



# MICH-A-CON

Iron Mountain,  
Dickinson County, Mich

April 2017

## Meeting Reminder: [Second Wednesday of the Month](#)

Which is **April 12, 2017** at 07:00 PM at the Dickinson Library, Iron Mountain.

## From The President

**Murphy's law** is an adage or epigram that is typically stated as: Anything that can go wrong, will go wrong. Wikipedia

We talk a lot about Mr. Murphy in relation to various issues we have with radio equipment failing, or antennas not always staying up and performing as expected. We say that everything is working great but then we are brought back to reality, when things start to fail. I don't know if it's just a curse, or actually Murphy has taken up residence in your shack!

On Saturday, March 18<sup>th</sup>, Vertigo Climbing came over and spent several hours removing my broken element on the 40 rotatable dipole, realigning my SteppIR so that it's direction matched the heading on my rotor control, and stabilizing my side mounted beam at 35'. All was well!

I continued operating in the BARTG RTTY contest that weekend end and, despite lousy conditions, made a lot of contacts. I even bragged on the Thursday night 2 Meter NET that antennas were working great!

On April 1<sup>st</sup>, yes April Fools Day, Mr. Murphy came knocking! Being the gracious host that I am, I must have opened the door a crack. BAM!!! Right between the eyes with a 2 X 4! The antennas didn't work! High SWR on 10 and 15 with the Mosley CL-33 and on 10, 12, 17, and 20 with the SteppIR. (See my posting on the Yahoo SteppIR forum)

As of April 10<sup>th</sup>, I have not discovered the problem with either antenna. Hopefully, by Tuesday, I will have a better idea as to how to get those antennas working again.

See you all at the meeting on Wednesday.

73,

Tom W8JWN

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## **MICH-A-CON AMATEUR RADIO CLUB MINUTES OF March 8th, 2017**

President Tom Martin called the meeting to order at 7:00 pm.

### **Secretary Report**

Minutes of the February 8th meeting were read and approved.

### **Treasurer Report**

Balances as of March 8, 2017

Checking -\$67.91

Savings -\$1930.87 (Repeater - \$292.45)

Cash - \$22.00

### **Repeater Report**

Bob Meyers reported that the new 440 and 2 meter units along with the controller are working together. Both units are able to be linked. Bob also distributed handouts, for those who might be control operators, and explained their usage. He also noted that the amplifier has been fixed. It is putting out 100 watts and no longer trips on high SWR.

### **Old Business**

Tom Martin reported that 19 persons attended the club dinner at Bartoletti's. The event generated several positive comments.



The recent ham license class produced three new Technician Class licensees and one upgrade to General Class.

Bob Meyers reported that the Echolink unit at Gary Schafer's has had problems with the IP address. It is believed that a static IP address will solve the problem.

Tom Martin reported that he has emailed Roger Van Damme to confirm that the Central U.P. Road Rally group may use the two meter repeater on the weekend of June 24.

There was nothing new to report from the IRS regarding a tax number for the club.

### **New Business**

There was a brief discussion regarding Field Day. Field Day weekend is June 24-25. The pavilion at the U.P. Veterans Memorial Park has been reserved. There will be further discussion at the April meeting.

National Weather Service Storm Spotter training will held at 6:30 pm on Wednesday, May 3, at Bay West College Room 231.

### **Adjournment**

The meeting was adjourned at 7:20 pm. (Skip Caswell/Scott Jarmusch)

The 50/50 drawing was won by Terry Moriarity. The club treasury was enriched by \$23.00.

### **For the Good of the Order**

Attendees reported on their recent activities.

### **Submitted by Joe Ferris**

## **Attendees**

Tom Martin, W8JWN  
Scott Jarmusch, KA8TFF  
Joe Ferris, KC9TQR  
Burton Armbrust, Sr., WB8EBS  
Gary Schafer, K4FMX  
Skip Caswell, KE9L  
Terry Moriarity, K9TRY  
Sam Holmes, N8ATS  
Bob Meyers, WA8FXQ

Bruce LaLiberte, KD9HQD  
Joyce Williams, Visit

## News

### Michigan QSO Party

#### Michigan QSO Party

On April 15, 2017, the Great State of Michigan will once again host its annual Michigan QSO Party from Noon to Midnight local time. MIQP is sponsored by the Mad River Radio Club.

This is a great club activity as well as a good way to spend some time in your shack honing your skills in a pileup. Invite a buddy over and have some fun together. Better yet, invite a buddy with a Technician license over and get him or her on the HF bands!

Rules and full details are available at [www.miqp.org](http://www.miqp.org)

#### Michigan State Parks on the Air (MSPOTA)

MSPOTA started up on April 1 with several activations at State Parks around the state, Propagation was not particularly helpful in that Michigan chasers and activators alike had significant difficulty hearing each other. There were several reports of contacts from afar and even some DX contacts were made.

Hams are a resilient bunch and we will adapt and overcome.

One thing for Activators and Chasers to remember is that VHF and UHF FM simplex contacts count as valid contacts. If you are going out on an activation and when you spot yourself on the MSPOTA Facebook page, give your HF frequency and a 2M or 70 cm simplex frequency that you will monitor as well. Maybe a single VHF and a UHF frequency could be used state wide to avoid confusion. Hmmmm....

The weather should be breaking soon and it will be a lot more comfortable to be out and about. Full MSPOTA information is available on [www.mspota.org](http://www.mspota.org) and on the MSPOTA Facebook page.

Now is the time to get out there and have some fun. Can't make it to a park? Get on the air to see if you can help by making contacts with those that are at the parks!

Both events are YOUR events – Get on the air and have fun!

See you on the bands!

Larry, WB8R

### Teachers Institute on Wireless Technology

Greetings!

Now is the time to apply for 2017 Summer sessions of ARRL's Teachers Institute on Wireless Technology. Watch this video for an inside look at the Teachers Institute!

If you are a past participant of the Teachers Institute we hope that you have found many ways to use the ideas, training and resources you received and are interested in spreading the word to other teachers.

You may want to consider signing up for the advanced TI -2 on Remote

Sensing and Data Gathering.

Please feel free to share information about the Teachers Institute with others in your circle, or in your school district. A listing on your school or school district website? A newsletter? A web page for science and technology teachers? Word of mouth to teachers in your circle? We'd like to get the word out to reach teachers who can take advantage of this opportunity. If you would like to receive copies of our printed brochures to give to colleagues, please send your request and your mailing address to [etp@arrl.org](mailto:etp@arrl.org).

Here's some copy you can use to announce the opportunity in your school community:

Integrate Science and Math with Engineering and Technology by Exploring Wireless Technology

ARRL, the national association for amateur radio, is offering two sessions of its Introductory Teachers Institute on Wireless Technology (TI-1) during the summer of 2017. The ARRL Teachers Institute is an expenses paid, intensive professional development opportunity for educators who want to receive training and resources to explore wireless technology in the classroom. Topics at the TI-1 Introduction to Wireless Technology, include basic electronics, radio science, microcontroller programming and basic robotics. ARRL will also offer an advanced Teachers Institute (TI-2) on Remote Sensing and Data Gathering.

