



MICH-A-CON

Iron Mountain,
Dickinson County, Mich

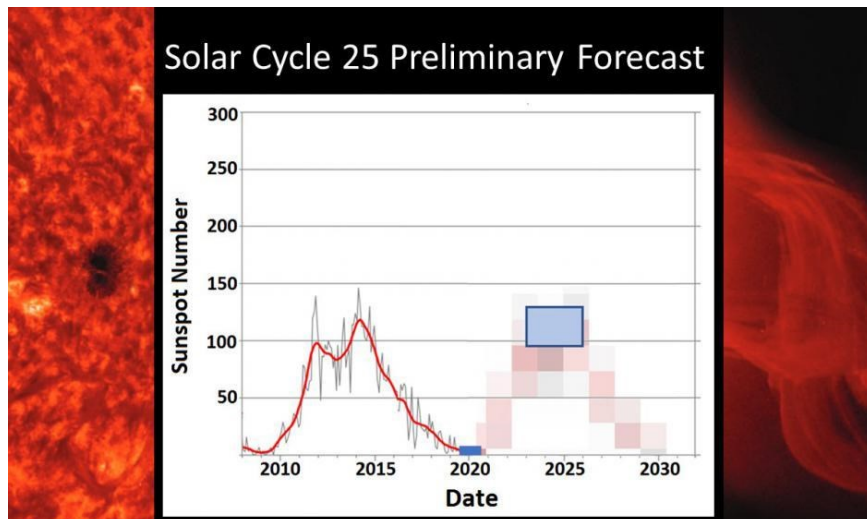
August 2019

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

Which is [August 14, 2019](#) at 07:00 PM at the Dickinson Library, Iron Mountain. Please be there and support the cause of Amateur Radio.

From The President

Words from the President



The above graphic is from NOAA Space Weather Prediction Center. I figured that this subject might come up Wednesday at our next meeting. Jack (W9MU) will be giving a presentation on propagation.

Some scientists believe that Cycle 25 has begun. Others aren't so sure. Either way, we are definitely at the bottom when it comes to radio propagation. The SFI (Solar Flux Index) seems to be locked at 68 for the whole summer!

I have had cables for antennas and my lower beam rotor unplugged for most of the summer. I will reconnect if there is a wanted FT-8 country on the air. And, if I can copy the DX on my lower antenna, or wires. I have found FT-8 to be the

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most exciting mode ever. Hands down the best. “Definitely, definitely....” as Rain Man would say. HI!!!

See you Wednesday at 7:00 in the library.
73, Tom W8JWN

MICH-A-CON AMATEUR RADIO CLUB MINUTES OF June 12, 2019

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

Secretary Report

Minutes of the June 12th, 2019 meeting were not read.

Treasurer Report

Balances as of July 10th, 2019:

Checking: \$147.25

Savings: \$2,600.65 (Repeater: \$1,440.16)

Cash: \$48.00

Repeater Report

The repeater was reported to be working well. The Echolink unit is back in operation.

Al Augustine will be contacted to climb the tower for the repeater antennas..

Old Business

_____ A review of the 2019 ARRL Field Day determined:

A new winch is needed for the club antenna trailer

A motion to purchase a winch for the antenna trailer (Scott Jarmusch/Debbie Grabowski) passed unanimously.



A set of ramps is needed for loading and unloading the club generator from the trailer. It was decided to check at Fleet Farm for prices.

Tom Martin will check around for a site at which to hold the club's Fiftieth Anniversary dinner in October.

New Business

It was noted that hamfests will be held in the region at Tomahawk, WI on July 20th, and at Escanaba on August 3rd.

A reminder was given that Jack Hudson, W9MU, will give a presentation on propagation at the August meeting.

Adjournment

A motion to adjourn by Terry Moriarity, second by Burt Armbrust, was passed.

For the Good of the Order

Attendees reported on their recent activities.

There was no 50/50 drawing.

The 50/50 drawing was won by Terry Moriarity. The club treasury was enriched by \$25.00.

