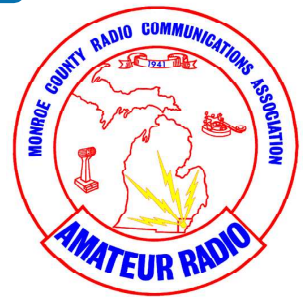


The Hertzian Herald



February 2021 • Volume 45, Issue 2 • Monroe, Michigan, U.S.A.

D Fritz Bitz:

Well, January is over. Hopefully a few more months and the nightmare will be over so we can start the "new normal". Taking over a club like this would be a challenge in normal times. I expect it will be more challenging now. Fortunately, with the help of the remaining officers, I think we can make it through the challenges.



I earned my Novice license in 1980. I was active on CW for a few years and 10 meter phone when it was available. I got into 2 meters and 440 and left HF behind for a long time. A couple of years ago I set up my HF station and started practicing my CW again. I upgraded to Amateur Extra in June of last year and have been having a blast ever since.

I have been the president of a couple of other clubs so I have a little experience but it's been a while. In the 90's I helped start the Toledo Area Computer Society (TACS) and in 2000 I helped start the Bedford Running Club to support the Bedford cross-country team. I have also been accused of being a serial entrepreneur. In 1977 I started Major Electronics selling and servicing EF Johnson 2-way radios and in 1990 I started Glass City Paging. I have since sold these, and a couple of other ventures I had in between, and retired (kind of). Recently I have been helping my son get a painting company started. I hope to retire again soon.

I am looking forward to getting club meetings, fox hunts, field day, hamfests and many other things back to normal. I am also trying to think of ways to get more people involved in both ham and non-ham activities.

So, until next month, 73.

Don Fritz
N8BZN

Next month: What's new in Ham radio.



<http://mcrca.org/>

[www.facebook.com/
groups/
1643856795878368/](https://www.facebook.com/groups/1643856795878368/)

Club Officers

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Inside This Issue

Minutes.	2
Solar Mass Eject . . .	3
Foundation of AR . . .	4
Horse Manure. . . .	5
Renweal Appl	6
ARRL DX News	7

MCRCA Meeting Minutes for January 21, 2020

Meeting called to order at 7:30 pm, by Mike Karmol N8KUF.
 Pledge of Allegiance
 Introductions: Two new members, no upgrades and or guests.

MINUTES: Motion by Larry KE8HCD, supported by Wes KC8SKP, to approve as written in the Herald. Approved.

TREASURER REPORT: Motion by Don N8BZN, supported by Paul W8PI, to approve the treasurer's report as passed out to the membership. Approved.

DX REPORT: Tom KG8P, a few stations out there. ARRL put out, Niger 5UAIHM and Svalbard JW/LG2PG – Togo 5V8E and Wake Island KH9.

CONTESTS: Paul W8PI, Jan 29-31 CQ 160m CW Contest, Jan 30 - 24 hours Winter Field Day, Feb 6 Vermont QSO Party, 10hr Minnesota QSO Party, Feb 6-7 British Columbia. ARRL CW Contest Feb 20-21, Feb 28 NC and SC QSO Party.

TESTING: Next session - Sat. February 20, 2021. **3 Appointment only, Masks required.**

FUTURE PROGRAMS: Working on them.

ARPSC: Mike N8KUF, Monthly training ARRL messages, WinLink. Training sessions are on the ARPSC Website. Monday 8pm weekly net reminder.

ARRL: Dale WA8EFK, Jan Board meeting 50 people via Zoom went well. Legislative Action Committee bill is drafted. – LOTW is 10-12 years old and the work to continually patch and fix has encouraged a complete revision and getting rid of TSQL. - 103 scholarships, \$100k given away.

RRRA: Mike N8KUF, all working as intended. Welcoming memberships. Annual meeting 1st Sat. in May.

OLD BUSINESS: none

NEW BUSINESS: — Elections

Motion by Dale WA8EFK, supported by John WA8YZB, to accept the slate of officers as proposed, Approved

**MCRCA Slate of Officers for 2021
Based of volunteers to nomination committee**

President	Don Fritz N8BZN
Vice President	Mike Karmol N8KUF
Secretary	Fred VanDaele K8EBI
Treasurer	Brenda VanDaele KB8KQC
Director 1	Paul Trouten W8PI
Director 2	Rodney Haddix KD8ZNZ
Director (Station Trustee)	Wes Busdiecker KC8SKP

ANOUNCEMENTS: TMRA and Dayton Hamfests canceled due to Covid-19

PROGRAM: Video on power supplies by Rias Jairam – Rias shack.

