



THE SCOPE



The Central Michigan Amateur Radio Club and Lansing Civil Defense Repeater Association

VOLUME 20, ISSUE 5

JULY/AUGUST 2020

CENTRALMIARC.COM

CLUB PICNIC

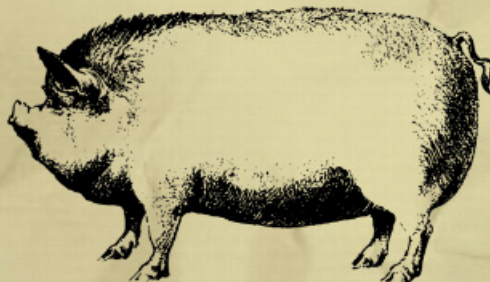
&
Ziegenbein Award Presentation



DAN AND VICKI DEMBINSKI

9749 Peacock Rd Laingsburg, MI 48848

Pulled Pork Sandwiches are available.



Saturday
August 22nd
Dinner at 5 pm
Arrive no earlier than 3:30 pm.

**Bring your own dinner & lawn chairs.
Plenty of room to social distance.**

**RSVP by August 14th
events@centralmiarc.com**

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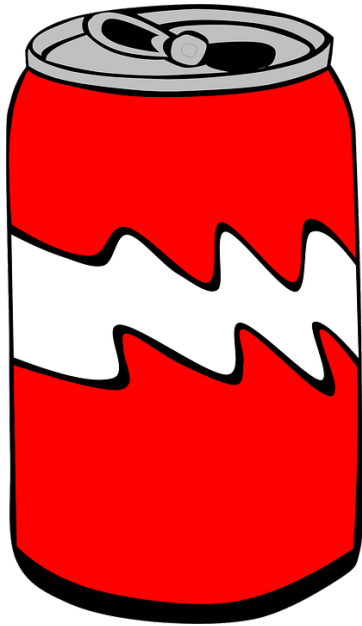
REPEATER TRUSTEE: Dennis Boone / KB8ZQZ

The Scope is a bi-monthly joint publication of the Central Michigan Amateur Radio Club and the Lansing Civil Defense Repeater Association.

Please send any articles, classified ads, or other items to the Editor, Chris Ranes, NS8Q at cmarscope@gmail.com. Pictures should be mailed in .jpeg format, and articles in Microsoft Word or TXT format.

The views and opinions expressed by our contributing authors do not necessarily reflect the views of the Central Michigan Amateur Radio Club or the Lansing Civil Defense Repeater Association.

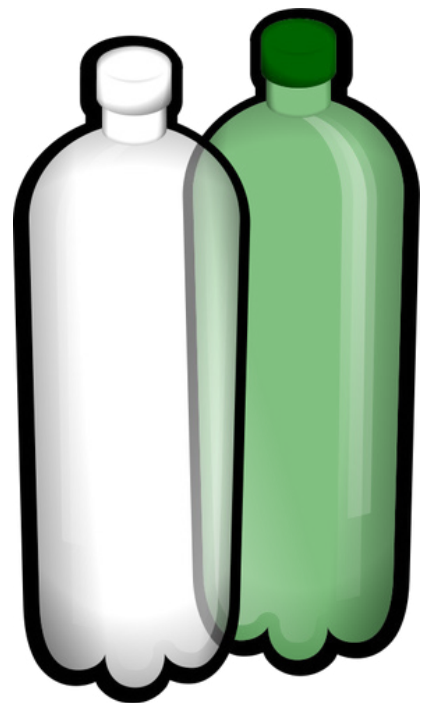
Central Michigan Amateur Radio Club's



CAN & BOTTLE DRIVE

An effort is underway to raise money for CMARC's Building Fund. The Building Fund has been designated by the Board to be used for the purpose of moving our club house / club station.

If you would like to participate, please return the bottles and cans you have been accumulating at home. Then consider mailing your check or money order to our Treasurer, and made out to CMARC.



Shannon Ranes, WA2NVK
1728 Cooper Ave
Lansing, MI 48910

Treasurer's Report 2020

Shannon Ranes / WA2NVK- CMARC Treasurer

Bank Balances for June	
Beginning Balance	\$3,476.69
Total Monthly Income	\$0.00
Total Monthly Expenditures	(\$0.00)
Total Business Checking	\$3,476.69
Petty Cash	\$1.00
Outstanding Checks	(\$80.00)
Sub Total + Petty Cash	\$3,397.69
Primary Share Accounts	
Humphrey's Fund	\$384.31
Building Fund (Club Station)	\$19.09
Field Day	\$178.84
Total Net Worth	\$3,979.93
Youth Fund Balance*	\$254.78
* Separate from CMARC Funds	

June 2020 Summary:

~ A \$40 memorial check (written in January) has not been cashed. A second \$40 memorial check (written in May) has not been cashed.

Treasurer's Report 2020

Shannon Ranes / WA2NVK- CMARC Treasurer

Bank Balances for July	
Beginning Balance	\$3,476.69
Total Monthly Income	\$160.00
Total Monthly Expenditures	(\$0.00)
Total Business Checking	\$3,636.69
Petty Cash	\$1.00
Outstanding Checks	(\$80.00)
Sub Total + Petty Cash	\$3,557.69
Primary Share Accounts	
Humphrey's Fund	\$384.33
Building Fund (Club Station)	\$19.09
Field Day	\$178.85
Total Net Worth	\$4,139.96
Youth Fund Balance*	\$254.79
* Separate from CMARC Funds	

July 2020 Summary:

~ We deposited \$160 in dues. A \$40 memorial check (written in January) has not been cashed. A second \$40 memorial check (written in May) has not been cashed.

The Ingham Co. VE Team Returns

By Russ Fitzgerald, N8FZ

Yesterday July 11th was our club's return to VE testing during the Covid pandemic. It was so successful I wanted to share it with you and with any other VE groups who are considering a return to testing.

Normally our group gives VE testing once a month. We rotate between a Thursday evening and a Saturday morning session. We use a conference room located at a Lansing, MI fire station. However the risk to our responders was too great at this time. Instead we set up our session at a local City of Lansing park. After getting the necessary approval from the City, we set up at a covered pavilion with picnic tables. The set up gave us plenty of room to keep 6 feet apart including the VE's. We took each person's temperature, made sure everyone had a mask and had them use hand sanitizer before entering.

The same was done for each examiner. We had a turnout of 11 which was good considering all the circumstances. It was also nice to be outside for a few hours.

If I were to make a couple of suggestion for all VE Groups, the first would be to make sure the word gets out when there is a change of venue. The other is that the VE team carry a supply of disposable masks. Although we required a mask for everyone, there is bound to be some who forget. Most of the candidates show up a little anxious so forgetting a mask does happen. Rather than just sending them away we were able to hand out if needed a disposable one. We would hate to deny a test that someone who has put in a lot of time and effort only to send them away for no mask. ■



Thank you Dave, W8ZZX for the sign to represent our group.



(From L to R) Dave W8ZZX, John KD8NNQ, Ted WA8MFQ, Don KB8RAD, Ben WD8OVL, Kelly N9FTZ, Russ N8FZ, Chris NS8Q



There is plenty of room to "social distance" under the pavilion, even when a dozen or more test takers are there.