Attendees

Tom Martin	W8JWN	Terry Moriarity	K9TRY
Scott Jarmusch	KA8TFF	Jack Hudson	W9MU
Joe Ferris	KC9TQR	Jan Schafer	Visitor
Burt Armbrust	WB8EBS	Joyce Williams	Visitor
Gary Schafer	K4FMX		
Bill Grabowski	KD8VTT		
Debbie Grabowski	KD8VTS		
Brian Lucas	W9BGL		
Bruce LaLiberte	KD9HQD		



News

SURVEY FOR HAM EXAMS IN YOUR AREA:

By W8FWG For: CCRAA WEB PAGE

Reply to George R. Thumer

E-Mail: w8fwg@arrl.net

Hi: Please fill out this form and return to me at my E-Mail address of w8fwg@arrl.net

It is for our web page (www.ccraa.net) THANK YOU!

SURVEY FOR HAM EXAMS IN YOUR AREA:

Contact person: _____

Call Sign: _____

Telephone Nr (906) _____

E-Mail address: _____

Exam Location address: _____

Date of Exam ____/____/2019

Time of Exam: _____ Am? Pm?

Eastern Time? _____

Central Time? _____

Web Page: _____

City: _____

State: _____

County: _____

Zip Code: _____

Again: Please forward to MY E-Mail address at: w8fwg@arrl.net Thank you!

73,

George R. Thumer, W8FWG



ARLB032 W1AW 2019 Summer/Spring Operating Schedule

QST de W1AW
ARRL Bulletin 7 ARLB007
From ARRL Headquarters
Newington CT March 11, 2019
To all radio amateurs

ARLB007 W1AW 2019 Spring/Summer Operating Schedule

Morning Schedule:

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

Daily Visitor Operating Hours:

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

(Station closed 1600 to 1700 UTC (12 PM to 1 PM ET))

Afternoon/Evening Schedule:

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

Frequencies (MHz)

CW: 1.8025 3.5815 7.0475 14.0475 18.0975 21.0675 28.0675
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 2230 UTC (6:30 PM ET), Keplerian Elements for active amateur satellites are sent on the regular digital frequencies.

A DX bulletin replaces or is added to the regular bulletins between 0000 UTC (8 PM ET) Thursdays and 0000 UTC (8 PM ET) Fridays.

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

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

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

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

The complete W1AW Operating Schedule may be found on page 93 in the March 2019 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,

Summertime, and the DX is easy? Well, maybe not, but just the same, summer is upon us. There are a few more yummy news morsels in this edition of the Section Newsletter.

America And Space History

This month marks the 50th anniversary of the United States achievement to land a man on the moon and safely return him to Earth. The connection to amateur radio and all of the sciences cannot be overstated. Many of the technologies in use every day have a connection to all the men and women who have and still contribute to space exploration. Be sure to share your memories of this time with others in your club or amateur radio circle.

Section Staff Vacancies

I'm hopeful to be announcing a new Section Public Information Officer (PIO) soon. You'll see a formal announcement in this newsletter.

We're still also be seeking replacements for other positions throughout 2019. Some vacancies will be created as folks who have served retire, and others may need to be filled to improve activity levels within their offices. I'm always happy to talk about your ideas and potential roles you would like to take on, and since I try and make appearances at several local swaps, it shouldn't be too tough to track me down. Please remember that it's relatively easy to spot issues, but much more challenging to craft workable solutions.

2019 TAPR Digital Conference in MICHIGAN!

Mark your calendars now for the 2019 ARRL/TAPR Digital Communications Conference, September 20th through September 22nd being held at the Marriott Detroit Metro Airport Hotel. The conference schedule includes technical and introductory forums, demonstrations, a Saturday evening

banquet and an in-depth Sunday seminar. This conference is for everyone with an interest in digital communications – beginner to expert! Call 972-671-8277 or online at www.tapr.org/dcc

Send a positive message to the organizers that Michigan is the place to hold these conferences!

Section Emergency Conference

On July 13th, our Section Emergency Coordinator (SEC) John McDonough WB8RCR, held a great Emergency Coordinator Conference in Harrison, MI.

This was a fantastic event, pulling in more than 50 EC's and AEC's from the entire state of Michigan. These individuals devote countless hours in helping to insure amateur radio preparedness, and a positive image of amateur radio throughout the state.

