



THE SCOPE



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

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CENTRALMIARC.COM

Build Your Own Directional Receiving Antenna!

By Gordy Smith, KE8JKS

This month's presentation will be hosted by Jeff Smith. Jeff's hobby is rebuilding old radios from old battery sets, console models, all American 5 and 6's of the 1920's to 1960's. He also rebuilds old 7" black and white TV's from the 1940's. He has quite a collection of rare and vintage receiving equipment.

Jeff is currently working on his ham licensing.

He has extensive knowledge of electronics, especially with old vintage vacuum tube stuff.

The presentation will consist of a home made box loop receiving antenna. It is a form of a magnetic loop. It was fashioned after a 1960's popular mechanics article about "building your own directional AM radio receiving antenna.

This classic antenna has been modified to be completely remote controlled. It will turn by rotor 360 degrees, tilt from 90 to -5 degrees azimuth, and has a motor drive tuning capacitor from a custom made control head that allows slow to fast speeds for all operations.

Our findings with the rig experts AA-600 show it can become resonate from 500 KHz to 3.56 Mhz. It would work great for DX receiving which he loves to do.

With its sharp nulls and extreme selectivity, It will almost completely eliminate a local class "A" AM broadcast station while pulling in a weak one from several states away.

Don't miss his presentation of this piece of radio history.

The CMARC club is working hard to bring you quality presentations. If you are not a club member, or we're in the past, but are not current, we encourage you to come back and give us another try. We have something for everyone. Come check us out! ■



PHOTO BY: JEFF SMITH

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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.

Treasurer's Reports 2020

Shannon Ranes / WA2NVK- CMARC Treasurer

Bank Balances for February	
Beginning Balance	\$3,196.69
Total Monthly Income	\$140.00
Total Monthly Expenditures	(\$0.00)
Total Business Checking	\$3,336.69
Petty Cash	\$1.00
Outstanding Checks	(\$40.00)
Sub Total + Petty Cash	\$3,377.69
Primary Share Accounts	
Humphrey's Fund	\$384.16
Building Fund (Club Station)	\$19.09
Field Day	\$178.77
Total Net Worth	\$3,959.71
Youth Fund Balance*	\$254.68
* Separate from CMARC Funds	

February 2020 Summary:

We received \$140 in dues, and a \$40 memorial check has not been cashed.

**Please join
us for the...**

Michigan QSO Party

April 18-19, 2020

12 PM - 12 AM

807 Kerns Rd. Mason, MI 48854

**Please contact Chris Ranes
NS8Q for more information or
to sign-up as an operator**

ceranes@sbcglobal.net

2020 SCHEDULE OF VE EXAMS

Sponsored by the
"INGHAM COUNTY VE GROUP"

To best accommodate the various schedules of those wishing to test, the Ingham County VE team meets on either a Saturday morning or a Thursday evening, every other month. We test in the Community Room at Lansing Fire Station #44, 1435 East Miller Road, Lansing, Michigan 48911.

On the ODD MONTHS testing sessions are held on the second Saturday of the Month at 11:00AM.

On the EVEN MONTHS testing sessions are held on the first Thursday of the month at 7:00PM.

2020 SCHEDULE OF VE SESSIONS

FIRST THURSDAY OF THE MONTH AT 7:00PM

February 6th
April 2nd
June 4th
August 6th
October 1st
December 3rd

SECOND SATURDAY OF THE MONTH AT 11:00AM

January 11th
March 14th
May 9th
July 11th
September 12th
November 14th

SPECIAL EVENTS SATURDAY 11:00AM

June 27th (CMARC Field Day-11:00AM-Rayner Park, 730 East Ash Street, Mason, Michigan 48854)

September 19th (CMARC Hamfest 11:00AM - Okemos Convention Center, 2187 University Park Drive, Okemos, Michigan 48864)

Ziegenbein Nominations

It's time to begin thinking about who you would like to nominate for the 2019 Ziegenbein Award.