The linked article from the March issue of ARRL's journal, QST, includes the schedule and description of offerings this summer. Read "Amateur Radio in the STEM

Classroom" in the 2016 April issue of Tech Directions to learn how four Teachers Institute grads employ amateur radio in their classrooms.

Visit the ARRL website at: [www.arrl.org/ti](http://www.arrl.org/ti) for more details.

Go to [www.arrl.org/teachers-institute-application](http://www.arrl.org/teachers-institute-application) for information about applying and to download an application.

**Application deadline is May 1.**

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## Michigan Distracted Driving Bill HB4466

Greetings to the hams of Michigan,

On March 31, I had the pleasure meeting up with our Great Lakes Division Director Dale Williams, WA8EFK to attend a Press Conference at the Southfield Police Department regarding the recent introduction of House Bill 4466 by Michigan District 41 Representative Martin Howyrlak. This bill is co-sponsored by a bi-partisan Representatives Frank Liberati, David LaGrand, Peter Lucido, Michael Webber, and Jim Ellison.

HB 4466 deals with Distracted Driving and thanks to our State Government Liaison Ed Hude, WA8QJE, amateur radio operators are specifically exempted from these regulations in this bill. We have been working with Representative Howyrlak since September, 2016.

You can obtain a copy of HB4466 here:

<http://www.legislature.mi.gov/documents/2017-2018/billintroduced/House/pdf/2017-HIB-4466.pdf>

The pertinent reference is as follows: Page 10, line 16: 'PORTABLE ELECTRONIC DEVICE DOES NOT INCLUDE AMATEUR RADIO SERVICE EQUIPMENT USED BY A LICENSEE OF THE FEDERAL COMMUNICATIONS COMMISSION.'

This is a long ways from becoming law and it most certainly will take months to get this on the Governor's desk.

There are two messages here:

One is that there is serious interest in tightening up the laws concerning use of mobile electronic devices while driving.

The other message is that if this bill were to become law as it currently reads, it appears that our operation of amateur radio equipment when driving will not be restricted.

We will continue to monitor the progress of HB4466 as it moves forward in the Legislature.

73, Larry, WB8R

## INTERNATIONAL MARCONI DAY EVENT

ZCZC AX02  
QST de W1AW  
Special Bulletin 2 ARLX002  
From ARRL Headquarters  
Newington CT April 5, 2017  
To all radio amateurs

SB SPCL ARL ARLX002  
30th International Marconi Day Event Set for April 22

Dozens of official "award stations" have registered to take part in the 2017 International Marconi Day (IMD) event, this year being held on April 22, 0000-2359 UTC (starting on April 21 in US time zones).

All contacts counting toward the Marconi Award must be made on HF with registered stations, but other participating stations do not need to be registered to claim awards. This year marks the 30th IMD, held each year to mark the anniversary of wireless pioneer Guglielmo Marconi's birth on April 25, 1874. IMD is observed each year on a Saturday close to Marconi's birthday. Many special event stations - some operating from Marconi-related sites - will be on the air.

Marconi Award certificates are available for both transmitting stations and shortwave listeners (SWLs).

The event is not a contest but an opportunity for amateurs around the world to make point-to-point contact with historic Marconi sites using HF communication techniques descended from those used by Marconi, and to earn an award certificate for working or hearing a requisite number of Marconi stations.

There are two categories. Transmitting amateurs attempt to complete contacts with 15 of the official award stations, while shortwave listeners attempt to log two-way communications made by 15 of the official award stations.

International Marconi Day special event station GB4IMD

will be on the air from Cornwall, helmed by members of the Cornish Amateur Radio Club, which organizes the IMD event. Cornwall was home to some of Marconi's early work. A list of participating stations is on the Cornish Amateur Radio Club's website at, <http://gx4crc.com/imd-stations/>.

The Kerry Amateur Radio Group in Ireland will be taking part as an IMD award station. EI6YXQ will be set up on the site of the former Marconi Station at Ballybunion. The YXQ suffix commemorates the call sign of the Marconi Station at Ballybunion.

In the US, special event station K2M will be on the air from Binghamton, New York, the site of the remaining Marconi tower, where the inventor demonstrated in 1913 that it was possible to communicate via radio with a fast-moving train.

For the seventh year, radio amateurs in Norfolk, England, will be active from Caister Lifeboat as part of the IMD celebration. The Norfolk Amateur Radio Club (NARC) will be on the air from special event station GBOCMS at the Caister Lifeboat Visitor Centre to commemorate the village's original Marconi wireless station, established in 1900. The station's original purpose was to communicate with ships in the North Sea and the Cross Sands lightship.

Other IMD sites with historical links to the inventor's work include Cape Cod, Massachusetts (WA1WCC and KM1CC); Nantucket Island (W1AA/MSC); Glace Bay, Nova Scotia (VE1IMD); Villa Griffone, Bologna, Italy (IY4FGM), and many others.

A Facebook page is also available at, <https://www.facebook.com/search/top/?q=gb4imd>.  
NNNN



## ARLB032 W1AW 2016/2017 Winter Operating Schedule

ARRL Bulletin 1 ARLB001  
 From ARRL Headquarters  
 Newington CT January 3, 2017  
 To all radio amateurs

### Morning Schedule:

Time	Mode	Days
1400 UTC (9 AM EST)	CWs	Wed, Fri
1400 UTC (9 AM EST)	CWf	Tue, Thu

### Daily Visitor Operating Hours:

1500 UTC to 1700 UTC - (10 AM to 12 PM EST)  
 1800 UTC to 2045 UTC - (1 PM to 3:45 PM EST)  
 (Station closed 1700 to 1800 UTC (12 PM to 1 PM EST))

### Afternoon/Evening Schedule:

2100 UTC (4 PM EST)	CWf	Mon, Wed, Fri
2100 "	CWs	Tue, Thu
2200 " (5 PM EST)	CWb	Daily
2300 " (6 PM EST)	DIGITAL	Daily
0000 " (7 PM EST)	CWs	Mon, Wed, Fri
0000 "	CWf	Tue, Thu
0100 " (8 PM EST)	CWb	Daily
0200 " (9 PM EST)	DIGITAL	Daily
0245 " (9:45 PM EST)	VOICE	Daily
0300 " (10 PM EST)	CWf	Mon, Wed, Fri
0300 "	CWs	Tue, Thu
0400 " (11 PM EST)	CWb	Daily

### Frequencies (MHz)

CW: 1.8025 3.5815 7.0475 14.0475 18.0975 21.0675  
 28.0675 147.555  
 DIGITAL: - 3.5975 7.095 14.095 18.1025 21.095  
 28.095 147.555  
 VOICE: 1.855 3.990 7.290 14.290 18.160 21.390  
 28.590 147.555

### Notes:

CWs = Morse Code practice (slow) = 5, 7.5, 10, 13 and 15 WPM  
 CWf = Morse Code practice (fast) = 35, 30, 25, 20, 15, 13 and 10 WPM  
 CWb = Morse Code Bulletins = 18 WPM

CW frequencies include code practices, Qualifying Runs and CW bulletins.  
 DIGITAL = BAUDOT (45.45 baud), BPSK31 and MFSK16 in a revolving schedule.