Section Manager Nominations Are Open

As announced in the August 2019 edition of QST, it's your opportunity to submit nominations for Michigan Section Manager. Details and forms are available at the ARRL Website, www.arrl.org/section-terms-nomination-information. Petitions must be received by 4PM Eastern time September 6th, 2019. This is your opportunity to lead the Michigan Section!

Michigan ARRL Section Staff Travel Plans

September 7th , 2019 CMARC Hamfest (K8JK)
September 7th, 2019 GRARA Hamfest (WA8EFK)
September 15th, 2019 Adrian Hamfest (K8JK)

Hospitality Thanks

June 1st, 2019 Hudsonville Swap
 June 2nd , 2019 Chelsea Swap
 June 15th, 2019 Midland Swap
 June 16th, 2019 Monroe Swap

Michigan Public Service Activities

Michigan Section Traffic/ARPS Net (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 (ARPS) Activities for June 2019

Station Activity Reports (SAR) for June 2019

WB8WKQ 428, WB8TQZ 153, K8ED 134, WD8MWD 102, K8BKM 99, N5MKY 98, WD8USA 78, KE8CEH 77, KB8RCR 29, KD8ZCM 20, W8DW 12, KB8PGW 8, WB8RCR 7, KE8CYC 3

Public Service Honor Roll (PSHR) for June 2019:

KE8CYC 277, N5MKY 270, KC8YVF 254, KE8BYC 254, WB8RCR 242, WD8USA 240, WD8MWD215, KB8PGW 193, WB8TQZ 110, K8ED 100, WB8WKQ 90, KD8ZCM 90, KB8RCR 83, KE8CEH 72, W8DW 64, N8OSL 38

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

Net traffic for June 2019:

Michigan Amateur Communications System 133
 The Michigan Net 83
 Michigan Traffic Net 70
 Southeastern Michigan Traffic Net 60
 Upper Peninsula Net 37
 Great Lakes Emergency Traffic Net 37
 Michigan VHF Traffic Net 29
 Michigan Digital Traffic Net 8
 Northern Lower Eastern Upper Peninsula Net 6
 Saginaw County ARES Net 4
 Michigan Amateur Radio Public Service Corps 1

NTS person-hour Value for June 2019: \$ 36,952
 (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 ARPS 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

Thanks to all the radio amateurs who continue to make the hobby great! Get Active, Get Involved, and Get On The Air! It's Field Day, even if you just operate from outside the back door, get on the air!

73
 Jim K8JK



Dales Tales

Greetings, welcome to "Dale's Tales" for August, 2019.

In visits to hamfests and meeting with everyone, I am often asked "What is ARRL doing to promote ham radio in the news media?" As a matter of fact, we actually do a great deal in promoting our hobby, but rarely is it enough in the eyes of our members. National events and amateur radio's participation get good coverage, more of course in the region where the event occurred, but there seems to be little reporting when a local public service event occurs.

Yet, as we all know, most of the local more or less routine activities, such as parades, runs, walkathons, races, and the like, rarely get mentioned in the news much to our chagrin. So how do we fix this? We fix it by insisting upon more activity on the part of our many Public Information Officers (PIO). We have about 50 PIOs in the Great Lakes Division. These are the folks closest to the events and closest to the local news media. Many of our PIOs are on a first name basis with local reporters and media people. They are the "Go-To People" when questions about ham radio arise. And it is the PIO who is best positioned to keep the media advised of our day-to-day amateur radio activities.

To assist our PIOs in this effort, ARRL has created through our

Lifelong Learning project a complete course in Public Relations called PR-101.

The goal is to provide our PIOs with the tools necessary to help them do an outstanding job in reporting what is happening in ham radio and how ham radio benefits our communities. All PIOs and those interested in becoming one should check out <http://www.arrl.org/pr-courses> and register for the program. It is a lot about relationship building and as we all know that is the key to success in virtually everything we do these days.

Oh, and I just checked, today there are just eleven slots open for students in the forthcoming online course. So don't delay. The cost ZERO. The benefits: UNLIMITED.