For those of you who are not familiar with the award - it is presented each May to the Full CMARC member who has contributed the most to Amateur Radio, in general and CMARC, in particular **for the previous calendar year.**

Nomination Guidelines

1. The recipient must be a **full, current** member of CMARC
2. Nominations to be made in writing, in your own words, **no** chain letters to be accepted, stating nominee's contributions to CMARC and Amateur Radio.
3. All nominations are to be kept secret until the award is presented.
4. All nominations are to be mailed (regular postal mail **OR** email).
5. The same person can receive the award more than once.
6. The Committee shall consist of the last three recipients; the senior member shall be the chairman.
7. All nominations are to be closely checked and discussed by the Committee.
8. If the Committee feels the nominees are not deserving, the award does not have to be given.
9. Nominations are to be submitted before **March 15th** of each year, so the Committee can make the selection and have the plaque engraved.
10. The recipient will be announced at the annual Ladies' Night.

REMEMBER

Your nominations for the Ziegenbein Award are due March 15th. This year's Senior Chairman of the Ziegenbein Committee is John Doornhaag (KD8NNQ).

Send your e-mail nominations with a subject line of **"Ziegenbein Nomination"**, to jdoorn1@hotmail.com.

If you prefer to use snail mail:

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

Write **"Ziegenbein Nomination"** on the envelope.



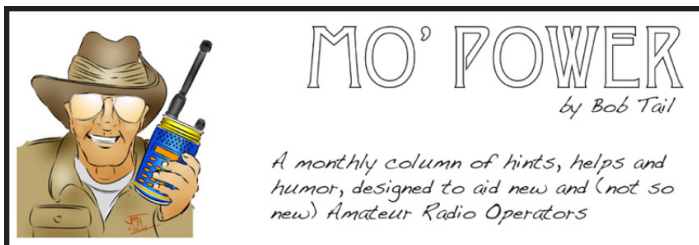
Lansing Civil Defense Repeater Association

User Expectations and Repeater Operation Rules

LCDRA maintains and operates high-quality, wide-coverage repeaters for the use of all amateur radio operators. Operation and use of these repeaters shall comply fully with the Amateur Radio Service (Part 97) regulations of the Federal Communications Commission's Private Radio Service, and the following rules.

1. The repeaters are provided for the purposes of contacting and passing information between fellow amateur radio operators, and providing service to the public as a voluntary, non-commercial communication service, particularly with respect to providing emergency communications.
2. In the spirit of the Amateur Radio Service, users shall respect and support each other in a courteous and positive manner.
3. Operators shall announce their call sign before transmitting any touch-tone commands, at the end of each communication, and every ten minutes or less during a communication.
4. There shall be absolutely no communications containing obscene, indecent, or profane words, language, or meaning.
5. No one shall cause or condone the malicious or intentional interference of anyone's communications on the repeaters.
6. Operators shall not communicate with, or discuss the actions of, anyone who violates these rules.
7. Control Operators are required to turn off a repeater to terminate improper operation or use.
8. LCDRA Board of Directors reserves the right to forbid the use of the repeaters by anyone who repeatedly violates these rules, or anyone who facilitates or encourages others to violate these rules.

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G'Day Mates,

I was leafing through the latest copy of the Yanks national hammy rag, QST. Good reading until I reached the monthly advice column, “The Doc is in”. In the February 2020 issue, some poor bloke from 4 land wants to know which aerial is better for the 6-meter band, a Moxon rectangle or a 2- element Yagi-Uda. He also wishes to use it indoors up in the attic. That is where I have an itch. Instead of explaining to the gent that his attic location will probably affect his aerial dramatically, they go on to do some ez wezze computer modeling. Nice touch, but it won't tell us anything about what happens to his antenna in the “real world”.

The Moxon rectangle is wonderfully easy to build with just wire and wood. The correct guidance would be to encourage the gent to build one, erect it in his attic location, and experiment for himself. It would also be prudent to publish some dimensions to get the guy off in the right direction.

As I read on it became clear that the folks in Newington could give some more information when publish some things.

There is no background information about the origins of either antenna, merely an uninformed comparison of them. It would appear that the gang in Connecticut needs some schooling. C'mon guys! Give us some real info please.

The Yagi-Uda is a parasitic type aerial developed in 1926 by Japanese engineers Shintaro Uda, Hidetsegu Yagi, and a third little known gent by name of Akabe something er other. The objective, to deliver an antenna that has some forward gain over the common dipole. It's more widely known as the Yagi. It can be 2 or more elements. In actual use, it has a driven element (1/2 wave dipole) with a reflector and director(s) spaced on the boom to achieve “Gain” in one direction. More director elements can be added to increase the gain. Along with the dipole, it is undoubtedly the most widely used aerial in amateur radio today.

