



# MICH-A-CON

Iron Mountain,  
Dickinson County, Mich

June 2016

## Meeting Reminder: Second Wednesday of the Month

Which is **June 8, 2016** at **06:30 PM** at the **Dickinson Library, Iron Mountain.**  
Please be there and support the cause of Amateur Radio.

## From The President

### Words from the President

Comments from our Vice Director Tom Delany W8WTD  
*Our new ARRL President, Rick, K5UR, (At the Dayton Hamvention) urged us all to go out and do something for ham radio. In that spirit, I'd also like to encourage everyone to do something good for ham radio. Summer is a perfect time for helping a new person with an antenna. But not just a new person. Maybe a ham you know hasn't been active in a while. See about helping them get back on the air. Or, as Rick said, just get on the air. That in itself will do a lot to keeping ham radio alive and well.*

I would like to think that the members of our club need much encouragement to do something good for ham radio. We have members who help newcomers with antennas and getting them on the air. Some 40 years ago, a few local novices were ignored and never made one contact. Eventually, they gave up and didn't renew their licenses. That wouldn't happen today.

We have members who are technically advanced in electronics and they are always available to help local hams with equipment repair, or to keep our local repeater in good working condition. They are invaluable to the club.

Some of us are simply operators and Dxers who like to keep the bands active with our participation. We are Field Day operators and Veterans Day operators. We wouldn't have great events without their activity.

Finally, thanks to our Volunteer Examiners who are available to give tests to those who wish to enter the hobby of ham radio. You are appreciated.

We have a great club! Let's all keep up the good work.

73 and **see you all on Wednesday at 6:30 at the library.**  
Tom W8JWN

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## 2016 ARRL Field Day is June 25-26

**International Lighthouse Lightship Weekend August 15-16**

**Missing Gin Pole, If know where it is contact Tom Martin**

### **MICH-A-CON AMATEUR RADIO CLUB MINUTES OF April 13, 2016**

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

#### **Secretary Report**

Minutes of the April 13th meeting were read and approved.

#### **Treasurer Report**

Balances as of May 11, 2016

Checking: \$3.00  
Savings: \$1,909.66 (\$247.60 repeater)  
Cash: \$22.00

#### **Repeater Report**

The repeater was reported as working fine.

Sam Holmes reported that the standoffs for relocating the new two-meter antenna are now at the repeater site.

Skip Caswell has emailed the climbers from Marinette, regarding the two-meter antenna, and is awaiting a reply.

#### **Old Business**

A brief discussion of the club becoming an LLC was conducted. Jared Paul noted that when he formed an LLC it required a 1-page form and cost between \$30 and \$40. We will continue to study the issue.

Terry Moriarity reported that we are still awaiting a written response from the National Park Service for the lighthouse activation in August.

The storm spotter list was reviewed. The position near Buckeye Tower, in Florence County, is not



being covered at this time. There were no other changes made.

The club's gin pole may have been located. It is believed that Rob Thomas was the last to have it.

Tom Martin reported that the club QRZ webpage has been updated with current information.

### **New Business**

Field Day was briefly discussed. In a quick count, it was determined that there will be plenty of radios available to be 3A.

It was reported that the Wisconsin DNR is decommissioning and selling its fire towers. Contact info is available if anyone is interested.

### **Adjournment**

The meeting was adjourned at 7:25 pm. (Skip Caswell/Burt Armbrust)

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

Attendees reported on their recent activities.

The 50/50 drawing was won by Sam Holmes. Twenty-five dollars went to the club treasury.

Submitted by Joe Ferris

### **Attendees**

Tom Martin, W8JWN  
Scott Jarmusch, KA8TFF  
Burton Armbrust, Sr., WB8EBS  
Joe Ferris, KC9TQR  
Gary Schafer, K4FMX  
Skip Caswell, KE9L  
Dana Bey, W8BEY  
Tim Miller, N8TUM  
Terry Moriarity, K9TRY  
Dave Thomas, KG9Y

Jared Paul, ND8M  
Sam Holmes, N8ATS  
Bruce LaLiberte, Visitor  
Joyce Williams, Visitor  
Bob Magnuson, Visitor

## News

### **LCLW.....**

A new website to learn and practice Morse telegraphy has been launched:  
<http://lcwo.net/> - Learn CW Online

There are already hundreds of training programs, MP3/CD courses and practice aids available, but LCWO follows a radically different concept: While sticking to well-proven methods for learning and practice, all you need for using LCWO is a web browser!

Currently the site, which is available in 30 languages offers a complete Koch method Morse course, code group practice, callsign- and plain text training modes and also allows to convert random text to Morse MP3s.

LCWO.net is a non-commercial project. Creating a free account only takes a few seconds, and you can start practicing CW right away!