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

The future of ham radio is: more hams! Younger hams. And older hams. Tech-savvy hams. Experimenters. Public service hams.

My wording, but that was the essential message at the recent Board of Directors meeting. Rick Roderick, K5UR, the ARRL

President, keeps talking about it. Howard Michel, WB2ITX, writes about it in his editorial columns. The ARRL staff is working on ways to improve our communications with those who get licensed.

And throughout the Great Lakes Division, many clubs are stepping up with classes. We've had some good numbers recently. Sadly, the overall number of licensees is down this year nationwide from a year ago. We all know that the ham population is aging. If we want the hobby/service to continue, we need to recruit more people.

There are two problems as I see it. One is getting people interested to begin with. And the second is giving them something they like to do once they are licensed. Again, some clubs are finding new ways to engage new hams, making sure they understand how to get on the air, providing challenges, and helping them with applications that might have never thought of.

We all tend to do what we know best, and most of us realize that for us, ham radio is based on what we did and still do. There are many aspects of the hobby that don't appeal to everyone equally. We need to ask ourselves what things interest Makers? They may know about the Raspberry Pi, but do they know how it can be used in ham radio? What forms of say, Mesh networks or data transfers will draw the interest of our EmComm and Public Service contingent, and will encourage further experimentation? Which group might find weak-signal propagation most interesting?

Here are two questions. Club leaders, is your club growing or shrinking? If your membership numbers are down, maybe you need to expand your horizon of what your club can do. And for everyone – what things are most likely to cause that spark of interest that will result in new challenges, new scientific breakthroughs in radio, and more enjoyment of the hobby?

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

OUR GREAT LAKES DIVISION web page does carry news from some of the recent events in the Division, useful links and information as well as some neat photos supplied from around the Division. Check it out <http://arrl-greatlakes.org/>

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

HAMFESTING: Here is the current Great Lakes Division ARRL Sanctioned Hamfest Schedule covering the next few months. These swaps have received their sanctioning approval from ARRL HQ at the time of this publication.

If you plan to request ARRL Hamfest Sanctioning, please be sure to do it well in advance of your Hamfest date, as this allows adequate time for QST Listings. Be sure to invite your ARRL Officials as soon as your date is set. Plan ahead and request your ARRL Officials to attend. With 52 weeks and 70+ hamfests in the Great Lakes Division, things do double up a little and we need to share duties.

8/3/19	Columbus Hamfest	Columbus, OH
8/3/19	U. P. Hamfest	Escanaba, MI
8/10/19	DX Engineering Hamfest	Tallmadge, OH
8/10/19	Central Kentucky	Lexington, KY
8/11/19	Seaway Trunk Swap	Port Huron, MI
8/17/19	GARS Germantown	Germantown, OH
9/7/19	GRAHamfest	Wyoming, MI
9/7/19	CMARC Hamfest	Okemos, MI
9/7/19	Greater Louisville	Shepherdsville, KY
9/8/19	Findlay Hamfest	Findlay, OH
9/14/19	Central Kentucky	Richmond, KY
9/15/19	Adrian Hamfest	Adrian, MI
9/21/19	GMARC Trunk Swap	Shelby Twp, MI
9/21/19	OHKYIN ARS Hamfest	Cincinnati, OH
9/22/19	Cleveland Hamfest	Berea, OH
9/22/19	Flying Beers Int'l	Ferndale, MI
9/28/19	Paintsville Hamfest	Paintsville, KY

73, Were you on the air today??? Ham it up!

Dale Williams WA8EFK
 Director
 Great Lakes Division
wa8efk@arrl.org

ARRL PROPAGATION BULLETIN

ZCZC AP32

QST de W1AW

Propagation Forecast Bulletin 32 ARLP032

From Tad Cook, K7RA

Seattle, WA August 9, 2019

To all radio amateurs

A new sunspot group appeared only briefly this week, on August 7 and 8. It was sunspot 2747, from current cycle 24. Sunspot numbers on Monday and Tuesday were 11 and 12.

Average daily solar flux shifted only slightly from last week, from 67 to 67.2. Average planetary A index, a geomagnetic indicator aggregated from magnetometers around the world, more than doubled, from 5 to 10.3. This was due to solar wind which raised the planetary A index to 35 on Monday. Alaska's high latitude college A index reached 61 on Monday and 24 on Tuesday.