Ben WD8OVL, Don KB8RAD, and Ted WA8MFQ

Field Day 2020: My Family's Experience

By Daniel Beuchert, WX8MOJ

Field Day 2020, FD2020 for short, was one that will be hard to forget. This isn't because of the competition between Digital and CW (I know, some would call that a battle of semantics, CW is the OG digital mode after all), it wasn't because of valiant battles fought to get antennas in the air without losing a tennis ball, nor the generous food that was prepared and shared amongst CMARC members. Alas, we will remember FD2020 for how we were faced with a challenge that kept us apart physically, but not off the air. A lot changed when COVID came and many restrictions were put into place. Our usual location was off limits and indoor gatherings were strictly limited. While talking to the CMARC Board, it was decided with heavy hearts to not operate FD2020 in person, but to take advantage of the ARRL's change in allowing multiple operations to claim the same club. So, we encouraged everyone who could to operate FD2020 in ways that they found safe and were comfortable with, but to report their score while tagging Central Michigan ARC. Gregg Mulder proudly used W8MAA to keep our call warm in the exercise, and many stations operated within the Central Michigan ARC family. COVID could keep us all from getting physically together, but it couldn't keep us from fellowship on the air.

Starting this year preparing to chair the CMARC FD2020 operations, this definitely didn't go down how I envisioned, but I hope that it did give everyone an opportunity to test your skills in the spirit of Field Day. For my family, it provided a somewhat unique opportunity to test out our ability to operate with emergency power, as we decided to operate as 1E (home, emergency power) from our camper while using batteries that we

would charge with a lawn mower when needed (when you don't have a generator, you get creative)! We used our camper, that is a Field Day veteran, and our OCF dipole up the tree behind our house, and we hooked our computer and radio up to the batteries setup outside our camper. This challenge of setting up a non-traditional operation was only part of the unique opportunity of FD2020 for our family. Not only were Dawn KD8MWA and I WX8MOJ able to use our General privileges on the air, but we were able to spend more time together while operating, and we welcomed our 10 year old out to help us out too. She can be a little shy, but that didn't stop her from wanting to try. I was able to coax her through one SSB contact, but she wanted to try out PSK-31 that she had seen me using on Fldigi. Needless to say, I figured she would get a contact or two in, get bored, and move on. She proved me quite wrong when she took a break after 8 digital contacts. While I missed the camaraderie and fellowship that is traditionally found at a CMARC Field Day operations, I felt blessed to be able to spend hours together with my family, growing closer together in a shared hobby. There is definitely a young ham in training, eyeing her first license, just as Dawn and I eye our Extra license.



Battery bank & power inverter.

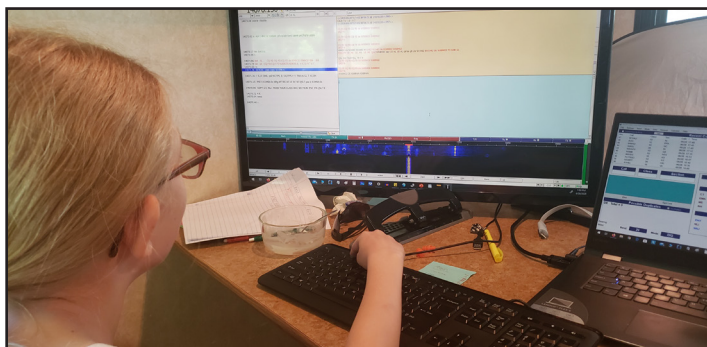
We didn't have a spectacular run in terms of contacts made, we did sleep in our own beds, we had no crazy pileups, but I am happy for what we were able to accomplish. Dawn got 6 contacts (Phone), our 10 year old got 9 (1 Phone and 8 Digital - PSK-31), and I got 38 (16 Phone, 22 Digital). I hope that others were able to take advantage of the unique opportunity and hopped on the air, possibly planting the seeds or tending the saplings of "Ham Radio Fever" in our own personal bubbles. I look

See FAMILY, Page 7

forward to hearing about how others setup to operate this year, and I hope that it brings new ideas to FD2021. In these times filled with uncertainty, I will say that I am thankful for the opportunity to operate as a family unit this year, and I look forward to when we can safely get together again and operate in fellowship in the future. Until then, I hope to hear you on the air, and that these words find you safe and healthy. ■



Dawn Beuchert, KD8MWA spinning the dial searching for another 20-meter contact.



Abby Beuchert calling CQ on 20-meter PSK31. KE8BWA is answering her on the waterfall.

News Snippets from the Amateur Radio Newline (July 17, 2020)

HAMS FILE OBJECTION TO SHORTWAVE PLANS NEAR CHICAGO

PAUL/ANCHOR: An application to the FCC for a shortwave station in the Chicago area has drawn fire from a number of ham radio operators. Andy Morrison K9AWM has been following that story.

ANDY: A group of ham radio operators has challenged a shortwave broadcaster's plan for an international radio station in a suburb of Chicago, Illinois and has filed an objection with the U.S. Federal Communications Commission. Parable Broadcasting Company, requesting the call sign WPBC, has told the federal agency it plans to include religious and educational programming that would be heard in some parts of Europe and would also be capable of transmitting data content provided by third parties as a point-to-point message facility. The station hopes to operate with 15 kW of power on the six international shortwave broadcast bands between 5.9 and 15.8MHz.

Bennett Zobb AK4AV, Christopher Rumbaugh K6FIB and Kim Andrew Elliott KD9XB filed a joint comment to the FCC saying they believe the data transmission portion of the station's operation may disqualify its application. They contend that the for-hire portion of their transmissions would not be a broadcast for listening by any members of the public. They wrote: [quote] "The applicant proposes to use the Digital Radio Mondiale (DRM) standard. All data messages from this station must be in a form readily decoded by ordinary DRM receivers and rendered as publicly accessible content without encryption or obscuration of their purpose or meaning." [endquote]

Parable has said it intends to use Digital Radio Mondiale modulation and told the FCC that this plan fulfills a request by the National Association of Shortwave Broadcasters to expand the DRM market yet further. The publication Radio World, which carried this story, requested comment from Parable's attorney who said the applicant is reviewing the hams' objections but said the application complies with all FCC rules.

Field Day 2020: My Mobile Experience

By Dave Vick, W8ZZX

When the CMARC club and the City of Mason pulled the plug on our annual Field Day encampment in Rayner Park, it became obvious that many of us would be working FD2020 from our home stations as Delta-Class or Echo-Class. I had intended on joining in on that trend with my trusty Flex 3000 rig and my well-seasoned end-fed half-wave wire at the home QTH, however two factors changed my mind and caused me to work Field Day as a I-Charlie (mobile) station instead:

- 1.) A high voltage “pole pig” transformer in my neighborhood had developed a fault, generating all sorts of QRM and RFI on almost every HF band, and...
- 2.) I had just finished my mobile rig installation in the “Prius of Doom.”

I had bought a “previously-loved” Icom IC-706mkIIG from John Vassel AD8BV, and had installed it in the trunk of my car, with a separation cable to locate the control face on a flex-shaft near my driver’s seat and an LDG IT-100 antenna tuner remote-mounted with the 706 chassis. The antenna mounts are dual Diamond K400s on either side of the top of the Prius’s lift-gate; the driver’s-side mount is an NMO mount with a Larsen base-loaded dual-band antenna for VHF & UHF work, and the passenger’s-side mount is a 3/8”-16 stud mount for HF work through the LDG tuner. I acquired a set of five Shark full-sized Hamstick-type loaded whips, one for each of the HF bands I planned on working, and had tuned them to resonance with my RigExpert analyzer, but aside from a couple of test-runs with the NATA and OMISS nets on 40m and 80m, I hadn’t really put the mobile rig through its paces properly on HF. That was about to change...