ARRL Bulletin 19 ARLB019  
From ARRL Headquarters  
Newington CT May 26, 2016  
To all radio amateurs

## **ARRL "Strongly Supports" Petition to Drop 15 dB Restriction for Amateur Amplifiers**

In comments filed on May 26, the ARRL said it "strongly supports" a petition to the FCC seeking to eliminate an Amateur Service rule, spelled out in Part 97.317(a)(2), that amateur amplifiers not be able to boost the RF input signal by more than 15 dB. The Petition for Rule Making (RM-11767), was submitted in April on behalf of an amateur amplifier distributor, Expert Linears America LLC of Magnolia, Texas.

ARRL's comments can be found on the web at, <http://www.arrl.org/news/arrl-strongly-supports-petition-to-drop-15-db-restriction-for-amateur-amplifiers>

. RM-11767 can be found on the web at, <http://apps.fcc.gov/ecfs/comment/view?id=60001536394> .

"The Petition proposes relief that is in the nature of eliminating unnecessary regulatory underbrush, and it continues an effort started by the Commission on its own motion in 2004...to do precisely that," the ARRL said in its comments. "The rule proposed to be eliminated is outdated; it constituted overregulation when it was adopted long ago, and it now substantially limits the flexibility of Amateur Radio operators to experiment with the current generation of software-defined Amateur Radio equipment."

The 15 dB provision came into the rules during an era when the FCC initiated various actions to rein in a major interference problem resulting from the use of illegal 11 meter amplifiers during the Citizens Band radio boom of the 1970s. "In its effort to address that problem, the Commission enacted a series of largely redundant and overlapping regulations that, in their overall effect, unnecessarily (and inappropriately) penalized the wholly innocent Amateur Radio operators," the League asserted. "There was created a plethora of restrictions on manufacturers of external RF power amplifiers."

The ARRL noted that while the FCC eliminated some of the unnecessary regulations in 2004, others remain, including the 15 dB gain restriction. The rules adopted in 1978 also called for type acceptance (certification) of manufactured RF power amplifiers operating below 144 MHz, including a 50 W minimum drive power requirement and a ban on amplifiers capable of operation between 24 and 35 MHz.

"Indeed, precisely the same rationale for elimination of the 50 W minimum drive power rule in 2006 applies to the elimination of the 15 dB gain rule for amateur amplifiers," the ARRL said in its comments. "There is no continued justification for retaining the 15 dB gain limitation."

The League agreed with the petitioner that a current generation of low-power Amateur Radio transceivers, including software-defined designs, cannot drive an amplifier to full legal power given the 15 dB limitation. "It should not be necessary to configure an Amateur Radio station to include an additional amplifier stage in order to make use of current SDR technology in the Amateur Service," the ARRL said.

Details of the new repeater are found on page 19 under repeater specifications.

- From Bob Meyers

## NPOTA ACTIVATION IN MICHIGAN NATIONAL PARKS, ETC

Regarding the National Parks on the Air event in Michigan, please review the following information from Mark Weaver, Superintendent of the North Country Trail.

Mark offers insights, assistance, and advice concerning amateur radio NPOTA activation at the various National Park locations in Michigan. He has graciously made himself available for questions and concerns regarding activations of said locations.

### Mister Weaver's comments:

- The National Park Service/North Country Trail does not "own/manage" land thru which the trail passes. We are a partnership of various public and private landowners, with each relationship often being quite different. Most authority lies with the property owner.
- Regardless of where activations are planned to occur it is imperative to make contact and receive permission to activate from the "landowner".
- For Federally owned lands, there is a list of contact information on the Trail website: <https://www.nps.gov/noco/learn/management/trail-partner-organizations.htm>
- For other public lands- state, local, etc, we do not have a list- it would be prohibitively overwhelming to collect it. If you Google the name of the public land unit you should be able to locate a number to call.
- For private lands, we don't recommend that activations occur on private lands. If for some reason it is important, please contact me directly and I'll connect you with the North Country Trail Association state trail coordinator who MAY be able to help.
- When contacting public land managers seeking permission to have activation, ask to speak with their special events person. Be sure to indicate that your actions are in direct support of their partner National Park Service's 100th birthday. And if there is uncertainty expressed by your contact, ask them to give me a call.
- Don't do an activation without hardcopy permission in hand.
- Contact me with questions.
- MARK WEAVER, Superintendent  
North Country National Scenic Trail, PO Box 288, Lowell, MI 49331  
Cell and office: 616.430.3495 [mark\\_weaver@nps.gov](mailto:mark_weaver@nps.gov)

Please take Mark's suggestions to heart. We are in the fortunate position of being allowed to participate in the 100th anniversary of the National Park System and of course, we want to put our best foot forward without controversy.

My thanks to Scott Yost, NM8R for facilitating contact with Mr. Weaver.

There is a movement afoot to "Light up the Trail" across the seven states that the North Country Trail passes through. This coordinated activity is currently being planned for June 4 and possibly June 5.

If you would like to receive information and/or become part of the planning for that event, you can contact John Forslin, KC8ULE at [kc8ule@arrl.net](mailto:kc8ule@arrl.net). Now that the weather is warming, make your plans now to get out and activate one of Michigan's seven NPS units!