Predicted solar flux is 68 on August 9 to 16 and 67 on August 17 through September 22.

Predicted planetary A index is 5 on August 9, then 8 on August 10 and 11, 5 on August 12 to 16, 8 on August 17 and 18, 5 on August 19 to 25, 8 on August 26 to 28, 5 on August 29 and 30, then 12, 25, 25, 16 and 8 on August 31 through September 4, then 5, 8 and 8 on September 5 to 7, 5 on September 8 to 12, 8 on September 13 and 14, then 5 on September 15 to 21 and 8 on September 22.

OK1HH sent his geomagnetic activity forecast for the period August 9 to September 4, 2019, a day early this week. There will be no forecast from him next week.

"Geomagnetic field will be Quiet on: August 12, 16, 21, September 4 Quiet to unsettled on: August 9, 13 to 15, 17, 22, 29 and 30, September 3 Quiet to active on: August 10 (- 11,) 19 and 20, 23 to 25, 28, 31 Unsettled to active on: August (18, 26 to 28), September 1, (-2) Active to disturbed- none

Solar wind will intensify on: August (9 to 14,) 27 to 29, (30 and 31, September 1 and 2)

- Parenthesis means lower probability of activity enhancement. - Next forecast will be issued on August 22"

Dr. Tamitha Skov, WX6SWW posted a new 3-hour (!) long space weather mini-course a few days ago:

<https://youtu.be/56oVhXD7AZE>

Here is her report from August 8:

<https://youtu.be/a3hiGPOHZ-U>

Tamitha will be one of the speakers this Saturday at the Pacific Northwest DX Convention, along with Joe Taylor, K1JT:

<https://pacificnwdxconvention.com/>

Mark, K4SO in Virginia wrote on August 8:

"My friend and neighbor, K1HTV, suggested I drop you a note about a brief, surprising opening on 10M this morning.

I had my small tribander (A3S) almost due north, and decided to drop down from 6M to 10M, on the way down to more 'active bands.' JTDX was running, as usual, when I got a JAlert audio message 'DX' and looked to find a decode of RVOAR, calling CQ SA. I assumed it was a broken decode of some noise, but the next cycle it changed to CQ NA.

I started calling with 100W, and turned on my Alpha 89, which features 'the longest 3 minutes in ham radio' while the filaments warm up.

I used JAlert's text function to encourage to ask him to keep calling, but no indication he was online. That is, by the way, an underutilized service. Anyway, luckily for me, his signal continued to build as the tubes warmed up.

I wondered if he was telling his local ham friends, 'Hey I just worked NA.' (in Russian of course, hi.)"

Mike, KA3JAW likes to monitor various VHF services, such as FM broadcast, for sporadic-e. He forwarded a report from William Hepburn in Grimsby, Ontario Canada who monitored over 45 minutes of e-skip from 162 MHz weather radio broadcasts from eight stations in Kansas, Arkansas, Colorado and Oklahoma from 2:19 PM to 3:06 PM local time back on July 20. Distances ranged from 839 to 1,253 miles.

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 at <http://arrl.org/propagation-of-rf-signals>. For an explanation of numbers used in this bulletin, see <http://arrl.org/the-sun-the-earth-the-ionosphere>.

An archive of past propagation bulletins is at <http://arrl.org/w1aw-bulletins-archive-propagation>. More good information and tutorials on propagation are at <http://k9la.us/>.

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

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

Sunspot numbers for August 1 through 7, 2019 were 0, 0, 0, 0, 12, 11, and 0, with a mean of 3.3. 10.7 cm flux was 66.8, 66.9, 65.7, 66.9, 68.1, 68.1, and 68, with a mean of 67.2. Estimated planetary A indices were 8, 4, 3, 4, 35, 12, and 6 with a mean of 10.3. Middle latitude A index was 8, 4, 4, 6, 20, 10, and 6, with a mean of 8.3.NNNN



ARRL DX NEWS

QST de W1AW
DX Bulletin 31 ARLD031
From ARRL Headquarters
Newington CT August 8, 2019
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.

