



MICH-A-CON

Iron Mountain,
Dickinson County, Mich

April 2020

Meeting Reminder: Second Wednesday of the Month

Which is **April 8, 2020** at 07:00 PM at the Dickinson Library, Iron Mountain.
Please be there and support the cause of Amateur Radio.

CANCELED DUE TO COVID-19 GOVERNMENT RESTRICTIONS

From The President

I hope that these "Words" find you all safe and healthy. What is happening across the world is definitely something that we all have never been a part of. A global pandemic is a very scary thing to witness.

When the Corona virus attacks close to home, it is a wake up call to follow the government's guidelines to social distance and avoid groups of people. One of my teacher friends died Thursday from the virus. I last saw him in December of 2019 at a Christmas party at Kingsford High School. He, although 85 years old, he was in very good health at the time. He had been a farmer in Aurora, when we taught together in the mid 70s. He brought his front loader over to my home to help me raise my tower and also welded a mast for me.

The library will be closed next week and possibly through the first part of May. Therefore, our next meeting on April 8 will be held On the Air. We will meet at 7:00 on the local repeater. I will take check ins and run a brief business meeting. After the business is concluded, we will have an "around the horn" conclusion to the meeting. That will give you a chance to tell us what you have been doing during the Stay at Home order.

The Radio Society of Great Britain has a great idea for amateurs to help with those of us with HF privileges. This will be for 6 weeks beginning April 6. [See next page.](#)

For the days, times, and modes click on the link provided below:

<https://www.rsgbcc.org/hf/rules/2020/rhqp.shtml>

See (hear) you on April 8.
73,
Tom W8JWN

Inside this issue:

<i>From The President</i>	1
<i>Secretary Report</i>	2
<i>News.....</i>	4
<i>RSGB HF</i>	4
<i>Great Lakes Division Winner Announcement</i>	5
<i>ARRL Opposed 3 GHz Elimination</i>	5
<i>WiAW Schedule 2020</i>	6
<i>ARRL Michigan Section News</i>	7
<i>ARRL Dales Tales</i>	9
<i>Propagation Bulletin</i>	10
<i>ARRL DX Report</i>	12
<i>REVIEW</i>	13
<i>Links and Stuff</i>	16
<i>About Our Club</i>	17
<i>DX Code Conduct</i>	18
<i>Membership List</i>	19
<i>Membership Form</i>	20

RSGB Hope QSO Party

A series of 90 minute duration daytime contests that has been introduced on a temporary basis to help and support radio amateurs who are isolated at home and would appreciate contact with other people.

This contest series is open to all entrants and is not restricted to RSGB members. This series is for Single Operator Fixed Stations only (please no Multi-Operator, Portable or alternative address operation entrants at this time). A requirement of the series is that participants must be in full compliance with all measures in respect of Covid-19, that are currently applied by the authorities at their station location. This series does not contribute to the HF Championship and is not linked to any RSGB Affiliated Club contests.

Scoring is "Anyone works Anyone" – a scoring QSO does not need to include a UK station.

QSOs are encouraged before and after the contest periods. We include recommended frequencies for SSB discussion after each event in these rules.

Participants are encouraged to call "CQ HQP" or "CQ Hope QSO Party". We would like to see the number of participants growing as the series runs. On SSB and CW please be sure to ask if the frequency is in use before calling.

Please enter as many or as few events as you wish - you may wish to concentrate on one mode or to try all four modes.

We suggest entrants use a CQ WPX template in their contest logging software for the SSB, CW and RTTY events; this will log correctly but will not score correctly for this series - all logs will be rescored during adjudication. For FT4 the latest WSJT-X package will be appropriate and this is described below.

If you have any queries about these rules, please e-mail hf.query@rsgbcc.org

MICH-A-CON AMATEUR RADIO CLUB MINUTES OF March 11th, 2020

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

Secretary Report

Minutes of the February 12th, 2020 meeting were read and approved.

Treasurer Report

Balances as of March 11th, 2020:

Checking: \$37.55

Savings: \$3,141.35 (Repeater: \$1,745.66)

Cash: \$118.00



Repeater Report

Bob Meyers reported that the repeater is working on the high-northeast antenna. It is getting out pretty well.

It is hoped that Al Augustine will be able to climb this Spring. Work is needed on the repeater antennas. Bob would like to have Al move the four-bay antenna to another spot on the tower. Also, Bob is checking the specifications on Comet and Diamond 5.5-foot antennas, in order to get one ordered.

Bob will give the Echolink unit another try. Dave Thomas came up with a solution to the audio problem.

Old Business

President Tom Martin reported that he filled out another form for the IRS, but has not yet received a check. A motion (Debbie Grabowski/Skip Caswell) to reimburse Tom for the money at this time, was approved unanimously.

When the IRS check arrives, the money will go to the club treasury.

In response to Pete Schlitt's request for assistance at the county EOC, Bob Meyers found the VHF/UHF radio to be working.

The HF radio has high SWR and is not receiving well. It is likely a problem with the antenna. It is difficult to access the equipment, but Bob will check on it.

A reminder was made that the club's belated holiday dinner will be held this Saturday, March 14, at Mike's On Main. The menu will be the same as for the October dinner. Cocktails will be at 5:30 with dinner at 6:30. Each member will get

\$10.00 to apply toward the cost of their dinner.

New Business

Greg Johnson, N9GJ, will be conducting a Technician license class for the Civil Air Patrol and anyone else who is interested.

He will be in need of examiners

Adjournment

Meeting adjourned at 7:28. (Terry Moriarity/Burt Armbrust)

For the Good of the Order

Attendees reported on their recent activities.