The Moxon rectangle is a 2-element aerial developed by Brit Leslie Moxon, G6XN, of Surrey England, in an attempt to improve upon the basic Yagi-Uda aerial. The ends of the elements are bent inwards to save space, giving the aerial a smaller “footprint” than the Yagi. In actual use, it has a slight forward gain advantage than the 2 element Yagi, saves space, and provides a closer match to 50-ohm coaxial cable. Making it a good choice for those who don't have room for a full-sized Yagi-Uda antenna.

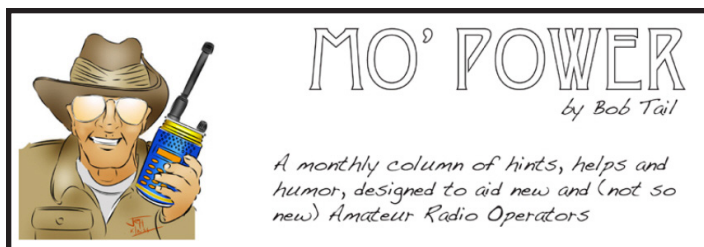
All good so far, until they get to the actual forward gain figures.

First of all, they list the gain figures in dbi. I have a bone to pick with you Yanks about this. The term of dbi comes from usage in electromagnetic engineering to represent an “isotropic radiator” which is nice for mathematical formulas' n figuring, but in reality, it simply does not exist. There is no such critter, period! It just adds about 2.1 db to the real gain figures, thus “inflating” them. I prefer to use dbd, (gain compared to a dipole), which gives a “real world” indication of the actual forward gain.

Reading on, it is those “gain” figures that really get me riled up! We are told that “a typical 3 element Yagi will have about 12 – 14 dbi forward gain.” So, which is it? 12 or 14? Or maybe 13? Hmmm... Perhaps, NONE OF THEM!

Many of the newcomers to the hobby (and old timers) just want to know which antenna is the better one. They want real world information. Not some gibberish output from a computer program. Some of you will remember the old acronym GIGO (garbage in equals garbage out) Why they didn't put 2 real aerials side by side and compare them escapes me. The new “Foundation” and “Tech” ticket holders out there just want to know some factual information on the best aerial for their application. Not some compu-modeled thing. Yes, I know some of those programs are quite useful, but not here, so save it for the choir.

Let us de-liar this misinformation shall we. First, let us use dbd instead of dBi. Taking 12 -14 dBi, we subtract 2.1 from each figure to give us about 10 – 12 dbd, the claimed forward gain in decibels. A quick look in the RSGB handbook or ARRL antenna book, clearly shows us that maximum gain over a dipole that can be achieved by a 3 element Yagi is on the order of 6.5 to 7 db, depending in how long the boom is. This is the absolute maximum, according to you Yanks NBS (national bureau of standards) Not 10db or 12db as is claimed in the article.



■ MO POWER, from Page 7

Another fact is that Les Moxon wrote an article describing his aerial in the July 1952 issue of QST. Even Ol' Les himself could not “squeeze” any more than 5.5dbd of forward gain out of his skyhook. So, where do they come up with those extra decibels? We can only guess. Well the azimuth patterns shown in the 2020 QST article are for the 10-meter band. They must figure that the difference between 6m and 10m is 4, so maybe they conveniently added 4 db to their gain figures! We Aussies call this Dingo Drool! They go on to tell us that the Moxon has about 11- 12 dBi forward gain. In another article published in Oct. 2011 QST, even renowned antenna guru L.B. Cebic can't get more than 5.99 dbd out of the Moxon aerial. Then we are told “these numbers compare to about 7.6 dBi for a half wave dipole”. The dipole “IS” the reference antenna we are comparing to the other 2 aerials! It has ZERO db forward gain, not the 5.5 db for a dipole they claim! (7.6dbi minus 2.1= 5.5dbd) Is it any wonder why many new hams are so confused by aerials? They go on to say that the Moxon rectangle is “easy to tune with a tape measure”. Is this the April Fools issue? A tape measure does NOT tune an antenna! Yes, we use the tape measure to “rough cut” the elements for the frequency of intended use, but TUNING? Pure Nonsense! The professors at the University in Adelaide are rolling on the ground with laughter at those boys in the Newington News!

We are then shown azimuth patterns for a 10-meter Moxon with 11.3 dBi gain, and 3 element Yagi with 11.99 dBi gain. Hogwash! Where do they get these azimuth

patterns? Must have been one of their kids Etch-a-sketch drawings! It certainly was not the patterns attained on a real antenna range, or in an anechoic chamber.