Saturday the 27th dawned cool, bright, and clear, and the early propagation on the higher HF bands promised a good day working contacts. I packed my Shark whips for 10m, 20m, 40m, and 75m into the Prius, along with



Dave, W8ZZX commands the airwaves from his vehicle.

my logging notebook and a cooler of water bottles and snacks and headed out for my chosen location: On top of one of the parking ramps on the MSU campus.

I parked on the top deck of Ramp #5 on Trowbridge Road by the Comm Arts Building around 18:00 UTC when the contest action starts, set up my 20m whip in the HF antenna mount, and fired up the Icom. I was reading about an S3-S5 noise floor – not the quietest air but still a lower noise floor than around my home QTH – and was able to bag a few tentative QSOs in the low end of the 20m Phone band through the hash. I tried moving around the top of the ramp, steering away from the metal light poles, but my reception didn’t seem to improve very much as the afternoon waned, although the signal and audio reports I received were uniformly great. I had tweaked the 706’s TX settings to the full power SSB output and 70% modulation with slight compression, and the 706 was really putting it out there for me! By 22:15 or so, I had only managed to work 35 contacts, due to noisy band conditions all over the country, although two of those contacts were in Puerto Rico and one was in the Netherlands, working the King of Spain contest.

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Another one of my afternoon contacts would prove to be one of only two Michigan QSOs that I'd make all weekend, and they are both CMARC members—Ed Oxe W8EO. I enjoyed telling Ed that I was working within sight of his “antenna farm” that the MSU Amateur Radio Club had installed on the roof of the Engineering Building on campus. Too bad I couldn't tie into ‘em remotely...

At that time I swapped the 40m Shark whip into the HF mount and QSY'ed down to 7MHz, but there was a ton of QRM and static crashes on that band, and I only managed three contacts in half an hour of hard CQing, so I switched back up to 20 meters. But by then 14MHz had lost its fizz, and I only scored eleven QSOs in the next hour and a half.

At 00:30, I took a short snack-&-water break, and swung back down to 40 meters, thinking I might have good luck working the Gray Line... It proved to be an excellent choice; the band was wide-awake and jumping! I tallied fifty-four contacts from 00:34 'til 02:44, with a lovely pile-up that bagged me seventeen contacts in twelve minutes, and another one that scored sixteen contacts in twelve minutes.

At around 02:50 I had another dry spell, so I switched over to 75m just for giggles, but the band was pretty dead, so I dropped back to 20 meters to see if the QRM had subsided. It had not, and I only bagged one contact through the noise in almost a half-hour of calling CQ. I changed back to the 40m whip, but that band was subsiding for the evening, and I only tagged three QSOs between 03:43 and 04:35. By then I was pretty well beat (as my wretched, half-asleep handwriting shows in my logs) and was starting to lose my voice, so I decided to pull the plug for the night, and headed home for a few hours of sleep.

On Sunday morning I was back on campus by 13:00 UTC and had changed my location to the top of Parking Ramp #7, on Harrison Road by the Breslin Center. I decided to lead off the day's action on 10 meters, but it was ridiculously noisy, and I only managed two QSOs in Texas. I decided that 10m was “too much like work” and chose to see if any of the magic from last night was still in the air, up on 20...

And Boy-Howdy, was it ever magic! I had no sooner tuned up on 14MHz when the band just exploded... I ended up working a massive pile-up that kept me answering calls for almost three hours straight! I was scribbling log entries in my notebook like a mad fool and talking 'til I had almost lost my voice. Many of my contacts told me that my signal and audio was “fantastic” for a Mobile station; quite a few asked for details of what I was running and how it was set up in a Hybrid car. I would go on to rack up a whopping 306 contacts in the next five hours, with a little lull around 16:00-16:15. One of my QSOs that afternoon was my other Michigan contact and another CMARC member, John Hosford KC8QZB. I worked another monster pile-up from around 16:30 until 18:54, when I suddenly started having problems with the rig... One of the great things about the second-generation Toyota Prius is that the electrical system in general, and specifically the 12v battery, are very accessible. The car has two batteries; the 200VDC high-energy battery bank that powers the Toyota Synergy Hybrid Drive system, and a small, conventional 12VDC “house battery” that provides power for the starter circuit, climate control, lights, stereo, and all the other normal electrical “car-stuff.” And while the high-voltage Drive cells are pretty hidden out-of-the-way under the rear seat and inside the cell guards, the House cell is extremely easy to connect to; it's in the “trunk” area of the car's interior. HOWEVER... The *bad* thing about the Toyota's electrical system is that the energy-management computers that do all the “smoke-&-mirrors” voodoo for the Hybrid Drive will inject a *TON* of RFI into your rig via the antenna and a ton of electrical noise via the radio power cables, so if you want to, say for example, listen for stations in far-away places during a contest, you need to do it with the car's two motors and all the car's electrical systems switched OFF...

Now, I've told you all that fancy technical stuff so I could tell you this: At 18:54, the Icom suddenly didn't seem to want to work anymore; I'd key up the transmitter, and the rig would stutter a couple of times and then power itself down. “Hmmmm...”, I thought. And sure enough; after so many hours of pulling full-draw amperage out of the House battery without the motor (and the charging circuits) running, I'd drawn it down to almost 10 volts! Oops... There was just barely enough juice left in the battery to fire up the Prius's gas engine and get the alternator

& charging circuits working. I pulled down the HF whip – the Shark whips are too long to allow driving the car with a whip in place, with my particular set-up – and spent about 45 minutes driving laps around the MSU campus to charge up the battery... Harrison Road south to Mt. Hope, east to Hagadorn, north to Grand River, west to Michigan, southwest to Harrison, south to Mt. Hope, lather-rinse-repeat...

About 19:40, I pulled in and parked the car on the roof of Parking Ramp #1, on east campus behind the Law School building and adjacent to the Business School & Wharton Center, and re-set the 20m whip to finish out my Field Day fun. Between 19:41 and my final call at 20:58, I tallied another twenty-nine QSOs; the conditions were starting to deteriorate with the waning afternoon sun, and most folks online were starting to get that “Had-Enough” feeling. At 21:00 I powered down the IC-706 for the last time, pulled the Shark whip off the mount and broke it down for shipment, and headed for home... So, what did I take away from this experience? Well, lots of things...

453 QSOs, for 906 points (x2 Multiplier for running <150W), plus 50 points bonus for filing online, for a grand total of 956 points running solo-mobile. These points have been credited to the CMARC Club Aggregate Score. I worked 44 US States plus Puerto Rico (twice), three Canadian Provinces, and one European contact All from a Mobile station!

I also learned that the venerable Icom IC-706mkIIIG is one heck of a radio, and also that Shark full-size HF mobile antennas are possibly one of the greatest “Bang-for-the-Buck” bargains in ham radio, provided you do your homework on properly mounting & tuning them, and bonding all the grounds and body panels on your vehicle.

I learned the hard way that if you’re running One-Charlie, you *do* need to take a bit of time every so often and charge up your battery. Thankfully my Icom was able to tell me, “Hey, charge up your car battery!” before the rest of the car told me, “You’re sleeping here in this parking ramp tonight, you big dummy.” And I also learned that, while having lots of water is good for your voice, I will never-ever again forget my bottle of slippery elm throat lozenges. They are a secret I learned decades ago from a well-respected professional opera singer (who shall remain nameless here) whom I once worked with, for preserving your voice under severe conditions, and they’ve saved my voice both at work and on the air many, many times before.

