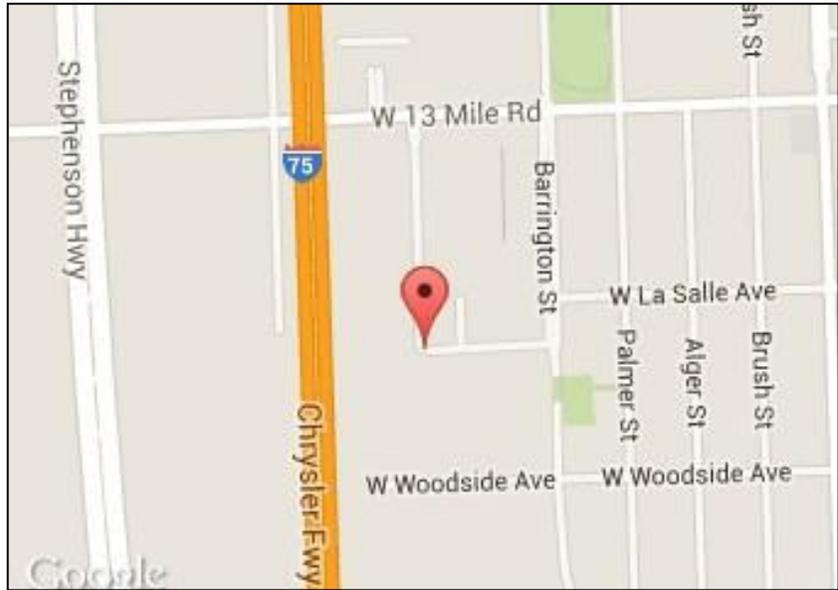
October 11
November 8
December 13

TIME

Socializing @ 7:00 PM
Meeting @ 7:30 PM

PLACE

UFCW Hall
876 Horace Brown Dr.
Madison Heights 48071



Meeting and Swap location



Hazel Park Amateur Radio Club
P.O. Box 368
Hazel Park, MI 48030



Scan this QR code to visit the
HPARC web site

Please check mailing label — is your membership about to expire?