They also neglect to get an accurate idea of the loading that's going to happen to an antenna when installed up in an attic location. They may be a bit tricky to tune up. The Moxon may be the better choice because it takes up less physical space than a 2 element Yagi-Uda.

Truth is, the Moxon rectangle is a very FB aerial, and likewise the Yagi-Uda antenna. Before you build either one, do a little bit of study in the antenna manuals to find out which one may be better or worse for the intended use. In short, DO NOT rely on information published in any Hammy Rag, without verifying the facts with known reference books. A bit of time spent scouring through the RSGB handbook, or ARRL antenna manual, will save many hours of grief attempting to get all those lost decibels back to work in your next aerial project.

Whatever aerial endeavors you get motivated to build, remember not to be discouraged to quickly. Keep trying to build a better one. It is very satisfying to get antenna to play well, especially in indoor one.

Hope this gives you readers some insight as to why the man with the snakeskin hat band travels amongst you in disguise, debunking the false claims about aerials and their attributes.

‘Till next we meet, keep experimenting and learning in the wonderful world of aerials, hey! ■

73, Bob Tail

Help wanted to remake amateur radio for the 21st century

By Dan Romanchik, KB6NU

Are you a “young” ham? Want to help remake Amateur Radio for the 21st century? Frustrated that there are so few of your friends and age group that are interested in ham radio? Frustrated that amateur radio is in a rut, not doing more or different things with technology? Concerned that an aging demographic means ham radio is dying? And that our frequencies will be sold out to the highest bidder because there aren’t enough hams to show that we use them?

So are we. And we want to do more than talk – we want to do something about it.

IARU Region 2 is looking for a few volunteers to work together to brainstorm ideas and possible actions to increase ham radio’s attractiveness. We’re not looking for a single magic approach. After all, amateur radio means many things to many people. Rather we’re looking for possible ways to target specific interests that are either part of ham radio today or could be part of ham radio in the future to recruit and retain new amateurs.

Are you interested? Are you:

- A radio amateur who has been licensed for more than a year?
- Between 18 and 35 years of age?
- Are a self-starter, willing to take initiative?
- Willing to volunteer your time and exercise creativity?

If so, send an email to secretary@iaru-r2.org telling us why you are interested in volunteering to be part of this group, your current interests (in ham radio, what you do: job, student, etc) and your thoughts on what may be done. Ideally we would like to have as many parts of the Americas represented as possible*.

With the exception of a liaison person sitting in, the formalities of committees won’t apply: the group will figure out how it wants to work (Facebook, WhatsApp, video meetings, etc), and develop ideas of what it thinks will be worth trying out.

This is more than a think tank. We’re prepared to provide funding to try out some of the proposed ideas to see how well they work. We expect that some ideas will work, others won’t, and different things will work in different parts of the Americas – one size will not fit all. As part of the work, IARU R2 would propose to send one person to the IARU R1 YOTA youth camp to experience the camp, meet with the R1 youth coordinators to learn about what they are doing in Europe and Africa, to exchange ideas, and explore what joint activities might be done.

Who are we:

IARU Region 2 is the Americas part of the International Amateur Radio Union. Like ITU, IARU has 3 regions: Region 1 Europe/Africa, and Region 3 Asia/Pacific. IARU is best known for being the international representative of ham radio at the ITU, defending our spectrum. IARU does more than that, working through the national societies in each member country, coordinating WINlink networks, band planning, satellite frequency coordination, and training among many others. And of course, IARU is very concerned about the future of amateur radio, especially in attracting new amateurs. R2 has an Executive Committee made up of representatives of each of the 7 areas, a President and a Secretary. All are volunteers, dedicated to seeing that our hobby not only survives but prospers with new ideas and ways to do ham radio. ■

CENTRAL MICHIGAN AMATEUR RADIO CLUB

BOARD OF DIRECTORS MEETING MINUTES

February 8, 2020

Attendance

Board Members Present: Carl Canfield (K8YHH), Dan Dembinski (KD8YDE), Gregg Mulder (WB8LZG), Shannon Ranes (WA2NVK), Gordy Smith (KE8JKS), Clyde Tompkins (K8CPT), Don McLain (KB8RAD)

Visitors: John Doornhaag (KD8NNQ), Bill Thompson (KE8KFA), Justin Macauley (WD8EHT), Chris Ranes (NS8Q)

Call to Order

- The meeting began at 7:00pm.