Attendees

Tom Martin	W8JWN	Sam Holmes	N8ATS
Joe Ferris	KC9TQR	Dave Thomas	KG9Y
Debbie Grabowski	KD8VTS	Greg Johnson	N9GJ
Bill Grabowski	KD8VTT	Jenni Johnson	N9GCJ
Burt Armbrust	WB8EBS	Jan Schafer	Visitor
Terry Moriarity	K9TRY	Adam Anderson	Visitor
Brian Lucas	W9BGL	Victoria Anderson	Visitor
Bob Meyers	WA8FXQ		
Skip Caswell	KE9L		
Gary Schafer	K4FMX		
Tim Miller	N8TUM		



News

RSGB HF Contest Calendar

Here are the times and dates'

- (a) The series runs for six weeks and may be repeated if circumstances have not changed significantly
- (b) Each 90 minute event will be limited to one mode but QSOs can be made on the five contest bands 80m, 40m, 20m, 15m and 10m
- (c) The Running schedule for each contest series is:

Day	Time (UTC)	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6
Monday	08:30 - 10:00	SSB	RTTY	CW	SSB	FT4	CW
Tuesday	10:00 - 11:30	CW	SSB	RTTY	CW	SSB	FT4
Wednesday	11:30 - 13:00	FT4	CW	SSB	RTTY	CW	SSB
Thursday	13:00 - 14:30	SSB	FT4	CW	SSB	RTTY	CW
Friday	14:30 - 16:00	CW	SSB	FT4	CW	SSB	RTTY

- (d) Dates and times are detailed in the [RSGB HF Contest Calendar](#).
- (e) After six weeks the series will be completed. If the series is repeated, all scores will be reset for the new series.

GREAT LAKES DIVISION WINNER ANNOUNCEMENT
(Next Page)



QST. The Mid-America Great Lakes Division has a convention, we take time to recognize those amateurs who represent amateur radio in some significant way, either over the past year or two, or throughout their time as hams.

From ARRL Headquarters
Newington, CT, February 14, 2020
We are pleased to announce those who will be honored this year as Top radio amateurs:

- * Gary Johnston, K14LA, winner of the George S. Wilson III, W4OYL Lifetime Achievement Award;
 - * Steve Smith, N8AR, and Larry Gauthier, K8UT, joint winners of the Technical Achievement Award;
 - * John Papa, K0YSE, winner of the DX Achievement Award;
 - * Alan "Abe" Friedman, K1EJ, winner of the Portage County Amateur Radio Service as the winner of the Joseph J. Phillips, K8QOE, Newsletter Award.
- This year we are also giving a special "Director's Award" for outstanding service to the amateur radio community to:
- John Loughmiller, KB9AT, for his design work on a database for

WT Docket 19-138 files and go forward to the FCC for format, <https://www.fcc.gov/ecfs/filing/1217200308588>.

Formal recognition of these people will take place at the Convention Banquet this coming Saturday evening in Perrysburg, Ohio. Our the 5-centimeter secondary amateur radio allocation at 5.650-5.925 GHz part of which includes the 975 Mega-hertz under consideration.

Comments are due by March 6, and reply comments are due by April 6. ARRL will be filing comments supporting no change to 5.850 - 5.925 GHz for amateurs, as included in the FCC proposal.

Dale Williams, WA8EFK, Director
Tom Delaney, W8WTD, Vice Director
NNNN

ARRL HF Band Planning Committee Seeks Comments on Recommendations

The ARRL HF Band Planning Committee is seeking comments and suggestions from the Amateur Radio community on its report to the ARRL Board. At the Board's January meeting, the committee presented its specific recommendations in graphical form for each HF band and each US license class, with the goal of increasing harmony on the HF bands, particularly between CW and digital users.

The recommendations can be found online in PDF format on the arrrl.org web site.

"In general, the committee is of the opinion that there is justification for additional space to become available for digital modes, as well as for the operation of digital stations under automatic control," the committee told the Board. "The very changes in spectrum usage that have required our committee's resurgence indicate that digital modes of communication are already increasing in popularity, and the trend is expected to continue or even accelerate. To this end, we have tried to ensure that digital allocations are sufficient for at least a modicum of growth."

The committee also anticipates an increase in automatically controlled digital stations (ACDS). The report further points to "significant use" of modern data modes in emergency communication and said its recommendations provide significant support for the evolution and continued relevance of amateur radio. "Our failure to adapt to these needs could consign amateur radio to the technological scrap heap," the report said.

The committee was revived last summer to consider conflicts between FT and JT modes and other modes. The panel's approach has been to designate distinct assignments for CW, narrowband (NB) data 500 Hz, wideband (WB) data 2800 Hz, and ACDS. For its work, the committee presumed approval of three ARRL petitions to the FCC: RM-11708 (WT Docket WT 16-239-"symbol rate" proceeding), RM-11759 (80/75 meter allocations), and RM-11828 (enhanced Technician privileg-

es). The committee also assumed that users can agree to sharing arrangements within a given allocation-narrowband vs wideband sharing within the ACDS allocation, for example. It also took into consideration how mode usage is regulated or planned elsewhere in the world.

In terms of mode classes, the committee agreed on CW, NB data, WB data, NB with ACDS, and WB with ACDS. The committee said it considered these mode classes incompatible and that they should not have overlapping allocations, with the exception of CW, which is authorized within any amateur radio allocation. The committee's approach would maintain the existing low-end 25-kHz CW-only sub-bands for exclusive use by Amateur Extra class licensees.

The panel encouraged CW identification and a listen-before-transmitting protocol for ACDS, if feasible. It also decided that a single allocation for ACDS without regard to bandwidth would be the best approach. "We note that this will put responsibility on the digital community to hold an effective dialog on the issue and to then self-regulate the users of this segment to adhere to the eventual agreement." A need for flexibility in allocations is desirable, the committee said, and considered whether allocations might be time-of-day or time-of-week dependent, for example.

"Modern amateurs must expect to adapt to this kind of fluid assignment of spectrum to incompatible uses, using time-based sharing, rather than only a single assignment," the committee said, expressing the hope that as band plan/sharing agreements are reached that they consider the advantage of non-simultaneous sharing possibilities.