Best 73, Larry, WB8R Michigan ARRL Section Manager ARRL Michigan Section

## ARLB032 W1AW 2016 Spring/Summer Operating Schedule

ARRL Bulletin 11 ARLB011  
 From ARRL Headquarters  
 Newington CT March 14, 2016  
 To all radio amateurs

### Morning Schedule:

Time	Mode	Days
1300 UTC (9 AM ET)	CWs	Wed, Fri
1300 UTC (9 AM ET)	CWf	Tue, Thu

### Daily Visitor Operating Hours:

1400 UTC to 1600 UTC - (10 AM to 12 PM ET)  
 1700 UTC to 1945 UTC - (1 PM to 3:45 PM ET)  
 (Station closed 1600 to 1700 UTC (12 PM to 1 PM ET))

### Afternoon/Evening Schedule:

2000 UTC (4 PM ET)	CWf	Mon, Wed, Fri
2000 "	CWs	Tue, Thu
2100 " (5 PM ET)	CWb	Daily
2200 " (6 PM ET)	DIGITAL	Daily
2300 " (7 PM ET)	CWs	Mon, Wed, Fri
2300 "	CWf	Tue, Thu
0000 " (8 PM ET)	CWb	Daily
0100 " (9 PM ET)	DIGITAL	Daily
0145 " (9:45 PM ET)	VOICE	Daily
0200 " (10 PM ET)	CWf	Mon, Wed, Fri
0200 "	CWs	Tue, Thu
0300 " (11 PM ET)	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.

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 2230 UTC (6:30 PM ET), 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 0000 UTC (8 PM ET) Thursdays and 0000 UTC (8 PM ET) Fridays.

Audio from W1AW's CW code practices, and CW/digital/phone bulletins is available using EchoLink via the W1AW Conference Server named "W1AWBDCT." The monthly W1AW Qualifying Runs are presented here as well. The CW/digital/phone 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.

FCC licensed amateurs may operate the station from 1400 UTC to 1600 UTC (10 AM to 12 PM ET), and then from 1700 UTC to 1945 UTC (1 PM to 3:45 PM ET) Monday through Friday. Be sure to bring your current FCC amateur license or a photocopy.

The complete W1AW Operating Schedule may be found on page 103 in the April 2016 issue of QST or on the web at, <http://www.arrl.org/w1aw-operating-schedule>.

# ARRL MICHIGAN SECTION NEWS

Greetings to the hams of Michigan:

In spite of the calendar, it seems that spring is still a bit elusive this year. I expect that when the warm weather does hit, it will be like a switch has been flipped and it will go from cool to HOT!

There are a large number of things happening here in Michigan this spring. Included is the annual pilgrimage to Dayton. I will be there and plan to spend most of my time working at the ARRL EXPO. I look forward to greeting the Michigan hams when they visit the EXPO area. Be sure to stop by to say hello and meet the good folks from HQ who will be there.

## National Parks on the Air (NPOTA)

In addition to the activity across the country, a number of hams in Michigan are planning a coordinated event on the weekend of June 4 and 5. This event is referred to as "Light up the Trail" and concentrates on activation of the North Country Scenic Trail (TR04), which stretches from NY through PA, OH, MI, WI, MN, and ND. The trail currently covers 2880 miles with expectations that ultimately the entire 4600 miles of trail will be completed.

Here in Michigan there will be a number of stations on the air on the weekend of June 4/5. You can see more information here:

<http://qsl.net/kd8dku/LightUptheTrail.htm>. In addition, you can see scheduled activations for the North Country Trail as well as all the other scheduled activations across the country by going to the ARRL website at [www.arrl.org](http://www.arrl.org).

## Section Staff Travel Plans 2016

May 20-22	Dayton Hamvention, Dayton, OH – WB8R et al
June 4,	IRA June Hamfest, Hudsonville, MI – WB8R
June 5,	Chelsea Swap & Shop, Chelsea, MI- WB8R
<b>Jun 11,</b>	<b>LARS Hamfest, Newberry, MI – WB8R</b>
Jun 18	Midland Hamfest, Midland MI – WB8R

Jun 18	District 3 ARES EC Meeting, Midland, MI – WB8R
Jun 19,	Monroe Hamfest, Monroe, MI – WB8R
Jul 8-9,	MI Section Family Outing, Hale, MI – WB8R et al
Jul 16,	Lowell Youth Club, Lowell, MI – WB8R
Jul 30,	CMARC Swap, Lansing, MI – WB8R
Aug 6,	U.P. Hamfest, Escanaba, MI – WB8R

It is never too early to submit your hamfest for ARRL affiliation approval. There are a lot of folks that will be vacationing around the state and would like to attend your swap – but there is a catch: In order to plan to attend a hamfest, people need to know about it. In order to know about it, you have to tell them by registering your swap with the ARRL. No publicity equals fewer attendees.

## Hospitality Acknowledgements

Cadillac Swap – Thank you for your hospitality shown to WA8EFK and W8CT. I had a last minute family commitment (birth of first great grandchild) in Indianapolis that weekend and had to miss the swap.