Club Media

- We discussed creating a committee to take pictures and videos for the club. The committee members would need to come to club meetings and be willing to attend all club events. Anyone participating will be required to be club members. This will be a volunteer position. The volunteers would incur any expense getting to and from events.

Club Exposure to Public Events

- We discussed setting up a small GOTA station with information on ham radio. We need to make our presence known to the public through events that we attend and possibly some form of free advertising.

Member Recruitment

- We need to work on getting new club members by targeting the right crowd. Perhaps in the future we could work on getting new members by going to senior centers for the older demographic. We also need to make the club appealing to people of all ages. We should talk to former members and ask them why they decided not to renew their membership. We can then ask them to rejoin the club. We will be adding information on membership to our Facebook club page and group.

Club Cleanup

- The inside and the outside of the club needs to be cleaned. A date was set for this cleanup: May 9, 2020 starting at 9am. Cleanup will last several hours.

Club Open House

- The Club will be hosting a club open house on May 30, 2020 from 12:00 - 5:00pm where the public can come in to see what being a ham is all about. There will be food.

Club Patches

- Dan Dembinski, KD8YDE talked about getting club patches. He found them but they need to be purchased in bulk.

Antenna Tower

- We need to assemble the crank-up antenna mast that was donated to the club. We need to find a group of people willing to set it up so that we can learn how it works. Safety is very important, and we need to learn how to be safe while using and assembling it.

Adjournment

- Motion by Clyde Tompkins to close the meeting. Second by Don McLain, KB8RAD, Approved by all. Meeting adjourned at 9:10 pm.

Respectfully submitted,
Clyde Tompkins (K8CPT)
CMARC Secretary

CENTRAL MICHIGAN AMATEUR RADIO CLUB
MEETING MINUTES
FRIDAY, FEBRUARY 14, 2020

Attendance

Board Members Present: Dan Dembinski (KD8YDE), Carl Canfield (K8YHH), Don McLain (KB8RAD), Gregg Mulder (WB8LZG), Shannon Ranes (WA2NVK), Gordy Smith (KE8JKS)
Board Members Absent: Clyde Tompkins (K8CPT)

General Members: 29
Visitors: 8

~Meeting began at 7:05pm.
~Dan D. held the flag for The Pledge of Allegiance.
~Board of Directors Introduced themselves.

Visitors

Barton Becktel (N8ZQH), Erin Ammons (KD8NSU), Fred Payne (KD8RSH),
Larry Hall - Friend of Dan Dembinski, Jeff Smith - Gordy Smith's brother

New licenses or upgrades - VE session tomorrow, Saturday, March 14, 2020 @ FS#44 at 11am

Cards & Flowers - Jeff Oberg (KB8SXL)'s father, Roy, passed away

Interesting DX or Other Contacts:

~Tim Clay
~Gregg - Whole Caribbean opened the other night.
~Bob Strobel - 2 meter check in from Florida
~Dave Vick - Couple weeks ago he worked a German station on 80-meters, along the grey line. He received a QSL card, but that Ham doesn't normally send QSLs.

Treasurer's Report: **MOTION:** *Dave Vick (W8ZZX) moved to accept the Treasurer's Report as published on the CMARC website, seconded by Dan Dembinski (KD8YDE), approved, and the motion carried.*

Secretary's Report: **MOTION:** *Tim Clay (KC8THC) moved to accept the Secretary's Report as published on the CMARC website, seconded by Dave Vick (W8ZZX), approved, and the motion carried.*

Membership - John Doornhaag - Talked about dues.

Ziegenbein Award

~John is a senior member of the committee. He had those in attendance, who have won the award in the past, stand up. Dan Beuchert, John Doornhaag, John Hosford, Don McLain, Gregg Mulder, Chris Ranes, Tom Rocheleau.
~Received one nomination so far. Brought paper if people want to write a nomination and turn in tonight.

LCDRA

~Next meeting - Thursday, April 16, 2020, 7pm @ FS#8
~Shannon read a newsletter article about LCDRA helping Michigan UP hams with a repeater tower and the way hams help out the community in Michigan's UP.

ARPSC

~This Monday, February 17, 2020, 7pm @ FS#8

~SkyWarn - Dan B - Saturday, April 11, 2020 - 2-4pm - Foster Community Center, 2nd floor. Registration.