But as fun and successful as it was this year, the biggest lesson I took away from Field Day 2020 was that I really missed operating with my CMARC family in Rayner Park, like we do every year. I’m sure looking forward to being together again for Field Day 2021, and I hope you are too. ■

Vibroplex Challenge

By: Gregg Mulder, WB8LZG

As many of you know, for many years I have refurbished keys and paddles as a side hobby for my enjoyment in the fine art of Morse code. Many Vibroplex’s have passed through the shack restoration process and operate as new when I finish.

What most of you CMARC members may not know is, for years now I have given away Vibroplex paddles and bugs to worthy recipients. 9 of them so far in a 20 year period.” given away, no fooling” you say. Wow! That’s a bunch of Vibroplexes.” How do I get one” You ask?

“When will I be worthy”?

Well here’s the scoop.

From now until Field Day 2021 you must convince me that you’re a “worthy recipient”. No you don’t have to impress me with 20WPM speed. Just show that you are learning and using Morse code “on the air”. With a little practice you can master CW in as little as 3 or 4 months. Show me that you are learning and enjoying the art of CW by next Field Day 2021, and a beautiful Vibroplex Vibrokeyer can be yours! **FREE.**

I CHALLENGE YOU ALL !

Field Day 2020 From The CW Seat

By Gregg Mulder, WB8LZG

This year's Field Day will be remembered by all of us as the year of change and adaptation. 1st time in my 40 some years of the fun, that I would not be able to do Field Day in the field. I began to think of all the great things I'd be missing. Did you miss them too?

#1 - the camaraderie with fellow club members. Nothing can top hanging out with guys n gals who share your own interests and operating habits to get you all keyed up!

#2 - a BIG one is the FOOD. All those homemade dishes (Carl's German Taters) and deserts galore. A culinary dream come true every summer. I'd gain five or ten lbs. every year, hee hee.

#3 - learning something new. Just when you think you've seen it all, there is something new to learn at FD. Unfortunately, many of these lessons come as a result of encounters with our ol' pal Murphy! Yet, Ham ingenuity usually triumphs, and the wisdom is passed on.

#4 - using just dipoles. Boy-o-Boy did I miss the Bruce Array! Those big curtain antennas are real performers. I looked at them, rolled up in my boathouse before FD, and sighed.

Despite all the hurdles, FD 2020 would go on!

I "gave in" and decided to operate from home as 1D. I asked to activate the club call W8MAA, and this gave me a little mental "shot in the arm" to represent our club. Gave me a sense of pride to know that the club call would again grace the airwaves. At the start, I planned on operating 5 watts with the K2 on solar power to get the bonus. It was only AFTER the contest was over that I realized as a Class D station I was not allowed any solar bonus. Arrgghhh!

I got the first six QSOs in the log at 5 W in about 15 mins. Then switched to the big rig at 80 W for the remainder. 20-meters was open at the start, and they were going in the log as I worked my way up the band. Then Murphy struck! My logging program skipped a number

and locked up! A couple of choice incantations, a restart, and I was back in action, albeit with a log showing one digit off (it fixed itself at the end).

I worked 20-meters all afternoon, and into early evening, I was making contacts OK, but didn't have the Ummph to hold a frequency for very long before being "pushed out" by the Kilowatt boys! After dinner, I went to 40, and it was packed! Many stations worked on the way up the band for the first swing. Even with search n pounce, I managed 35 - 40 / hour.

Things slowed down a bit after 8 pm. I'd get a spurt of QSOs, then none, for several mins. The propagation was acting strange as well. Almost all the stations were within a 1200-1500 mile circle, confirming the radiation patterns of an inverted vee dipole up about 30 feet. I pulled the plug as I tired out about 10 pm.

Sunday morning, I went to 80-meters and had a blast. I got a great run right away and had 50 in the first hour. After a couple of hours, it slowed, and I went to 15-meters to see. I had a nice little run there too and picked up a few of the California sections. Then after a quick breakfast, I alternated 40 and 20 until just before noon, when I finally ran out of gas. So I pulled the power and went QRT for FD 2020.

Was it fun? YES! But it sure didn't feel like FD. I also gained a new respect for the Bruce arrays and other "Gain" antennas. My dipoles didn't have the same authority. I couldn't get to the elusive 1/min QSO rates that I "live for" at FD. I had a good time using our club's call - sure beats my own on CW. Felt good to know our callsign is still heard on the air continuously every Field Day.

Total tally. 354 QSOs all on CW.

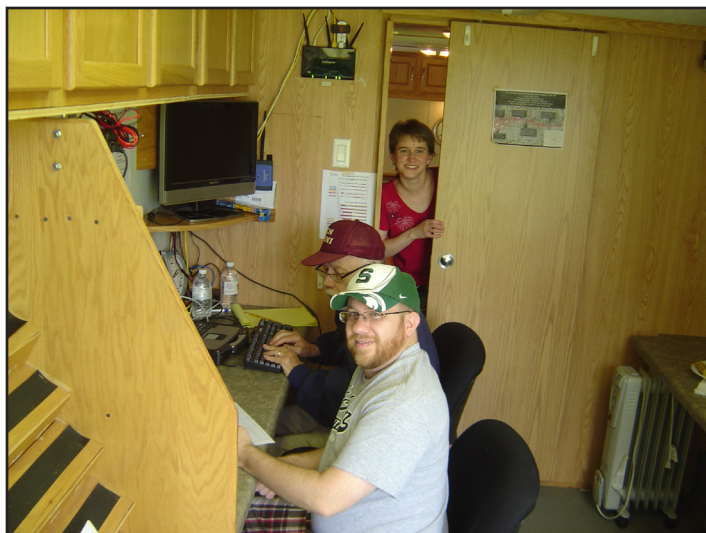
Band Stats: 80M -71 , 40M- 159 , 20M-87 , 15M-37

Looking forward to next year, when we can hold our traditional Field Day with the CMARC. Just to whet your appetite for next year, here are some pix of the fun at past Field Days. I hope you enjoy a bit of Field Day yester-year. ■

See CW FIELD DAY, Page 12



Dave Hayhurst K8QH - 2009



Shannon WA2NVK, Ken W8HNI, and Chris NS8Q - 2015



Jim KC8QWH and Dan KD8YDE - 2019



Dan WX8MOJ, John KC8QZB, and Andrew Wellwood



The Three Dons - 2006

Left to right (Don KC8CY, Don KD8BD, Don W8EGI)

See **CW FIELD DAY**, Page 13



Ken W8HNI - 2014



Clint KC8EHR and Ron WD8BCS - 2006



Ken W8HNI and Don W8EGI - 2005



Tim Marshall - 2007



Ken KC8LTL with a Boy Scout - 2011

Securing PowerPoles

By Dan Romanchik, KB6NU

In preparation for this year's Field Day, I made a bunch of cables with PowerPole connectors to connect the solar panel, charge controller and batteries that I used. If you're not familiar with PowerPoles, you might want to check out this YouTube video (<https://www.youtube.com/watch?v=o3Ii-uOcQ-jo>). They're really great connectors, and have become the DC connector of choice for many hams.

When I make up PowerPole cables, I normally don't bother trying to secure the two halves together, especially if you're using some decently heavy gauge wire. They fit together pretty tightly, and don't come apart easily. Even so, I think securing them together is a good idea. You can buy a little roll pin to insert between the red and black housings that is supposed to prevent them from coming apart, but many folks complain that the pin has a tendency to fall out. This not only defeats the purpose, but could also damage your equipment.