MALDIVES, 8Q. Gil, IZ2DLV is active as 8Q7GB from Nika Island until August 18. Activity is holiday style on 40, 30, 20, 17 and 15 meters using CW, SSB and FT8. QSL via LoTW or ClubLog.

LORD HOWE ISLAND, VK9L. Rick, AI5P is active as VK9APX until August 10. Activity is on 40 to 17 meters using CW and FT8. QSL via AI5P, direct or by the Bureau only. Also, look for Michael, DF8AN, to be active as VK9LQ from November 21 to 27. Activity will be on 160 to 6 meters using CW, RTTY, FT8 and other Digital modes. QSL via home call, direct, by the Bu-

reau or eQSL.

GHANA, 9G. Chip, KB1QU will be active as 9G5QU from September 8 to 21. Activity will be on 40, 30 and 20 meters using CW, FT8 and FT4. QSL via N4GNR direct.

WESTERN KIRIBATI, T30. Operators Yuris, YL2GM, Jack, YL2KA, Kaspars, YL1ZF and Kristers, YL3JA will be active as T30L from September 6 to 15. Activity will be on 160 to 6 meters, and possibly 60 meters, using CW, SSB, RTTY and FT8. QSL via YL2GN direct or via ClubLog.

NAURU, C21. Operators Yuris, YL2GM, Jack, YL2KA, Kaspars, YL1ZF and Kristers, YL3JA will be active as C21W from September 16 to 25, after their Western Kiribati operation. Activity will be on 160 to 6 meters, and possibly 60 meters, using CW, SSB, RTTY and FT8. QSL via YL2GN direct or via ClubLog.

MADEIRA ISLANDS, CT9. Operators Gerd, DF9TS, Detlef, DK3QZ, Michael, DK6QW, Marcus, DL1EKC, Kai, DL3HAH and Andreas, DL3YM will be active as CR3W from Santana during the Worked All Europe DX CW Contest, August 10 and 11 as a Multi-Single entry. QSL CR3W via DL5AXX, OQRS or LoTW. Look for operators to be active outside of the contest as CT9/home call usually on 160 to 10 meters us-

ing CW, SSB and RTTY. QSL via their home call signs.

SOLOMON ISLANDS, H4. Operators Michael, DL2GMI and Bernhard, DL2GAC will be QRV as H44MI and H44MS, respectively, from August 23 to September 2. Activity will be on 80, 40, 20, 15, 10 and 6 meters using SSB, RTTY and FT8. QSL via their home call sign, by the Bureau, direct or LoTW.

THE NETHERLANDS, PA75. Look for special event station PA75OMG to be active September 12 to 22 to celebrate the anniversary of freedom and Operation Market Garden during World War II. QSL via the info on QRZ.com.

CUBA, T45. Members of the DX Punta Maya Group will be active as T45FM from the Punta Maya Lighthouse (NA-105, ILLW CU-032, ARLHS CU-005) from August 15 to 19. Activity will be on 160 to 10 meters using CW, SSB and the Digital modes. An emphasis will be on the International Light-house/Lightship Weekend (ILLW). QSL via RW6HS.

LIBERIA, A8. The Italian DXpedition Team of 11 operators will be active from September 28 to October 11. They plan to use two call signs: A82X for CW, SSB and RTTY and A82Z for FT8 only. Activity will be on 160 to 10 meters using CW, SSB, RTTY and FT8. They are planning to use 5 stations with maximum flexibility. QSL via OQRS, I2YSB direct only or LoTW after the operation.

ANTIGUA, V2. Bud, AA3B will be active as V26K from September 8 to 20. Activity will be sporadic because he is doing maintenance on the station but will be primarily CW on various HF bands. QSL via LoTW or via AA3B, direct or by the Bureau. An OQRS will be available via ClubLog.

MICRONESIA, V6. Al, K7AR will be active as V63AR from November 18 to 26. Activity will be on various HF bands with a focus on 160 and 80 meters, including an effort in the CQWW DX CW Contest (November 23 and 24). QSL via home call.