ADJOURNED: 8:54 pm

ATTENDANCE: 23

WA8EFK Dale	W8IIE Dave	N8BZN Don	K8EBI Fred
KB8OSU George	K8GO Glen	N8DXR John	K8UMF John
WA8YZB John	KE8OTG Larry	KE8HCD Larry	W8MCW Mark
N8KUF Mike	KE8QGU Madonna	W8PI Paul	KE8OSK Ron
KD8ZNZ Rodney	KE8KNZ Tom	KG8P Tom	KC8SKP Wes
KE8PUN Aaron	K8HV Bob	K8MLH Mike	

Committees**Classes****Club Station**

Wes Busdiecker KC8SKP

DX Net**Field Day**

Jeff Breitner KA8NCR

Finance

Paul Trouten W8PI (chair)
 Fred VanDaele KA8EBI
 Dale Williams WA8EFK

HamFest

Fred VanDaele KA8EBI

Hertzian Herald

Fred VanDaele KA8EBI

Historian

Paul W8PI

Public Relations

Terry Kolton N8NYP
 Tom Imlach KE8KNZ

Scholarship

Fred VanDaele KA8EBI

School Liaison

open

Programs

open

Membership

Terry Kolton N8NYP
 n8nyp@arrl.net

Planning

open

Property Custodian

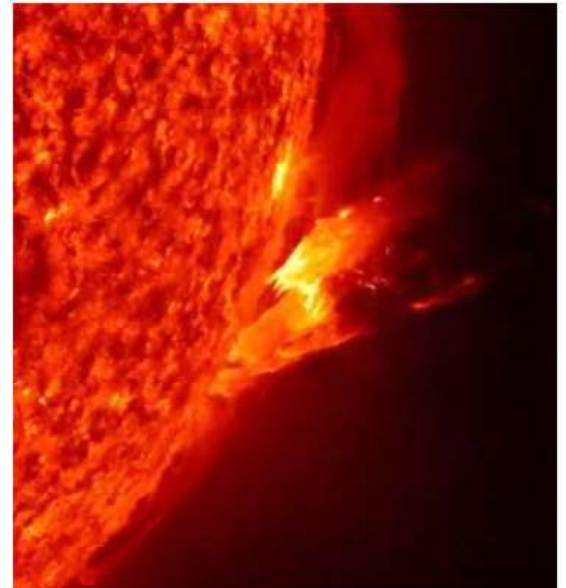
open

A “Perfect Coronal Mass Ejection” Could Be a Nightmare

02/10/2021 - from ARRL website news

A new study in the research journal *Space Weather* considers what might happen if a worst-case coronal mass ejection (CME) hit Earth — a “perfect solar storm,” if you will.

In 2014, Bruce Tsurutani of Jet Propulsion Laboratory (JPL) and Gurbax Lakhina of the Indian Institute of Geomagnetism introduced the “perfect CME.” It could create a magnetic storm with intensity up to the saturation limit, a value greater than the Carrington Event of 1859, the researchers said. Many other spaceweather effects would not be limited by saturation effects, however. The interplanetary shock would arrive at Earth within about 12 hours, the shock impingement onto the magnetosphere would create a sudden impulse of around 234 nanoteslas (nT), and the magnetic pulse duration in the magnetosphere would be about 22 seconds. Orbiting satellites would be exposed to “extreme levels of flare and interplanetary CME (ICME) shock-accelerated particle radiation,” they said. The event would follow an initial CME that would “clear the path in front of it, allowing the storm cloud to hit Earth with maximum force.”



The Solar and Heliospheric Observatory (SOHO) has observed CMEs leaving the sun at speeds of up to 3,000 kilometers per second, and many instances of one CME clearing the way for another have been recorded.

The CME's 12-hour travel time would allow little margin for preparation. The CME would hit Earth's magnetosphere at 45 times the local speed of sound, and the resulting geomagnetic storm could be as much as twice as strong as the Carrington Event. Power grids, GPS, and other services could experience significant outages.

More recent research led by physicist Dan Welling of the University of Texas at Arlington took a fresh look at Tsurutani and Lakhina's “perfect CME,” and given improvements in spaceweather modeling, he was able to reach new conclusions.