The voice mode used for W1AW's 40 meters voice bulletins is now full-carrier, double sideband AM.  
 Code practice texts are from QST, and the source of each practice is given at the beginning of each practice and at the beginning of alternate speeds.  
 On Tuesdays and Fridays at 2330 UTC (6:30 PM EST), Keplerian Elements for active amateur satellites are sent on the regular digital frequencies.

A DX bulletin replaces or is added to the regular bulletins between 0100 UTC (8 PM EST) Thursdays and 0100 UTC (8 PM EST) Fridays.

Audio from W1AW's CW code practices, CW/digital bulletins and phone bulletin is available using EchoLink via the W1AW Conference Server named "W1AWBDCT." The monthly W1AW Qualifying Runs are presented here as well. The audio is sent in real-time and runs concurrently with W1AW's regular transmission schedule.

All users who connect to the conference server are muted. Please note that any questions or comments about this server should not be sent via the "Text" window in EchoLink. Please direct any questions or comments to [w1aw@arrl.org](mailto:w1aw@arrl.org).

In a communications emergency, monitor W1AW for special bulletins as follows: Voice on the hour, Digital at 15 minutes past the hour, and CW on the half hour.

All licensed amateurs may operate the station from 1500 UTC to 1700 UTC (10 AM to 12 PM EST), and then from 1800 UTC to 2045 UTC (1 PM to 3:45 PM EST) Monday through Friday. Be sure to bring your current FCC amateur radio license or a photocopy.

The W1AW Operating Schedule may also be found on page 96 in the January 2017 issue of QST or on the web at <http://www.arrl.org/w1aw-operating-schedule>.

# ARRL MICHIGAN SECTION NEWS

Greeting to the hams of Michigan,

We are getting ever closer to the magic of spring here in Michigan.

Aside from a late snow storm or two, we should all soon see warmer weather. Of course, with warmer weather (particularly in spring), comes convective weather. And that means it is time to attend a NWS Spotter Training class, check in with your county ARES Emergency Coordinator/RACES Officer, double check the contents of your "jump kit" or "go bag" and otherwise prepare your equipment and yourself for the convective season.

When the lightning is flashing, the hail is falling, and the wind is blowing is no time to be trying to replenish your "jump kit" that you looted over the winter. The Boy Scout's motto applies here: "Be Prepared!"

## Michigan Section Outing

The planning for the annual Michigan Section Outing event is in full swing. This year's event will take place on July 7 & 8 at the Woodlands Conference Center and Campground near Hale, Michigan.

Once again, this will be a Friday and Saturday event which will feature the annual Michigan Auxcomm/ARES/RACES Emergency Coordinator's annual meeting. Included in the event will be some very interesting speakers and demonstrations that will make your trip to the woods of Northern Michigan a weekend to remember. We are in the process of scheduling a number of forums/demonstrations/workshops/learning opportunities for the event. We will keep everyone advised as our schedule develops.

Camping is available for anything from tent camping to motor homes and everything in between. This is a radio-friendly location and we are free to set up our antennas and operate from the woods! Campers can arrive several days before the event and stay a bit after if they like.

You will find the campground to be a very quiet, well maintained facility complete with permanent restrooms and showers. We hope to see many of you there!

## Great Lakes HamCon @Michigan International Speedway October 7&8, 2017

Planning for this gangbuster event is progressing. There is still a ton of work to do, but we are making progress.

We just received our Dayton Hamvention booth assignment (#6612) in Building 6 and are looking forward to spending 3 days talking with hams from all over the country (world?) about what a great event GLHamCon will be. If you are going to be in Dayton, please stop by and say hello. If you have interest in assisting with our GLARA booth during Dayton, we are looking for help. Please send a note to [volunteer@glhamcon.org](mailto:volunteer@glhamcon.org).

As you may know, the Great Lakes Amateur Radio Association or GLARA (parent of the Great Lakes Ham Con) is a 501 (c) (3) corporation and is an ARRL affiliated Council of Clubs. Our club is made up of other ARRL affiliated clubs located within about a 50 mile radius of Michigan International Speedway who have chosen to band together to sponsor and produce the Great Lakes HamCon, which will be the site of the 2017 ARRL Great Lakes Division Convention.

GLARA's partner clubs that are officially signed up are (in no particular order):

Oakland County ARS, Michigan QRP Club, Branch County ARC, Central MI ARC, Arrow Communication Assn, Southern MI ARS, Cascades ARS, General Motors ARC, Livingston ARK, Livonia ARC, and Monroe County Radio Communication Assn.

In addition to these clubs financially supporting the GLARA startup, we acknowledge the Lansing Lunch Bunch as well as two private individual financial donors.





There are an additional 8 clubs who are in the process of considering joining the consortium and finalizing their association with GLARA.

We have some really nifty vinyl window stickers (see them at GLHamCon.org or on our Facebook page (great lakes HamCon) that will be used to advertise the event.

Show your enthusiasm for the Great Lakes HamCon with a custom vinyl window sticker on the back window of your ride. This premium sticker is weather proof, easily removed (when the time comes) and will not harm your car window. In addition to being great looking, they are available at no cost!

These vinyl stickers will be available free of charge at Hamfests in Michigan, Ohio, and Kentucky, wherever there is a Great Lakes Division ARRL official present. If you just can't wait until the next hamfest to get yours, you can get one by sending an SASE to WB8R.

**MSPOTA**

In 2017 (and beyond), Michigan has a number of planned activities at our beautiful State Parks in 2017, 2018, and 2019.

The planning portion of the Michigan State Parks on the Air (MSPOTA) is nearing completion as this is being written. We will be celebrating the 100th Anniversary of the Michigan State Parks system. The list of parks and the expected activation schedules have been published. We are expecting to go live on April 1, 2017 with a "soft" start while some of our data processing activities are tested and put into place.

Watch our web site at [www.mspota.org](http://www.mspota.org) and our Facebook page at Michigan State Parks on the Air for more details.

**Michigan State Police 100th Anniversary Celebration Special Event Stations**

Also in April, we two activities concern the upcoming 100th Anniversary of the Michigan State Police. The actual MSP anniversary date is April 19.

Beginning on April 15 through April 30, W8P will be on the air from the Livingston Amateur Radio Klub in Howell, MI. Frequencies will be 21.300, 14.226, 7.185 and 3.850 MHz Full information available on the ARRL web site. Thanks to Les, W8MSP for organizing this nifty event. I have seen his QSL Cards and they are very nice and I look forward to earning one of them.

