

Mich-A-Con RF

Iron Mountain, Michigan

February 2012

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<http://www.arrl.org>

Active Sunspot Region 1429 Produces Solar Flares, Coronal Mass Ejections

from:

ARRL Letter March 8, 2012

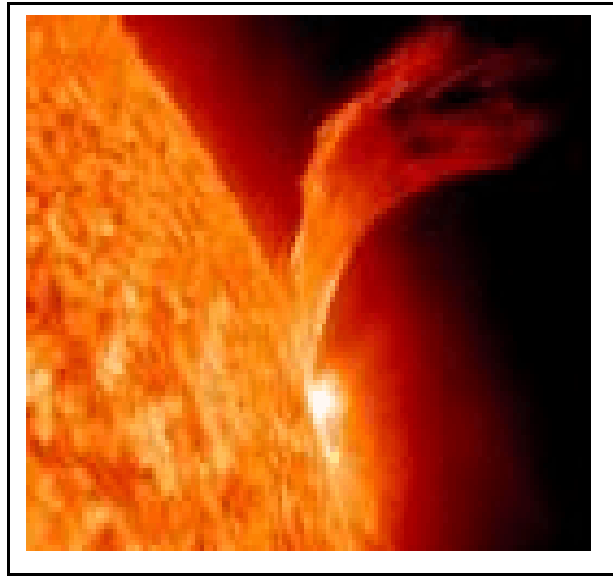
An X-1.1 class solar flare erupted from the Sun on Sunday, March 4 at 11:13 PM EST (0413 UTC March 5), sending an explosion of plasma and charged particles -- a coronal mass ejection (CME) -- hurtling through space. Forecasters at NOAA's Space Weather Prediction Center ([SWPC](#)) are saying that the CME should miss Earth, but will hit Mercury and Venus.

Even if this CME misses, high-latitude sky watchers should still be alert for auroras in the nights ahead. An M3-class eruption from the same sunspot just a day before produced another, wider CME that might intersect Earth. The cloud is expected to deliver a glancing blow to Earth's magnetic field on March 6 around 0430 UTC. Sunday night's solar flare is only the [second X-class eruption so far this year](#). X-class flares are the most powerful type of solar storm; M-class eruptions are considered midrange and C-class flares are the weakest.

According to Spaceweather.com, SWPC forecasters are estimating a 75 percent chance of M-class solar flares and a 30 percent chance of an X-flare from big sunspot 1429, which emerged on the Sun on March 2 and is estimated to be at least four to five times larger than Earth. The active region is slowly turning to face Earth, so if any such eruptions do occur, they are increasingly likely to be

geoeffective. Forecasters say there is a 30-40 percent chance of polar geomagnetic storms through the rest of the week. The 1429 sunspot region continues to be quite active since it emerged on March 2, and scientists are predicting it will spew more flares as the week goes on.

When a CME hits the Earth's atmosphere -- approximately 72 hours after exploding on the Sun -- the low bands will be depressed and signals will be weaker the lower the frequency. The absorption rate will be most severe on 160 meters, less on 80 and somewhat better on 40 meters. The maximum usable frequency ([MUF](#)) -- the highest frequency by which a radio wave can propagate between given terminals by ionospheric propagation alone, independent of power -- will be lower and auroral propagation on the VHF bands is quite possible.



When aurora occur, the electrons hit the ionosphere at the North and South geomagnetic poles, creating ionization. Waves that would normally travel off into space are bouncing off the aurora and being redirected back toward Earth. This can create opportunities for long-distance propagation via VHF and UHF.

VHF operators greet CMEs as a welcome opportunity for unusual, enhanced propagation. "CMEs can trigger the Aurora Borealis," explained ARRL Contest Branch Manager and VHF aficionado Sean Kutzko, KX9X. "If the aurora is intense enough, you can use it as a 'wall' to bounce signals off of on 6 and 2 meters -- and sometimes higher. If you have a beam on the VHF bands, point it north (or south, if you're in the Southern Hemisphere) and listen for strange-sounding signals."

Kutzko noted that aurora can cause audio signals to become very distorted: "On 6 meters, SSB signals become quite difficult to understand, and on 2 meters, it renders sideband practically unusable. CW is the preferred mode of communication during an aurora opening. Even so, the pure tone of a CW signal becomes distorted as well, reducing the pure 'beep' tone to a whisper-like 'pffft.'"

In 2013, solar activity levels are expected to peak with the next solar maximum within the 11-year solar activity cycle. "We now know how powerful space weather can be and how events that begin on the surface of the Sun can end up wreaking havoc here on Earth," said SWPC Director Tom Bogdan. "This is why NOAA has a Space Weather Prediction Center -- to forecast when space weather is coming our way, so we can avoid or mitigate damages. We're coming up to the next solar maximum, so we expect to see more of these storms coming from the Sun over the next three to five years."

Enter the Seventh Annual ARRL Photo Contest!

From:

ARRL Letter March 8th, 2012

Have you ever wanted to see a photo of yours in *QST*, the annual ARRL Amateur Radio Calendar or another ARRL publication? Well, here's your chance! If you're among the winners, not only will your photographic skill be propagated far and wide, but we're offering \$100 as the First Prize. The winning photo and three runners-up will be published in *QST*. All submitted photos will also be considered for the 2013 ARRL Calendar. For this purpose, landscape format is preferred.

Deadline: Photos must be received at ARRL HQ by May 31, 2012.

Subject: Must be directly related to Amateur Radio, and be in good taste. Extra points will be awarded for photos showing a unique or enjoyable club activity. Photos will be judged on overall quality and composition.

Requirements: Digital images or color prints accepted. A digital image printed on photo paper, however, doesn't work as well as a high-resolution file attachment. Digital images should be high resolution. A digital image up to 8 MB in size can be e-mailed to upfront@arrl.org, subject line "2012 Photo Contest." **An image may also be burned to a CD and mailed to ARRL Photo Contest, 225 Main St, Newington, CT 06111. All entries must include caption information describing where the photo was taken, along with a description of the subject of the photo, as well as the names and call signs of any persons shown. If you entered last year's contest, please do not resend the same photo for this year's contest. One entry per person.**



Club Patches are available from:

Burt Armbrust WB8EBS

693 Cliff St

Quinnesec, Mi 49876

The patches are 3 inches in diameter and sell for \$3 each.

If ordering by mail please include a SASE along with your payment.

<i>Mich-A-Con ARC Activities for March 2012</i>						
Sun	<i>Mon</i>	<i>Tue</i>	<i>Wed</i>	<i>Thur</i>	<i>Fri</i>	<i>Sat</i>
				1 ARES	2	3
4	5	6	7	8 ARES	9	10
11	12	13 Meeting	14	15 ARES	16	17 BREAK-FAST
18	19	20	21	22 ARES	23	24
25	26	27	28	29 ARES	30	31

Club Activities:

ARES Nets are conducted at 6:30 PM Central Time every Thursday on our 2-meter repeater (146.850 MHz.)

Meeting: The Mich-A-Con Club meets the second Tuesday of the month at the Dickinson County Library at 7:00 PM. Visitors and Prospective Members are always welcome.

Our Saturday Morning Breakfast is held on the 3rd Saturday of every month at 9:00 AM at the Holiday Kitchen Restaurant on Stephenson Ave (US-2) in Iron Mountain.

Club Repeaters:

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 under normal conditions, depending upon terrain. The 440 MHz repeater has a range of about 25 miles.

OUTPUT	OFFSET	PLTONE	CALLSIGN
146.850	MINUS	-	WA8FXQ
444.850	PLUS	100 Hz	WA8FXQ

Repeater Specifications:

The 146.85 repeater is a Melco Hi Pro (built from a kit in the 1970s) with 25 watts output. The repeaters share a Diamond dual band antenna at a tower height of 125 ft.

Please remit dues to :
Burt Armbrust WB8EBS
693 Cliff St.
Quinnesec, Mi. 49876

Name: _____
Address: _____
City, State, Zip _____
Call Sign: _____
Email Address: _____
Phone: _____
ARRL Member? Yes _____ **No** _____

Annual dues were due in January.

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 and call signs: _____

*** The dues for NEW members are prorated - you only pay for the remainder of the year!**

Please remit \$1.67 per month for a Single membership or \$2.50 per month for a Family membership.

Words from the President

Tom W8JWN

As many of you know, I damaged two radios in the last RTTY contest. I found out that the front-end of the Icom Pro II didn't like 500 watts of Heathkit SB-220 RF and the Yaesu FT-1000MP didn't appreciate the Alpha 8410's 1200 watts coursing through it's fragile diodes, resistors, and transistors. Amateur Electronic Supply in Milwaukee repaired the Yaesu. Miles is still the head tech. I remember him from the late 60s. He must enjoy his work! The Icom was sent to Icom Service in St. Joseph, Michigan. Matt quickly had it repaired. So, after about \$8 in parts and \$330 in labor, insurance, and shipping, I have both radios working again.

It was a costly mistake on my part to allow that much RF to damage the sensitive front-ends of the transceivers. In most contests, I use bandpass filters on the transceivers and coax stubs on the amps. This time I didn't use them because I got through the January ARRL RU without any RF interference without them. There was one major change in the station, since that contest. I wasn't happy with the Butternut HF6 vertical on 80 meters. So, I installed an 80 meter sloper for the second radio. Unfortunately, as it turned out, it was apparently too close to the 40 meter inverted vee used by the first radio.



Matt told me over the phone that even 100 watts can cause damage. Static discharges from a snow storm have been known to destroy diodes on the receiver RF board. (Actually, diodes can be used as protection for 160 and 80 meter receiving antennas.) You don't have to have a lightning strike to damage radio gear!

Hopefully, I have learned a lesson from this. I firmly resolve to use filters and stubs in all of my future contests.

Speaking of "resolve", I have done quite well on my New Year's Resolutions. I ran off QSL labels for bureau cards received a week ago. The labels have been affixed to the cards and are ready to be mailed to the ARRL Outgoing QSL Bureau.

Since I didn't have two radios for two weeks, I had a chance to clean and organize the shack. I have finally untangled the rat's nest of cables behind, under, and on top of the desk. When the repaired radios arrived this week, I ran coax, control lines, and interface cables to each radio and amp in an orderly fashion. I wonder how long they will stay that way?

Finally, I started my antenna work two weeks ago. I tore down the 80 sloper!!!

See you at the next meeting.

73,

Tom W8JWN

V.E. TESTING:

5/05 Iron Mountain: 9:00am central time, (arrive by 8:30am) Dickinson County Library(conference room), contact Mark J. Lewis N8UKD, (906) 396-5519 - 412 Fairmount St. Kingsford, Mi 49802.

3/10 Marquette: 8:30am eastern time, (arrive by 8:00am) Marquette County Health Dept. Bldg,U.S. 41 just east of the Michigan State Police Post. You must pre-register by Tuesday preceding the test date. Contact Rich Schwenke, N8GBA at 906 249-3837 e-mail: n8gba@chartermi.net or Greg KI8AF 906 225-1594 ki8af@arrl.net.

4/14 Hancock: 8:30am eastern time, The Zion Lutheran Church, 400 Ingot St Hancock, Mi. Go north on hwy 41 (Quincy Hill) near the lookout. Turn left on Ingot up about one block. The church is on the left hand side of the street. This is a barrier free entrance for the handicapped Contact Glenn Ekdahl, WA8QNF at (906) 482-7743 or email: wa8qnf@arrl.net if you have questions.

4/14 Gladstone: Sponsor: Delta County Amateur Radio Society Time:10:00 AM (Walk-ins welcome) Contact: Dave Palmgren N8DP, (906) 428-2271, n8dp@dcars.org Vec: ARRL/VECLocation: Gladstone City Hall Main Meeting Room 1100 Delta Ave Gladstone, Mi. 49837.

Please arrive one-half hour early for test sessions to give time to process applications. Testing applicants should bring the following items with them: Two pieces of I.D. one being a photo I.D., Original license and one clear copy of their license if applicable, Completed form 605 (one will be provided if you don't have one), pencils, calculator and the test fee of \$15.00. Please have the correct fee as examiners do not carry change. Please contact the individual(s) listed to confirm date(s), location(s), etc. Note: If you have been assigned a FRN from the FCC you must use it on all forms rather than your SSN.

Mich-A-Con Amateur Radio Club **Minutes of the February 14th 2012 Meeting**

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

Secretary Report

The minutes of the January 10th, 2012 meeting were read and approved.

Treasurer Report

Membership Dues Received: \$ 40.00

Balances as of February 14, 2012:

Checking - \$ 69.26

Regular Savings - \$ 2,842.93 of which \$ 1,808.33 is in the Trailer Fund.

Repeater Savings - \$ 1,141.70

Petty Cash - \$ 14.00

We now have 26 paid members for 2012.

Repeater Report

The repeater has been working fine.

ARES

The net has been meeting regularly every Thursday at 6:30pm on 146.850 repeater with good turn-outs. Treasurer Burt will update the membership list. President Tom reported that according to FEMA you must have passed three tests to take part in ARES activities however Barry Perron said that in a national emergency all requirements could be waived.

Old Business

President Tom reported the HF radio purchased had the meter lamp burned out. A headset may be needed in the future for field day use. Tom has replacement lamps from his own radio and Terry said that it's not that hard to replace them. 12v DC, 60 milliamps.

The mouse and the touch pad don't work on the laptop. Tom contacted Dell customer support but was unable to get it working. Tom programmed the wireless mouse. Dave Thomas said that it's better for the touch pad to not work because it gets in the way. Tom loaded Logger32, Ham Radio Deluxe and N1MM logging programs. USB drives do work. \$88.00 balance remaining after all purchases. An electronic key paddle may be needed if we want to operate CW. Dave Thomas has one we can borrow upon request.

President Tom updated callingpost.com with all the cell phone #'s. We have 84 calls remaining on our subscription.

Sheriff's Department.: Dave Thomas will set a date to complete the antenna installation.

New Business

Terry Moriarity reported on the Florence County Fairgrounds for Field Day. \$100.00 security deposit is required plus about \$50.00 for use of the pavilion but we requested a waiver which will be discussed by the fair board. Mike Bray confirmed that new tennis courts will be installed at the Norway fairgrounds this summer which would interfere with Field Day there again however the start date is not known. Some members said they don't want to go back to Norway fairgrounds even if it is available.

Spring picnic: We'll have the picnic at Field Day.

Program: President Tom volunteered to do a short presentation on propagation at the next meeting.

Adjournment

The meeting was adjourned at 7:39 p.m.

For the Good of the Order

Attendees reported on their recent activities.

Attendees

Tom Martin, W8JWN – President
Burton Armbrust Sr., WB8EBS - Treasurer
Scott Jarmusch, KA8TFF - Vice President
Paul Schultz, KD8KUF – Secretary
Red Maxwell, KC9KWS
Barry Perron, KC9NFT
Terry Moriarity, K9TRY
Dave Thomas, KG9Y
Mike Bray, K8DDB
Dana Bey, KD8POR
Joe Ferris, KC9TQR

Submitted by Paul Schultz

60-Meters A Brief History and FAQs

from:

ARRL Letter March 1st, 2012

1. In May, 2003, a long-awaited FCC *Report and Order (R&O)* in ET Docket 02-98 granted US amateurs secondary access to five discrete channels in the vicinity of 5 MHz. The atypical amateur allocation became available to US amateurs on July 3, 2003. The limited spectrum and stringent operating requirements mean amateurs must demonstrate their best behavior and operating skills if the Amateur Service ever hopes to get an actual band segment at 60 meters.

As ARRL CEO David Sumner, K1ZZ, put it: "In terms of Amateur Radio spectrum, we usually say, 'Use it or lose it.' The watchword for 60-meter operators should be, 'Misuse it and lose it.'" Sumner predicted that, over time, amateurs "will develop a record of disciplined, responsible use of the five channels in the public interest that will justify another look at these rather severe initial restrictions."

The FCC grant followed a period of experimental operation on 5 MHz under the WA2XSY Part 5 license granted to ARRL. The channelized scheme is similar to the 5-MHz experimental operation under way in the [United Kingdom](#).

The FCC changed one frequency effective March 5, 2012 and now grants amateurs access to channels centered on 5332, 5348, 5358.5, 5373, and 5405 kHz. The last channel is common to the UK amateur 5-MHz experimental band plan.

This new allocation presents some new twists in amateur HF operation as well as some unfamiliar technical demands. The channelized format was the result of a compromise between the National Telecommunications and Information Agency (NTIA), which administers spectrum occupied by government users--the band's primary occupants--and the FCC. The channels are available to General and higher class licensees.

Originally, amateurs could only operate upper-sideband voice (emission 2K8J3E) at a maximum of 50 W effective radiated power (ERP) and an audio bandwidth not exceeding 2.8 kHz. The power level changed to 100 W PEP ERP and permissible emission types changed effective March 5, 2012.

You will find the latest information and the ARRL's [Recommended Practices](#) useful:

http://www.arrl.org/files/file/Regulatory/Recommended_Practices_for_60_Meters%20-%20Version%206_4.pdf

Club Meetings:

The Mich-A-Con Amateur Radio Club meets on the second Tuesday of the month in the Dickinson County Library at 7:00 PM. Visitors and prospective members are always welcome!

The URL for the Mich-A-Con ARC web site is:
<http://www.qsl.net/ka1ddb/>

Previous editions of Mich-A-Con RF can be accessed by a link on the news page.

The ARRL DX Bulletin on the Upcoming Activities page is updated each Thursday and the contests section is updated on a monthly basis.

Club Officers:

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

Vice President:
Scott Jarmusch KA8TFF
s_jarmusch@yahoo.com

Secretary:
Paul Schultz KD8KUF
(906) 774-8900
pauls@schultzequipment.com

Treasurer:
Burt Armbrust WB8EBS
(906) 774-8383
wb8ebs@yahoo.com

Reminders:

Club dues for the year 2012 were payable on January 1st. Please use the Membership Application - Renewal form when paying your dues. Checks should be made payable to : Mich-A-Con Arc and sent to our Treasurer, Burt Armbrust WB8EBS at the address listed on the form. Thank-you for supporting your club!

The Next Mich-A-Con Meeting will be held on Tue March 13th, 2012. It will be held in the Dickinson County Library at 7 PM

MICH-A-CON RF

**Mich-A-Con ARC
c/o Stephen Skauge
213 South Angeline
Ishpeming, Mi 49849**