## Michigan Section Family Outing July 8-9, 2016

Planning has begun for the 18th Annual Michigan Section Family Outing to be held at the Woodlands Conference Center and Campground near Hale, MI on July 8 and 9. The Michigan annual EC meeting will be held there on Saturday, July 9. Updated information is available at [www.sectionouting.info](http://www.sectionouting.info). The activity list is looking pretty good with nearly a full slate of presenters on Saturday.

There is room for your RV or trailer or you can tent camp and there are plenty of hotel rooms in nearby West Branch if roughing it is not on your agenda! This is a family friendly outing and we hope to see you there. Everyone is welcome.

## Portable Operating





Hams have about a blue million ways to enjoy this wonderful hobby.

Everyone has his or her favorite activity and that favorite often involves operating from the great outdoors. Building a portable station is not an overly difficult proposition, but just like cars, horsepower costs money-how fast do you want to go? Portable stations can be quite simple or quite elaborate, depending on your taste and your budget.

Portable operating in a public place is a great way to start a conversation about ham radio. It is also a good way to start that conversation with young people. Make plans now to get out into the great outdoors with your favorite hobby, have some fun, and show ham radio off to whoever will listen to you!

#### Michigan Section Traffic/ARPSC Nets (All times Local)

MACS - MI Amateur Communications System 3.952 1000 Daily UPN – Upper Peninsula Net 3.921 1700 Daily; Noon Sunday MIARPSC – MI Amateur Radio Public Service Corps 3.932 1700 Sunday 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) in waterfall 2000 Tues, Thurs, 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

SARs (Station Activity Reports) for April, 2016: WB8WKQ 336, WB9JSR 302, K8ED 174, K8RDN 65, WD8USA 44, WD8MWD 40, W8MSK 32, KC8BW 25, N8UN 14, N8OSL 12, WB8RCR 9, WB8R 6, KD8LSM 4, KC8YVF 4, KC8NFN 2.

Total SAR reported: 1069

BPL (Brass Pounder's League) for April, 2016: None

PSHRs (Public Service Honor Roll) for April, 2016: WB8R 266, K8RDN 238, WB8RCR 234, N8OSL 217, KC8YVF 161, WD8MWD 155, WD8USA 145, WB9JSR 140, WB8WKQ 120, K8ED 90, KC8BW 75, KD8LSM 50, KC8NFN 42, NE8B 30, KE8BYC 19.

Net traffic for April, 2016: The Michigan Net 117, Michigan Traffic Net 85, Michigan Amateur Communications System 83, Southeastern Michigan Traffic Net 44, Upper Peninsula Net 40, Great Lakes Emergency and Traffic Net 33, Thumb Mid-Michigan Traffic Net 19, Michigan Digital Traffic Net 11, Saginaw County ARES Net 3, District 3 Digital Training net 3, District 3 ARPSC Net 2, Red Cross Net of Greater Grand Rapids 2, Michigan VHF Traffic Net 2, Genesee County ARPSC Traffic and Training Net 1, District 5 Hospital Net , Bay Area Regional Traffic System , Michigan ARES D-Star net , Michigan Amateur Radio Public Service Corps, Branch County Emergency Net , Chelsea ARC Net .

Total net traffic reported: 445

Dollar Equivalent Value of April NTS Activity: \$45,366

Dollar Equivalent Value of April ARPSC Activity: \$195,964

Total Dollar Equivalent Value reported for April 2016: \$241,330

Note: dollar equivalent value for services is the cost of public service provided to the State of Michigan by amateur radio operators if the State were to pay for those services. The cost per hour is based upon an agreed upon equivalent value of volunteer services in Michigan.

#### ARRL Memorandum of Understanding (MOU) Webinar

ARRL will offer a training session for ARES Emergency Coordinators, District Emergency Coordinators, and Section Emergency Coordinators on the subject of local, section, and state-level memorandums of understanding (MoUs) for ARES.

The webinar will take place on Tuesday, May 24, at 2400 UTC. Register for the webinar here. The webinar will be recorded and made available online afterward. All ECs, DECs and SECs are encouraged to participate.

— Thanks to Mike Corey, KI1U, ARRL Emergency Preparedness Manager

You can reserve your spot on the webinar here:

<https://attendee.gotowebinar.com/register/1459437133165002244>

### Last Words

We are grateful for the interest in public service of the amateurs of the Michigan Section of the ARRL. You are the folks that put the face on amateur radio that your law enforcement, fire, emergency responders, and emergency management people see whenever you spend your time helping them because you WANT to.

Your dedication year after year is a source of amazement and extreme gratification on the part of those amateurs in leadership positions.

Thanks go to all the amateurs who so readily give of themselves to improve the lives of those in your communities.

Best 73 and until next time,

Larry, WB8R



## *Dales Tales*

Greetings everyone, welcome to "Dale's Tales" for June, 2016.

**AMATEUR RADIO PARITY ACT:** Last week, the House Subcommittee on Communications and Technology received a letter from Community Associations Institute (CAI) supporting the Amateur Radio Parity Act.