THIS WEEKEND ON THE RADIO. The WAE DX Contest, CW, QRP ARCI European Sprint, SKCC Weekend Sprintathon, Maryland-DC QSO Party and The 4 States QRP Group Second Sunday Sprint are all on tap for thisweekend. Please see August QST, page 84 and the ARRL and WA7BNM contest web sites for details.

NNNN

Review

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

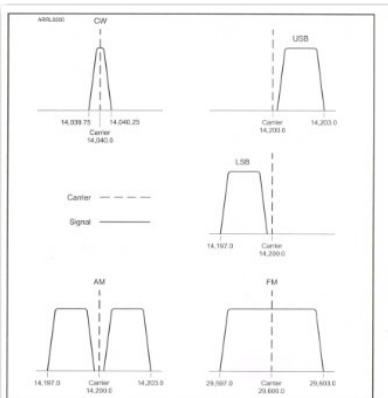


Figure E1A01 — An illustration of the relationship between carrier frequency and the actual signal sidebands. Most transceivers are configured to display the carrier frequency and not the frequency of the sidebands so the amateur needs to take care to keep all of the signal in the band.

E1A03

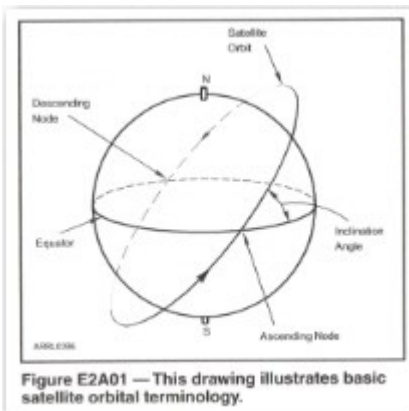


Figure E2A01 — This drawing illustrates basic satellite orbital terminology.

E2A09

Table E2-1

Satellite Operating Modes

Mode	Satellite Receive (Uplink)	Satellite Transmit (Downlink)
V/H	VHF (144 – 146 MHz)	HF (21 – 30 MHz)
U/V	UHF (435 – 438 MHz)	VHF (144 – 146 MHz)
V/U	VHF (144 – 146 MHz)	UHF (435 – 438 MHz)
L/U	L-Band (1.26 – 1.27 GHz)	UHF (435 – 438 MHz)

T1B02 Which amateur radio stations may make contact with an amateur radio station on the International Space Station (ISS) using 2 meter and 70 cm band frequencies?

- A. Only members of amateur radio clubs a NASA facilities
- B. Any amateur holding a Technician or higher-class license
- C. Only the astronaut's family members who are hams
- D. Contacts with the ISS are not permitted on amateur radio frequencies

T2B01 What is the most common use of the reverse split function of a VHF/UHF transceiver?

- A. Reduce power output
- B. Increase power output
- C. Listen on a repeater's input frequency
- D. Listen on a repeater's output frequency

- T3A13 What weather condition would decrease range at microwave frequencies?
- A. High winds
 - B. Low barometric pressure
 - C. Precipitation
 - D. Colder temperatures
- G1A13 What is the appropriate action if, when operation on either the 30 meter or 60 meter bands, a station in the primary service interferes with your contact?
- A. Notify the FCC's regional Engineer in charge of the interference
 - B. Increase your transmitter's power to overcome the interference
 - C. Attempt to contact the station and request that it stop the interference
 - D. Move to a clear frequency or stop transmitting
- G2B02 What is the first thing you should do if you are communicating with another amateur station and hear a station in distress break in?
- A. Continue you communication because you were on frequency first
 - B. Acknowledge that station in distress and determine what assistance may be needed
 - C. Change to a different frequency
 - D. Immediately cease all transmissions
- G3A13 What does the A-index indicate?
- A. The relative position of sunspots on the surface of the Sun
 - B. The amount of polarization of the Sun's electric field
 - C. The long term stability of the Earth's geomagnetic field
 - D. The solar radio flux at Boulder, Colorado
- E1A13 Who must be in physical control of the station apparatus of an amateur station aboard any vessel or craft that is documented or registered in the United States?
- A. Only a person with an FCC Marine Radio
 - B. Any person holding an FCC issued amateur license or who is authorized for alien reciprocal operation
 - C. Only a person named in an amateur station license grant
 - D. Any person named in an amateur station license grant or a person holding an unrestricted Radiotelephone Operator Permit
- E2A13 What type of satellite appears to stay in one position in the sky?
- A. HFO
 - B. Geostationary
 - C. Geomagnetic
 - D. LEO
- E3A13 Which emission mode is best for aurora propagation?
- A. CW
 - B. SSB
 - C. FM
 - D. RTTY