Reiterating the position ARRL has taken in recent FCC filings, the committee said it sees encryption and open-source as enforcement matters as being outside the scope of the Band Planning Committee.

The Committee would like comments by February 19. Comments may be filed online at, <http://www.arrrl.org/bandplan>.

NNNN

ARLB032 W1AW 2020 Winter Operating Schedule

ARRL Bulletin 1 ARLB001
From ARRL Headquarters
Newington CT January 2, 2020
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
50.350 147.555
DIGITAL: - 3.5975 7.095 14.095 18.1025 21.095 28.095 50.350
147.555
VOICE: 1.855 3.990 7.290 14.290 18.160 21.390 28.590 50.350
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 91 in the January 2020 issue of QST or on the web at, <http://www.arrl.org/w1aw-operating-schedule>.
NNNN

ARRL MICHIGAN SECTION NEWS

Greetings to all the Amateurs of Michigan,

"May you live in interesting times", regardless of where the quote really came from, seems to fit well for our current situation. The good news is that amateur radio is a hobby that you can practice with social distancing!

Cancelled Conference and Canceled Swaps

We saw the cancellation of the Great Lakes Division Conference, and many other swaps. Most notably the Hamvention committee at the Dayton Amateur Radio Association (DARA) has also cancelled Hamvention. These groups had to make this difficult decision, and as you can see now, this will most likely be the trend for several months. I predict a rise in on the air swap nets.

Tell Me Anything Good

The guidelines of social distancing rule out most radio club meetings. Most groups who do breakfast and lunch will also put those activities on hold. Amateur radio testing has been pretty much put on hold. In face of all of this, hams are being inventive. Here's one example that crossed my desk, from the ARROW (Ann Arbor radio club).

" In light of all the folks that are now either "Bugging In' or are now "Work from Home", the ARROW radio club [Ann Arbor, MI area] has begun holding three "Shut-In Round-Table" Nets each day at 10am, 2pm, and 7pm. These nets meet on the 146.96 (no PL) repeater, while the 2pm session meets on the 443.5 DMR repeater on the "MI-Statewide" Talk Group (3126).

These are not structured nets but are more just loose knit round-tables where folks take a break from the Work-at-Home grind and reach out to their fellow Hams and share Quarantine stories, brag about who has the biggest stash of Twinkies or T.P., or talk about the projects on the bench that they finally have time to work on.

So come join us from time to time and let's all stay in touch :)"

Share with me what your groups are going to do over the next several months. I'm sure you'll all get creative about this.

Great Lakes Division Award Winners

Gary Johnston, KI4LA, winner of the George S. Wilson III, W4OYI, Lifetime Achievement Award;

Steve Smith, N8AR, and Larry Gauthier, K8UT, joint winners of the Technical Achievement Award;

John Papay, K8YSE, winner of the DX Achievement Award;

And "The Radiogram" the monthly newsletter of the Portage County Amateur Radio Service, as the winner of the Joseph J. Phillips, K8QOE, Newsletter Award.

This year we also gave a special "Director's Award" for outstanding service to the amateur radio community to: John Loughmiller, KB9AT, for his design work on a database for the new Volunteer Monitoring program established at Headquarters.

Michigan ARRL Section Staff Travel Plans

There just isn't any (physical or virtual) currently to report.

Michigan Public Service Activities

Michigan Section Traffic/ARPSC Nets (all times local)

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

MACS - MI Amateur Communications System 3.952 1000 Daily
UPN – Upper Peninsula Net 3.921 1700 Daily; Noon Sun
MIARPSC – MI Amateur Radio Public Service Corps 3.932 1700
Sun

QMN – The Michigan Net 3.563 1830 and 2200 Daily
MITN – MI Traffic Net 3.952 1900 Daily
MIDTN – MI Digital Traffic Net 3.583 (Olivia 8/500) 2000 Tu, Th,
Sat

MIADS – MI ARES D-Star Net Reflector 24A Mon 2000
D8EN - District 8 Emergency Net 3.909 Wed 2000

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

Michigan Amateur Radio Public Service Corps (ARPSC) Activities for February 2020

Station Activity Reports (SAR) for February 2020

WB8WKQ 302, K8BKM 119, KB8RCR 92, N5MKY 90, K8ED 84, ND8W 72, KE8KOC 63, WB8TQZ 34, K8RDN 30, KD8ZCM 21, WD8USA 14, KE8CEH 14, WB8RCR 12

Public Service Honor Roll (PSHR) for February 2020:

KE8BYC 249, WB8RCR 232, KE8KOC 230, KB8RCR 150, WD8USA 139, ND8W 135, N5MKY 115, WB8TQZ 110, K8ED 100, WB8WKQ 90, KC8YVF 89, K8RDN 84, KD8ZCM 81, WB8R 59, KE8CEH 42

Brass Pounder's League (BPL): No reports this month

Net traffic for February 2020:

Michigan Amateur Communications System 112

The Michigan Net 81

Michigan Traffic Net 57

Upper Peninsula Net 33

Michigan VHF Traffic Net 32

Southeastern Michigan Traffic Net 22

Michigan Digital Traffic Net 17

Saginaw County ARES Net 3

Luce County ARES Net 3

District 3 ARPSC Net 3

Northern Lower Eastern Upper Peninsula Net 1

Michigan Amateur Radio Public Service Corps 1

NTS person-hour Value for February 2020: \$ 42,267 (NOTE NTS PERSON VALUE ONLY)

More information is available at <http://nts-mi.org/>.

Come join us on our traffic and public service nets.

A hearty thanks to the hundreds of volunteers across the State of Michigan who work hard as volunteers to hone their skills month after month to make sure they are ready for any situation that may arise. Our ARPSC and NTS programs are an integral part of AuxComm, which in turn is an integral part of the Michigan State Police Homeland Security Division. Public service is in the DNA of Amateur Radio, one of many reasons we enjoy so

many radio frequencies to utilize, experiment with, and enjoy.