Our Legislative Action Team has been working extensively with CAI and staff from the House of Representatives to reach this agreement. This action is a vital step in gaining support from Homeowners' Associations as CAI is the national advocate for those groups. Having this agreement is a positive step in securing passage of the Bill in the House of Representatives and improves the likelihood of similar action in the Senate.

You can find the latest information at <http://www.arrrl.org/amateur-radio-parity-act>. Thanks to so many of the Great lakes Division hams who have sent letters supporting the legislation. If you have not done so, you can find a sample on the listed web page. Please be sure to route your letters through ARRL Headquarters: ARRL, Attn: Amateur Radio Parity Act grassroots campaign, 225 Main St., Newington, CT 06111. Our Legislative Action Team will hand deliver the letters, thus avoiding delays caused by the postal inspection system in DC.

**DAYTON:** From my perspective the Hamvention® went very well this year.

As your Director, I spend much of my time at ARRL Expo to meet and greet as many Great Lakes Division hams as I possibly can. It is an important part of my commitment to the hams in the Great Lakes Division to be available to discuss your concerns about ham radio and then do what I can to help make any necessary changes. While doing this, I always wish I could get to more of the Dayton forums, there were a number of them this year that really were in my areas of interest. Perhaps in 2017.

I did have the pleasure of moderating the ARRL Forum this year and was pleased that we could include comments from several members of ARRL's new leadership team. I think it is important that our members have a good handle on who does what in the organization, and the Forum is a wonderful opportunity to hear from the-

folks who make some of the key decision on our behalf. This year we welcomed International Vice President Jay Bellows KOQB, Second Vice President Brian Milesosky N5ZGT, First Vice President Greg Widin K0GW, CEO Tom Gallagher NY2RF, and President Rick Roderick K5UR.

While we commonly think of these folks as the "leaders" of ham radio, it is clear that the true leaders are those such as yourself who constitute the real leadership of amateur radio. As you read this column, I remind you that you play a critically important part in the future of this hobby. You are active, interested, and concerned about the amateur radio. You are a most significant part of the leadership of ham radio. How this all plays out in the coming years absolutely depends on how you and I act today. We emphasized this fact at the ARRL Forum in Dayton and encouraged everyone to "do something positive for amateur radio" that very day. And then, continue to do at least one positive thing for the hobby each week while encouraging others to do the same. Just do it.

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

I'm a pretty optimistic person, both in general, and especially about the future of ham radio. Of course there are some signs that don't point to a good future, but there are just as many or more that seem to indicate that ham radio will be just fine in the coming years. The Dayton Hamvention® is always a good barometer of what is happening and what will happen. And other events and experiences this month have also given me good reason for hope.

Whatever your particular experiences at Dayton, it's hard to ignore how much enthusiasm there is during the weekend. Maybe the crowds were down a bit. Or maybe not. There were a lot of innovative products on the market, and people were certainly in a buying mood, from all reports. And the experiences I had in the ARRL Expo were of people talking about possibilities, of training, of new projects. There was the individual who spoke of trying to revitalize the radio club in his area. There was the couple, not licensed, who came to the Hamvention to learn about ham radio and find out how to get their licenses. And of

course, there was the Youth Forum, where many young people learned more about the hobby and what new things they could do with it.

Apart from the Hamvention, there were the club meetings this month where people are trying new things and sharing their experiences.

Speaking of licenses, I met a ten-year-old at a club meeting who is very close to getting his license. Once he does, he'll be an enthusiastic ham for many years to come! And beyond regular club meetings, I attended a "tech night" not held on the regular meeting night, where hams were sharing knowledge about the latest in digital technology.

I read about radio operators in the disaster areas of this country helping with emergency communications. And public service work continues, as the weather warms and the runs, walks, rides and parades all take place with many ham clubs there for support.

One last note about the future. More and more of us are turning to "social media" to share our experiences. Far from substituting for radio, its use is enhancing radio. The popularity of National Parks on the Air is one example. How many of you have used Facebook to find out when an activation is taking place? And news of local events, meetings, gatherings, as well as things of national interest from ARRL are out there on Facebook and Twitter. That's where the younger people are, and that's where we're trying to help them find us.

Our new ARRL President, Rick, K5UR, urged us all to go out and do something for ham radio. In that spirit, I'd also like to encourage everyone to do something good for ham radio. Summer is a perfect time for helping a new person with an antenna. But not just a new person. Maybe a ham you know hasn't been active in a while. See about helping them get back on the air. Or, as Rick said, just get on the air. That in itself will do a lot to keeping ham radio alive and well.

73, Tom W8WTD Vice Director, Great Lakes Division

**ARRL SANCTIONED HAMFESTS:** 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 hamfests each year in the Great Lakes Division. I do encourage each Hamfest Chair to register early for ARRL Sanctioning. It is never too early to register your hamfest with Headquarters. Be sure to invite your ARRL Officials as soon as your date is set. Help avoid date conflicts, do it early!

June 4 - Fulton County - Tedrow, OH

June 4 - Princeton Hamfest - Princeton, KY

June 5 - Chelsea Hamfest - Chelsea, MI

June 5 - NOTE: Portage, OH Hamfair - CANCELLED FOR 2016

June 11 - Luce County - Newberry, MI

June 18 - Midland Hamfest - Midland, MI

June 18 - Milford Hamfest - Milford, OH

June 19 - Monroe Hamfest - Monroe, MI

July 10 - 20/9 Tailgate - Austintown, OH

July 16 - GMARC Trunk Swap - Shelby Twp., MI

July 16 - NOARS Fest - Elyria, OH

July 17 - Van Wert - Van Wert, OH

July 30 - Big Sandy - Louisa, KY

July 30 - CMARC Outdoor - Lansing, MI

#### **A LITTLE OFF THE WALL - THE UNEXPECTED SCIENCE EXPERIMENT.**

I have a tower located about 6 feet from the house. My antenna transmission lines run via messenger cable from the tower to the soffit and then inside to the ham shack. I can see this cable run clearly from the shack window. One morning, I glanced out and saw a glint of bare copper on one coax line. Visible braid!! I went outside and up the tower, only to find little teeth marks on the cable jackets. Yes, jackets, as three cables had the braid exposed. So out comes the silicone waterproofing and a lotta tape to do the necessary repairs, still not knowing what varmint had done the damage.

An hour later, I spotted a grey squirrel climb the tower, traipse across the cable bundle, pause for a late morning snack of PVC and hurry on his way to bother someone else. Aside from squirrelcide, which would have its own set of problems, it just seemed a protective cover for the cables would be the best solution. Running the cables through a 3 inch Schedule 40 pipe looked pretty reasonable, that is, except for the mechanical problems of actually snaking 9 cables with connectors through the pipe.



Splitting the pipe to make a "roof", then covering it with some black semi-gloss just appeared to be the best solution. A quick run across the table saw to split the tube should be simple enough. After all, I have a long fence on the saw and all the safety equipment to insure a straight run and no twisting, while keeping all my digits. The plywood blade in the saw should make a very clean cut. Onward! It is only a 6 foot pipe.

Two feet into the cut, I began to hear a lot of strange snapping sounds and then I noticed that all the hair on my arms was standing up. I look behind me to see the plastic chips from the saw cut shooting out of the end of the tube at about 80 miles an hour, dust collection system be darned. Let's see, insulated particles shooting down an insulated tube; OMG! I have a Van de Graaff generator running in my hands and everything is now charged to some absurd voltage level with static electricity.

I hit the power switch and watched as the saw slowed to a stop and the few remaining plastic chips hit the wall. They were all there, hanging on the wall, in kind of a big ugly clump. Then the chips began scattering...the like-electrical charges of the chips began to repel each other; the spot on the wall was growing like some beast from a "B" Sci-fi flick. It finally reached about a 2 foot diameter and then began to collapse onto the floor. What fun! After vacuuming the wall, the floor and me, I decided that next time, I will give serious consideration to the fine qualities of a hand saw. Oh, the "roof" works very well, and I think the squirrel has finally lost his taste for coax cable.

73, See you on the bands, (squirrels permitting).

Dale Williams WA8EFK  
Director  
Great Lakes Division

## ARRL PROPAGATION BULLETIN

QST de W1AW  
Propagation Forecast Bulletin 23 ARLP023 From Tad Cook, K7RA Seattle, WA June 3, 2016 To all radio amateurs

Solar indices barely changed over the past week, with average daily sunspot numbers rising from 25.3 to 33, and average daily solar flux dropping from 97 to 87.4.

Average daily planetary A index rose from 7.1 to 8.9, and average daily mid-latitude A index rose from 7 to 9.

Predicted solar flux for the near term is 80 on June 3 to 7, 85 on June 8 to 10, 80 on June 11 to 17, 85 on June 18 to 21, 80 on June 22 to 26, 75 on June 27 through July 4, and 80 on July 5 to 14.

Predicted planetary A index is 10, 35, 32, 15 and 8 on June 3 to 7,

5 on June 8 to 10, 12 on June 11 to 13, 8 on June 14 and 15, then 5, 15 and 10 on June 16 to 18, 5 on June 19 to 22, then 10, 12, 8, 20 and 12 on June 23 to 27, 5 on June 28 and 29, then 8, 15, 20 and 15 on June 30 through July 3, then 5 on July 4 to 7 and 12 on July 8 to 10 and 8 on July 11 and 12.

F. K. Janda, OK1HH sent us his geomagnetic activity forecast for the period June 3 to 29, 2016:

Geomagnetic field will be:

Quiet on June 9, 20, 22.

Mostly Quiet on June 8, 15 to 17, 21, 23, 29.

Quiet to Unsettled on June 7, 10, 13 and 14, 28.

Quiet to Active on Jun 3 and 4, 5 and 6, 11 and 12, 19, 24 and 25, 26 and 27.

Active to Disturbed on June 18.

Increases in solar wind from coronal holes are expected on June (6-)7-8, (14-)16-17, (26, 30)

## Remarks:

- Parenthesis means lower probability of activity enhancement.
- Reliability of predictions is slightly reduced.

Some interesting tools for examining sunspot data:

<http://harvard.voxcharta.org/tag/sunspot-databases/>

Also, a paper about the same:

<http://arxiv.org/pdf/1606.00669.pdf>

Joe, K1YOW of Harvard, Massachusetts wrote:

"I was wondering... for the month of May, almost every day, there was a good 6 meter SpE (sporadic-E) opening in Europe, yet here in North America, openings were sparse. When looking at the DX maps every day, there seemed to be a SpE cloud somewhere over Europe -- sometimes over France, then Greece, then Germany, then Eastern Russia, etc. Yet, whatever is causing the SpE clouds to appear over Europe does not seem to be happening here in North America.

Is there any insight why SpE clouds would form over one area so frequently and with such good strength and not over other areas? If it was random, then I would expect to see SpE clouds now and then everywhere over the planet. Europe seems to be the hot spot of 6 meter activity these days for whatever reasons."

I don't know, but I will check. It seems that they are sporadic, but not random with any even distribution, but I don't think that answer is very helpful.

Tracking our 3 month average of daily sunspot numbers, remember that the peak in the current cycle was centered on February and March of 2014, at 146.4 and 148.2.

For the past year that moving average was 77.7, 76.3, 69.1, 67.5, 64.5, 64.6, 58.5, 55.4, 53.5, 49, 45.3 and 43.1. So that last number sums all the sunspot numbers from March 1 to May 31, which is 3,964, and divides by the number of days, which is 92, yielding a smoothed sunspot number of approximately 43.08696.

A few days ago there was a big drop in the predicted solar flux numbers over the next month and a half. The daily forecast comes to us from <ftp://ftp.swpc.noaa.gov/pub/forecasts/45DF/>. If you look at the solar flux forecasts issued on May 28 and compare the numbers to those issued on May 29, you will see the predicted average over the 7 days from May 31 to June 6 shift from 91.4 down to 75. Another area to inspect are the forecasts issued on May 29 and May 30 for the period from June 7 through June 14.

For more information concerning radio propagation, see the ARRL Technical Information Service at <http://arrl.org/propagation-of-rf-signals>. For an explanation of the 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 May 26 through June 1 were 30, 19, 31, 25, 56, 40, and 30, with a mean of 33. 10.7 cm flux was 91.7, 90.4, 87.7, 83, 86.2, 86.6, and 86, with a mean of 87.4. Estimated planetary A indices were 4, 10, 14, 7, 11, 10, and 6, with a mean of 8.9.

Estimated mid-latitude A indices were 4, 12, 13, 8, 9, 10, and 7 with a mean of 9.

## ARRL DX NEWS

QST de W1AW  
DX Bulletin 23 ARLD023  
From ARRL Headquarters  
Newington CT June 2, 2016  
To all radio amateurs

This week's bulletin was made possible with information provided by 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.

**UGANDA, 5X.** Jonathan, KK7PW is QRV as 5X10 until July 8. Activity is on 40, 20, 15 and 10 meters using 5 watts. QSL via EA5GL.

**WEST MALAYSIA, 9M2.** Hans, DF5UG is QRV as 9M2QQ from Segamat until June 15. Activity is mainly on 20 meters using SSB. QSL to home call.

**EASTER ISLAND, CE0.** Jeff, K5WE is QRV as XROYS until June 8. Activity is on 80 to 6 meters using mostly CW and some RTTY. He may be active on 160 meters depending on local conditions. QSL to home call.

**FEDERAL REPUBLIC OF GERMANY, DA.** Special event station DL0POLIO is QRV until May 31, 2017 to draw attention to the ongoing efforts to eradicate Polio. QSL via bureau.

**CANARY ISLANDS, EA8.** Mike, DG5LAC is QRV as EA8/DG5LAC from Fuerteventura, IOTA AF-004, until June 18. Activity is on 40 to 10 meters using SSB. QSL to home call.

**SAINT MARTIN, FS.** John, K9EL will be QRV as FS/K9EL from Orient Bay from June 5 to 23. Activity will be on 80 to 6 meters using CW, SSB and RTTY. QSL to home call.

**FRENCH GUIANA, FY.** Gerard, F6CKD is QRV as FY/F6CKD from Montabo Beach until June 15. Activity is mainly on 20 and 17 meters. QSL to home call.

**THAILAND, HS.** Members of the HSDXA Team are QRV as E2X from Chang Island, IOTA AS-125, until June 5. QSL via E20GMY.

**JAPAN, JA.** Special event station 8J2UMI is QRV from Umi Festa Higashimikawa, IOTA AS-007, until July 31. QSL via bureau.

**BULGARIA, LZ.** Members of the Bulgarian Radio Club Blagovestnik are QRV with special call sign LZ425STA during June to honor Bulgarian Saints. QSL via bureau.

**SLOVAK REPUBLIC, OM.** Special event station OM41KY-SUCE is QRV until August 31 during the 41st ARDF Championship Kysucky pohar that occurs July 29 to 31. QSL via OM3CND.

**GREECE, SV.** Oliver, DK7TX will be QRV as SV8/DK7TX from Vido Island, IOTA EU-052, from June 5 to 10. QSL to home call.

**CRETE, SV9.** Yanis, SV2BBO will be QRV as SV9/SV2BBO/p from Gavdos Island, IOTA EU-198, from June 4 to 6. He will be active using PSK only and 5 watts. QSL to home call.

**PALAU, T8.** Bert, CX3AN will be QRV as T88AN from Koror Island, IOTA OC-009, from June 9 to 14. Activity will be on 40 to 6 meters using CW and SSB. QSL via EB7DX.

**EUROPEAN RUSSIA, UA.** Members of the Livny Amateur Radio Club are QRV as R60KZI until June 14 to celebrate the club's 60th anniversary. QSL via R5EO.

**MICRONESIA, V6.** Bert, CX3AN will be QRV as V63AN from Chuuk Island, IOTA OC-011, from June 7 to 9. Activity will be on 40 to 6 meters using CW and SSB. QSL via EB7DX.

**MARSHALL ISLANDS, V7.** Bert, CX3AN is QRV as V73HA from Majuro Atoll, IOTA OC-009, until June 7. Activity is holiday style on 40 to 6 meters using CW and SSB. QSL via EB7DX.

**CAYMAN ISLANDS, ZF.** John, 2M0JMN is QRV as ZF2MN until June 17.

Activity is holiday style on the HF bands. QSL via M0OXO.

**Please see June QST, page 86, and the ARRL and WA7BNM Contest Web sites for details.**

**THIS WEEKEND ON THE RADIO.** The NCCC RTTY Sprint, NCCC CW Sprint, HA3NS Sprint Memorial CW Contest, 10-10 International Open Season 10-Meter PSK31 Contest, PVRC Reunion, DigiFest, Wake-Up. QRP CW Sprint, SEANET Contest, UKSMG 6-Meter Summer Contest, Dutch Kingdom Contest, IARU Region 1 CW Field Day, RSGB National CW Field Day and the Alabama QSO Party will certainly keep contesters busy this upcoming weekend.

The RSGB 80-Meter Club Data Championship is scheduled for June 6.

The ARS Spartan CW Sprint is scheduled for June 7. The Phone Fray and CWops Mini-CWT CW Test are scheduled for June 8.

The ARRL National Parks on the Air event runs during all of 2016 to mark the 100th anniversary of the National Park Service.

***CLASSIFIED***

Space Available to push your stuff





***UP AREA HAM FEST INFORMATION***

**THIS  
Space  
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You**

## 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 -	No PL
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/>

**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)

**Treasurer:**

Debbie Garbowski, KD8VTS  
(906) 284 -2450  
[kd8vts@gmail.com](mailto:kd8vts@gmail.com)

**Editor:**

Tom Heyboer, KC8TH  
(906) 779-0481  
[Heyboer.tom@gmail.com](mailto:Heyboer.tom@gmail.com)

**Web Editor:**

Tom Heyboer, KC8TH  
(906) 779-0481  
[Heyboer.tom@gmail.com](mailto:Heyboer.tom@gmail.com)

**Radio License Exam Contact Persons:**

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.

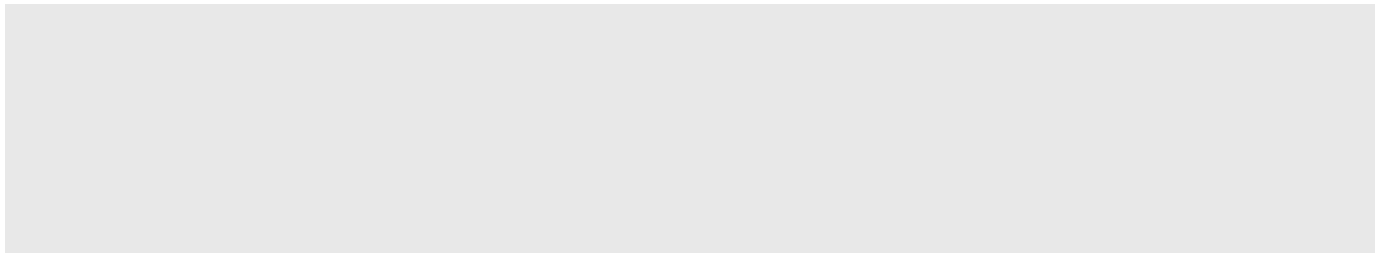
I will be thankful if and when I do make a contact.

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@centrylink.net">efry@centrylink.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>
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	MORIARITY	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>
KG9Y	THOMAS	DAVE	NIAGARA	715-251-1393	<a href="mailto:ke9y@arrl.net">ke9y@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.