Old Business

~Winter Field Day - Gregg Mulder & Chris Ranes - Gave reports. New antenna worked well. Ended up with 230 contacts. Greg said the rest of the members should consider coming out to other activities. MI QSO Party coming up. Good time, order pizza for dinner.

~Summer Field Day - Ed Hude - This morning he received a phone call that Mason granted our request for 3 years use of the back end of Raynor Park on Field Day weekend. Put in request in December and lost, then he did some prodding. They'll send a copy.

~CMARC Facebook Page - Gordy - Don has a CMARC Facebook Group. Anything we come up with as a club will be posted on the Club's page and then should be posted in Don's Group. Two things are different.

~HamFest - Dan D. - DX Engineering making strong first place. Holding meeting.

New Business

~Garbage Disposal - Gordy and Dan D. replaced the garbage disposal.

~Club clean up - inside and outside. - May 9th proposed date with May 16th rain date. Want to take out tables and scrub floors, take care of shrubs/trees outside. Has to be coordinated with the owner of the building so waiting to hear back.

~Open House - Get people to check us out. Radio, displays - proposed date is Saturday, May 30, 12-5

~Classes - Gordy - 12-2 every Saturday 6-8 weeks. Probably start with a soldering class. Gordy told about some things they did last year. Some classes learn to work with meters, oscilloscopes, electronics math. All about what people want to learn about that deals with electronics.

~Antenna class with Gregg Mulder and Tim Clay. Learn to build J-pole antennas for 6 and 2-meters.

~Tom Rocheleau asked about the APRS station. Gordy said we could just turn it off. No use for the antenna on the short tower since we already have a dual-band antenna above the tri-bander. We may want to revisit this and discuss putting in a dedicated digital station.

~Dan B. - could have a build night and assemble a Raspberry Pi.

~LSJ article about RF interference from marijuana grow lights. Also in Holt/Dimondale Community News. Gregg Mulder and Ed Hude.

~Bob Strobel - May have a 6 meter net. Potential time is 6pm (ck time he said) on Thursday nights. An hour before 10 meter net. Coming soon, got approval from Jeff Broughton.

~Jeff Flint (N4ZKS) - a silent key left him a multimode transceiver for 2-meters. The radio is too old to use on a repeater with offsets. It has its own power supply and is FREE to anyone who wants it.

~Dave Vick - Last month mentioned an open-stub antenna. He printed 10 copies of the plans needed to build the antenna. Materials will cost around \$15.

~Dan D. looked into club patches but it was about \$250 for 200 patches. Too many. Gordy asked who might be interested. Many raised their hands. What if we ordered 100 and then sold them? He thought we could use an electronic symbol with the ARRL logo, silver thread, blue background, and Lansing, MI written in white letters. Dave Vick asked if he had talked with Ham Threads since they already have our club logo pattern.

Adjournment: **MOTION:** *With no further business to discuss, Tim Clay (KC8THC) moved that we adjourn the meeting, seconded by Dan B (WX8MOJ), approved, and the motion carried.*

~The business meeting was adjourned at 8:03 pm.

~Tonight's Presentation after Break: "Show & Tell"

Respectfully submitted,

Shannon Ranes (WA2NVK)

CMARC Treasurer

Clyde Tompkins (K8CPT) CMARC Secretary, absent

CLASSIFIEDS

Gregg Mulder / WB8LZG
(517) 646-6257 after 3pm

\$425

Elecraft K1 HF XCVR Kit

UNBUILT, new in box, 4-bands with backlight, extras

\$225

Ten Tec Argonaut 509 QRP HF Transceiver

D104 Mic, Speaker, Nice Condition, and works fine!

\$25

British Tank Key

Excellant condition

\$25

Little Bugger Keyer

Very tiny

\$5 Each

Books

RSGB VHF-UHF Manual

Radio Handbook 15th Edition

Books by Bill Orr

VHF Handbook

Beam Antenna Handbook

\$2 Each

New Old Stock copies of ARRLs

"Archies Ham Radio Adventures" comic books

Ed Hude / WA8QJE
Cell: (517) 420-7550
ebhude@yahoo.com

\$350

Icom IC-718

HF rig with manual, power cord and HM-36 hand mike, Excellent condition

Ed Hude / WA8QJE
Cell: (517) 420-7550
ebhude@yahoo.com

\$200 Firm

Icom IC-551D

All-mode 6-meter rig with ICOM hand mike. This unit has the FM board, and a communications Specialists SS-64 microminiature CTCSS encoder installed. This rig requires a separate 12 VDC power supply.

