



MICH-A-CON

Iron Mountain,
Dickinson County, Mich

February 2016

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

Which is **February 10, 2016** at 07:00 PM at the Dickinson Library, Iron Mountain.

From The President

Words from the President

Hope that all of you Dxers have worked K5P, VP8STI, and VP8SGI by now. VP8SGI hasn't been too difficult because of improving propagation. VP8STI had to QRT early because they were threatened by an ice flow closing the entrance to their "pick up area". I missed them on RTTY bumper! I needed them for an ATNO (All Time New One) on RTTY. I did get them on 17 CW for a new band and mode.

Thanks to an increased SFI from 93 to 123, I have worked VP8SGI on all bands except 80 and 160, as I write these Words on February 5th. I got them on RTTY for an ATNO. Also, a new 30 meter sloper installed a few days ago got me them on 30 CW. They will be QRT by the time you read this. Hope that you got them as an ATNO.

Again, these Dxpeditions seem to bring out the worst in people. The intentional QRM: calling on the Dxpedition's frequency, sending music, sending a steady stream of dits, sending "UP UP" (not Upper Peninsula by the way) and playing frequency cop are just a few examples of what I've heard the past two weeks. This occurs mostly on 40 meters. I was lucky to get my report last night, during the DQRM (Deliberate QRM). I guess that's the society we live in nowadays. If you can't achieve something, no one else should.

Remember: Our dinner party will be held at Bartoletti's in Aurora on February 27th. All are welcome. Please let me know at the next meeting if you are attending. If you can't make the meeting, call or email me.

Last, but very important, thanks again to Debbie (KD8VTS) for taking the treasurer's position. She will do a great job.

While writing this, I just worked VP8SGI on 15 CW with my CL-33 at 40 feet. Power: 500 watts. Switched to the Butternut vertical and couldn't even hear them. If I had to rely on a vertical for my Dxing, I'd become a rag chewer, or collect stamps. Sorry Scott! HI!!!

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73,

Tom W8JWN

PS. You need to check out this YouTube video: "If Hitler had been a modern day DX'er:

<https://www.youtube.com/watch?v=Q3QKogA8QwE&feature=youtu.be>

Enjoy

MICH-A-CON AMATEUR RADIO CLUB MINUTES OF January 13, 2016

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

Secretary Report

Minutes of the December 9th meeting were read and approved.

Treasurer Report

Balances as of January 13, 2015

Checking: \$3.05

Savings: \$1,619.44 (\$197.60 repeater)

Cash: \$17.00

\$23 of raffle to repeater, \$23 of raffle to savings. \$60 from repeater to checking, check to Gary for \$30 for Polyphasers and check to WE Energies for tower lease.

Repeater Report

Bob Meyers reported that the new repeater will have PL tone access. However, due to a problem with our old controller, the new unit is not being used. A new controller has been ordered. Once operational, two-meter access will be possible in both analog and digital modes. The 440 repeater will remain solely analog.

Bob also noted that noise doesn't bother the new repeater like it did the old one.

Jared Paul reported that Echolink is up and running again. A problem with the club PC took it off the air. It is now running on Jared's personal computer.

Tom Martin has contacted Bart Berg regarding disposal of our old repeater. He is not interested.

Dave Thomas discussed re-purposing the old repeater in another location, possibly in the Amberg



area.

Old Business

The repeaters at Dave Thomas's house were discussed. Dave is comfortable with keeping them there until Spring. In the meantime, he will pull some parts off of them for re-use.

The position of club Treasurer was filled. Debbie Grabowski was unanimously approved for the position following a nomination by Dana Bey and second by Bob Meyers.

In regards to Veterans Day, Tom Martin reported that there have been no further requests for QSL cards or certificates from K8V.

There was nothing new to report regarding the impact of the Schultz Equipment sale on the location of the club storage van.

The belated Holiday Party will be held on Saturday, February 27, at Bartoletti's, in Aurora. A count of those attending will be taken at the February meeting, so reservations can be confirmed.

New Business

Dave Thomas, the local ARES coordinator, reported that if ARES needed to activate, he would run it from his home station. However, someone would likely be needed at the Dickinson County Sheriff's Department, on two-meters.

Adjournment

The meeting was adjourned at 7:33 pm.

For the Good of the Order

Attendees reported on their recent activities.

The 50/50 drawing was won by Scott Jarmusch. Thirty 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
Bill Grabowski, KD8VTT
Deb Grabowski, KD8VTS
Skip Caswell, K9EL
Mike Bray, K8DDB
Dave Thomas, KG9Y

Bob Meyers, WA8FXQ
Sam Holmes, N8ATS
Tom Heyboer, KC8TH
Dana Bey, W8BEY
Jared Paul, ND8M
Tim Miller, N8TUM
Joyce Williams, Visitor

News

From Delta County amateur Radio

The Delta County Amateur Radio Society will be requiring that those persons wanting to take an exam in Gladstone will need to preregister with me by Wednesday preceding the exam.

Our dates and times are the second Saturday of January, April, July and October.

10 am at the Gladstone City Hall (1100 Delta Ave).

Dave Palmgren - N8DP

6132 County Rd 420 - 21st Road

Gladstone Mi. 49837 (906) 420-0673



Learn CW online, in your web browser!