Securing them is the right thing to do, though, and I recently came across some great suggestions on how to do this in the daily digest that I receive from the Elecraft-KX mailing list (<https://groups.io/g/Elecraft-KX>). Here are the best tips from the thread, Securing Anderson Power Poles (<https://groups.io/g/Elecraft-KX/topic/75060413>):

- Rudy K8SWD: You can thermally bond the red and black housings with a soldering iron like you are making little welds on both sides. Permanent (mostly) but it works better than the roll pins. Just clean the tip really good before soldering!

- Dave KoCDA: [Anderson] also make connectors that are thermally bonded together in pairs. They do NOT come apart.

- Don W3FPR: I use a drop of Super Glue on the junction of the plastic pieces. Warning – that glue grabs quickly, so slide the 2 pieces only enough to start the assembly, then apply the drop of glue and quickly finish sliding them together. I have never had ones prepared like that come apart, and I don't use roll pins. I



PowerPoles have become ubiquitous in amateur radio.

will say one more thing – use only the genuine APPs. I have seen some knockoffs that do not mate well.

- Greg KC9NRO: Take a hot soldering iron. Wipe the tip with sponge. Run the tip down both side of APP bonding the black and red sides together. Clean soldering iron tip and apply some solder to tip. That's how I roll. Never comes apart

- Mike AI4NS: PVC cement will soften the plastic enough to bond them together. You can also get plastic welding rods, such as Daindy Plastic Welding Rods (https://www.amazon.com/dp/Bo86HNQXM3/ref=cm_sw_r_cp_api_i_poR8Eb88N54P4). Chuck a rod in a Dremel and weld them together. I have made plastic boxes and panels using this method.

- Jack WD4E: Snip the cotton end off a Q-tip, cutting at an angle. Insert into hole made for roll pin, cut off excess, save remainder of Q-tip for next requirement.

- Troy K4JDA: 2.5mm screws work well, stay in, and are easily removable.

I posted these suggestions to my blog (<https://KB6NU.com>) and got a few more great suggestions:

See POWER POLES, Page 15

Tom KB8UUZ: Fat tooth picks also work great. Jam it in, break it off.

- Bruce NoNHP: I use MEK (Methyl Ethyl Ketone) replacement to clean my circuit boards after soldering. A single drop of MEK on the junction between the two halves of the PowerPole shell will fuse them. It can be broken with a sharp tap but not accidentally. It will set and dry in seconds and should be applied after the shell pieces are put together.

I think these are all great suggestions. I think that I'm going to try the cotton swab method. While reading them, another thought occurred to me. I haven't tried this yet, but I'm thinking a little drop of hot glue on the roll-pin hole might work, too. ■

Dan Romanchik, KB6NU, is the author of the KB6NU amateur radio blog (KB6NU.Com), the "No Nonsense" amateur radio license study guides (KB6NU.Com/study-guides/), and often appears on the ICQPodcast (icqpodcast.com). When he's not thinking up new ways to keep his PowerPoles together, he likes to teach ham radio classes and operate CW on the HF bands.

Tech Classes Move Online

By Dan Romanchik, KB6NU

I've been teaching ham classes for more than a dozen years now. My specialty has been the one-day Tech class. In this type of class, you review all of the questions in the question pool with the students over the course of six to eight hours, and then immediately give them the test before they can forget anything.

I would hold these classes three or four times a year and regularly have 20 – 30 students in each class. The pandemic, of course, has put the kibosh on these classes. The last one I taught was in January.

Frankly, I was wondering if I'd ever teach one again. A little over a month ago, however, I was approached by a fellow in Portland, Oregon about teaching an online class for some folks that he'd corralled there. After giving it some thought, I said yes.

So, now, in place of face-to-face classes, I'm teaching online Tech classes. There are plusses and minuses to this approach. One negative is that I miss the face-to-face interaction with the students. On the plus side, teaching online allows me to offer classes more frequently. My first was in June. Last week, I completed the second class, and in August, I will teach a third class.

I have had to make some changes to the format. Making people sit in front of a computer for six hours or more

seemed like cruel and unusual punishment. So, instead of a one-day class, the online class consists of four, two-hour sessions, spanning two weeks:

- Session 1 (Electrical Principles, Electronic Components and Circuit Diagrams)
- Session 2 (Radio Wave Characteristics, Antennas and Feed Lines)
- Session 3 (Amateur Radio Signals, Electrical Safety, Amateur Radio Practices and Station Setup)
- Session 4 (Station Equipment, Operating Procedures, Rules and Regulations)

This seems to be working out pretty well. I'm using Zoom, and most people have been able to attend without too much hassle. To simulate the whiteboard that I use extensively in the face-to-face class, I'm using the Autodesk Sketchbook program (<https://www.sketchbook.com/>) and sharing my screen with the Zoom meeting attendees. To write on the "whiteboard," I'm using a Gaomon M10K2018 drawing tablet.

Sketchbook allows me to build up a document in layers, and the result is kind of a hybrid PowerPoint presentation and whiteboard. I can make layers appear when I start discussing a particular topic and then write over them. For example, when I go over the questions that use Ohm's Law to calculate current in a circuit, I display the later

See TECH CLASSES, Page 16

with “ $E = I \times R$ ” and on a second layer, show how to calculate the answers to the questions.

To take the test, students have to sign up for an online test session. Fortunately, several VE groups are offering online, remote testing. To sign up for one of these sessions, all students have to do is go to <https://hamstudy.org/sessions>. For the first two classes, the W5YI VEC scheduled a special test session.

I foresee teaching these classes monthly until the demand wanes. The next class will start on Monday, August 3.

To register for the class, go to <https://www.kb6nu.com/product/next-online-tech-class/>. To find out when these classes will take place in the future, potential students can sign up for my mailing list by going to <https://landing.mailerlite.com/webforms/landing/m6l6t4>. ■

Dan Romanchik, KB6NU, is the author of the KB6NU amateur radio blog (KB6NU.Com), the “No Nonsense” amateur radio license study guides (KB6NU.Com/study-guides/), and often appears on the ICQPodcast (icqpodcast.com). When he’s not teaching ham radio classes, he likes to operate CW on the HF bands, go for long walks around Ann Arbor, MI, and volunteer for Rotary Club service projects.