On April 22 and 23 (Zulu), the 100th Anniversary of the Michigan State Police will be acknowledged and celebrated by an activation of the amateur radio station at the new Michigan State EOC using the callsign WS8EOC.

Frequencies will be 3.560, 3.930, 7.065, 7.230, 14.030 and 14.230 MHz.

Please keep in mind that as with all specified frequencies for operation, these are just starting points. We all know that no one owns any frequency; our operators will be courteous and do their best to not interfere with any regularly scheduled activities near the stated frequencies.

To support the Michigan State Parks on the Air event going on at the same time, the SEOC station will also operate 146.58 FM. The SEOC station has a significant VHF footprint.

The Michigan State Police will be providing a special QSL for this event. More information, including QSL instructions is available here:

<http://ares-mi.org/MSP100.php>.

**Hospitality Acknowledgements**

Thanks to the following groups for their fine hospitality on recent visits:

- Feb 16, Kalamazoo ARC Meeting, Kalamazoo, MI – WB8R
- Feb 19, Livonia ARC Swap & Shop – WB8R
- Feb 21, General Motors ARC Meeting, Utica, MI – WB8R
- Feb 27, Adrian ARC Meeting, Adrian, MI – WB8R
- Mar 11, Lowell AR Youth Club Hamfest, Lowell, MI – WB8R
- Mar 13, Utica-Shelby Meeting, Mt Clemens, MI - WB8R

### Section Staff Travel Plans

Mar 18, 2017 Crossroads Hamfest, Kalamazoo, MI  
**Apr 22, 2017 Chassell Hamfest, Chassell, MI**  
 May 6, 2017 Cadillac Hamfest, Cadillac, MI – WB8R  
 Jun 3, 2017 IRA Hamfest, Hudsonville, MI – WB8R  
**Jun 10, 2017 LARS Hamfest, Newberry, MI – WB8R**  
 Jun 18, 2017 Monroe Hamfest, Monroe, MI – WB8R  
**July 7-8, 2017 MI Sec. Outing/ MI EC Mtg, Hale, MI**  
 July 22, 2017 Harrison Hamfest, Harrison, MI – WB8R  
**Aug 5, 2017 UP Hamfest, Escanaba, MI – WB8R**  
 Aug 19, 2017 Alpena SWAP 2017, Alpena, MI  
 Aug 19, 2017 Spark/Park, Wyoming, MI – WB8R, et al  
 Sep 9, 2017 GraHamfest, Wyoming, MI – WB8R  
 Sep 17, 2017 Adrian Hamfest, Adrian, MI – WB8R  
**Oct 7&8, 2017 Great Lakes HamCon, Brooklyn, MI**  
 Oct 21, 2017 Muskegon Hamfest, Muskegon, MI  
 Oct 29, 2017 USECA Hamfest Madison Hgts, MI

### Michigan Section Traffic/ARPSC Nets (all times local)

Please note that time adjustments may be necessary due to propagation changes. Contact your net manager for alternate frequencies and/or times.

MACS - MI Amateur Communications System 3.952 1000 Daily  
 UPN – Upper Peninsula Net 3.921 1700 Daily; Noon Sun  
 MIARPSC – MI Amateur Radio Public Service Corps 3.932 1700 Sun  
 QMN – The Michigan Net 3.563 1830 and 2200 Daily  
 MITN – MI Traffic Net 3.952 1900 Daily  
 MIDTN – MI Digital Traffic Net 3.583 (Olivia 8/500) 2000 Tu, Th, Sat  
 MIADS – MI ARES D-Star Net Reflector 24A Mon 2000  
 D8EN - District 8 Emergency Net 3.909 Wed 2100  
 GLETN – Great Lakes Emergency and Traffic Net 3.932 2000 Daily  
 MVTN – MI VHF Traffic Net IRA Link System 2100 Mon, Wed, Fri, Sun  
 NLEUP - Northern Lower Eastern UP Net 146.64- 18:30 Daily  
 SEMTN – SE MI Traffic Net 146.76- 2215 Daily  
 TMMTN – Thumb Mid-Michigan Traffic Net 147.30+ 2130 Mon - Sat

More information is available at <http://nts-mi.org/>. Come join us on our traffic and public service nets.

### Michigan ARPSC Activities February, 2017

SAR February, 2017: K8ED 370, WB8WKQ 288, WD8USA 164, N5MKY 134, K8RDN 56, WD8MWD 52, WB8TQZ 42, K8BKM 17, N8OSL 13, KC8NFN 10, WB8RCR 8, WB8R 1.

Total SAR reported: 1155  
 Brass Pounder's League (BPL): None

PSHRs for February, 2017: WB8RCR 245, WD8MWD 205, WB8R 191, K8RDN 176, WD8USA 120, WB8WKQ 110, WB8TQZ 110, N5MKY 105, K8ED 90, KE8BYC 70, KD8LSM 39, N8OSL 38, KC8NFN 33.

Net traffic for February, 2017:

Michigan Traffic Net 138, Michigan Amateur Communications System 129, The Michigan Net 76, Southeastern Michigan Traffic Net 63, Great Lakes Emergency and Traffic Net 41, Upper Peninsula Net 34, Michigan VHF Traffic Net 12, Michigan Digital Traffic Net 9, Genesee County ARPSC Traffic and Training Net 5, Saginaw County ARES Net 4, District 3 ARPSC Net 3, Northern Lower Eastern Upper Peninsula Net 2, Bay Area Regional Traffic System 2, Michigan Amateur Radio Public Service Corps 1, District 5 Hospital Net , District 8 Emergency Net , Branch County Emergency Net , Red Cross Net of Greater Grand Rapids , Michigan ARES D-Star net , Luce County ARES Net , Chelsea ARC Net.

Total net traffic reported: 519

Volunteer Hours Dollar Value:

ARPSC: \$184,640 NTS: \$35,562

Total Dollar Value December, 2016: \$220,202

A hearty thank you goes to the hundreds of volunteers across the State of Michigan who work hard as volunteers to hone their skills month after month to make sure they are ready for any situation that may arise. Our ARPSC and NTS programs are an integral part of AuxComm, which in turn is an integral part of the Michigan Homeland Security Division.

73 until next month,  
 Larry, WB8R



## *Dales Tales*

Greetings everyone, welcome to "Dale's Tales" for April 2017.

Good News: The FCC released ET Docket 15-99, granting US amateurs the use of the 135.7 137.8 and 472-479 kHz Bands. Check [http://transition.fcc.gov/Daily\\_Releases/Daily\\_Business/2017/db0329/FCC-17-33A1.pdf](http://transition.fcc.gov/Daily_Releases/Daily_Business/2017/db0329/FCC-17-33A1.pdf) for all the details.