Koch Method Morse Course, Speed Training,
Text to CW conversion, Statistics, Forum

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!

The National Park On The Air (NPOTA)

Here are some exciting updates concerning a significant increase in the National Park On The Air (NPOTA) units by the National Parks System.

The primary item of interest to the hams of Michigan is the addition of two sections of the North Country Trail which together wind from the Ohio border near Hillsdale across to the western side of the state up to the Straits of Mackinaw and across the Upper Peninsula to Wisconsin.

From the ARRL NPOTA website:

New Wild and Scenic Rivers, Scenic and Historic Trails Added to NPOTA Sites List 12/28/2015

Santa was good to participants in the ARRL National Parks on the Air (NPOTA) program, which gets under way on January 1. On December 23, the National Park Service (NPS) updated its official list of NPS Administrative Units. As a result, 18 new Scenic and Historic Trails and 29 new Wild and Scenic Rivers and have been added to the list of eligible NPOTA Units, increasing the number of NPOTA units from 434 to 481.

"More NPOTA units ultimately mean more fun, and we hope these additions make more activations possible for

you or your club," said ARRL Media and Public Relations Manager Sean Kutzko, KX9X.

Among the new Historic Trails on the NPOTA list are the five major trails associated with the westward expansion of the US in the 19th century: The Santa Fe, California, Mormon Pioneer, Lewis and Clark, and Pony Express National Historic Trails. The list also includes the North Country and Ice Age National Scenic Trails. These new trails represent thousands of miles of additional area from which NPOTA Activators may operate in 2016.

Not all of the trails and rivers added to the NPS Affiliated Areas list have been included on the NPOTA list, however, because many are administered by other federal agencies, such as the US Forest Service and the Bureau of Land Management. Because NPOTA celebrates the 100th anniversary of the National Park Service, units not administered by the NPS have not been added to the NPOTA list of eligible units.

While the unexpected addition of new NPOTA units is ultimately welcome, it has delayed the release of a TQSL update for Logbook Of the World (LoTW). ARRL staff worked over the holiday weekend to add the new units — and combinations of units — to the update, and this has required additional testing. The TQSL update will

undergo final testing this week and be released as soon as possible.

The 11th hour addition of large trails and rivers also has made it necessary to revise some of the ground rules for certain types of NPOTA units. For example, large portions of some new trails are on existing stretches of highway or other roads, raising safety issues for pedestrian Activators.

“We will be reviewing these and other situations Activators may encounter, and update the rules accordingly,” Kutzko said. “Activators will need to be careful only to operate from the portions of rivers and trails that are administered by NPS. It is not uncommon for several agencies to administer different parts of the same unit. In addition, many portions of rivers and trails are on private property, which should not be accessed unless you have permission from the landowner.”

The National Trails System Map & Guide and the National Wild and Scenic Rivers System website provide information on the boundaries of these units. Due diligence on the part of Activators is critical, however, to ensure that they are operating from an NPS-administered portion of these units.

Further updates and additional information will be posted on the ARRL NPOTA page as soon as they are available.

Michigan NPS Units:

Father Marquette National Memorial , AA07 Isle Royale, NP31 Keweenaw, HP20 North Country NST + Father Marquette, TR04, AA07 North Country NSRT + Pictured Rocks LK, TR04, LK03 Pictured Rocks, LK03 River Raisin, BP04 Sleeping Bear Dunes, LK04

Michigan now has 8 NPOA units, with 4 in the UP and 1 in Lake Superior. The other 3 are in the Lower Peninsula.

Farther Marquette National Memorial, St Ignace, MI
North Country National Scenic Trail, Upper Peninsula
Isle Royale National Park, Lake Superior
Keweenaw National Historical Park, near Houghton, MI
Pictured Rocks, National Lakeshore, near Munising, MI
North Country National Scenic Trail, Lower Peninsula
River Raisin National Battlefield Monument, near Monroe, MI
Sleeping Bear Dunes, National Lakeshore, NW Lower MI

You can locate information on the North Country Trail System here:

[http://www.arrl.org/news/new-wild-and-scenic-rivers-](http://www.arrl.org/news/new-wild-and-scenic-rivers-scenic-and-historic-trails-added-to-npota-sites-list)

[scenic-and-historic-trails-added-to-npota-sites-list](http://www.arrl.org/news/new-wild-and-scenic-rivers-scenic-and-historic-trails-added-to-npota-sites-list)

Here is a list of “Trail Towns” in Michigan:

Trail Town – Middleville, MI

Trail Town – Lowell, MI

Trail Town – White Cloud, MI

Trail Town – Fife Lake, MI

Trail Town – Kalkaska, MI

Trail Town – Petoskey, MI

Trail Town – Mackinaw City, MI

Trail Town – St. Ignace, MI

Trail Town – Grand Marais, MI

Trail Town – Marquette, MI

Operating NPOTA

The Keweenaw Park (N8P), North Country Trail (N8XX) , and Sleeping Bear Dunes (K8RZH) are scheduled for January 1, 2016 along with and activity from the River Raisin Battlefield (KJ8O) scheduled for January 31.

You can see all activity scheduled for the upcoming 10 days by logging into the NPOTA site using your LOTW login. You will find information concerning operation times, frequencies and modes there.

All activity will take place exclusively on Logbook of the World (LOTW). See the ARRL home page for complete details.