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- Next Friday Meeting
 - Talk about seeing about when we might be able to use the room for a meeting again.
 - Should we do a Zoom meeting?
 - We plan to have a zoom meeting this coming Friday for those who can attend
 - It would be a good idea to talk about rules for how to operate
 - Including participants being muted and video off, so that you can choose to turn on your camera and microphone when / if you feel comfortable.
 - Members should let Gordy know what topics they would want covered in the meeting.
 - Gregg brought up that members could show off our shacks if we can
 - Dan Dembinski made motion, Don seconded, all favor of having meeting on Zoom
 - 7pm start time
 - Michael B stated that we could have an agenda put into a PPT and shared during the meeting
 - Meeting can be opened at 6:45p
- Field Day
 - Dan Beuchert outlined the constrictions of the Executive Order on operations like CMARC Field Day, and noted that Kevin, our building owner, would rather us not use his building for Field Day, but did consider a liability waiver if we wanted to.
 - Gregg proposed, Don McLain seconded that we forego Field Day in person this year
 - Talk about having different stations claiming CMARC as a club. There will be information forthcoming about how to do this and support for stations that wish to claim CMARC.
 - Members were encouraged to check out this 8 minute video about doing Field Day with aggregate club scores: <https://youtu.be/A2LRCvabjuA>
 -
- Building / Club Room situation
 - We don't know of any changes to the situation – of the building being up for sale, but we know of no current bidders.
 - The thought of the board is that we have a limited and uncertain time before the building is sold, and that we should be working on plans to move.
 - Thought is that we would have 60-90 days time to get out of the building after it's sold if the new owners wouldn't want to continue the agreement. Even so, we believe it to be wise to have a plan in case we need to leave quicker than that.
 - Talk about meeting in a community center for our meetings (not as a shack, but as a meeting area) to keep meetings going, even if we haven't found a place to house our shack.
 - Talk about looking / asking around for other venues that might be able to help us into the future to hold meetings, if not host our club room.
- Talk about a building fund
 - Something separate for us to collect donations for?
 - Go Fund Me?
 - Shannon will be looking into the requirements to open an account for this purpose in regards to our 501c3 status and MSUFCU.
- Talk about Clyde stepping down
 - Gordy relayed information from Clyde as needing to step down from his position as Secretary and the Board. There was conversation about asking Dave Vick to replace Clyde in the tradition of seeking those who ran for the Board at the last election if there are vacancies.
 - Shannon makes a motion Dan Dembinski seconds – unanimous passage of asking Dave Vick to replace Clyde as secretary.

- There was some discussion of seeing if there was a need to change the positions of the officers, and to be flexible if that is needed.
- Gordy mentioned that he's now semi-retired and will have a little more time than before
 - Talk about wanting to get classes started back up as soon as we can (which depends on when Michigan gets to the next stage, etc.)
 - Michael Boensch offered to set up these on Zoom.
- Talk about Ziegenbein / Ladies night
 - Thoughts about trying to have it for the July or September meeting, and possibly having it outside if we don't have the ability to do it indoors.
 - Russ and Kelly will be asked if they would like to continue looking at heading up the Ziegenbein / Ladies Night operation. There was also talk of looking into Valhalla Park in Holt as a possible location. Shannon will reach out to Russ and Kelly.
- Hamfest talk
 - We have until August – depending on how pandemic plays out – to either go or cancel
 - Gordy will call the conference center to see what their thoughts are about having the event
 - There was talk about asking the vendors to see what their comfort level is. Dan Dembinski will reach out
 - It was suggested to ask membership about comfort with volunteering and/or attending
- VE Testing online through Alaska
 - It was talked about as something the local VE group could look into, there is software you need to use, and a bit of training, and Don McLain said that it would be difficult to do here with the resources we have.

Respectfully submitted,

Daniel Beuchert, WX8MOJ

CENTRAL MICHIGAN AMATEUR RADIO CLUB GENERAL MEETING MINUTES

Friday, June 12, 2020

Attendance

Board Members Present: G. Smith (KE8JKS), D. Dembinski (KD8YDE), S. Ranes (WA2NVK),
D. Vick (W8ZZX), G. Mulder (WB8LZG), D. McLain (KB8RAD)
Board Members Absent: C. Canfield (K8YHH)
General Members: W8MKB, W8EO, KC8QZB, KB8PSF, KD8VJD, KD8NNQ, WX8MOJ,
K9FTZ, N8FZ, NS8Q, KE8MQN
Visitors: Tim Conroy (WB8HRO)

Call to Order

- The meeting was called to order at 7:04pm
- Pam Denomme (KB8PSF) held the American Flag for the Pledge of Allegiance

Sign-In Sheets

- Secretary Dave Vick (W8ZZX) took attendance from the Zoom register

Cards & Flowers Report

- There was no report this evening.

New Members & Visitors

- The club was visited by Tim Conroy (WB8HRO); an Extra Class ham from Okemos, MI.

Treasurer's Report

- It was Moved by Don McLain (KB8RAD), seconded by Dave Vick (W8ZZX) to accept the March & April Treasurer's Reports as published in the CMARC website. The motion carried.

Secretary's Report

- Since the previous two meetings have been cancelled due to the Coronavirus Pandemic, there was no Secretary's Report to read or approve. There were no Board Meeting Minutes submitted for acceptance at this meeting.

Interesting QSOs, QSLs, DX, & Other Contacts

- Dave Vick (W8ZZX) showed the QSL card he got from working a station on 80m SSB in Monfaucon, France.

Deferred Business

- There was further discussion regarding the upcoming Ladies' Night & Ziegenbein Award Banquet. We need to be cognizant of Food Safety, most especially in these pandemic times. Discussion revolved around individual portioning & limiting the number of people handling food, vs. having a "Bring Your Own Dinner" social meeting. Dan Dembinski (KD8YDE) offered his property for an outdoor social gathering and discussed a half-hog roast for the Club. The Club sought opinions and input from our Ladies' Night Committee, Kelly (K9FTZ) and Russ (N8FZ) Fitzgerald. Numerous ideas regarding safe food prep/plating/serving were discussed. It was moved by Dan Dembinski (KD8YDE), seconded by Don McLain (KB8RAD) to set the

date for Saturday, August 22 for this year's gathering, commencing around 2pm. The Motion carried. With a firm date set, the Club can re-evaluate the food situation later on as the summer progresses, depending on what State Health Dept. guidelines are in place for "Best Practices" under the Coronavirus Pandemic. Dave Vick (W8ZZX) will set up another Zoom Special Meeting for Friday, June 26 at 7pm, for the purpose of making better-informed decisions with respect to Food Safety for the event.

New Business

- Field Day 2020—Dan Beuchert (WX8MOJ) spoke about classifications & logging to benefit the CMARC ratings in this year's Field Day contesting. Contesters need to be super-cautious about how you list the CMARC name if you choose to have your QSOs count toward the Club's Aggregate Score. New this year is the lack of restrictions on Class D stations (home station - commercial power); this year Class Ds can contact any other class of station for a valid contact.

Dan Dembinski (KD8YDE) offered his property as a place for members who would like to work Portable or Mobile in small groups to come set up, with plenty of room to work while practicing Safe Distancing.

Further discussion ensued regarding the military crank-up tower structure that was gifted to the Club. It was decided to ask the ham who donated it to us to work with Gordy Smith (KE8JKS), Dan Dembinski (KD8YDE), and Tim Clay (KC8THC) to research this device further.

The Club also discussed the form of a Waiver that would need to be signed if any member wanted to borrow any Club equipment, properly indemnifying the Club for anyone's independent actions. Dan Beuchert (WX8MOJ) was asked to research the proper form of such a Waiver. Dave Vick (W8ZZX) offered to assist by forwarding some typical liability Waivers he has dealt with in the past for research.

Ed Oxe (W8EO) shared that the MSU Amateur Radio Club is now running a UHF net every Thursday evening at 8pm EDT/00:00Z, on the W8MSU repeater (442.900 MHz FM, +5MHz offset, 77Hz tone). The Host and Net Control is Jacob Bruner, KW4EV.

Adjournment

- With no further business to discuss, it was Moved by Dave Vick (W8ZZX), seconded by Don McLain (KB8RAD) to adjourn the June General Membership meeting at 8:00pm.

Tonight's Presentation

- There was no presentation this evening.