On March 31, Mich Section Manager Larry Camp WB8R and I had the honor of attending a Press Conference in Southfield, MI where Jim Santilli of the Transportation Improvement Association, State Representative Martin Howrylak, and Southfield Police Chief Eric Hawkins announced that Michigan House Bill 4466 was introduced in the legislature to curb distracted driving. MI hams are fortunate that SGL Ed Hude WA8QJE insured that the interests of Amateur Radio were brought into the writing of the bill early on and licensed ham operators are completely exempt from the restrictions of the legislation. Mr and Mrs James Freybler of Grand Rapids were present to support the effort. They lost their 17 year old son to the tragedy of distracted driving.

The Bill must go through the complete legislative process, be reviewed by committee before the House passes it and then move to the MI Senate for its approval before the Governor signs it into law.

Thanks for taking the time to read another edition of Dale's Tales.

Fortunately, this missive is distributed by ARRL's e-mail system, is reprinted in many of the Great Lakes Division's club newsletters (Thanks editors!) and is also posted on the Division web site. ARRL members have the option of receiving it directly by selecting "edit your profile" on the ARRL web pages. While you are checking out that page, you can also select a number of other useful ARRL subscriptions and services, like getting a notice of your license expiration or our publication The ARRL Letter.

You may not be aware, but we frequently survey many of our members who may be late in renewing. As you might expect, the survey results vary over a wide range, but each response is reviewed as we are always concerned about how our membership views the League. A signifi-

cant number of membership lapses are simply "Whoops I forgot" and the renewal is on the way. We are thankful for that. Most interesting to me were several who commented that QST was too technical for them, followed by a similar number of responders who stated that it was not technical enough! Then follows comments that there are too many articles on DX followed by others who said there is not enough DX coverage. Several other popular aspects of our hobby had similar results. This all proves our membership likes ham radio and each person views facets of the hobby that are more important to them than others.

Our editors and the staff at Headquarters all work diligently to provide features and articles that cover the gamut of this great hobby.

Obviously, with 12 issues a year, each of our specialty areas cannot be covered in a single year or even two. Still, Steve Ford and his team make every attempt to serve us well.

Like you, there are some parts of ham radio that I really like and some that don't fascinate me at all. Still, I read QST from cover-to-cover each month, including the ads. That reminds me of one neat thing about QST, all of the articles are complete within the same series of pages. There is no need to search for the remainder of an article that has been relegated to the back pages of the magazine.

Surprisingly to me, I do manage to find something interesting in each issue and often in an article outside my normal areas of interest. Without doubt, this helps me gain a better understanding of that is happening in Amateur Radio as a whole, and I can have a better grasp on those things that affect us all. Oh, and the ads are important too, because that is where I seem to find all those neat toys I need to add to the ham shack!

ARRL Great Lakes Division Convention in conjunction with Great Lakes HamCon will be held at Michigan International Speedway (MIS) on October 7 & 8, 2017. Check GLHamCon.org for information on tickets, flea market spaces and booths. As it becomes available, up-to-the-minute information will be posted on the web page.

**TOM'S COMMENTS:** Comments from our Vice Director Tom Delaney W8WTD

"The future of ham radio is...." We're all concerned about the future.

And many predict that the future of ham radio is here or there, in this program or that. Well, it's probably in a lot of things.

It's in technology. That keeps us relevant. There are software defined radios, new advances in communications techniques. And lots and lots of experiments. Did you read about the two brothers, both in their 20's, out in California, experimenting with long distance communications on the 33 cm band? And new techniques in digital. I'll never be one to invent anything, but I'm grateful for the advances in both voice and data digital technology, and try to make use of them as new things come out.

It's in recruiting. One thing I've learned from being on the Entry Level License committee is that there are paths into ham radio for everyone, from the youngest to the "more-than-middle aged" people. And clubs are working to help those people find their way. Lots of good programs are underway for mentoring and making sure that new hams understand and use these new technologies, as well as just the basics for getting on the air and communicating.

And speaking of youth, I have been amazed to see what happens to young people when they get turned on to ham radio. Not only do they learn to be hams, but their ambitions to do things in technology fields become really great. There's an impressive group doing a net once a week on Echolink, through the W8PIF repeater in Michigan. And there are many other youth nets going on around the country.

We need to be concerned about the future of ham radio. But not too concerned. Do your part. Help a new ham. Make friends with a school group or a scout group. That will keep ham radio alive.

73, Tom W8WTD Vice Director, Great Lakes Division

Here is the current Great Lakes Division ARRL Sanctioned Hamfest Schedule covering the next few weeks. These swaps have received their sanctioning approval from ARRL HQ at the time of this publication. We have approximately 65 ARRL hamfests each year in the Division. I do encourage each Hamfest Chair to register early for ARRL Sanctioning.

Be sure to invite your ARRL Officials as soon as your date is set.

Apr 1 - Portsmouth - Portsmouth, OH

Apr 1 - Lincoln Trail - Elizabethtown, KY

Apr 8 - Cuyahoga Falls - Cuyahoga Falls, OH

Apr 22 - Chassell - Chassell, MI

Apr 29 - Jackson County - Jackson, OH

Apr 30 - Athens - Athens, OH

May 6 - Cadillac - Cadillac, MI

May 13 - Ashland - Ashland, KY

May 19 - Dayton Hamvention - Xenia, OH

Jun 3 - IRA Hamfest - Hudsonville, MI

Jun 3 - Fulton County - Tedrow, OH

Jun 3 - Princeton Hamfest - Princeton, KY

Jun 10 - Luce County - Newberry, MI

Jun 17 - Milford Hamfest - Milford, OH

Jun 18 - Monroe Hamfest - Monroe, MI

Be sure to check your Section's news pages for the latest local happenings, club and net information.

73, Let's be radio-active!

Dale Williams WA8EFK

Director

Great Lakes Division

## ARRL PROPAGATION BULLETIN

ZCZC AP14

QST de W1AW

Propagation Forecast Bulletin 14 ARLP014

From Tad Cook, K7RA Seattle, WA April 7, 2017 To all radio amateurs

Sunspot numbers and solar flux made a strong comeback over the past week, March 30 to April 5.

Average daily solar flux was 96.5 (compared to 77.9 the previous seven days, and 71.2 over the week before that, March 16-22).

Average daily sunspot number progressed from 3.4 to 29.7 to 65.9 over the same three weeks.

The latest daily forecast for Planetary A index and solar flux from NOAA and USAF (updated daily at <ftp://ftp.swpc.noaa.gov/pub/forecasts/45DF/>) shows solar flux at 76 on April 7, 70 April 8-13, 75 on April 14, 78 on April 15-16, 85 on April 17-19, 72 on April 20-23, 88 on April 24-27, 85 on April 28-29, 105 on April 30, then 100, 97, 92, 85, and 80 on May 1-5, 75 on May 6-7, 78 on May 8-9, 75 on May 10-11, 78 on May 12-13, 85 on May 14-16, and 92 on May 17-20.