Welling's team found that geomagnetic disturbances in response to a perfect CME could be 10 times stronger than Tsurutani and Lakhina had calculated, especially at latitudes above 45 to 50 °. “[Our results] exceed values observed during many past extreme events, including the March 1989 storm that brought down the Hydro-Québec power grid in eastern Canada, the May 1921 railroad storm, and the Carrington Event itself,” Welling summarized.

A key result of the new study is how the CME would distort and compress Earth's magnetosphere. The strike would push the magnetopause down until it's only 2 Earth-radii above Earth's surface. Satellites in Earth orbit would suddenly find themselves exposed to a hail of energetic, and potentially damaging, charged particles.

Other research has indicated that phenomena such as the Carrington Event may not be as rare as once thought. A much weaker magnetic storm brought down the Canadian Hydro Québec system in 1989.

Scientists believe a perfect CME will happen someday. As Welling et al conclude, “Further exploring and preparing for such extreme activity is important to mitigate spaceweather-related catastrophes.”

In July 2012, NASA and European spacecraft watched an extreme solar storm erupt from the sun and narrowly miss Earth. “If it had hit, we would still be picking up the pieces,” said Daniel Baker of the University of Colorado at a NOAA Space Weather Workshop 2 years later. “It might have been stronger than the Carrington Event itself.”

Foundations of Amateur Radio

Running out of things to do ...

So, there's nothing on TV, the bands are dead, nobody is answering your CQ, you're bored and it's all too hard. You've run out of things to try, there's only so many different ways to use the radio and it's all too much.

I mean, you've only got CW, AM, SSB, FM, there's Upper and Lower Side-band, then there's RTTY, the all too popular FT8, then there's WSPR, but then you run out of things. I mean, right?

What about PSK31, SSTV, then there's AMTOR, Hellschreiber, Clover, Olivia, Thor, MFSK, Contestia, the longtime favorites of Echolink and IRLP, not to forget Fusion, DMR, D-STAR, AllStar, BrandMeister or APRS.

So far, I've mentioned about 20 modes, picked at random, some from the list of modes that the software Fldigi supports. Some of these don't even show up on the Signal Wiki which has a list of about 70 amateur modes.

With all the bands you have available, there's plenty of different things to play with. All. The. Time.

There's contests for many of them, so once you've got it working, you can see how well you go.

Over the past year I've been experimenting with a friend with various modes, some more successful than others. I'm mentioning this because it's not difficult to get started. Seriously, it's not.

The most important part of this whole experiment is getting your computer to talk to your radio. If you have FT8 already working you have all the hardware in place. To make the software work, you can't go past installing Fldigi. As a tool it works a lot like what you're familiar with. You'll see a band-scope, a list of frequencies and a list of decodes. It's one of many programs that can decode and generate a multitude of amateur digital modes.

If this is all completely new to you, don't be alarmed.

There are essentially two types of connections between your computer and your radio. The first one is audio, the second is control. For this to work well, both these need to be two-way, so you can both decode the audio that the radio receives and generate audio that the radio can transmit. The same is true for the control connection. You need to be able to set the transmit frequency and the mode and you need to be able to read the current state of the radio, if only to toggle the transmitter on-and-off. If you already have CAT control working, that's one half done.

I've spoken with plenty of amateurs who are reluctant to do any of this. If this is you, don't be afraid. It's like the first time you keyed up your radio. Remember the excitement? You can relive that experience, no matter how long you've been an amateur.

Depending on the age of your radio, you might find that there is only one physical connection between your computer and the radio, either using USB or even Ethernet. You'll find that your computer will still need to deal with the two types of information separately.

Notice that I've not talked about what kind of operating system you need to be running. I use and prefer Linux, but you can do this on any operating system, even using a mobile phone if that takes your fancy.

Getting on air and making noise using your microphone is one option, but doing this using computer control will open you to scores of new adventures.

I will add some words of caution here.

In general, especially using digital modes, less is more. If you drive the audio too high you'll splatter all over the place and nobody will hear you, well, actually, everyone will, but nobody will be able to talk to you because they won't be able to decode it. If the ALC on your radio is active, you're too loud. WSJT-X, the tool for modes like FT8 and WSPR, has a really easy way of ensuring that your levels are right, so if you've not done anything yet, start there.

Another issue is signal isolation. What I mean by that is you blowing up your computer because the RF travelled unexpectedly back up the serial or audio cable and caused all manner of grief. You can get all fancy with optical isolation and at some point you should, but until then, dial the power down to QRP levels, 5 Watts, and you'll be fine. Cont'd next page

A third issue that was likely covered during your licensing is the duty cycle. It's the amount of time that your radio is transmitting continuously as compared to receiving only. For some modes, like WSPR for example, you'll be transmitting for a full 2 minutes at 100%, so you'll be working your radio hard. Even harder might unexpectedly be using FT8, which transmits in 15 second bursts every 15 seconds, so there may not be enough time for your radio to cool down. Investing in a fan is a good plan, but being aware of the issue will go a long way to keeping the magic smoke inside your radio.

I'm sure that you have plenty of questions after all that.

You can ask your friends, or drop me an email, cq@vk6flab.com and I'll be happy to point you in the right direction.

Next time there's nothing good on TV, get on air and make some digital noise!

I'm Onno VK6FLAB

Horse Manure

While mighty steam engines moved people and product across countries and continents in the mid-to-late 19th century, horses were the transportation method of choice for everything else. Whether you were riding a lone horse to get to your destination or riding in a wagon drawn by horses, you were likely taken to your destination by a horse (and all the goods you purchased were delivered by horse-drawn wagons when you got there).

In the countryside, this didn't pose much of a problem, but the high density of people and industries in cities meant a high density of horses. In turn, a high density of horses meant a high density of manure. A single horse creates anywhere from 15-35 pounds of manure a day, and big cities like New York City and London had thousands upon thousands of horses. London alone, by 1900, had over 11,000 horse-drawn cabs and several thousand horse-drawn buses that required huge 12 horse teams to pull them. All told, there were over 50,000 horses used just for transporting people. Factoring in the horses used for industries, and the city of London was wrestling with a transportation network that generated in excess of a million pounds of waste a day. Things didn't look any better in New York, either, where an even greater number of horses and people doubled the amount of waste.



There, and in other major cities around the world, the streets were piled high with manure, manure dust coated everything, and the piles attracted hordes of flies that spread disease. Not only was it an unpleasant and unsanitary situation all around, but people started realizing that if the cities continued to grow, the amount of manure piling up would pile up even higher (after all, the only way to get the stuff out of the city in the first place was more horses). A giant panic ensued and journalists pointed out that based on even simple calculations, the amount of manure that London would be dealing with in 50 years' time would be so great it would be slowly burying it.

Fortunately, for those of us that want to enjoy a jaunt down 5th Ave. without walking through piles of horse manure, we know how the story of the urban horse ends: with the advent of the automobile. For all the hiccups we have had over the years ironing out issues with automotive exhaust and pollution, it all pales in comparison to the problem of a major city disposing of several million pounds of manure a day.

Monroe County Radio Communications Association

Dues run from January 1st to December 31st of each year. As a current / Past Member, you are invited to attend our monthly meetings to find out the latest plans for our club. You may pay your dues at any regular meeting or by filling in the form below and mailing it to: **MCRCA, PO Box 237, Monroe, MI 48161**. Your membership and support will help with the continued success of our club. Thank you.

MEMBERSHIP APPLICATION / RENEWAL FORM

Regular – \$10 — Add'l Family – \$5 each

DATE _____ ARRL MEMBER? Y _____ N _____ RRRA Member? Y _____ N _____

NAME _____

ADDRESS _____ PHONE _____

CITY _____ STATE _____ ZIP _____

CALL _____ CLASS _____ E-MAIL: _____

ADDITIONAL Family Members: _____

Please Circle All That Apply:

Active Bands: 160 80 75 40 30 20 17 15 12 10 6 2 220 440 higher

Modes: CW - SSB – PACKET - RTTY - FM - DX - MOBILE - QRP - SSTV - ATV - EME - SAT

Interests: Traffic - DX - Contests - Foxhunts - Satellites - Nets – Antennas - Computers
Emergency - ARES/RACES - Skywarn - Classic Radios (circle all that apply)

Do you plan to upgrade your license? Y _____ N _____ If yes, what class? _____

What kinds of meeting programs would you like to see?

Other activities you would like to see the Club offer

General Comment's

Signature _____ Date _____



The American Radio Relay League's round-up of the forthcoming week's DX activity on the amateur radio bands

This week's bulletin was made possible with information provided by F8DVD, 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.

TUNISIA, 3V. Ash, KF5EYY plans to be QRV as 3V8SS during the CQ World Wide RTTY WPX contest as a Single Op/All Band/Low Power entry. QSL via LX1NO.