Final Thoughts

Dust off those rigs and get on the air! Consider chatting with locals on the neighborhood repeater or simplex channel. You might even want to try a new mode or revisit an old one (I worked a few stations just two evenings ago on RTTY.... I don't remember it being this easy).

We even joked on the air about creating a new contest. The ROTA (Rooms On The Air) would be challenging as operators scramble to activate the kitchen, dining room, etc.

Bobbi and I both are hopeful that you all stay safe and pay close attention to the changing landscape of our "new normal" for a bit. Please take this COVID-19 thing very seriously, this is more than just a new strain of the flu.

Thanks to all the radio amateurs who continue to make the hobby great! Get Active, Get Involved, and Get On The Air! I look forward to chatting with you on the air or on a conference bridge!

73

Jim K8JK

UPDATE

It never fails that the second I hit the send button to release the Section News that several new things pop into my inbox.

1. Like many other states Michigan residents have been asked to "Stay Home, Stay Safe" by an executive order signed by Governor Gretchen Whitmer earlier this week. The order clarifies that all Michigan businesses and operations must temporarily suspend in-person activities that are not necessary to sustain or protect life. The order further states that all Michiganders must stay in their homes unless they're a part of the critical infrastructure workforce, engaged in an outdoor activity, or performing tasks necessary to the health and safety of themselves or their family, like going to the hospital or grocery store.

It is important to understand that amateur radio operators are NOT considered a part of the "critical infrastructure workforce" at this time. It would not be in your best interest to use your amateur radio license as the reason you are not in compliance with this executive order. It is never acceptable for any amateur to "self deploy" in an effort to "serve".

The shelter in place initiative is an essential part of curbing the large influx of new exposures and saturation of medical response agencies.

Again, please don't self deploy, and please do not use your amateur radio license as a definition of "critical infrastructure work-

force".

2. Newly-appointed MI Section Public Information Coordinator (PIC) Ralph Katz AA8RK would like any and all Public Information Officers (PIO's) to contact him. He would like to (at least electronically) meet all PR people in the state and find out what they are doing. Ralph's e-mail is: aa8rk@arrl.net

3. The Wexaukee Amateur Radio Club has cancelled the Cadillac Hamfest scheduled for May 2, 2020. There are no plans to re-schedule in 2020. WB8WIV - Tom Warnock, President of the Wexaukee A.R.C.

Stay Home, Stay Safe, and use the extra time to light up the bands!

73

Jim K8JK

Dales Tales

Greetings, welcome to "Dale's Tales" for April, 2020.

What a difference 30 days have made. The entire Great Lakes Division is now pretty much on "Hold" for the next month or so. Cabin fever abounds and like virtually every non-essential business, even the ham bands are closed.

NUTS!

I have heard from many of our Division members and everyone seems to be geared up to endure this radical change in life-style. Even my now-faint recollections from what our parents and grandparents went through in WW II don't really compare. I remember the rationing and the blackouts, but never was there a need to hole-up at home and not associate with friends, neighbors and family.

Travel by your Director, Vice Director and Section Manager is quite limited under the current crisis. We are assuming that everyone will be back on the proverbial road when our club meetings resume. At that point, we all will extend some extra effort to make up for those missed, cancelled and rescheduled meetings.

Importantly, we radio amateurs should not declare ourselves as essential workers and self deploy. Continue close contact with your local ARES Emergency Coordinator to confirm your availability if you are needed.

Any activation of our services should come through the appropriate agency and based upon their specific need. We can all do our part by being properly prepared and ready to activate IF that call should come.

We can be thankful now for Amateur Radio and even the non-ham technologies that let us communicate today. That takes some of the edge off. Let's use it, get on the air, try some new modes, work some new stations, fill up the log. If you don't have WAS, get it; if you don't have DXCC, get it; try some meteor scatter; try FT-8 or FT-4, MFSK, PSK-31, CW, AM, SSTV, moonbounce, Digital Phone, - okay, I've only got about 75 more modes to name....You can check into some new nets, make some new friends. And there are several interesting new nets in the Great Lakes Division, all taking advantage of those who folks are now available during the day. Join in.

Hamfests are still being postponed and cancelled, much to the disappointment of many of us, but it remains critically important for all of us to continue the lock-down vigil until the Covid-19 crisis passes. Taking this action now will give us the best chance of avoiding contact while affording the medical profession to get a leg up on the test kits and materials they sorely need to treat the victims of the virus. Stay the course; we will get back to normal, even if it is a different normal.

TOM'S TOME, Comments from your ARRL Vice Director Tom W8WTD.

So much has been written about the pandemic that I don't need to say much more than to comment on what I have seen hams do in reaction. Many clubs have been meeting via video conference or chat, and that is a good thing. The repeaters are busy—well, busier than they usually are—so people are trying to stay in touch. This thing will eventually pass, and we need to continue to make plans, be prepared, and improve our capabili-

ties. Not to mention that we need to check up on each other and support those who are lonely or need help in some way. So with all the electronic means at our disposal, it's good to see that we are finding creative ways to communicate.

There are also projects, for people who are staying at home and not working. Some projects are just "catch up," and others are in the nature of new modes or something else never tried before. New hams will miss out on some in-person mentoring, but the new On the Air magazine can help with some detailed illustrations of projects. And someone they know can always talk them through it. For those who have been around a while, QST always offers a few challenges, and there are other places to find worthwhile projects. The mail and the delivery services are still working, so parts are available.

It's nice to see that someone came up with a contest idea to replace the "in-person" adventure of Hamvention. I suspect that we'll be hearing of some other contests or operating events to help us stay in touch and keep our skills going. For this part of the country, spring is welcome in that it brings warmth and sunshine, but it also brings the threat of severe weather. Let's hope we don't have to respond to those kinds of disasters along with the one we're in. But we can be ready, and we'll figure out what to do if and when we need to.