The same forecast, but for planetary A index, shows 8 on April 7-8, then 5, 8, and 10 April 9-11, 8 on April 12-13, 5 on April 14-16, then 20, 18 and 10 on April 17-19, 5 on April 20-22, then 55, 28, 20, 22, and 28 on April 23-27, then 15, 10, 8, 7 and 6 on April 28 through May 2, 5 on May 3-13, 20, 18, and 10 on May 14-16, 5 from May 17-19, then 55 and 28 on May 20-21.

The site <http://bit.ly/2o5Ts6g> shows a nice image from a few days back of sunspot AR2644 and 2645. Also check <http://bit.ly/2nNpeCC>.

F.K. Janda, OK1HH sent us this geomagnetic activity forecast for the period April 7-May 2, 2017.

"Geomagnetic field will be:  
Quiet on April 9-10, 14-16, 20, 30

Mostly quiet on April 8, 11, 19, 21, 29, May 2 Quiet to unsettled April 12-13, May 1 Quiet to active on April 7, 22, 24-28 Active to disturbed on April 17-18, 23

"Amplifications of the solar wind from coronal holes are expected on April (7-8,) 11-13. (15,) 16-19, 24-27

"Remark: - Parenthesis means lower probability of activity enhancement and/or lower reliability of prediction."

Thanks to David Moore (long time contributor to this bulletin) for this, on fast magnetic reconnection:

<http://bit.ly/2nkGwe8>

Max White, a British ham, sent this:

<https://go.nasa.gov/2nqXBiy>

If you would like to make a comment or have a tip for our readers, email the author at [k7ra@arrl.net](mailto:k7ra@arrl.net).

For more information concerning radio propagation, see the ARRL Technical Information Service web page at <http://arrl.org/propagation-of-rf-signals>. For an explanation of numbers used in this bulletin, see <http://arrl.org/the-sun-the-earth-the-ionosphere>.

An archive of past propagation bulletins is at <http://arrl.org/w1aw-bulletins-archive-propagation>.

More good information and tutorials on propagation are at <http://k9la.us/>.

Monthly propagation charts between four USA regions and twelve overseas locations are at <http://arrl.org/propagation>.

Instructions for starting or ending email distribution of ARRL bulletins are at <http://arrl.org/bulletins>.

Sunspot numbers for March 30 through April 5, 2017 were 33, 65, 79, 75, 97, 75, and 37, with a mean of 65.9. 10.7 cm flux was 85.9, 90.6, 101, 112, 107.9, 93.8, and 84.6, with a mean of 96.5.

Estimated planetary A indices were 23, 28, 16, 8, 4, 20, and 10, with a mean of 15.6. Estimated mid-latitude A indices were 18, 21, 15, 6, 4, 17, and 10, with a mean of 13.

NNNN

## ARRL DX NEWS

QST de W1AW  
DX Bulletin 14 ARLD014  
From ARRL Headquarters  
Newington CT April 6, 2017  
To all radio amateurs

This week's bulletin was made possible with information provided by ON4ZD, QRZ DX, the OPDX Bulletin, 425 DX News, The Daily DX, DXNL, Contest Corral from QST and the ARRL Contest Calendar and WA7BNM web sites. Thanks to all.

**MAURITANIA, 5T.** Jean, 5TOJL will be QRV using special call sign 5T3MM from April 12 to 18. This includes being active in the upcoming CQ Manchester Mineira DX contest. QSL via PY4KL.

**FEDERAL REPUBLIC OF GERMANY, DA.** Special event station DM150HSM celebrates the 150th anniversary of the University of Applied Sciences at Mittweida and is active until the end of June. Activity is on the HF bands using mostly SSB, and some CW and PSK. QSL via DK0MIT.

**PHILIPPINES, DU.** Members of the Ham Radio Communications Group will be QRV using special call sign DX75BDM from the Capas National Shrine, IOTA OC-042, from April 8 to 10 to commemorate the Bataan Death March. QSL via operators' instructions.

**BALEARIC ISLANDS, EA6.** Jean-Marc, F5SGI will be QRV as EA6/F5SGI from Minorca Island, IOTA EU-004, from April 9 to 15. Activity will be on the HF bands using CW. QSL to home call.

**FRANCE, F.** Members of the Charente DX Group will be QRV as TM2H from Houat Island, IOTA EU-048, from April 8 to 14. Activity will be on all HF bands using CW, SSB and RTTY. QSL via ON4ZD.

**SAINT MARTIN, FS.** Paul, W7NZJ is QRV as FS/W7NZJ until April 16. Activity is on 40 to 10 meters using CW and various digital modes. QSL to home call.

**DJIBOUTI, J2.** Dane, S53T is staying here until the end of 2019 and is active as J28ND. QSL via S57DX.

**GUINEA-BISSAU, J5.** Josep, EA3BT and Nuria, EA3WL are QRV as J5B and J5W, respectively, from Rubane Island, IOTA AF-020, until April 15. Activity is on 40 to 6 meters, and possibly 80 meters, using CW, SSB and RTTY. QSL both calls via EA3BT.

**JAPAN, JA.** Take, JI3DST is QRV as JI3DST/4 from Nakano Island, IOTA AS-041, until April 11. He will be active as JS6RRR/4 in the Japan International DX contest. QSL to home call.





**HAWAII, KH6.** Nobu, JA0JHQ is QRV as AH0CO/KH6 from Oahu, IOTA OC-019, until April 9. This includes an entry in the Japan International DX contest. QSL to home call.

**GREENLAND, OX.** Roger, SM7RYR is QRV as OX/SM7RYR from Kangerlussuaq, IOTA NA-018, until April 10. Activity is on 20, 17 and 15 meters. QSL via operator's instructions.

**PAPUA NEW GUINEA, P2.** Haru, JA1XGI is QRV as P29VXG from New Britain Island, IOTA OC-008, until April 12. Activity is on the HF bands using mostly JT65. QSL to home call.

**SEYCHELLES, S7.** A group of operators are QRV as S79Z from Mahe Island, IOTA AF-024, until April 18. Activity is on 160 to 10 meters. QSL via OM2FY.

**EAST KIRIBATI, T32.** Ken, KH6QJ will be QRV as T32AZ from Kiritimati Island, IOTA OC-024, from April 11 to 18. Activity will be on 80, 40, 20, 15 and 10 meters. QSL to home call.

**ASIATIC RUSSIA, UAO.** Aleksandr, RA3AV, Yuri, UAOKBG and Victor, UA3AKO are QRV as R71RRC from Arakamchechen Island, IOTA AS-071, until April 17. Activity is on 40, 30, 20 and 17 meters using CW and SSB with two stations active. QSL via UA3AKO.

**TURKS AND CAICOS ISLANDS, VP5.** James, K3NK will be QRV as VP5/K3NK from Providenciales Island, IOTA NA-002, from April 11 to 18. Activity will be on 80 to 10 meters using CW, SSB and possibly various digital modes. QSL to home call.