Activating NPOTA

Keep in mind that those wishing to activate any of the NPOTA Units in Michigan must follow the rules promulgated by the National Park System.

For a map of the North Country Trail, it is available here:

<https://northcountrytrail.org/trail/maps/>. There are links there which will take you to the websites of chapters which administer various parts of the trail.

One must be aware that the North Country Trail is not one continuous trail. There are gaps and some of the trail may cross private property.

NPOTA activators must reach a National Scenic Trail under foot power, be on NPS land (or land co-administered by other local groups), Leave No Trace, and not interfere with others’ enjoyment of the trail.

The activity begins on January 1 and will continue throughout 2016.

Making contacts with NPOTA units is great fun and being an activation station is going to be even more fun.

Just ask those that were active in 2014 as W1AW/8 about how much fun that was!

73, Larry, WB8R

ARLB032 W1AW 2015/2016 Winter Operating Schedule

ARRL Bulletin 1 ARLB001
 From ARRL Headquarters
 Newington CT January 4, 2016
 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.

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.

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 100 in the January 2016 issue of QST or on the web at, <http://www.arrl.org/w1aw-operating-schedule>.
 NNNN

ARRL MICHIGAN SECTION NEWS

Greetings to the Hams of Michigan:

We are now a couple of weeks into the New Year and winter seems to have finally arrived in Michigan. My thoughts have turned to the calendar, as we are just 6 weeks from March, and everyone knows spring arrives in March. Be patient, my friends.....

New Club Officers

I would like to recognize a group of individuals who have offered their services and leadership to their local clubs by agreeing to serve as officers and directors of their clubs.

Today's leaders serve to guide, instruct and inspire others to participate in leadership and to excel. Thanks to the "Class of 2016".

2016 USECA Officers:

President: Ken Coughlin, N8KC
 Vice Pres: Richard Line, KC8HMJ
 Treasurer: Linda Line, KD8SAI
 Rec. Secy: Rob Lifton, NY8W
 Member Sec: Brenda White KD8SGB
 Bd Members: Bernard Kasprzak, KC8REX
 Michelle Marek, KD8ZYE (17 years old!!!)
 Gary Simms, WA8FEA
 Ex President: Larry Stocking, W8SOX

2016 ARROW Officers:

President: Dinesh Cyanam, AB3DC
 Treasurer: Harvey Bauss, KB8MUP
 Secretary: open
 Tech Coord: Jay Nugent, WB8TKL
 Public Svc: Jim Lommel, WD8RWI
 Activ. Coord: John Wasciuk, WA8TON

2016 Branch County ARC Officers:

President: Roy McCloud, AB8RM
 Secy/Treas: Ted Hadfield, KU8F
 Director: Justin Lopshire, KD8JEL

Director: Jim Voss, WV0SS
 Director: Arnie Hayward, NS8T

2016 Holland ARC Officers:

President: Nick Roush, KD8JBG
 Vice Pres: Tom Bosscher K8TB
 Secretary: Todd Boss, W8YHF
 Treasurer: Rich Anderson, WA8MTI

2016 Ogemaw Arenac Amateur Radio Society Officers:

President: Chris Barbb – W8COP
 Vice Pres: Russ Hall – N8RSH
 Secretary: Cameron Thurston – N8CAM
 Treasurer: Bill Radtke – W8WDR

2016 Central Michigan ARC Officers:

President: Julie McLain, KB8ZXR
 Vice Pres: Tom Rocheleau, WA8WPJ
 Treasurer: John Doornhaag, KD8NNQ
 Secretary: Jane Hosford, KC8FSK
 Director: Chris Ranes, NS8Q
 Director: Russ Fitzgerald N8FZ
 Under 22 Director: Sam Fitzgerald N8FPR

Michigan's Affiliated Club Coordinator Receives Surprise

Joe Miller, KJ8O is a Michigan ham who participates in a wide variety of contests. In 2014 he participated in the ARRL 10 Meter Contest, calculated his scores and submitted his logs. End of story. Well, not exactly....The ARRL discovered that when mailing out some winning certificates that they inadvertently used incorrect addresses.

In late 2015, Joe received an envelope from ARRL HQ. The envelope contained a note of explanation along with a certificate indicating that he won first place with a final score of 34,196 points. The certificate is for First Place, Single Operator, Unlimited, Phone Only, Low Power, Michigan Section.



Congratulations to Joe for taking first place in his category!

Michigan ARRL Website

The new Michigan ARRL website (www.mi-arrl.org) is coming along nicely and we are adding content as we move forward. For late-breaking happenings directly relative to Michigan Hams, the website is the first stop to learn what is going on. An even better way to keep yourself in the know is by signing up for ARRL Section and Division news, bulletins and calls to action. You can do this by editing your profile on the ARRL webpage (www.arrl.org) to select to receive section and division news and bulletins by email. This document (and others) will appear in your inbox just like magic.

Michigan QSO Party

While it seems like April (and spring) are still quite a ways away, now is the time to begin to think about participation in the Annual Michigan QSO Party which is sponsored by the Mad River Radio Club. You can locate all necessary information here: <http://miqp.org/>. On their web page, you can find the 2016 MiQP flyer which is handy for printing a few copies to take to your club meetings to pass around to interest your members in participating. There are a number of categories of participation and room for participants from large, experienced contest groups to individual operators participating for the very first time. The contest is a maximum of 12 hours (noon to midnight), so there will still be family time available that weekend. No amplifier? No problem. 100 watts works just fine. Modest stations are able to do quite nicely.