ANSWERS

- T1B02: B: [97.30] [97.207c] It is only necessary to be licensed to transmit on the uplink frequencies to contact any space station.
- T2B01: C: Many radios have a reverse split function that swaps the transmit and receive frequencies. This enables you to listen for the other station on the repeater's input frequency.
- T3A13: C: Precipitation such as fog and rain can absorb microwave and UHF radio waves although it has little effect at HF and on the lower VHF bands.
- G1A13: D: [97.303h2i] [97.303j] Amateurs are only permitted to use these frequencies if they do not cause harmful interference to the primary users. If you hear a station in the primary service or receive interference from such a station you should immediately change frequencies. Otherwise you might be causing interference to the primary station
- G2B02: B: Whenever you hear a station in distress (where there is immediate threat to human life or property), you should take whatever action is necessary to determine what assistance that station needs and attempt to provide it. Don't assume that some other station will handle the emergency; you may be the only station receiving the distress signal. If you do hear a station in distress, the first thing you should do is to acknowledge that you heard the station, and then ask the operator where they are located and what assistance they need.
- G3A13: C: The A-index is a daily figure of the state of activity of the Earth's magnetic field. The A-index tells you mainly about yesterday's conditions, but is very revealing when charted regularly, because geomagnetic disturbances nearly always recur at four week intervals. It takes the Sun 28 days to rotate once on its axis.
- E1A13: B: [97.5] As a licensed US amateur you may operate with your full privileges from a US registered vessel, but only in international waters. Once in the territorial waters of another country, you are required to abide by their amateur licensing regulations. You are also required to have permission to operate.
- E2A13: B: The orbital period of a geosynchronous (geostationary) satellite is the same as the Earth's period of rotation about its axis. As a result, the satellite stays above the same spot on the Earth's surface, revolving around the Earth's axis at the same rate as the Earth's rotation.
- E3A13: A: Aurora results from a large scale interaction between the magnetic field of the Earth and electrically charged particles arriving from the Sun. Signals received by auroral propagation are badly distorted because of the erratic nature of reflection from the auroral region. For that reason, CW is the most effective mode for auroral work. While SSB may be usable at 6 meters when signals are strong and the operator speaks slowly and distinctly, it is rarely useable at 2 meters or higher frequencies.

LINKS AND STUFF

Under re-construction. Watch for

Copper Country Podcast

George, (W8FWG) is offering this new service from the ARRL. It is entitled "**So Now What?**" and is geared to the NEW HAM. We will continue with the original podcast of ("**The Doctor Is In**") too, and the two will alternate from week to week, each Friday night at 9 pm Eastern time over the Calumet Repeater 147.315 MHz PL-100.0 Hz.

Delta County Amateur Radio

Escanaba, MI

www.dcars.org

Copper Country Radio Amateur

Dollar Bay, MI

www.ccrac.net

Area Repeaters

Escanaba 147.15+	100.0
	145.13- No PL
Wells	444.30+ No PL
Gladstone	
IRLP 4013 147.55 Smpx	100.0
Champion	146.82- 100.0
Cooks	146.70 - 110.9
GrdMarais	147.195+ No PL
Gwinn	146.64- 100.0
Iron Mtn	146.85 — 100.0 444.85 — 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

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**
146.85
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/>

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

Activities:

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

Visitors and prospective members are always welcome!

Club Repeater:

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

The Repeater Specifications:

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

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

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

We're on the Web!

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

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

From Your Newsletter Editor

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

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

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

DX Code Of Conduct

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

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

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

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

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

I will always send my full call sign.

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

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

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

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

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

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

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

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	KD8VTT 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
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	MORIRITY	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@arrl.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.