Here's hoping that some breakthroughs are made soon, and that some of this present trouble will pass quickly. In the meantime, stay strong, and get on the air!

73,

Tom

--73, Tom W8WTD Vice Director, Great Lakes Division

HAMFESTING: This is a moving target. Essentially, most hamfests in the Great Lakes Division planned through the first of June, are either cancelled or postponed. If you swap is cancelled or the date is changed, please notify ARRL HQ. We work together with the HQ staff to verify all new date selections in

the hope of mitigating date conflicts.

For the latest detail on cancelled hamfests, check the ARRL web page at:

<http://www.arrl.org/hamfests/search/page:5/keywords:Cancelled/model:Event>

4/4/20 Lincoln Trail	Elizabethtown, KY	CANCELLED
4/11/20 Crossroads	Kalamazoo, MI	CANCELLED
4/11/20 Cuyahoga Falls	Cuyahoga Falls, OH	CANCELLED
4/11/20 Letcher County	Whitesburg, KY	CANCELLED
4/18/20 Chassell Hamfest	Chassell, MI	CANCELLED
4/18/20 Portsmouth Hamfest	Portsmouth, OH	CANCELLED
4/19/20 GMARC Tech EXPO	Madison Hgts, MI	CANCELLED
4/26/20 Athens Hamfest	Athens, OH	To Be Determined
5/2/20 Cadillac Hamfest	Cadillac, MI	CANCELLED
5/17/20 Dayton Hamvention	Xenia, OH	CANCELLED

It should be noted that there has been a change in the way ARRL contributes to your hamfest efforts. Please carefully read the e-mail from ARRL Headquarters confirming your sanctioning as IT CONTAINS IMPORTANT DETAILS REGARDING PRIZES. Be sure to invite your ARRL Officials as soon as your date is set. With 52 weeks and 70+ hamfests in the Great Lakes Division, things do requires some advanced planning.

If you plan to request ARRL Hamfest Sanctioning, please do so well in advance of your Hamfest date, as this allows adequate time for QST Listings. QST requires a 3 month lead time.

73, All the best to you and your family. Ham it up!

Dale Williams WA8EFK

Director

Great Lakes Division wa8efk@arrl.org

ARRL PROPAGATION BULLETIN

QST de W1AW

Propagation Forecast Bulletin 14 ARLP014

From Tad Cook, K7RA

Seattle, WA April 4, 2020

To all radio amateurs

A new sunspot appeared on the last day in March and the first days of April, with daily sunspot numbers of 12, 13 and 12. Total sunspot area increased on each day from 10 to 20 to 30 millionths of a solar hemisphere.

Fortunately this was a cycle 25 spot, according to the magnetic signature. Prior to this no sunspots were seen since earlier in March, when daily sunspot numbers were 13 and 12 on

March 8 and 9.

Average daily solar flux this week (March 26 through April 1) declined from 71.1 to 69.4. Average daily geomagnetic indicators were identical to the previous week, with planetary A index at 7.7 and middle latitude A index at 5.9.

Predicted solar flux for the next 45 days is 70 on April 3 to 22, then 68 on April 23 to May 7, and 70 on May 8 to 17.

Predicted planetary A index is 8 on April 3, 5 on April 4 to 14, 10 on April 15, 8 on April 16 to 19, 5 on April 20 to 25, 12 on April 26 and 27, 8 on April 28 and 29, 5 on April 30 through May 11, 10 on May 12, 8 on May 13 to 16 and 5 on May 17.

Geomagnetic activity forecast for the period April 3 to 29, 2020 from OK1HH. "Geomagnetic field will be

Quiet on: April 6 and 7, 10, 20 and 21

Quiet to unsettled on: April 3 to 5, 11 to 13, 24, 28 and 29

Quiet to active on: April (8 and 9, 25)

Unsettled to active on: (April 14 to 19, 22 and 23,) 26 and 27

Active to disturbed: none predicted

Solar wind will intensify on: April 9, 12 and 13, (15 and 16,) 17 to 19, (20,) 26 to 28

- Parenthesis means lower probability of activity enhancement.
- The predictability of changes remains lower as there are no indications."

Chip, K7JA reports, "The late afternoon of March 31st, 2020 brought a 6-meter opening to the southern half of California, as well as states to the east. Here in DM03, south of Los Angeles, I worked Dale, CE2SV on FT8 at 2325 UTC, followed by CE3BN, XQ3MCC, and XQ3SK/4. Worked CE2SV on CW at 0002 UTC (1 April), and several other CE and LU stations were heard but not worked, along with HC2GR. "Flags" from PSKReporter indicate that I was heard by a total of seven CE stations, plus LU9FVS. Because we are so far north (geomagnetically), I suspect this may well have been an E-to-TEP path. Stations as far north as the San Francisco Bay area got in on the opening, as well. Nothing on the afternoon of April 1st, but you can bet the entire West Coast is watching.

I run about 180 Watts from a TS-990 to a 7-element LFA (Loop Fed Array) about 72 feet high."

Jon Jones, NOJK commented. "Remarkable results with a solar flux of only 69."

NOJK also reported, "Sporadic-E propagation appeared on 50 MHz the afternoon of March 28 from Kansas to Florida. I worked NORW in grid EL87 on 6 Meter FT8 at 2242z. I decoded WB4JPG (EM71) but no contact.

KF0M in Wichita, KS EM17 also made several 6 Meter Es contacts with Florida stations including K3VN. He copied W5LDA (EM15) working CO3JR (EL83) at 2355z on FT8.

Sporadic-E is rare in March. The month of March has the lowest occurrence of sporadic-E of any month for the northern hemisphere."

WB5AGZ reported from Stillwater, Oklahoma:

"I have been hearing what I believe to be Sporadic E almost every afternoon since about last Sunday, March 29.

It is weak but certainly present with long slow fades.

The first evidence was a few seconds during the afternoon of March 29 with a repeater system in North Carolina. The opening was never long enough to pick out a complete call sign but one could hear parts of the repeater's voice ID.

The exact time is not known because this is a recording made over many hours from a scanner connected to a computer running software that makes a VOX-style sound recording without

individual time stamps.

It is now Thursday April 2 and a playback from Wednesday picked up a long QSO between two amateurs using the KQ2H system in the New York City area.

Signals were just strong enough to mostly copy with very long periods in which it sounded like a system in a town almost out of range coming via ground wave propagation and then there would be a fade and then it came back.

A recorded female voice announced the time as 7:15 which is as close to a time stamp as I have. In the Central Daylight time zone, this would have been 18:15 or 23:15 UTC. The antenna is a discone about 50 FT above ground feeding a Uniden BCD996XT scanner tuning 6 and 10 meters. Hopefully, we will get much better Es in days and weeks to come." Space.com offers a solar cycle observation: <https://www.space.com/new-solar-cycle-starting-any-day-now.html>

Ken, N4SO reports from Alabama, "This late night propagation is now setting a pattern.

Mode: FT8, Frequency 21.074 MHZ

March 31 12:27 AM local start time, ending 12:30 AM local (the four digits on the left are UTC)

The stations are located in Australia and New Zealand

052730 -14 0.2 1196 ~ VR2XYL ZM3SSB RE66

052800 -16 0.2 1196 ~ VR2XYL ZM3SSB RE66

052830 -16 0.2 1195 ~ VR2XYL ZM3SSB RE66

053000 -16 0.2 1196 ~ VR2XYL ZM3SSB RE66

The radio is often left on to monitor the frequency 21.074 MHZ." You can use pskreporter to see what Ken is currently hearing.

Go to <https://www.pskreporter.info/pskmap.html> and select 15m and signals received by N4SO using FT8.

KA3JAW monitors 11 meters. "On Tuesday, March 31, 2020, eleven days after the passing of the spring equinox (March 20), unexpected visitors waved their hands on the 11 meter band for attention for six straight hours.

At 4:37 pm local (ET) Mid-Atlantic states noticed sporadic-e signals originating from the southeastern states of LA, MS, AL, FL, GA.

One hour later, states of TN, AR, then the furthest Gulf of Mexico state of TX along the northeastern corner borders of AR and LA that ranged out to 1,200 average air miles near the city of Tyler.

During the 9 pm hour, sporadic-e was slowly degenerating.

At 10:28 pm it had dispersed into The Twilight Zone.

The last time an event like this took place, with half its time was way back on Monday, February 24th from 9:58 am to 12:49 pm local time (ET)."

Thanks to Don Wright, AA2F for catching an error in the earlier version of this bulletin in the ARRL Letter, in which I neglected to update the solar flux and sunspot number averages from last week's numbers. One thing that contributed to the confusion

was the fact that the averages for the geomagnetic indices were exactly the same as the previous week's data.

If you would like to make a comment or have a tip for our readers, email the author at, k7ra@arrl.net. <http://www.arrl.org/propagation> and the ARRL Technical Information Service at <http://arrl.org/propagation-of-rf-signals>. For an explanation of numbers used in this bulletin, see <http://arrl.org/the-sun-the-earth-the-ionosphere>.

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

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

Sunspot numbers for March 26 through April 1, 2020 were 0, 0, 0, 0, 12, and 13, with a mean of 3.6. 10.7 cm flux was 70.2, 69.4, 69.2, 68.8, 69.3, 69.9, and 69.2, with a mean of 69.4. Estimated planetary A indices were 5, 5, 5, 7, 11, 15, and 6, with a mean of 7.7. Middle latitude A index was 5, 4, 4, 6, 8, 10, and 4, with a mean of 5.9.

NNNN

ARRL DX NEWS

QST de W1AW
DX Bulletin 14 ARLD014
From ARRL Headquarters
Newington CT April 2, 2020
To all radio amateurs

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

NORFOLK ISLAND, VK9N. Janusz, SP9FIH continues to be active as VK9NK. Activity is on 160 to 10 meters using SSB, RTTY and FT8. QSL via SP9FIH or ClubLog's OQRS.

TURKEY, TA. TC100KIDS is QRV until the end of the month. Look for them on SSB and CW. This event is for the National Sovereignty and Children's Day. Also, members of the Tango Alpha Ham Radio Club (YM1KE) will be active using the special event call sign TC1STAYHOME for awareness of COVID-19 pandemic, until May 5. QSL via info on QRZ.com.

BRAZIL, PY. Special call ZW75FEB celebrates the 75th anniversary of the end of World War II and will be QRV through May 31. QSL via PT2ADM, bureau or direct. Also, during April, special event station ZW60DF celebrates the inauguration of Brasilia as Brazil's new capital in 1960. QSL via LoTW or PT2GTI.

SERBIA, YU. Look for special call YU2020IARU through the end of the year, to note the 25th General Conference of the International Amateur Radio Union.

CZECH REPUBLIC, OL30. Members of the Czechoslovak DX Club will be active as OL30DXC until the end of the year, to celebrate CSDXC's 30th anniversary. Operations will be on various HF and VHF bands using CW, SSB, FM and digital

modes. QSL via OK2PXJ.

PALAU, T8. Operators Hirota, JA6KYU, Munehiro, JR6DRH, Mike, JA6EGL and Toshiya, JH6HZH, will be active as T88HS, T88RH, T88SM and T88HZ, respectively, from October 14 to 21. Activity will be holiday style on 160 to 6 meters using CW, SSB and digital modes. QSL via home calls.

SPAIN, EA. The DXXE Group marks its 15th anniversary with the call signs AO5DXX, operator Salva, EA5BB and AO5DXX/8, operator Juan, EA8RM, until April 15. QSL via LoTW.

FRANCE, TM. Thierry, F4GVO joins the DXXE celebrations as TM15DXXE during the first half of April. QSL via LoTW.

ITALY, I. The Mediterraneo DX Club celebrates its 10th anniversary during April as I15MPI. QSL via LoTW. In addition, the ARI Fidenza Club is putting a number of special event call signs on the air during 2020 to commemorate the life and achievements of Guglielmo Marconi. In April, I14FTX celebrates the first transatlantic wireless broadcast in 1901. QSL via IQ4FE.

BULGARIA, LZ. The Bulgarian Radio Club Blagovestnik (LZ1KCP) honors the memory of Orthodox saints during April with the call sign LZ6031L. QSL via bureau or LZ1KCP direct.

NETHERLANDS, PA. Special event station PA75ASN commemorates the liberation of the city of Assen during World War II. They are QRV until May 7. QSL via bureau or direct via PAOVCC.

SLOVENIA, S5. Members of the radio club S59FOP will be marking Earth Day, April 22, on the air with the call sign S50EARTH during April. QSL via eQSL.

POLAND, SP. SN100KW commemorates the 100th birthday of



Pope John Paul II (born Karol Jozef Wojtyla) on May 18 in 1920. They will be QRV during April and May on the HF bands. QSL via SP3PGS.

AUSTRALIA, VK. The Western and Northern Suburbs Amateur Radio Club (WANSARC) celebrates its 50th anniversary as VI50AWS, until the end of August.

SAUDI ARABIA, HZ. Special event call HZ1WARD will be on the air during the 2020 World Amateur Radio Day, April 18th.

THIS WEEKEND ON THE RADIO. The LZ Open 40 Meter Sprint Contest, PODXS 070 Club PSK 31 Flavors Contest, Nebraska QSO Party, Louisiana QSO Party, Mississippi QSO Party, Missouri QSO Party, Florida State Parks On the Air, SP DX Contest, EA RTTY Contest, North American SSB Sprint, UBA Spring Contest, 6 Meters and the RSGB RoLo SSB will keep contesters very busy this weekend. Please see April 2020 QST, page 71 and the ARRL and WA7BNM contest websites for details. NNNN

Review

This section is dedicated to refreshing what qualified our Licensing. Something different will appear each month. Enjoy....

T1B10: Which of the following HF bands have frequencies available to the Technician class operator for RTTY and data transmissions?

- A. 10 meter, 12 meter, 17 meter, and 40 meter bands
- B. 10 meter, 15 meter, 40 meter, and 80 meter bands
- C. 30 meter band only
- D. 10 meter band only

T2B09: What is a talk group o a DMR digital repeater?

- A. A group of operators sharing common interests
- B. A way for groups of users to share a channel at different times without being heard by other users on the channel
- C. A protocol that increases the signal-to-noise ratio when multiple repeaters are linked together
- D. A net that meets at a particular time

T3B08: What are the frequency limits of the VHF spectrum?

- A. 30 to 300 kHz
- B. 30 to 300 MHz
- C. 300 to 3000 kHz
- D. 300 to 3000 MHz

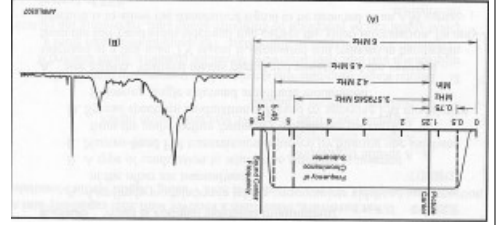
G1B07: What are the restrictions on the use of abbreviations or procedural signals in the Amateur Service?

- A. Only 'Q' signals are permitted
- B. They may be used if they do not obscure the meaning of a message
- C. They are not permitted
- D. Only '10 codes' are permitted

- G2B10: When may the FCC restrict normal frequency operations of amateur stations participating in RACES?
- A. When they declare a temporary state of communication emergency
 - B. When they seize your equipment for use in disaster communications
 - C. Only when all amateur stations are instructed to stop transmitting
 - D. When the President's War Emergency Powers have been invoked
- G3B05: What usually happens to radio waves with frequencies below the MUF and above the LUF when they are sent into the ionosphere?
- A. They are bent back to the Earth
 - B. They pass through the ionosphere
 - C. They are amplified by interaction with the ionosphere
 - D. They are bent and trapped in the ionosphere to circle the Earth
- E1B07: What is the highest modulation index permitted at the highest modulation frequency for angle modulation below 29 MHz?
- A. 0.5
 - B. 1.0
 - C. 2.0
 - D. 3.0
- E2B07: What is the name of the signal component that carries color information in NTSC video?
- A. Luminance
 - B. Chroma
 - C. Hue
 - D. Spectral Intensity
- E3B04: What is meant by the terms extraordinary and ordinary waves?
- A. Extraordinary waves describe rare long skip propagation compared to ordinary waves which travel shorter distances
 - B. Independent waves created in the ionosphere that are elliptically polarized
 - C. Long path and short path waves
 - D. Refracted rays and reflected waves

ANSWERS

Figure E2B05 — The frequency spectrum of a color fast-scan TV signal. The frequency spectrum of a color fast-scan TV signal is shown in part A. The vertical sidebar to the left of the line labeled "Picture Carrier" and occupies a bandwidth of 1.25 MHz. Part B shows the spectrum analyzer view of a typical fast-scan TV signal.