Michigan Section Assistant Section Traffic Manager

I am pleased to report that the Michigan Section now has its first Assistant Section Traffic Manager. Jeff Miller, WB8WKQ was recently appointed to fill this brand new leadership role here in Michigan. He will be working on special projects in addition to supporting our Section Traffic Manager Mark Shaw, K8ED. You can reach Jeff at wb8wkq@arrl.net.

Amateur Radio Parity Act

During a January 12 Capitol Hill hearing, US House Subcommittee on Communications and Technology Chair Rep Greg Walden, W7EQI (R-OR), called the Amateur Radio Parity Act “a commonsense bill” and urged his colleagues to support it. H.R. 1301 was one of four telecoms bills that came before his panel.

Immediately prior to the above mentioned hearing, the ARRL requested contact by amateurs in certain congressional districts to reinforce our interest in the bill with members of the Subcommittee. Stay tuned to the ARRL website for further updates.

Section Travel Plans

- Jan 24, 2016 Hazel Park Swap, Madison Heights, MI – WB8R
- Feb 6, 2016 HARA Swap, Negaunee MI – WB8R**
- Feb 13, 2016 Cherryland Swap, Traverse City, MI – WB8R
- Feb 21, 2016 Livonia ARC Swap, Livonia, MI – WB8TKL
- Feb 22-25, '16 MI Interop Conf. Traverse City, MI – WB8R
- Mar 19, 2016 Crossroads Hamfest, Kalamazoo, MI – WB8R
- May 7, 2016 Cadillac Hamfest, Cadillac, MI – WB8R
- May 14, 2014 Chassell Hamfest, Chassell, MI**
- Jul 16, 2016 Lowell Youth Club, Lowell, MI – WB8R
- Oct 16, 2016 Kalamazoo Hamfest, Kalamazoo, MI – WB8R
- Oct 30, 2016 USECA Swap & Shop, Madison Hgts, MI – WB8R

Affiliated Clubs:

It is extremely important for your hamfest chairman to get your swap registered with the ARRL to take advantage of the perks of having an ARRL affiliated hamfest. It is never too early to register your swap which will help your attendees to make their plans in advance.

Hospitality Acknowledgements

Thanks to the Hazel Park ARC for the hospitality they showed to Mark, K8ED (MI Section Traffic Manager) who

presented a program on Nets and Traffic Handling at a recent meeting of the HPARC.

National Parks On The Air (NPOTA)

The NPOTA event of 2016 is underway. While winter is not necessarily the best time to set up a portable station to make contacts, it can be done. Complete information about this year-long on the air operating event can be found on the ARRL website.

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 Tfc Net 3.583 (Olivia 8/500) in w/fall 2000 Tue, Thur, 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.

Amateur Radio Public Service Corps (ARPSC) Activities

Station Activity Reports (SAR) for December, 2015:
WB9JSR 771, WB8WKQ 294, K8ED 240, K8RDN 211,
WB8TQZ 95, WD8MWD 61, WD8USA 51, KC8BW 45,
W8MSK 40, WB8RCR 25, N8FVM 23, N8OSL 22, WB8R
12, KD8LSM 2.

Total SAR reported: 1892

Brass Pounder's League (BPL) for December, 2015:
WB9JSR 771.

Public Service Honor Roll (PSHR) for December, 2015:
WB8RCR 240, WB8R 174, WD8MWD 160, WD8USA 145,
N8OSL 132, WB9JSR 130, N8FVM 112, WB8TQZ 110,
WB8WKQ 110, K8RDN 100, K8ED 90, KC8YVF 90, KC8BW
85, KC8NFN 32, KD8LSM 30.

Net traffic for December, 2015: Michigan Amateur Communications System 183, The Michigan Net 135, Michigan Traffic Net 111, Upper Peninsula Net 48, Southeastern Michigan Traffic Net 31, Great Lakes Emergency and Traffic Net 29, Michigan Digital Traffic Net 23, Saginaw County ARES Net 5, District 3 ARPSC Net 2, Michigan VHF Traffic Net 2, Genesee County ARPSC Traffic and Training Net 1, Oakland County Amateur Radio Society Net 1, District 8 Emergency Net, Chelsea ARC Net, Michigan ARES D-Star net, Branch County Emergency Net, Michigan Amateur Radio Public Service Corps, District 3 Digital Training net, Bay Area Regional Traffic System, Red Cross Net of Greater Grand Rapids, District 5 Hospital Net.

Total net traffic reported: 571

My sincere thanks go to the Michigan operators who are in a perpetual state of preparing for the emergency that we all hope never comes. Your tireless efforts speak highly of the Michigan work ethic and I am proud of each and every one of you.

Until next time and Best 73,

Larry, WB8R



Dales Tales

OUR NEW CEO:

As you are no doubt seen the press release, our ARRL CEO Dave Sumner K1ZZ plans to retire this year. Dave has announced that the date will be April 18, ending more than 44 years of service at ARRL HQ. For many of us, it will be hard to imagine headquarters without Dave at the helm. None the less, on that date, our new CEO will step into office, Tom Gallagher NY2RF. There will be a few weeks of overlap as Tom and Dave will be working together to effect a smooth transition of leadership. Tom's selection comes after an extensive search and an offer was tendered following the decision at the January ARRL Board meeting. Tom accepted, and the Board held an electronic meeting Monday evening January 25, where he was elected to serve as CEO and Secretary following Dave Sumner's retirement. Tom's bio is available on the ARRL web site.