\$100

Kenwood TS-230

80-10 meter antenna tuner, with manual, excellent condition.

\$48

Seiko Watches

(Railroad Certified, Solar rechargeable) watch, analog face, White faced, 24 hour background, day/date, **Gold OR Silver finish**, not used with box.

From the Estate of W8LKE
Thomas Romanowski
(NonSmoker)

Ed Hude / WA8QJE
Cell: (517) 420-7550
ebhude@yahoo.com

\$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)

\$200

MFJ 269

HF/VHF/UHF SWR Antenna analyzer, like new in box with instructions, including Nifty mini manual.

\$95

MFJ 931

Artificial ground, new in box.

\$75

Diamond SX-400

140 to 525 Mhz SWR/Wattmeter, like new in original box with instructions.

\$50

Diamond SX-200

In original box like new with instructions.

\$20

Workman SWR/Watt Meter

145/440 Mhz

Gregg Wesley / KD8PA
(517) 614-6573

Aluminum Tubing, Masts, and other odds and ends for antenna building.

The **ARROW Communication Association** is once again proud to sponsor a motor coach trip to the **2020 Hamvention** at its *improved location*: Greene County Fairgrounds and Expo Center in Xenia, Ohio. Started in 2002, this annual club activity has grown in size and reputation with hams across Michigan. We have been host to over 700 hams for this event.

Join us on **Saturday, May 16, 2020**, when we depart from the park-and-ride lot beside Ann Arbor Pioneer High School (601 W. Stadium Blvd) at 5:00 a.m., arriving in Xenia around 9:00 a.m. On board, you can stretch out, relax, take a nap, chat with other hams, and enjoy a continental breakfast with coffee as the coach takes you directly to the country's largest amateur radio event!

We arrive at Hamvention early enough so that you can enjoy a full day!

- Visit exhibits
- See what's new from major manufacturers
- Attend seminars
- Take license tests
- Shop the largest outdoor swap meet in the United States

When Hamvention closes at 5:00 p.m., return to the bus with your purchases for the 5:30 p.m. ride back home. No standing in lines waiting for a shuttle bus or fighting traffic!



Got stuff to sell? We can help!

We will have a booth in the flea market. If you buy a bus ticket, you can sell your stuff at our booth. All we ask is that you limit it to a reasonable amount and that you volunteer for one hour at the booth. The cost of a booth alone is \$70, more than the cost of our ticket, which makes the ARROW trip a GREAT value!

For our out-of-town guests!

If your QTH is too far away to drive to meet our bus which leaves at 5:00 a.m., and you need information about hotels in Ann Arbor, contact us at the information listed below for details.

This is no ordinary bus trip – it's an ADVENTURE!

Tickets are \$65. This does **NOT** include your admission to the Hamvention. We suggest that you purchase your 2020 Hamvention ticket(s) in advance to take advantage of the discount and enjoy the day without waiting in line for your tickets.

In years past, we have offered a variety of door prizes. The number and value varies from year to year as we depend on the generosity of donors.

For those of you who are not ARROW members, join up and support our goals, such as our newly-purchased 440 MHz DMR repeater.

When you add it all up, taking the bus with the ARROW is the most economical and relaxing way to attend Hamvention. For more information on the 2020 trip, go to our website, w8rp.org

Contact information:

John Wasciuk, WA8TON
(616) 560-3365
e-mail: jwasciuk@gmail.com

Yes! Sign me up!

Name/Call Sign

Address

City/State/Zip

Telephone

E-mail (correspondence via e-mail)

Will you need hotel information for the night of 5/15/20?

How did you hear about us?

of tickets

\$ amount enclosed

☐ I would like to join the **ARROW** for \$20.00 a year.

Make check/money order payable to:
ARROW Communication Association

Send Order Form and payment to:
ARROW Communication Association
2545 S. Lima Center Rd.
Chelsea, MI 48118

PayPal is available through the website:
www.w8rp.org

Prices

Ticket price \$55 before April 1*

Ticket price \$65 as of April 1 or after

ARROW Yearly Membership \$20

*if received/postmarked by 4/1/2020.