**VANUATU, YJ.** Chung, VA7YM is QRV as YJ0YM from Efate Island, IOTA OC-035, until April 17. Activity is on 80 to 6 meters using SSB, RTTY and PSK31. QSL via EA5GL.

**THIS WEEKEND ON THE RADIO.** The Japan International CW DX Contest, NCCC RTTY Sprint, NCCC CW Sprint, SKCC Weekend CW Sprintathon, OK/OM SSB DX Contest, QRP ARCI Spring QSO CW Party, New Mexico QSO Party, Texas State Parks on the Air, Georgia QSO Party, Yuri Gagarin International CW DX Contest, International Vintage Contest HF and the Hungarian Straight Key 80-Meter CW Contest are all on tap for this upcoming weekend.

The 4 States QRP Group Second Sunday Sprint is scheduled for April 10.

The RSGB 80-Meter Club SSB Championship, CWops Mini-CWT Test, Phone Fray and NAQCC CW Sprint are scheduled for April 12.

Please see April QST, page 92, and the ARRL and WA7BNM contest web sites for details.  
NNNN

***CLASSIFIED***

**I have the following gear up for sale.**

**Kenwood TM-V71a, 2m/440 mobile - \$250**

**Yaesu VX-7R, 6m/2m/220/440 Submersible HT - \$200 including Heil headset.**

**Larsen NMO-2/70 mobile antenna -\$40**

Jared

**K8ABS ESTATE SALE**

**SB104 \$310.00 SB604 plus AC power  
Supply \$225.00 SB230 \$500.00+**

**MFJ Versa Tuner II-969 300 Watt  
Asking \$185.00**

**Home Brew?? Collins Speaker Cabinet w/  
Ant Switch & SWR Meter built in.**

**Above is Jim's operating station W/ Manu-  
als MINT Asking \$950.00**



**Icom 706 & AH-4 Auto Tuner Asking \$870.00**

**Tenna Pyramid Phase III 13.8V / 10A Power Supply  
Asking \$50.00**

**Kenwood TM231A**

**Kenwood TW241A**

**Kenwood AT250 Tuner 100Watt**

**Also have handhelds, will be procuring chargers  
etc.**

**Contact Burt WB8EBS 1-906-774-8383 Have call-  
er ID & Voice Mail.**



Space Available to push your stuff

## LINKS AND STUFF

*Under re-construction. Watch for the orange barrels*

*Delta County Amateur Radio  
Escanaba, MI  
[www.dcars.org](http://www.dcars.org)*

*Cooper Country Radio Amateur  
Dollar Bay, MI  
[www.ccras.net](http://www.ccras.net)*

### Area Repeaters

Escanaba 147.15+	100.0
	145.13- No PL
Wells 444.30+	No PL
Gladstone	
IRLP 4013 147.55 Smpx	100.0
Champion 146.82-	100.0
Cooks 146.70 -	110.9
GrdMarais 147.195+	No PL
Gwinn 146.64	100.0
Iron Mtn 146.85 —	100.0
Iron River 145.17-	107.2
Ishpeming 146.91-	No PL
IRLP 8993 443.50+	100.0
Manistique 146.79 -	No PL
Marquette 146.97 -	No PL
	147.27+ 100.0
	444.80+
	No PL
Menominee 147.00+	107.2
Newberry 146.61 +	No PL
	147.09+ 114.8
Republic 147.09+	No PL
Trenary 147.03 +	100.0
Wetmore 145.41-	100.0

### ARRL Affiliated Club Area Nets

**UP Net** 3921khz  
Daily 5pm EST  
Sunday Noon EST

**UP CW NET** 3590khz  
Sunday 7pm EST

**160 Net** 1895khz  
Everynight 0100UTC  
Dailey 0600UTC

**Midcars** 7258khz  
Daily 0730am EST  
0200pm EST

**Outhcars** Node 9614  
Saturday 0900am EST

**UP Echolink** Node 9617  
Sunday 8pm EST

**Delta County ARES**  
147.150  
Sunday 7pm EST

**Mich-A-Con Social**  
146.850  
Thursday 0630pm CST  
ARES follows

ARRL WEB PAGE: <http://www.arrl.org>

ARRLMICHIGAN: <http://www.arrl-mi.org/>

US REPEATERS: <http://www.usrepeaters.com>

Tropospheric Ducting Forecasts:  
<http://www.d/infocentre.com/tropo.html>

MICH-A-CON : <http://www.qsl.net/ka1ddb>

FCC Universal Licensing System: <http://wireless.fcc.gov/uls/>

QTH Com: <http://www.qth.com/>

QRZ <http://www.qrz.com/>

E Ham Net <http://www.eham.net/>

UP Skywarn: <http://kera-mi.net/skywarn/>

Band Conditons: <http://bandconditions.com/>

**ABOUT OUR CLUB....****Club Officers****President:**

Tom Martin, W8JWN  
(906) 774-5463  
[tmartin@chartermi.net](mailto:tmartin@chartermi.net)

**Vice President**

Scott Jarmusch, KA8TFF

**Secretary:**

Joe Ferris, KC9TQR  
[irferris@borderlandnet.net](mailto:irferris@borderlandnet.net)

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Mike Boileau: 906 563 1350  
Terry Moriarity: 715 251 1670

**Activities:**

**Second Wednesday** of the month the Mich-A-Con Amateur Radio Club meets in the Dickinson Country Library at 7:00 P.M. Winter or 6:30 PM Summer

**Visitors and prospective members are always welcome!**

**Club Repeater:**

The Club maintains two repeaters which are located on Pine Mountain (Elevation 1650 ft) in Iron Mountain with tower and facilities provided by the Wisconsin Electric Power Co. The range of the 2 meter repeater is about 40 miles. The range of the 440 MHz repeater is about 25 miles. Both are under normal conditions, depending upon terrain.

**The Repeater Specifications:**

The 146.85 repeater is a Yaesu DR 1 digital and Analog repeater Frequency. 146.85 minus offset, 100 hz PL tone encode and decode Power 50 watts. The Controller is an Arcom RC 210 . It is also System Fusion capable.

. The 440 MHz repeater is a GE Master II 444.85, plus offset, 100 hz pl tone. 35 watts output. The Controller is a Arcom 210.

The 2 meter and the 440 can be linked. The repeaters share a Diamond dual band antenna at a tower height of 125 ft.

**We're on the Web!**

<http://www.qsl.net/ka1ddb/>

Previous editions of the Newsletter can be accessed by a link on the **news** page

**From Your Newsletter Editor**

Thank you to those contributors and critiques.  
Welcome your articles - They make the Newsletter.

*For those not getting the Newsletter, it is because I have an incorrect email address. Please give me the correct address.*

The following is referenced from <http://www.dx-code.org>

### DX Code Of Conduct

I will listen, and listen, and then listen again before calling.

I will only call if I can copy the DX station properly.

I will not trust the DX cluster and will be sure of the DX station's call sign before calling.