The recent Board meeting also included another important change in Leadership, as President Kay Craigie N3KN completed her 6th year as League President and opted to return to private life. Our First Vice President Rick Roderick K5UR was unanimously elected to the office of President and began his term at the end of the meeting. Rick has served on the Board as a Vice Director, Director and a VP for more than 24 years.

One other change is forthcoming, as our Chief Operating Officer, Harold Kramer W1JB is planning to retire in early 2016. More details will follow as our new COO is selected.

In addition to the above, various Board actions included election of the 2016 Executive Committee, (your Director was re-elected to this body) plus reviewing and accepting standing Committee Reports. The ARRL Strategic Plan was accepted and the Board will be assigning priorities for implementation. There was considerable discussion about how US population shifts have affected the number of ARRL members in each Division since Division boundaries were last adjusted. A committee was established to examine these changes, collect member

input and report at the January 2017 meeting with their recommendations.

Actions by our newly elected President included the appointments to several committees. Our Vice Director, Tom Delaney W8WTD was selected as Board Liaison to the ARRL RF Safety Committee, while your Director was re-appointed as chair of the Ethics and Elections Committee.

ON THE AIR SPECIAL EVENT:

The big operating event National Parks on the Air has begun. Be sure to check out the full details at <https://npota.arrl.org/>. You can view your contact status on <http://www.arrl.org/NPOTA> and selecting "The Leaderboard". Standings come from Logbook of the World uploads, so remember that some may be delayed until the operators return to their home QTHs where they have Internet connectivity.

MEA CULPA:

Being human and subject to making an occasional (Okay, frequent) mistake, I did so last month when I inadvertently omitted from the Great Lakes Division Annual Report, the call sign of Bill Finnegan NR8I. Bill was the winner of the ARRL's Herb S. Brier W9AD Instructor of the Year Award.

TOM'S COMMENTS:

Comments from our Vice Director Tom Delany W8WTD

ARES: So who turned the map of the Division upside down? It seemed like it for a few hours this past weekend. Normally, cold temperatures and large snowfalls are more likely in Central Michigan than in Central Kentucky. But the storm that eventually became the Northeast Blizzard came roaring through the southern part of the Division before it charged up the East Coast. And it dropped enough snow to stop traffic on I-75 between London, KY and Lexington. While it was reminiscent of the I-65 snow last winter that stopped traffic over near Elizabethtown, this one proba-

bly wasn't quite as bad. But the Kentucky ARES folks responded, at least in the "ready" mode. KEN was activated on

3.9725 MHz, and several local nets were called up throughout the area.

No one actually deployed, but all the procedures were in place to do so.

Thanks to everyone who participated!

Who's an expert? Here's a story for you. Maybe it has to do with the fact that we are called amateur radio operators. Or maybe it's something else. I was asked recently to help find someone who could do a presentation on wire antennas for one of the clubs in our area. So I started asking around for an expert. People I thought were experts declined, saying that they weren't experts. After a while, I started thinking about the term, and decided that must be what was making the search difficult. No one wants to self-identify as an expert. We all have this mental picture of an expert as someone who knows so much about resonance, reactance, impedance, theory, and the ability to use complex antenna-modelling systems. What about the practical? How many antennas has an individual constructed and put up? In my fifty-plus years of ham radio, I've put up temporary antennas for field day, permanent antennas on my house and the houses of friends, as well as antennas on public buildings, etc. Some worked well, others didn't, but I learned from what went wrong.

With that in mind, I recruited one of the non-experts (who knows a lot about antennas) and together we led a discussion with the club.

Everyone took part, and we all found out more about antennas and what to expect. By sharing what we know and asking questions about what we didn't know, we all came to a better understanding of antennas. And it was one of the better club meetings I've attended anywhere. Funny thing. Even though to my "English-teacher" mind, expert and experience seem to have the same root, one term is more intimidating than the other. Bottom line—those of us with experience should not be so hesitant to share what we know.

The winter and early spring Hamfest season is just about here. Weather permitting, I'll be seeing some of you in the next month or so.

73, Tom W8WTD Vice Director, Great Lakes Division

UPDATE for AMATEUR RADIO PARITY ACT: We continue to be encouraged by the efforts of our Washington team as they continue to foster support of the passage of the Amateur Radio Parity Act. The House version now has 118 Co-Sponsors. HR 1301 is the Bill number for the House of Representatives. The Senate version of the bill is number S 1685. If you have not done so, please contact your Senator and Congressman in Washington and encourage his/her support for the Act. You can find more information at <http://www.arrl.org/amateur-radio-parity-act>.

Please be sure to route your letters through ARRL Headquarters for personal delivery: ARRL, Attn: Amateur Radio Parity Act grassroots campaign, 225 Main St., Newington, CT 06111.

HAMFESTING:

Here is the current Great Lakes Division ARRL Sanctioned Hamfest Schedule for 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!