**The best way to get to
Hamvention is with
ARROW**

- NO PARKING FEES
- NO SHUTTLE BUS FARE
- NO CAR OR GAS EXPENSES
- CONTINENTAL BREAKFAST ON BOARD
- SELL YOUR GEAR AT OUR FLEA MARKET BOOTH

**We're expecting
a sell-out trip,
so make your
reservations early!**

ARROW Communication Association
2545 S. Lima Center Rd.
Chelsea, MI 48118

Take the bus with us!
**Hamvention
Bus Trip**



**Saturday
May 16, 2020**

**Sponsored by:
ARROW Communication
Association**





**Amateur
Radio
Club**

3rd Annual Technology Expo

Sunday - April 19, 2020

9:00 AM until 2:00 PM

**** UFCW Local 876 - 876 Horace Brown Dr. Madison Hts, MI 48071 ****

WW8GM - Talk-in 443.075 MHz + 123 Hz PL

ARRL VE Testing Session - 11:00 AM

Tables \$15.00 (in Advance) • \$20.00 (at the Door)

Tickets \$5.00 (At the Door)

GMARC Members (with Badge) are Admitted **FREE!**

NEW for VENDORS!

Vendor set-up time with paid admission

April 19th 6:30 AM - 9:00 AM



STEM
SCIENCE TECHNOLOGY ENGINEERING MATHEMATICS



an ARRL Approved
Hamfest

E-Mail Address: Swap@gmarc.org

Phone: Dick Weir N8HG (248) 247-8006

OnLine Table Order: www.gmarc.org/

Note - VE Testing: Show up between 10 AM & 11 AM. Bring \$14.00 cash, photocopies of existing licenses or CSCEs (originals not accepted). Two pieces of ID are also required, one of which must have a photo. You must also provide either your Social Security number or FRN. Pre-registration is preferred but not required. Contact: Ron WD8MNX - wd8mnx@gmail.com.

Name _____ Call Sign _____

Address _____

City _____ State _____ Zip _____

Phone (_____) _____ E-Mail _____

Tickets _____ @ \$5.00 _____ Tables @ \$15.00 _____ Enclosed \$ _____

Mail to: GMARC Swap – 1816 Brookview Cir - Bloomfield Hills, MI 49304

TABLE RESERVATIONS MUST BE RECEIVED BY MARCH 31, 2020



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:

Activities Calendar			
  			
Date	Time	Event	Place
2/14/2020	7:00 PM	CMARC Meeting	The Club Station in Mason
2/17/2020	7:00 PM	Lansing ARPSC Meeting	Lansing Fire Station #48
3/7/2020	6:30 PM	CMARC Board Meeting	The Club Station in Mason
3/13/2020	7:00 AM	CMARC Meeting	The Club Station in Mason
3/14/2020	11:00 AM	VE Session	Lansing Fire Station #44
3/16/2020	7:00 PM	Lansing ARPSC Meeting	Lansing Fire Station #48
4/2/2020	7:00 PM	VE Session	Lansing Fire Station #44
4/4/2020	6:30 PM	CMARC Board Meeting	The Club Station in Mason
4/10/2020	7:00 PM	CMARC Meeting	The Club Station in Mason
4/16/2020	7:00 PM	LCDRA Quarterly Meeting	Lansing Fire Station #48
4/18/2020	12:00 PM	Michigan QSO Party	The Club Station in Mason
4/20/2020	7:00 PM	Lansing ARPSC Meeting	Lansing Fire Station #48
5/2/2020	6:30 PM	CMARC Board Meeting	The Club Station in Mason
5/8/2020	7:00 PM	CMARC Meeting	The Club Station in Mason
5/9/2020	11:00 AM	VE Session	Lansing Fire Station #44
5/18/2020	7:00 PM	Lansing ARPSC Meeting	Lansing Fire Station #48
6/4/2020	7:00 PM	VE Session	Lansing Fire Station #44
6/6/2020	6:30 PM	CMARC Board Meeting	The Club Station in Mason
6/12/2020	7:00 PM	CMARC Meeting	The Club Station in Mason
6/22/2020	7:00 PM	Lansing ARPSC Meeting	Lansing Fire Station #48
6/26/2020	5:00 PM	Field Day Loading	The Club Station in Mason
6/27/2020	11:00 AM	VE Session	Rayner Park in Mason
6/27/2020	2:00 PM	CMARC Field Day	Rayner Park in Mason
6/28/2020	2:00 PM	Field Day Unloading	The Club Station in Mason