Technician HF Privileges (200 watts PEP maximum output)

Band (Wavelength)	Frequency (MHz)
80 meters	3.525-3.600 (CW only)
40 meters	7.025-7.125 (CW only)
15 meters	21.025-21.200 (CW, RTTY and data)
10 meters	28.000-28.300 (CW, RTTY and data)
	28.300-28.500 (CW and SSB)

RF Spectrum Ranges [T3B08 - T3B10]

Range Name	Abbreviation	Frequency Range
Very Low Frequency	VLF	3 kHz - 30 kHz
Low Frequency	LF	30 kHz - 300 kHz
Medium Frequency	MF	300 kHz - 3 MHz
High Frequency	HF	3 MHz - 30 MHz
Very High Frequency	VHF	30 MHz - 300 MHz
Ultra High Frequency	UHF	300 MHz - 3 GHz
Super High Frequency	SHF	3 GHz - 30 GHz
Extremely High Frequency	EHF	30 GHz - 300 GHz

- T3B08: B**
- users on the channel. allow groups of users to share a channel at different times without being heard by other the group and your audio will be shared with all other members of the group. Talk groups group has an ID or code. By programming your radio with those ID's and codes, you can join T2B09: B: The central DMR controller organizes users of the DMR network into talk groups. Each talk T1B10: D: [97.301(e), 97.305(c)] See chart, 10 meters: 28.000 - 28.300 (CW, RTTY, data) 28.300 - 28.500 (CW, SSB)
- G1B07: B: [97.113(a)(4)]** The use of common abbreviations and procedural signals is standard practice and does not obscure the meaning of a message because their meaning is well known. Any use of abbreviations or codes for the purpose of obscuring the meaning of communication is prohibited.
- G2B10: D: [97.407(b)]** If the War Emergency Powers have been activated, RACES stations are restricted to operations in the frequency ranges paragraph 97.407(b)
- G3B05: A:** The Maximum Usable Frequency (MUF) relates to a particular desired destination. The MUF is the highest frequency that will allow the radio waves to reach its desired destination using the E or F region propagation. There is no single MUF for a given transmitter location, it will vary depending on the direction and distance to the station you are attempting to contact. Signals at frequencies lower than the MUF are generally bent back to Earth. Signals at frequencies higher than the MUF will pass through the ionosphere instead of being bent back to Earth.
- E1B07: B: [97.307]** Higher modulation indexes result in wider signal bandwidths than are necessary for good amateur practices.
- E2B07: B:** Also referred to as chrominance, the chroma signal is combined with the basic monochrome (black and white) TV signal.
- E3B04: B:** A radio wave entering an ionized region like the ionosphere in which there is also a magnetic field, will split into two waves which are elliptically polarized with their E fields at right angles to each other. These are the extraordinary and ordinary waves which each take a separate path to the receiver

LINKS AND STUFF

Under re-construction. Watch for the orange barrels

Area Repeaters

Escanaba 147.15+	100.0
	145.13- No PL
Wells	444.30+ No PL
Gladstone	
IRLP 4013 147.55 Smpx	100.0
Champion	146.82- 100.0
Cooks	146.70 - 110.9
GrdMarais	147.195+ No PL
Gwinn	146.64- 100.0
Iron Mtn	146.85 — 100.0 444.85 — 100.0
Iron River	145.17- 107.2
Ishpeming	146.91- No PL
IRLP 8993	443.50+ 100.0
Manistique	146.79 - No PL
Marquette	146.97 - No PL 147.27+ 100.0 444.80+ No PL
Menominee	147.00+ 107.2
Newberry	146.61 + No PL 147.09+ 114.8
Republic	147.09+ No PL
South Republic	146.82 + 100.0
Trenary	147.03 + 100.0
Wetmore	145.41- 100.0

Delta County Amateur Radio
Escanaba, MI
www.dcars.org

Copper Country Radio Amateur
Dollar Bay, MI
www.ccras.net

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

Copper County ARES
146.88
Wednesday 9pm EST

**Mich-A-Con Social and
ARES**
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://kcra-mi.net/skywarn/>

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

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

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.

SkyWarn Spotters (2018)

Steve Johnson	K8CRY	Millie Hill
Tom Martin	W8JWN	Millie Hill Overlook
Burt Armbrust	WB8EBS	Hill above Wells Fargo, along US-2
Skip Caswell	KE9L	Merriman/Granite Bluff area
Barry Perron	KC9NFT	Keyes Peak
Bob Meyers	WA8FXQ	Faithhorn area (if not in Copper Country)
Terry Moriarity	K9TRY	Niagara
Dave Thomas	KG9Y	Niagara
Bill Grabowski Debbie Grabowski	<u>KD8VTT</u> KD8VTS	Mansfield Township/Johnson Potato Farm area
Sam Holmes	N8ATS	Pike Plains, Dunbar
Joe Ferris	KC9TQR	Vicinity of CR-N, U, & C in Florence County
Scott Dolatowski	KC9ZBC	Goodman

MEMBERSHIP

Call Sign	Last Name	First Name	City	Phone	Email
WB8EBS	ARMBRUST	BURT	QUINNESEC	906-774-8383	wb8ebs@yahoo.com
KC9KVP	BAKER	BETH	NIAGARA		
KB9AVX	BAKER	SCOTT	NIAGARA	715-251-1944	kb9avx@yahoo.com
KB8SBP	BERTOLDI	BILL	KINGSFORD		
K8DDA	BRAY	MIKE	VULCAN	906-201-1550	mikebray@chartermi.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
N9MBG	FRY	ED	PEMBINE	906-221-7307	efry7849@gmail.com
KG8NK	GEMBOLIS	LOUIS	ISHPEMING	906-485-5442	lgembolis@chartermi.net
KE8FWN	GRABOWSKI	BILLY	CRYSTAL FALLS	?	
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
KD9HQD	LaLIBERTE	BRUCE	NIAGRA, WI	?	liberte@borderlandnet.net
KD9EWZ	LIGHTNER	FR MICHAEL	NIAGRA, WI	?	?
W9BGL	LUCAS	BRIAN			bagel99@gmail.com
KE8GHE	LUNDAMO	DUANE	?	?	?
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
KE8GHH	RITTENHOUSE	DAVE	IRON MOUNTAIN	?	?
K4FMX	SCHAFFER	GARY	NIAGRA, WI	?	GARYSCHAFFER@LARGERIVER.NET
KG9Y	THOMAS	DAVE	NIAGARA	715-251-1393	kg9y@arll.net

BLACK: Paid Members

BROWN: Past or Unpaid Members



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.