Feb 6 - HARA Swap -	Negaunee, MI
Feb 13 - Cherryland -	Traverse City, MI
Feb 21 - Mansfield -	Mansfield, OH
Feb 21 - Livonia -	Livonia, MI
Mar 5 - Cave City -	Cave City, KY
Mar 6 - NOARS -	Elyria, OH
Mar 19 - Crossroads -	Kalamazoo, MI
Mar 20 - TMRA -	Perrysburg, OH
Mar 26 - MOVARC -	Gallipolis, OH

73, See you on the bands.

Dale Williams WA8EFK

Director

Great Lakes Division



ARRL PROPAGATION BULLETIN

Propagation Forecast Bulletin 6 ARLP006 From Tad Cook, K7RA Seattle, WA February 5, 2016 To all radio amateurs

SB PROP ARL ARLP006
ARLP006 Propagation de K7RA

Over the recent reporting week (January 28 through February 3) both sunspot and solar flux averages were down a negligible amount, and geomagnetic numbers were down substantially, compared to the previous seven days.

Average daily sunspot numbers declined from 57.3 to 50.6, while average daily solar flux values went from 106 to 105.4. Average daily planetary A index softened from 11.6 to 7.3, while the mid-latitude A index (measured in Fredericksburg, Virginia) went from 7.6 to 5.6.

The latest predicted solar flux is 125 on February 5-6, 120 on February 7, 115 on February 8, 110 on February 9-11, 105 on February 12-20, 100 on February 21 through March 2, 95 on March 3, 90 on March 4-5, 95 on March 6-8 and 105 on March 9-18.

Predicted mid-latitude A index is 6 on February 5, 5 on February 6, then 8, 18, and 12 on February 7-9, 6 on February 10-11, 5 on February 12-16, then 10, 15, 12 and 10 on February 17-20, 5 on February 21-27, then 8 on February 28-29, 15 and 8 on March 1-2, 5 on March 3-5, then 12, 10 and 8 on March 6-8 and 5 on March 9-15.

OK1MGW predicts geomagnetic activity will be mostly quiet February 5-6, quiet to active February 7-8, quiet to unsettled February 9-10, mostly quiet February 11, quiet February 12-14, quiet to unsettled February 15, quiet to active February 16-18, quiet to unsettled February 19-20, mostly quiet February 21, quiet February 22-25, mostly quiet February 26-28, quiet to active February 29 through March 1, and quiet to unsettled March 2.

During the March 16-18 period when he predicts quiet to active conditions, we may see active to disturbed conditions March 16-17, although he is uncertain about this.

He says we may see increased solar wind on February 7-8, 16-18 and February 29 through March 1.

Skip Burroughs, KS5KIP of Capitan, New Mexico sent a query about how to apply some of the data from this bulletin to get a feel for what propagation will be like.

One way to do this is to use a propagation prediction program and do predictions based on your location for various locations and frequencies of interest.

One free program for doing this is W6ELprop, which you can download from <http://brucerichards.com/army/w6elprop.htm>. K9LA has some more info on running the program here: http://k9la.us/Propagation_101_23Sep07.pdf and here: http://k9la.us/W6ELProp_tutorial.pdf

Basically what we want to see in the weekly numbers are rising solar flux and sunspot numbers and lower A index, at least ideally.

You could take the average daily sunspot number from the bottom of this bulletin (50.6 in this bulletin) and use that in the program.

If we run that for Capitan, New Mexico for this Sunday toward Japan, we see that 40 meters should be good 0600-1500 UTC, with best signals around 0900-1400 UTC. 30 meters seems good 0700-1430 UTC, 20 meters looks rather weak, but possibilities include 2100-0300 UTC and another possible opening at 1500-1600 UTC. 17 meters looks much stronger 2130-0200 UTC, and 15 meters 2200-0030 UTC. 12 meters looks promising 2230-2330 UTC.

From Capitan to Chicago, 15 meters looks possible 1730-2000 UTC, 17 meters looks better 1630-2200 UTC, 20 meters 1500-0000 UTC and 30 meters 1330-0130 UTC. 40 meters looks excellent any time of the day or night, with

best signals 0100-1300 UTC and open, but about 13 db lower signals but still open 1730-1930 UTC. 75 meters looks best
0130-1230 UTC.

Vary the date using the same numbers, and you will see seasonal effects on propagation. For instance, the path to Japan on March 22 opens on 17 meters an hour earlier and closes over 2 hours later.

Next week I should have an evaluation copy of ACE-HF, another propagation tool and I hope to review it.

Now that January is over, we can look at our 3-month moving averages of sunspot numbers to check the progression of this solar cycle. This gives us the latest number, centered on December 2015.

We saw the peak centered on February and March 2014, when the three month moving averages were 146.4 and 148.2. The highest single monthly average at the peak of the solar cycle was February 2014, at 174.6.

The latest 3-month average was 55.4 centered on December 2015, which included all of the daily sunspot numbers from November 1, 2015 through January 31 2016.

The 3-month moving averages of sunspot numbers centered on January through December 2015 were 98.2, 78.1, 68.2, 72.4, 77.7, 76.3, 69.1, 67.5, 64.5, 64.6, 58.5 and 55.4. With this moving average you can see a smooth, steady decline in cycle 24.

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

For more information concerning radio propagation, see the ARRL Technical Information Service web site 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/>.

My own archives of the NOAA/USAF daily 45 day forecast for solar flux and planetary A index are in downloadable spreadsheet format at <http://bit.ly/1VOqf9B> and <http://bit.ly/1DcpaC5>.

Click on "Download this file" to download the archive, and ignore the security warning about file format. Pop-up blockers may suppress the download.

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 January 28 through February 3 were 64, 49, 30, 39, 42, 52, and 78, with a mean of 50.6. 10.7 cm flux was 109.9, 106.9, 105.1, 101.2, 100.2, 102.1, and 112.1, with a mean of 105.4. Estimated planetary A indices were 6, 3, 3, 10, 9, 6, and 14, with a mean of 7.3. Estimated mid-latitude A indices were 5, 3, 3, 8, 6, 4, and 10, with a mean of 5.6.



ARRL DX NEWS

DX Bulletin 5 ARLD005
From ARRL Headquarters
Newington CT February 4, 2016
To all radio amateurs

SB DX ARL ARLD005
ARLD005 DX news

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

MAURITIUS, 3B8. Eric, OE4AAC will be QRV as 3B8HD from February 11 to March 1. Activity will be holiday style on the HF bands using CW. QSL to home call.

SRI LANKA, 4S. Peter, DC0KK is QRV as 4S7KKG from Moragalla, IOTA AS-003, until April 3. Activity is on 20 to 10 meters using mostly CW with some digital modes. QSL to home call.

TOGO, 5V. Wim, ON6DX will be QRV as 5V7TH from Lome from February 10 to 22. Activity will be on 40 to 6 meters using CW, SSB and RTTY during his local mornings and evenings. QSL via operator's instructions.

LESOTHO, 7S. Members of the radio club F6KOP will be QRV as 7P8C from February 8 to 17. Activity will be on 160 to 6 meters using CW, SSB and RTTY with five stations active. QSL via F5GSJ.

KUWAIT, 9K. Special event station 9K55NLD is QRV until the end of February to celebrate Kuwait's National Liberation Day. QSL via 9K2NO.

BAHAMAS, C6. Drew, N2RFA will be QRV as C6ABB from Cable Beach, IOTA NA-001, from February 8 to 18. Activity will be on 80, 40, 20, 17, 12 and 10 meters using RTTY, SSTV, PSK31 and JT65. QSL direct to home call.

EASTER ISLAND, CE0. After his French Polynesia activity, Bob, W7YAQ plans to be QRV as CE0Y/W7YAQ from February 10 to 14. He will be active holiday style on 40 to 15 meters using CW and RTTY. QSL to home call.

ANGOLA, D2. Anna, RW4HRA is now QRV as D3YL from Katoku. Activity is on the HF bands. QSL via RA4HT.

FEDERAL REPUBLIC OF GERMANY, DA. Special event station DQ200RHH is QRV during 2016 to commemorate the founding of Rheinhessen, a major German wine-growing region 200 years ago. QSL via bureau.

FRENCH POLYNESIA, FO. Bob, W7YAQ will be QRV as FO/W7YAQ from Moorea, IOTA OC-046, on February 6 and 7. Activity will be on 40 to 15 meters using CW and RTTY. QSL to home call.

MARIANA ISLANDS, KH0. Look for N0J to be QRV from Tinian Island from February 10 to 15. Activity will be on the HF bands using CW and SSB. QSL via JQ2GYU.

PALAU, T8. Joerg, DF9LJ is QRV as T88EU until February 12. Activity is holiday style on the HF bands using mostly CW. QSL to home call.

MALI, TZ. Jeff, TZ4AM is now active on 80 meters. QSL via W4VAB.

NAMIBIA, V5. Werner, DC8QT, Georg, DD8ZX and Klaus, DJ9KM plan to be QRV as V5/home calls from Omaruru from February 9 to 18 while on holiday. Activity will be on 160 to 10 meters, and possibly 6 meters, using SSB, RTTY and PSK. They may be active as V55V in the upcoming CQ World Wide RTTY WPX contest. QSL V55V via DJ8VC and all others to home calls.

ROMANIA, YO. Special event station YO2016BALKAN is QRV until the end of February during this year's Balkanic HF Championships. QSL via YO3KAA.

OPERATION APPROVED FOR DXCC CREDIT. The following operation is approved for DXCC Credit: Chad, TT8AMO, 2015 operation.

THIS WEEKEND ON THE RADIO. The 10-10 International Winter SSB Contest, Mexico RTTY International Contest, North American CW Sprint, NCCC RTTY Sprint, QRP CW Fox Hunt, NCCC Sprint CW Ladder, YLRL YL-OM SSB Contest, Triathlon DX Contest, Vermont QSO Party, F9AA CW Cup, Black Sea Cup International, FYBO Winter QRP Sprint, Minnesota QSO Party, AGCW Straight Key CW Party, British Columbia QSO Party and the FISTS Winter Slow Speed CW Sprint will certainly keep contesters busy this upcoming weekend.

The QRP CW Fox Hunt, Phone Fray, CWops Mini-CWT CW Test and RSGB 80-Meter Club Data Championship are all scheduled for February 10.

The ARRL School Club Roundup runs from February 8 to 12.

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

Please see February 2016 QST, page 92, and the ARRL and WA7BNM contest web sites for details.
NNNN

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UP AREA HAM FEST INFORMATION

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Space
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Escanaba, MI
www.dcars.org*

*Cooper Country Radio Amateur
Dollar Bay, MI
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

Vice President

Scott Jarmusch, KA8TFF

Secretary:

Joe Ferris, KC9TQR
irferris@borderlandnet.net

Treasurer:

Debbie Garbowski, KD8VTS
(906) 284 -2450
kd8vts@gmail.com

Editor:

Tom Heyboer, KC8TH
(906) 779-0481
Heyboer.tom@gmail.com

Web Editor:

Tom Heyboer, KC8TH
(906) 779-0481
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 GR Master Pro, 40 watt output. The 440 MHZ repeater is a GE Master Pro, 80 watt output. 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.

*Hear on any Events in the UP / Wisconsin Area
 Send Info to the Newsletter Editor so the Info can get out*

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.

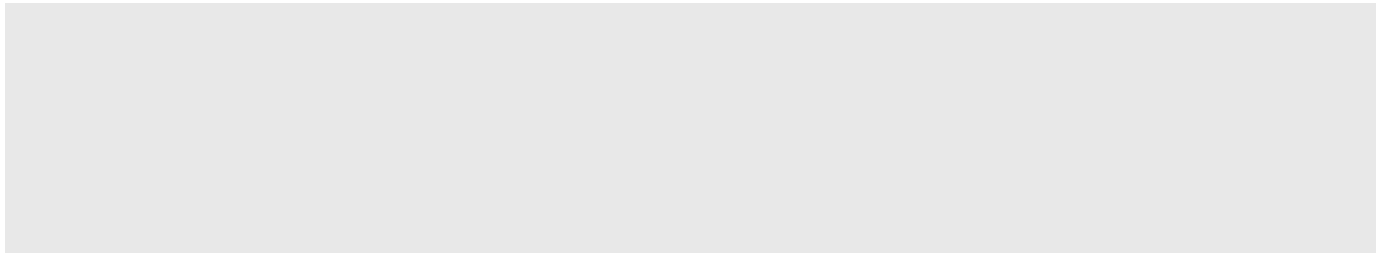
I will be thankful if and when I do make a contact.

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	wb8ebs@yahoo.com
W8XBO	ARMBRUST	ED	IRON MOUNTAIN	906-779-5593	w8xbo@sbcglobal.net
KC9KVP	BAKER	BETH	NIAGARA		
KB9AVX	BAKER	SCOTT	NIAGARA	715-251-1944	kb9avx@yahoo.com
KB8SBP	BERTOLDI	BILL	KINGSFORD		
W8BEY	BEY	DANA L.	KINGSFORD	906-774-7937	lst797@charter.net
KE9L	CASWELL	SKIP	IRON MOUNTAIN	906-774-3371	acaswell4238@charter.net
KC8QZG	DAKE	DAVE	NEWBERRY		
KC9ZBC	DOLATOWSKI	SCOTT	GOODMAN	715-633-1006	kc9zbc@live.com
KC9TQR	FERRIS	JOE	FLORENCE	517-589-4386	jrferris@borderlandnet.net
KG8NK	GEMBOLIS	LOUIS	ISHPEMING	906-485-5442	lgembolis@chartermi.net
KD8VTS	GRABOWSKI	DEBRA	CRYSTAL FALLS	906-284-2450	kd8vts@gmail.com
KD8VTT	GRABOWSKI	WILLIAM	CRYSTAL FALLS		
KC8TH	HEYBOER	TOM	IRON MOUNTAIN	906-779-0481	heyboer.tom@gmail.com
N8ATS	HOLMES	SAM	PEMBINE	906-322-8507	chopsam@centrylink.com
KA8TFF	JARMUSCH	SCOTT	IRON MOUNTAIN		
KB9EMU	KNUTSON	WILLIAM	FENCE	715-336-2250	dknutson54@gmail.com
KB8ETK	KOMBLEVICZ	JOSEPH	IRON MOUNTAIN	906-774-4094	kombleviczj@charter.net
W8JWN	MARTIN	THOMAS	IRON MOUNTAIN	906-774-5463	tmartin@chartermi.net
WA8FXQ	MEYERS	BOB	VULCAN	906-396-0119	meyersb@uplogon.com
KC8LRP	MEYERS	MARGE	VULCAN	906-396-8913	mgmeyer@uplogon.com
N8TUM	MILLER	TIMOTHY	FLORENCE	715-696-6517	timmiller.up@gmail.com
K9TRY	MORIARITY	TERRY	NIAGARA	715-251-1670	kb9zer@yahoo.com
ND8M	PAUL	JARED	NORWAY	989-660-9535	jaredpaul@me.com
KD8SZA	PAUL	MICHELLE	NORWAY		
KC9NFT	PERRON	BARRY	FLORENCE	715-696-6175	bperron2@netzero.com
KC8JRI	REED	GORDY	IRON MOUNTAIN	906-779-1254	gordyreed@charter.net
K8ABS	RIVERSIDE	JIM	IRON MOUNTAIN	906-458-0773	jriverside@charter.net
W8IFI	RYE	JIM	CRYSTAL FALLS	906-875-3582	jimrye@up.net
KG9Y	THOMAS	DAVE	NIAGARA	715-251-1393	kg9y@arrl.net





Hewlett-Packard

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.