Respectfully submitted,

Dave Vick, W8ZZX
CMARC Secretary

CENTRAL MICHIGAN AMATEUR RADIO CLUB SPECIAL MEETING MINUTES

Friday, June 26, 2020

Attendance

Board Members Present: S. Ranes (WA2NVK), D. Vick (W8ZZX), G. Mulder (W8LZG),
D. McLain (KB8RAD)

Board Members Absent: G. Smith (KE8JKS), D. Dembinski (KD8YDE), C. Canfield (K8YHH)

General Members: J. Hosford (KC8QZB), J. Doornhaag (KD8NNQ), D. Beuchert (WX8MOJ),
T. Sadilek (WA8MFQ), C. Ranes (NS8Q), M. Sommer (WB8OIP)

Call to Order

- The meeting began at 7:10pm.
- In the absence of the President and Vice-President, Treasurer Shannon Ranes (WA2NVK) presided over the meeting as Senior Officer.

Sign-In Sheets

- Secretary Dave Vick (W8ZZX) took attendance from the Zoom register

Deferred Business

- This Special meeting was called at the June 12th General Meeting for the purpose of continuing discussion on the food prep issues we will face at the upcoming Ladies' Night/Ziegenbein Awards get-together in August. In the absence of President Gordy Smith and VP Dan Dembinski, the members present agreed that we could not get deeply into specifics. The general consensus reached was that if VP Dembinski went ahead with his plan of doing a half-hog roast, then whoever wishes to have the roast pig can bring their own accompanying dishes, and those who are not planning on partaking of the roast can bring their own dinner. Everyone will be responsible for their own plates & utensils. The general feeling is that this is the safest course of action, given the current situation.

We also discussed the possibility of getting some sort of individually portioned dessert that attendees could enjoy together, such as cupcakes. The general consensus is that having the ability to spend time together safely was the most important part of the dinner.

New Business

- Dan Beuchert (WX8MOJ) spoke briefly about the upcoming Field Day 2020 exercises, given the changes mandated by the ARRL and our State and County Health Departments. Discussion ensued regarding logging and scores attributed to the CMARC club aggregate.

Adjournment

- With no further business to discuss, it was Moved by Vick (W8ZZX), seconded by McLain (KB8RAD) to adjourn the meeting at 7:45pm.

Respectfully submitted,
Dave Vick, W8ZZX
CMARC Secretary

CENTRAL MICHIGAN AMATEUR RADIO CLUB BOARD OF DIRECTORS MEETING MINUTES

Thursday, July 9, 2020

Attendance

Board Members Present: Gordy Smith (KE8JKS), Dan Dembinski (KD8YDE), Shannon Ranes (WA2NVK), Dave Vick (W8ZZX), Gregg Mulder (WB8LZG), Don McLain (KB8RAD), Chris Ranes (NS8Q), John Doornhaag (KD8NNQ)

Board Members Absent: C. Canfield (K8YHH)

Call to Order

- The meeting began at 7:14pm

Deferred Business

- Ziegenbein/Ladies' Night—Secretary Vick summarized the results of the June 26th Special Meeting for the members of the Board who missed it. It was resolved by the Board to bring these findings to the July 10th General Meeting as a "Best Recommendation" from the Board, for any further discussion. Treasurer Ranes will check on cupcakes or some other form of pre-portioned individual-serving dessert with a local baker.

New Business

- Carl Canfield—President Smith announced that Director Carl Canfield has resigned from the Board, for personal reasons. Discussion took place over a replacement for him. The Board will inquire at the July 10th General if anyone would like to volunteer to serve the remainder of Carl's term on the Board; if no one volunteers, there were a few names mentioned that the Board would follow up on.
- Hamfest 2020—President Smith shared that the Okemos Conference Center was still green-lighting our reservation in September for HamFest. Vice-President Dembinski stated that he has had several vendors back out of their commitments to this year's event, and it was looking as if the event would probably be poorly attended. Discussion ensued regarding this year's event being a money-losing proposition, due to the COVID-19 pandemic, and whether we should cancel now and get our deposit back, or postpone the decision until August. It was moved by Director Mulder, supported by Director McLain to cancel the 2020 CMARC Hamfest, and have President Smith see about booking the 2021 Hamfest now, crediting our 2020 deposit over to hold the date. The motion carried. Director Mulder discussed the idea of having an outdoor "Trunk Sale" sort of event in lieu of the normal Hamfest market.
- VE Session—The CMARC VE Team is holding an outdoor testing session on Saturday morning, July 11th, at Moores Park in Lansing, at the new picnic shelter. Director McLain has seven confirmed candidates lined up for Saturday, and we will have room for walk-ins. The site opens for set-up at 9am, testing begins at 11am, and we have the space until 2pm. **MASKS ARE REQUIRED.**
- Building Fund—President Smith told Treasurer Ranes that he had a contribution to the Club Building Fund for her; he will try to get it to her via the Saturday VE session.

Adjournment

- With no further business to discuss, it was Moved by Secretary Vick, seconded by Director McLain to adjourn the July Board Meeting at 7:57pm.

Respectfully submitted,

Dave Vick, W8ZZX
CMARC Secretary

CENTRAL MICHIGAN AMATEUR RADIO CLUB GENERAL MEETING MINUTES

Friday, July 10, 2020

Attendance

Board Members Present: G. Smith (KE8JKS), D. Dembinski (KD8YDE), S. Ranes (WA2NVK), D. Vick (W8ZZX), G. Mulder (WB8LZG), D. McLain (KB8RAD)

Board Members Absent:

General Members: KD8NNQ, N8LNU, W8JTT, W8MKB, KD8VJD, WX8MOJ, WA8MFQ, NS8Q, WB8HRO, N8FZ, N9PC, KC8QZB, WA8WPI, K8YHH, KB8DQQ, KE8FQO, KD8HZY

Visitors: WB8HRO

Call to Order

- The meeting began at 7:07pm.
- In the absence of a US Flag, there was no Pledge of Allegiance.

Sign-In Sheets

- Secretary Dave Vick (W8ZZX) copied attendance from the Zoom Meeting list.

Cards & Flowers Report

- There was no report.

New Members & Visitors

- Tim Conroy (WB8HRO) joined us again this evening. He is an Extra Class in Okemos.

Treasurer's Report

- It was moved by Treasurer Dave Vick (W8ZZX) supported by Vice-President Dan Dembinski (KD8YDE) to accept the May Treasurer's Report, as published in the SCOPE newsletter on the CMARC website. The motion carried.

Secretary's Report

- It was moved by Treasurer Dave Vick (W8ZZX) supported by Vice-President Dan Dembinski (KD8YDE) to accept the Secretary's Reports for March and June, as published in the CMARC website. The motion carried.

Interesting QSOs, QSLs, DX, & Other Contacts

- Gregg Mulder (WB8LZG) earned his 13 Colonies Award in the recent special event, and made a contact with UA9BA in Russia working QRP.
- Reza Beha (N8LNU) received a QSL card from working 900MHz (33cm band).

Deferred Business

- Ziegenbein Award/Ladies Night Picnic—Vice-President Dan Dembinski (KD8YDE) will have a half pig-roast and host the event on his property in Laingsburg. The Board recommendations regarding attendees bringing either their own dinner, or side dishes for the pig-roast, and a club-supplied dessert were brought to the membership.

Committee members Russ (N8FZ) and Kelly (N9PC) Fitzgerald agreed with the recommendations, as did the membership present. We will get our club awnings and tables from the clubhouse, and Dan (KD8YDE) will research renting a Porta-John for the evening. The event will be held Saturday, August 22nd, with dinner starting around 4:30-5:00pm and the Award Presentation held immediately afterward. The Rain Date is the following Saturday, August 29th.

Reservations from those who wish to attend should be made to the Committee not later than August 8th. We will sent out an email notice to the club's listserv, and post it in the club's Facebook group.