I will not interfere with the DX station nor anyone calling and will never tune up on the DX frequency or in the QSX slot.

I will wait for the DX station to end a contact before I call.

I will always send my full call sign.

I will call and then listen for a reasonable interval. I will not call continuously.

I will not transmit when the DX operator calls another call sign, not mine.

I will not transmit when the DX operator queries a call sign not like mine.

I will not transmit when the DX station requests geographic areas other than mine.

When the DX operator calls me, I will not repeat my call sign unless I think he has copied it incorrectly.

I will be thankful if and when I do make a contact.

I will respect my fellow hams and conduct myself so as to earn their respect.



**MEMBERSHIP**

Call Sign	Last Name	First Name	City	Phone	Email
WB8EBS	ARMBRUST	BURT	QUINNESEC	906-774-8383	<a href="mailto:wb8ebs@yahoo.com">wb8ebs@yahoo.com</a>
W8XBO	ARMBRUST	ED	IRON MOUNTAIN	906-779-5593	<a href="mailto:w8xbo@sbcglobal.net">w8xbo@sbcglobal.net</a>
KC9KVP	BAKER	BETH	NIAGARA		
KB9AVX	BAKER	SCOTT	NIAGARA	715-251-1944	<a href="mailto:kb9avx@yahoo.com">kb9avx@yahoo.com</a>
KB8SBP	BERTOLDI	BILL	KINGSFORD		
W8BEY	BEY	DANA L.	KINGSFORD	906-774-7937	<a href="mailto:lst797@charter.net">lst797@charter.net</a>
K8DDA	BRAY	MIKE	VULCAN	906-201-1550	<a href="mailto:mikebray@chartermi.net">mikebray@chartermi.net</a>
KE9L	CASWELL	SKIP	IRON MOUNTAIN	906-774-3371	<a href="mailto:acaswell4238@charter.net">acaswell4238@charter.net</a>
KC8QZG	DAKE	DAVE	NEWBERRY		
KC9ZBC	DOLATOWSKI	SCOTT	GOODMAN	715-633-1006	<a href="mailto:kc9zbc@live.com">kc9zbc@live.com</a>
KC9TQR	FERRIS	JOE	FLORENCE	517-589-4386	<a href="mailto:jrferris@borderlandnet.net">jrferris@borderlandnet.net</a>
N9MBG	FRY	ED	PEMBINE	906-221-7307	<a href="mailto:efry@centurylink.net">efry@centurylink.net</a>
KG8NK	GEMBOLIS	LOUIS	ISHPEMING	906-485-5442	<a href="mailto:lgembolis@chartermi.net">lgembolis@chartermi.net</a>
KD8VTS	GRABOWSKI	DEBRA	CRYSTAL FALLS	906-284-2450	<a href="mailto:kd8vts@gmail.com">kd8vts@gmail.com</a>
KD8VTT	GRABOWSKI	WILLIAM	CRYSTAL FALLS		
KC8TH	HEYBOER	TOM	IRON MOUNTAIN	906-779-0481	<a href="mailto:heyboer.tom@gmail.com">heyboer.tom@gmail.com</a>
N8ATS	HOLMES	SAM	PEMBINE	906-322-8507	<a href="mailto:chopsam@centrylink.com">chopsam@centrylink.com</a>
KA8TFF	JARMUSCH	SCOTT	IRON MOUNTAIN		
KB9EMU	KNUTSON	WILLIAM	FENCE	715-336-2250	<a href="mailto:dknutson54@gmail.com">dknutson54@gmail.com</a>
KB8ETK	KOMBLEVICZ	JOSEPH	IRON MOUNTAIN	906-774-4094	<a href="mailto:kombleviczj@charter.net">kombleviczj@charter.net</a>
KD9HQD	LaLIBERTE	BRUCE	NIAGRA, WI	?	<a href="mailto:liberte@borderlandnet.net">liberte@borderlandnet.net</a>
W8JWN	MARTIN	THOMAS	IRON MOUNTAIN	906-774-5463	<a href="mailto:tmartin@chartermi.net">tmartin@chartermi.net</a>
WA8FXQ	MEYERS	BOB	VULCAN	906-396-0119	<a href="mailto:meyersb@uplogon.com">meyersb@uplogon.com</a>
KC8LRP	MEYERS	MARGE	VULCAN	906-396-8913	<a href="mailto:mgmeyer@uplogon.com">mgmeyer@uplogon.com</a>
N8TUM	MILLER	TIMOTHY	FLORENCE	715-696-6517	<a href="mailto:timmiller.up@gmail.com">timmiller.up@gmail.com</a>
K9TRY	MORIRITY	TERRY	NIAGARA	715-251-1670	<a href="mailto:kb9zer@yahoo.com">kb9zer@yahoo.com</a>
ND8M	PAUL	JARED	NORWAY	989-660-9535	<a href="mailto:jaredpaul@me.com">jaredpaul@me.com</a>
KD8SZA	PAUL	MICHELLE	NORWAY		
KC9NFT	PERRON	BARRY	FLORENCE	715-696-6175	<a href="mailto:bperron2@netzero.com">bperron2@netzero.com</a>
KC8JRI	REED	GORDY	IRON MOUNTAIN	906-779-1254	<a href="mailto:gordyreed@charter.net">gordyreed@charter.net</a>
K8ABS	RIVERSIDE	JIM	IRON MOUNTAIN	906-458-0773	<a href="mailto:jriverside@charter.net">jriverside@charter.net</a>
W8IFI	RYE	JIM	CRYSTAL FALLS	906-875-3582	<a href="mailto:jimrye@up.net">jimrye@up.net</a>
K4FMX	SCHAFAER	GARY	NIAGRA, WI	?	<a href="mailto:GARYSCHAFAER@LARGERIVER.NET">GARYSCHAFAER@LARGERIVER.NET</a>
KG9Y	THOMAS	DAVE	NIAGARA	715-251-1393	<a href="mailto:kg9y@arrl.net">kg9y@arrl.net</a>



**MICH - A - CON**

**Please remit dues to:**

**Debbie Garbowski, KD8VTS  
203 Camp 5 Road  
Crystal Falls, MI 49920**

Name: \_\_\_\_\_

Call Sign: \_\_\_\_\_

Address: \_\_\_\_\_

City, State, Zip: \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_

Email Address: \_\_\_\_\_

Phone: \_\_\_\_\_

ARRL Member? Yes \_\_\_\_\_ No \_\_\_\_\_

Please make check payable to: **Mich-A-Con ARC**

Annual dues for Full Membership -

Single \$20 \_\_ Family \$30 \_\_ Repeater Only \$10 \_\_

If family membership, please list additional:

Names: \_\_\_\_\_

Call signs: \_\_\_\_\_

City, State, Zip: \_\_\_\_\_

Annual dues are Payable January 1st.

Dues for New Members are Pro-rated. Please remit \$1.67 per month for a Single membership or \$ .50 per month for a Family membership.