VIET NAM, 3W. Sebastian, SP5FAR is QRV as 3W9FAR from Da Nang until March 21. Activity is in his spare time on the HF bands using SSB and various digital modes. QSL to home call.

LIBYA, 5A. Elham, 5A0YL has been QRV on 17 meters using FT8 around 1700z. She has also been active on 20 meters using FT8 around 1350z. QSL to home call.

TOGO, 5V. Daniel, HB9EHD is QRV as 5VDE until February 20. Activity is on 40 and 20 meters using FT8. This includes being active on Satellite QO-100. QSL direct to home call.

MALDIVES, 8Q. Sergei, RU3AN is now QRV as 8Q7SZ and is here until February 15. QSL via bureau.

MOZAMBIQUE, C9. Bruno, CS7AMN will be QRV as C91BVA from Maputo beginning February 18. Activity will be on 80, 40, 20, 15 and 10 meters using SSB and various digital modes. QSL via LoTW.

SPAIN, EA. Members of the Radio Club Henares will be QRV as EH4WRD on February 13 as part of World Radio Day. QSL via EA4RCH.

FRANCE, F. Francois, F8DVD will be QRV as TM18AAW from Macon from February 14 to 28 in celebration of the 18th Antarctic Activity Week. QSL to home call.

MARTINIQUE, FM. Romaric, W7ROM is QRV as FM4WDM from Le Morne-Vert. Activity is on the HF bands. QSL to home call.

ITALY, I. Special event station IQ3DD is QRV until February 28 to recognize the FIS Alpine World Ski Championship being held in Cortina. Activity is on 160 meters to 23 centimeters, using CW, SSB, and various digital modes. This includes some activity on Satellite QO-100. QSL via bureau.

JAN MAYEN, JX. Erik, JX2US has been QRV on 20 meters using CW around 0930 to 1100z. QSL via LA2US.

WAKE ISLAND, KH9. Tom, NL7RR plans to be QRV as KH9/NL7RR beginning February 15 and will be here for 90 days. Activity will be in his spare time on 40 and 20 meters using SSB. Time permitting, he hopes to operate as KH9/NL7RR on 40 and 20 meters using SSB. QSL via AL7JX (d/B).

THIS WEEKEND ON THE RADIO

The CQ World Wide RTTY WPX Contest, Asia-Pacific Spring CW Sprint, SKCC Weekend CW Sprintathon, KCJ Topband CW Contest, Dutch PACC Contest, YLRL YL-OM Contest, OMISS SSB QSO Party, HamCation QSO Party, Feld Hell Sprint, RSGB 1.8 MHz CW Contest, AWA Amplitude Modulation QSO Party, PODXS 070 Club Valentine PSK31 Sprint and Balkan HF Contest will certainly keep contesters busy this upcoming weekend.

The RSGB FT4 Contest Series, 4 States QRP Group Second Sunday Sprint, OK1WC Memorial, K1USN Slow Speed Test and CQC Winter CW QSO Party are scheduled for February 15.

The Worldwide Sideband Activity Contest and RTTYOPS Weeksprint are scheduled for February 16.

The AGCW Semi-Automatic Key Evening, Phone Fray and CWops Mini-CWT Test are scheduled for February 17.

Please see February 2021 QST, page 73, January 2021 QST, page 75, and the [ARRL Contest Calendar](#) and [WA7BNM](#) contest web sites for details



"I'm afraid I'll have to open you up again. I can't find my Bluetooth, and the last time I used it was when I operated on you."

Amateur Radio Examinations Monroe, MI

Monroe County Radio Communications Association Amateur Radio examinations are held the 3rd Saturday of every even numbered month at:

American Red Cross Chapter Bldg.
1645 North Dixie Highway
Monroe, MI 48161

Testing by appointment only.
Call for information.
Masks or better to open.

2021 Schedule:
February 20 April 17
June 19 August 21
October 16 December 18

TESTING BEGINS PROMPTLY AT 9:00 AM

Applicants are expected to have all forms filled out and be ready to take tests at that time. Coffee and doughnuts are available at 8:30 AM. For more information or to make reservations, call Paul Trouten - W8PI at 734-854-2224

Join us at the next meeting

February 18st at 7:30 pm

Meeting via Zoom

Local Net

ARPSC Net - Every Monday evening on '72-Monroe (146.72 Mhz) starting at 8:00pm.

ARPSC Meeting first Thursday of every month at the EMD office on Raisinville Rd.. 7:00 PM