New Business

- Board Vacancy—President Gordy Smith (KE8JKS) announced that Carl Canfield (K8YHH) has resigned from the Board of Directors for personal reasons. There was discussion regarding filling the vacancy for the duration of the term, which expires in December. Kelly Fitzgerald (N9PC) was nominated by acclaim to fill the seat on the Board, endorsed by Russ Fitzgerald (N8FZ). Jolyon Vincent (KD8HZY) nominated John Doornhaag (KD8NQQ) to the Board; John stated that he has served before and would serve again if needed, but would rather see Kelly on the Board. There were no other nominations, and Kelly accepted the appointment.
- VE Session—John Doornhaag (KD8NQQ) spoke about the outdoor VE testing session being held Saturday, July 11th at Moores Park in Lansing. This is the first VE testing session we have held since the pandemic shut-down went out in March. We rented the new picnic shelter at the park, and will be onsite from 9am 'til 2pm, with testing commencing at 11am. We will be enforcing safe distancing, and masks will be required by all persons in the shelter. Don McLain (KB8RAD) stated that he had seven confirmed responses from prospective candidates.
- Hamfest 2020—Vice-President Dembinski (KD8YDE) stated that he has had many vendors back out of their reservations for the CMARC Hamfest in September, due to the coronavirus. The Board has decided it's in the club's best interests to cancel the 2020 Hamfest. President Smith (KE8JKS) will speak to the Okemos Center and see if we can reserve the same weekend next year for the 2021 CMARC Hamfest, and if so, just have them hold our deposit over until then. Daniel Beuchert (WX8MOJ) asked about the possibility of having a "virtual swap meet" via Zoom instead of a formal Hamfest. Mike Boensch (W8MKB) stated we might wish to publicize such an online swap meet event to other hams around the region. Treasurer Shannon Ranes (WA2NVK) mentioned that Gregg Mulder (WB8LZG) spoke of the possibility of having a Trunk Sale instead of a formal Hamfest. Kelly Fitzgerald (N9PC) mentioned that there was a large Trunk Sale this weekend in Auburn, Indiana at the A-C-D Museum parking lot.
- Website—Tom Rocheleu (WA8WPI) stated that if anyone needed to make any changes on the club website, the best way is to send him an email; that way he has a reminder to do it.
- Signs—Kelly Fitzgerald (N9PC) spoke about using lawn signs for notifying people where our activities are being held. We cannot use them for the VE sessions in any Lansing parks, but for other events they are cheap and easy to construct for our purposes.

Adjournment

- With no further business to discuss, it was Moved by John Doornhaag (KD8NQQ), seconded by Daniel Beuchert (WX8MOJ) to adjourn the business meeting at 8:38pm.
- Since the club met via Zoom, there was no presentation. The ZoomRoom was left open for members to socialize.

Respectfully submitted,

Dave Vick, W8ZZX
CMARC Secretary

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\$100

Radio Shack HTX-10

25-watt, SSB/FM Transceiver. Like new in
sealed unopened box.

From the Estate of W8LKE

**Thomas Romanowski
(NonSmoker)**

Ed Hude / WA8QJE

Cell: (517) 420-7550

ebhude@yahoo.com

No trades on Estate radios

\$900

Yaesu FT-950

HF -50 Mhz rig, Yaesu FP1030A power
supply, Yaesu SP2000 speaker with 2 filters
and Yaesu MD100ASX desk microphone.
All items are like new, and in matching
boxes. (Will not separate)

\$330

Yaesu FT-8900R

Quad-band rig (10, 6, 2, 440) like new in
box with instruction manual and Nifty
operating guide. Comes with like new
Diamond CR-8900A quad-band mobile
antenna and K600s trunk lid mount. Used
inside the mobile home. Like new with box.
(Will not separate)

Jimmy Dunahoo / KD8IWQ
517-743-1604

\$25

**Workman SX-144/430 SWR-
Wattmeter**

Covers 2m/440 (120-500 MHz). Dial has
a cross-needle display. Meter has three
ranges (10W, 100W, and 500W).



Central Michigan Amateur Radio Club

W8PLP/W8MAA

Membership Form



For new CMARC applicants: Please complete all sections.

For existing CMARC members: Please include your Name and Call Sign along with only the information you would like changed.

Mail completed form to Membership Chairman (see address below) or take to Club meeting for processing. Please include payment if applicable. (Checks or Money Orders should be made payable to 'CMARC').

John Doornhaag | 1165 South Ainger Rd | Charlotte, MI 48813-9540

Membership Type		<input type="checkbox"/> New	<input type="checkbox"/> Renewal
Full:	<input type="checkbox"/> Annual Dues: \$20.00 <i>Includes voting rights and an annual subscription to The Scope.</i>		
Associate:	<input type="checkbox"/> Annual Dues: \$5.00 <i>Includes an annual subscription to The Scope but NO voting rights.</i>		
New Licensee:	<input type="checkbox"/> Annual Dues: 1st Year Free		
Under 18:	<input type="checkbox"/> Annual Dues: Free		

Contact Information	
First Name: _____	Last Name: _____
Call Sign: _____	License Class: _____ Phone #: _____
Address: _____	Apt/Unit: _____
City: _____	State: _____ Zip Code: _____
Birthday: _____	Anniversary: _____
Email: _____	Sign up for the List Serv: <input type="checkbox"/> Yes <input type="checkbox"/> No
<small>Note: Email is used by club officers to communicate club business and may appear in the club directory for use by club members. CMARC does not share/sell contact information to other parties.</small>	

Club Communications	
Newsletter Preference (select only one option)	<input type="checkbox"/> I will download from the web site.
	<input type="checkbox"/> Please mail to my address (Note: Direct mailing increases postage costs.)
ARRL Affiliation	<input type="checkbox"/> I am an ARRL member



Lansing Civil Defense Repeater Association

Membership Form

For new LCDRA applicants: Please complete all sections.

For existing LCDRA members: Please include your Name and Call Sign along with only the information you would like changed.

LCDRA oversees the operation and maintenance of all Lansing Area repeaters. Use of the repeaters does NOT require LCDRA or CMARC membership, but your support is welcome and appreciated.

Mail completed form to Membership Chairman (see address below) or take to a meeting for processing. Please include payment if applicable. (Checks or Money Orders should be made payable to 'LCDRA').

Michael Boensch | 1897 Sunnymede Ln | Lansing, MI 48906-1356

**If you would like a membership card mailed to you,
please include an SASE with your payment. Thank you.**

Membership Type		<input type="checkbox"/> New	<input type="checkbox"/> Renewal
Full:	<input type="checkbox"/> Annual Dues: \$15.00 <i>Includes voting rights and an annual subscription to The SCOPE.</i>		
Family Mbrs:	<input type="checkbox"/> Annual Dues: \$7.50 ea. No. of Family Members: _____		
ARRL Affiliation	<input type="checkbox"/> I am an ARRL member Membership Card <input type="checkbox"/> Yes (Please see above)		

Contact Information	
First Name: _____	Last Name: _____
Call Sign: _____	License Class: _____ Phone #: _____
Address: _____	Apt/Unit: _____
City: _____	State: _____ Zip Code: _____
Birthday: _____	Anniversary: _____
Email: _____	
<i>Note: Email is used by club officers to communicate club business and may appear in the club directory for use by club members. <u>LCDRA does not share/sell contact information to other parties.</u></i>	

Central Michigan Amateur Radio
P.O. Box 54
Mason, MI 48854-0054

STAMP

To: