The Scope

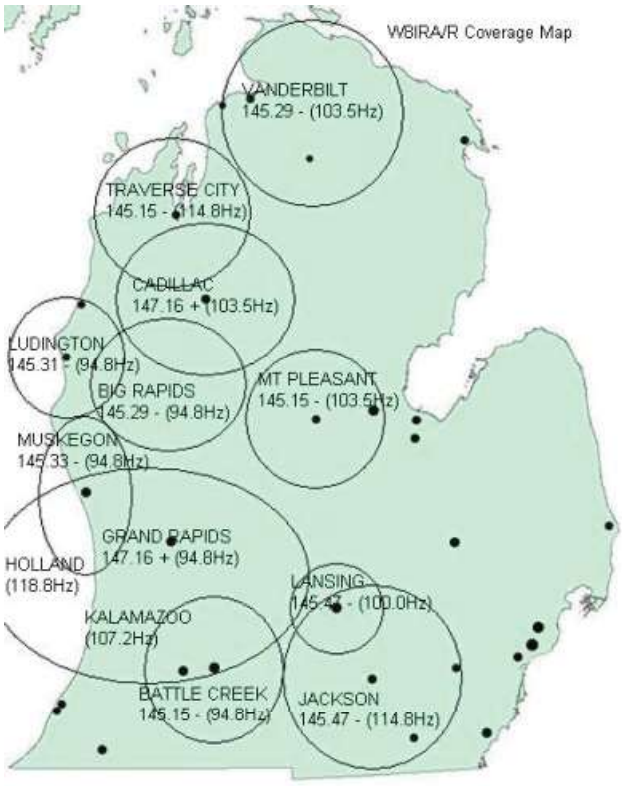
September 2015
Volume 15
Issue 7

Central Michigan Amateur Radio Club *Lansing Civil Defense Repeater Association*

The Independent Repeater Association (IRA)

Our speaker for September will be Mr. Wayne West/AB8UG. Wayne will be presenting information about the "Independent Repeater Association, W8IRA/R". The Independent Repeater Association (IRA) maintains several linked repeater systems covering a very wide area, mainly along the western side of lower Michigan, from the Indiana border to the Upper Peninsula. You sure do not want to miss learning about this outstanding linked repeater system we have right here in our very own state.

Join us on Friday, September 11th at 7:00 PM in the Salvation Army building, located at 701 W. Jolly Road in Lansing.



Inside This Issue

September Birthdays

9/15 Mary Rue / KC8RME
9/18 Jimmy Dunahoo / KD8IWQ
9/28 Richard Greeson / KD8HLR
9/30 John Hosford / KC8QZB

September Anniversaries

9/2 Jamie/KD8IAP and Ericka/KD8KJU Kahler
9/8 Jon/N8SUA and Jessica Seaver
9/10 Matt/W8MAT and Jennifer Warncke
9/11 Herbert Terbrack/KB8QEZ
9/12 Robert/KB8DQQ and Leota/KD8SQD Strobel
9/16 Tom/WA8WPI and Carolyn Rocheleau
9/23 Eugene/KK4DIY and Susan Brown

Meeting Information

CMARC

Don't forget to join us for our next meeting on Friday, September 11th at 7:00pm in the Salvation Army building, located at 701 W. Jolly Road in Lansing. For more information, you can check out our website at **www.centralmiarc.com** or just get a hold of Club contact Don McLain/KB8RAD at (517) 694-0812 or KB8RAD@arrl.net

ARPSC

The ARPSC meeting for the month of July is at 7:00pm on Monday, September 21st. We will be meeting in Lansing at Fire Station #8, on the corner of Marshall Street and Grand River Avenue.

For information about the ARPSC please check out our website at **www.lansingarpsc.com**

LCDRA

The next quarterly meeting of the "Lansing Civil Defense Repeater Association" will be at 7:00pm on Thursday, October 15th at Lansing Fire Station #8, located on the corner of Marshall Street and Grand River Avenue in Lansing. If you're interested in what's REALLY going on with the repeaters, come on out to the meeting where you can get your information "straight from the horse's mouth" and maybe even JOIN!

Treasurer's Report

Jerry Waite / KD8GLN - CMARC Treasurer

Bank Balances for August 2015	
Primary Share Acct. (Humphreys Fund)	$1,091.93
Business Checking	$4,681.42
Net Worth	$5,773.35
Youth Fund Balance*	$253.60
Building Fund (Club Station)	$9.09
Field Day	$472.43
* Separate from CMARC Funds	

Upcoming Hamfests

Date: **9/13/2015** (Findlay Hamfest)
Location: Findlay, OH
Sponsor: Findlay Radio Club
Website: **www.findlayradioclub.org**

Date: **9/19/2015** (GMARC Fall Trunk Swap)
Location: Shelby Township, MI
Sponsor: General Motors Amateur Radio Club
Website: **www.gmarc.org**

Date: **9/20/2015** (Adrian Hamfest)
Location: Adrian, MI
Sponsor: Adrian Amateur Radio Club
Website: **www.w8tqe.com**

Date: **10/3/15** (GRAHamfest 2015)
Location: Wyoming, MI
Sponsor: Grand Rapids Amateur Radio Assoc.
Website: **www.w8dc.org**

Antenna Analyzers You Can Hack

By Dan Romanchik, KB6NU

When not writing about antenna analyzers, Dan, KB6NU, actually builds an antenna now and then. You can often find him on the HF bands (mostly 40m and 30m), working CW. His #1-rated amateur radio blog can be found at KB6NU.Com, and you can e-mail questions, comments, or complaints to cwgeek@kb6nu.com.

I'm a nut for antenna analyzers. I think that they are one of the most useful things a ham can own.

I've often wondered why there aren't more DIY antenna analyzer projects, though. Perhaps it's because designing measurement circuits isn't easy. An antenna analyzer has to have a signal source as well. Even so, an antenna analyzer doesn't need a whole lot of accuracy to be useful, so you would think that more builders/hackers would tackle a project like this.

I do know of one antenna analyzer kit on the market. The VK5JST Antenna Analyser Kit (**http://www.ahars.com.au/about/kits/**) costs about $110 USD. I actually purchased this kit a year or so ago, and it looks like a great unit. The unit seems well-designed, and it comes with a plastic case, unlike many projects theses days, but I haven't yet gotten around to building it.

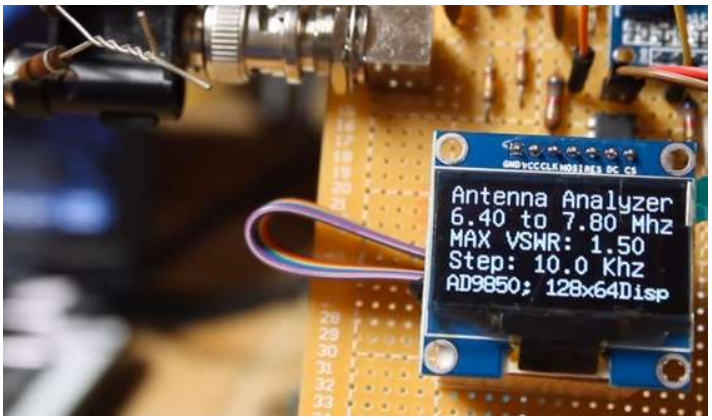
I've also recently found out about an Arduino-based antenna analyzer project (**http://hackaday.com/2015/08/06/40-antenna-analyzer-with-arduino-and-ad9850/**). It uses an AD9850 module as the signal source. The approximate cost for all the parts is about $40, and you can experiment with the code, if you like. If you have the time and inclination, this project might be worth taking a hack at.

Another antenna analyzer project from Australia is the VK3YY antenna analyzer (or "analyser" as they spell it there). It uses an Arduino Nano. The interesting thing about the blog post in which VK3YY describes the project (**https://vk3yy.wordpress.com/2014/09/29/antenna-analyser-project/**) is that you can follow his design and experimentation process.

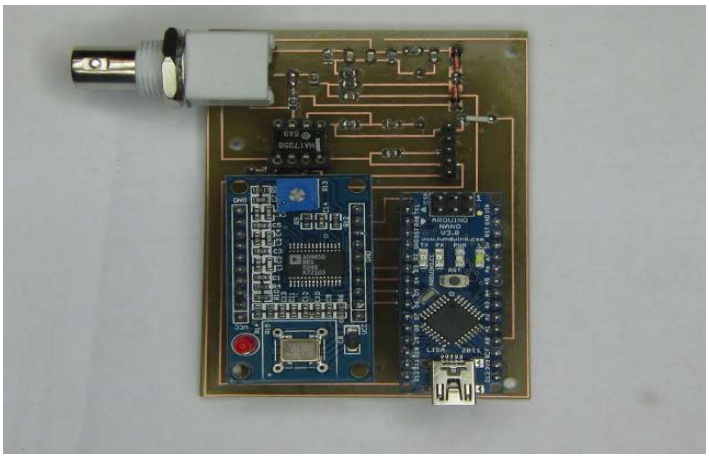
Yet another analyzer...

While I'm talking about antenna analzyers, let me mention another one that I've just found out about: the IW2NDH Antenna Analyzer (**http://www.iw2ndh.com/**). This antenna analyzer isn't a kit, but at $175 seems to be a good deal. This unit has a frequency coverage of 2 – 160 MHz, and can be used as an antenna analyzer, signal generator, and a scalar network analyzer.

Apparently, this started out as an Arduino project. As Maximo, EA1DDO, pointed out on the radioartisan Yahoo Group, there is source code for this project on GitHub (**https://gist.github.com/jackdev23/7876502**), and a schematic is available on the Union de Radioaficionados Espanoles (URE) website (**http://www.ure.es/media/kunena/attachments/2420/Schematic.jpg**) •



AD9850 Arduino-based Antenna Analyzer Project



VK3YY Antenna Analyzer Fully Assembled

Resonance Schmesonance!

By Don Keith, N4KC

I'm not trying to get a war started. Or troll for comments. All I'm really trying to do is help others in our hobby—not just newcomers—understand one of the basic concepts of radio frequency transmission: antenna system resonance. Understand it and use it to their benefit so they may better enjoy our wonderful hobby.

There, I said it. RESONANCE. Notice, though, that I used the phrase antenna system resonance. I know of no one using only an "antenna" to send electromagnetic waves whirling off into the sky. They likely have much more between the output stage of their final amplifier (not just a "kicker" but the amplifier inside your radio) and the ionosphere. Much more than just what we typically refer to as an "antenna." And all that stuff in the chain affects that fleeting Holy Grail we call "resonance." (By the way, anyone who responds by talking about a "resonate antenna" will be promptly flailed with a length of old left-over RG-59 coax! "Resonate" is a verb. "Resonant" is an adjective.)

Let me start the melee with a strong statement: achieving a perfectly resonant antenna system is virtually impossible. By "antenna," I mean a transducer—a thingy that changes one form of energy into another, and for our purposes, we'll call it an antenna (but I really mean an "antenna system") that changes AC current into electromagnetic waves. The system at resonance forms a more-or-less tuned circuit, which throws in equal doses of inductive reactance and capacitive reactance. At resonance, they cancel each other out, leaving only resistance. And I'm talking two kinds of resistance: loss and radiation. For the purposes of this little conversation starter, let's ignore loss—which is not usually a big factor at HF frequencies—and concentrate on the good stuff…radiation resistance, something we all want to conjure up as much of as we can.

Now, ponder for a moment all the possible variations of capacitive and inductive reactance that might be swirling around from the rear end of your radio, the jumper to the above-mentioned "kicker," all the guts inside the amp, the jumper to the antenna matching device (I'm philosophically opposed to the term "antenna tuner" because you are NOT tuning the antenna with that box at all!), the innards of the "tuner," the feedline, the hank of wire or aluminum that we call an "antenna," all the various connectors and insulators and maybe even a balun, your kid's swing set, the neighbor's metal-roofed garage, and even the sunspot-influenced stuff God put up in the sky above you. Gosh, even the dirt in your yard enters into the equation. And your neighbor's yard. And all the way beyond the horizon. All part of your antenna "system!"

My, my, my. Hard to imagine it would ever be possible to bring those two forces of reactance to a point where they perfectly cancel each other out and allow every microwatt of power from your little transmitter to shoot off your antenna, launched in the direction of that highly-prized DXpedition. But it can happen. Not very easily. But, technically, it can happen.

That's one of the things you bought that matching device for in the first place. You can make it appear to your radio that you have that perfect resonance out there, stretched between two shade trees or clamped to a mast on top of the tower. With those controls on the front of the matchbox, you can adjust its internal components, thus presenting to your transmitter the exact value of impedance—the two reactances canceling each other out—that the rig wants to see. (I know. The matching device can go out there closer to the feedpoint, too, and would work better in many situations, but that's beyond the scope of this conversation starter.)

Resonance Schmesonance *continued from page 4*

But just for grins, let's say Jupiter aligns with Mars and you happen to cut the antenna perfectly, have precisely the correct length of feedline, the ground and earthworms in it present the right amount of conductivity, and Junior's swing set is exactly the correct distance from the antenna feedpoint. Capacitive and inductive reactance balance beautifully, wiping each other out, leaving only the good stuff: delightful radiation resistance.

Whooppee! You have achieved a resonant antenna system! The much-worshipped standing wave ratio is 1:1 (Our inane fixation on SWR is fodder for another article. In fact, I wrote one. You can find it HERE or at my web site: www.n4kc.com). You are emitting about as much of your precious RF into space as you possibly could manage, based on the immutable laws of physics.

Then you go and do something dumb, like QSY up or down the band a couple of hundred kilocycles, chasing a DX station or to talk with a buddy. Aw, heck! The aerial is no longer resonant. Either Mr. Capacitive or Mr. Inductive have the upper hand. The needle on the SWR meter sways disturbingly upward. Impedance dips toward zero ohms or zooms toward the sky, abandoning "50 ohms" completely. You begin worrying about your considerable investment in your nice radio.

Aw, in truth it's probably no big deal on 40 meters or lower wavelengths. A dipole cut for the middle of the band on 40 or above will probably still work okay from one end to the other. But it won't be resonant. No, it won't.

Heaven forbid you try to use that dipole on some other band that is not an odd harmonic of the one for which you cut it. Resonant? Not by a long shot. And maybe so far off that your radio spits and sparks.

Oh, you might be able to adjust that matchbox so the radio is fine with everything. But signals suddenly seem weaker. People ignore you when you call them. You scream and squawk but the DX stations no longer seem to hear you. The radio thinks there is a resonant aerial out there in the backyard, but you and the RF gods soon know different.

"But wait, OM," you say. "You told us resonance did not matter. Were you trying to get a fight started after all?"

Well, I did say that, and maybe I should have clarified it a bit. Within reason, resonance is not necessary to communicate with relative effectiveness. The men who went to the moon used decidedly non-resonant antennas in their radio communications. Few AM broadcast stations have truly resonant antennas. They use capacitors and coils—sound like that "antenna tuner" on your desk?—to get a match to their towers/antennas. Only thing is, once they start transmitting on their assigned frequency and have everything set, they don't have to change anything. As opposed to you, you QSYing, band-hopping fool, you. That is, they don't have to adjust anything until something else changes, like the ground system starts to deteriorate.

So why do we work so hard to make resonant antenna systems if it doesn't matter?

It actually does, in some cases. Even if you can get your matchbox to present a lovely 50-ohm load into a ten-penny nail, it will not be nearly as efficient a radiator as a dipole cut to frequency. You probably want to achieve something a bit closer to resonance than that!

If you use a feedline that has higher loss when presented with standing waves, then you would want your antenna to be a lot closer to resonance. Again, that is true, even if your lovely antenna matching device seems to have all that mess worked out. That's coax I'm talking about, folks. Handy and pretty as the stuff is, it will not work nearly as well if presented with a load that is way off from 50 ohms of impedance.

There are alternatives. Open-air-dielectric feedline is the best. Or window line. It's cheap, virtually ignores standing waves, and allows you to use one non-resonant-in-most-places antenna across a broad part of the radio spectrum. It has its quirks, too, I'll grant you. But learn more and you will see what I mean. The same above-mentioned article talks about this stuff and why it can be an important part of your antenna farm.

Resonance Schmesonance *continued from page 5*

So here is what I am saying:

1. It is very difficult to achieve perfect resonance in an antenna system, but it can be done.

2. But is it really worth it?

3. If you do devise a resonant antenna system, once you venture up or down the band a ways, or you jump to another band, you are moving farther and farther from Shangri La. Results may deteriorate rapidly.

4. An antenna matching device can allow you to use a very, very non-resonant antenna system, but the result may or may not be a good one.

5. With the proper circuitry (antenna matching components) and a feedline that is not a stickler for resonance, you can still use a very, very non-resonant antenna with very, very good results.

6. Learn more about SWR and resonance so you don't become a slave to them, but so you can manage them in such a way that you get the results you want.

Look, maybe you are one of those guys who camps on one frequency on one band all day every day. Fine. Get that dang antenna as close to resonance as you can. Do not invest in a matching device. Feed it with coax. And knock yourself out. Brag that you don't believe in "antenna tuners." "I only use resonant antennas!" you expound. Good for you, Chief. Enjoy that narrow little sliver of spectrum while the rest of us flit about across a broad swath of the shortwaves, chewing rags and nailing DX.

See, we want to get a taste of every cycle of spectrum we have available to us. Few of us are able to put up a couple of dozen "resonant" antennas to do so. (To be fair, with a decent multi-band antenna like a hexbeam or fan dipole and enough dipoles to cover 160 through 30, I figure you could get by with six or seven antennas without being too far off resonance. A trap vertical could probably cover 160 through 10, but it ain't gonna be resonant in many places on some of those longer wavelengths! Some guys even sell multi-band, no-radials-required verticals, but good luck filling your logbook using one of those.)

Fact is, many of us prefer not spending all our operating time worrying about "resonance." Or fidgeting about standing waves. Wringing our hands as we glare at the SWR meter.

We'd much rather learn how to manage these things, take advantage of the science, and apply it so we can have a perfectly wonderful experience every time we throw the "ON" switch.

Besides, learning and experimenting with this stuff is where a lot of the fun happens anyway. ●

I was first licensed as an amateur radio operator in 1961 at the age of 13 as WN4BDW...later WA4BDW, and recently celebrated my 50th year in the hobby. I changed my call sign to N4KC in the 1970s when I got my Extra Class license. I enjoyed a 22-year career in broadcasting and was twice named BILLBOARD magazine's "Broadcast Personality of the Year." I later worked for a company that developed software for radio, TV and ad agencies, then spent 4 years with Arbitron, the company that provides audience rating information for radio broadcasters. In May 2012, I retired as vice-president of advertising and marketing communications for Education Corporation of America (www.ecacolleges.com). We own and operate Virginia College (www.vc.edu), Golf Academy of America (www.golfacademy.edu), New England College of Business and Finance (www.necb.com), and Ecotech Institute (www.ecotechinstitute.com). The company is headquartered in Birmingham, Alabama. I'm also an author with over thirty books published.

What's My Sign?

By Julie McLain, KB8ZXR

I was born on August 25, 1940 in Lansing, Michigan and have three younger sisters. After high school, my Dad worked as an industrial and residential painter. In the 1950s, he took employment in the US Postal Service, first as a clerk and later as a rural carrier. My Mother was a homemaker, and back then, life was centered on family, school and church. In 1943, when I was 3 years old, just before my Dad went into the US Army Air Corp, he moved my Mom, my baby sister, and I to a half-duplex in Leslie. A few years later, in 1946, he bought my grandparent's home just around the corner from the half-duplex and I lived there until I entered college. In 1958, I graduated from Leslie High School and began my college career at MSU that same year. I graduated from MSU in December of 1963 and I was not only a true Spartan, but by graduation day I was married, had a son and a full-time job!

My interest in Radio all began when I discovered the "other bands" on our family's console radio, and started having fun listening to the various short-wave transmissions. I soon began to rebuild old receivers and enjoyed that immensely. One day, a neighbor mentioned that I could get a "Ham Ticket" and talk with those folks I was listening to. He sent me to another neighbor, Jim K8LTJ, who became my Elmer. I was 19 years old when I got my Novice License with 5 wpm and I got my Technician license, which you could do back then. Pete Gosset gave me the Novice and Tech exams at his radio shop, which he ran with Chuck Richardson on Mt. Hope Ave. in Lansing. I now hold an Extra Class License, which I took in Detroit. There were no VE's back in those days...the exams were given by FCC staff and there were no multiple guess questions.

The main transceiver in my shack is a Yaesu FT-1000D. I also have an ICOM IC-706MKIIG, which serves my VHF and UHF needs, and allows me to listen to the AM & FM broadcast bands. My amplifier is an Alinco AL-1200. My Antennas consist of C4XL for 40, 20, 15 & 10 meters and also works on the 17 and 12-m bands; six elements on 6-m and a two element 15-m Yagi. For 80/75 meters, I have a broadband dipole as described by Frank Witt, AI1H in QST, and the K8SYL Dipole that covers 75 and 10-m, as described in the August 2007 QST. If asked what my favorite band is...that is a hard one, but I would have to say the 15-meter band. I built many kits and "from scratch" radios. I even built my first novice transmitter according to plans in the ARRL Handbook. That one-tube unit was not very efficient, I had to wait until late at night, and activity was low before I made any contacts. But it did work!

I have always enjoyed DX and Contesting and it was especially fun from Ecuador. The mountains and the equator make for an excellent radio-operating location. One of my favorite experiences on CW was when I was living in Quito, Ecuador where I held the call HC1CW (it has since been reissued). I pointed the quad at southeast Asia and listened on 20-m CW. Sure enough there was my friend, Maurice (Morris) calling for me. He was signing VS5MC/MM. Maurice was recently recovered from the British Signal Corp. and was working for the Sultan of Brunei. In our short QSO, he told me that he was aboard an LST (Landing Ship, Tank) and they were heading for the Spratley Islands. Then he sent, "Oops big guns. QRT."

Amateur Radio is all about service and one of my favorite memories of helping goes back to the 1960s and the Sabin Oral Sunday program in which oral polio vaccine was distributed to the public from schools across the country. CMARC provided communications and I was stationed at a school in East Lansing. My sweetheart Sylvia came and kept me company.

I met my wife "to be" at my best friend's birthday party in September of 1957. Sylvia and her two older sisters had come to Leslie from Lansing to attend Mel KD8LL's party. Things clicked and we were married on September 9, 1961 at the (then) Calvary EUB church on Pennsylvania just south of Mt. Hope Ave. We have two sons and our youngest one is N1DSF. We have one granddaughter, who is 21 years old and in her fourth year at Grand Valley State University where she is studying to be a nurse. My wife Sylvia is an Amateur Radio Operator

What's My Sign? *continued from page 7*

too, and is K8SYL. (My Dad, LeRoy Hutchinson was a novice, WN8AAW(?). He dropped out before the license expired.)

In my lifetime, I have worked in broadcast engineering, IBM, 2 times in radio and for the last 20 years of employment at ARRL. At the League, I was a Technical Editor and Manager. You can see that radio played a big part in my employment record. I have been retired since 2001 and Sylvia and I are Life members of ARRL. She is also a member of TASYL (The Auto State Young Ladies). Besides Ham radio, working on Computers and the Internet seem to take most of my time these days. You can check out my website at: http://k8ch.net; and blog at: http://secondaryrds.com

If asked if I had any words of wisdom regarding Amateur Radio, I would reply, "Enjoy Amateur Radio, but don't let it run (or ruin) your life." Furthermore, I would like to say that CMARC has a long and proud tradition of service to the community and to fellow hams and I'm glad to have been a part of it! By the way, I read in the August 2013 SCOPE that Ken W8AAX is a member of the Greater Lansing DX Group. He and I were among the founders of that group. One of the requirements was members had to also belong to CMARC. The founders did not want to be in competition with CMARC, but rather to enrich our membership.

There, now that we have become a little better acquainted, "What's My Sign?" My Callsign is K8CH and my name is Chuck Hutchinson. Some of my former Callsigns were K8UDJ, TI2DX and HC1CW. •

[Author's Note: Chuck responded to my "What's My Sign?" questionnaire a couple of years ago and I've just gotten around to publishing it because it sorta got lost in the shuffle of all the others that responded to the questionnaire. I'm now very happy to have shared it with you and I hope you enjoyed it!]

Equipment for Sale

Please call Gregg Mulder/WB8LZG **AFTER 5PM** at 517-646-6257. Offers are accepted!

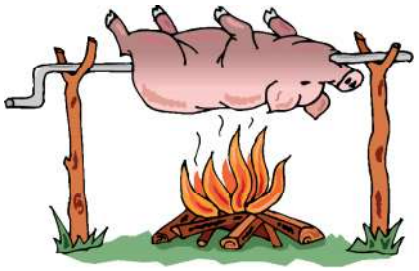
1) Hamarlund SX117 Receiver (with clock) $75
   Unknown Condition

1) Kenwood TM231 2-meter Mobile $50
   Works Great

1) Kenwood 12-amp Power Supply $50
   Works Great

1) Kenwood 2-meter Hand Held $40
   Works Great

1) Icom 2m/440 Hand Held $60
   Works great but needs new battery



CMARC Hog Roast

WHEN: Saturday, October 3rd
TIME: Arrive by 1pm.
PLACE: 9749 Peacock Rd.
Laingsburg, MI 48848

WHAT DO I NEED TO BRING:

- Lawn Chair(s)
- Drinks
- Dish to Pass *(Call Dan or Vicki at 517-930-9980 and let them know what you would like to bring.)*

You are welcome to come out the day before and enjoy your time there. If you want to spend the night, and you have a camper or tent, you are free to do that as well. Dan plans to load the hog into the roaster, and could use some assistance doing that around 2:30 or 3:00 AM Saturday. If someone can help him with this, please give him a call. Thank you!

MSU Amateur Radio Club "Sparticipation" Event

By Gregg Mulder, WB8LZG

Michigan State University Amateur Radio Club gets visit from ARRL dignitaries.

The 1st week in September marks the start of school for many students across the country. Michigan State University has an event every year at the beginning of the fall term to highlight the many clubs and student groups that the incoming freshmen can be a part of on campus. It's called "Sparticipation". This year W8SH set up a portable "Field Day" style station to attract students and Hams to the radio club. We had a PSK31 station running entirely on a 12-volt deep cycle battery. With a "homebrew" 2x2 mast we had a 20 meter dipole up about 25 feet. Good thing we had our antenna mast supported by orange colored rope. There was over 8000 incoming students plus a few more upperclassmen in attendance. We hadn't any idea it was going to be "SO BIG!" Several students signed up as interested in getting a license, and we found two already Hams mixed in with the incoming "Frosh".

We were also treated to a special visit from two ARRL staff members Katie Allen WY7YL, and Sean Kutzko KX9X. They were at MSU to take a look at our radio club and meet with Scott Westerman W9WSW to investigate new ways to market Amateur Radio to a new generation of potential hams. We also had fun with them visiting the W8SH shack. The weather was warm and sunny and everyone had a good time.

We were fortunate to be able to have dinner with our ARRL guests the next night. It was very informative and enlightening to listen to what they had to say about the problems, ideas, and solutions that other radio clubs across the land are facing today. They also were able to interact with a couple of the current student club members to listen to their thoughts and ideas about Ham radio today. All too soon, the evening was late. We said our 73's and wished them well.

Thanks to everyone who helped out during this event. ●

PHOTO BY: GREGG MULDER/WB8LZG

PHOTO BY: GREGG MULDER/WB8LZG

Katie/WY7YL, Ed/W8EO, Sean/KX9X, and Reece/KD8VNY

PHOTO BY: GREGG MULDER/WB8LZG

Gregg/WB8LZG and John/NU8M making PSK31 QSO's from "Sparticipation" 2015

CMARC Board Meeting

August 14, 2015

President Julie McLain/KB8ZXR called the meeting to order at 6:38 pm with the following board members in attendance: Vice President Tom Rocheleau/WA8WPI, Secretary Jane Hosford/KC8FSK, Treasurer Jerry Waite/KD8GLN, Director Don McLain/KB8RAD, and Director Chris Ranes/NS8Q. Under 22 Director Sam Fitzgerald/N8FPR was excused.

- There are no new silent keys.
- Still need to finish the 501(c)3 process. We are in need of a mission statement.
- Hamfest: The Board will be having an "after-hamfest" meeting Saturday at 4:30pm before RAD's to talk about ways to improve next year's hamfest. We know we need to have a CMARC table next year.
- Liz from the Causeway Bay Hotel has offered for us to do a walk-thru there to see if we can possibly hold CMARC events there.
- Need to clean the club room.
- SATERN needs someone from CMARC to be a go-between. Jerry/KD8GLN is in RACES and is unable to do it because it would be a conflict of interest.
- Motion to adjourn made by Jerry/KD8GLN, seconded by Tom/WA8WPI and approved.

Meeting adjourned at 7:00 pm.

Respectfully submitted,
Jane Hosford/KC8FSK-Secretary

CMARC Meeting Minutes

August 14, 2015

President Julie/KB8ZXR brought the meeting to order at 7:10 pm.

We do have name tags for everyone if you don't have your own, so please use, so we know who everyone is.

SILENT KEY REPORT: None.

- A moment of silence for our silent keys.

ATTENDANCE:

- There were 42 people in attendance.
- Visitors included Ann Berger, Janet Kylman, Roy Reynolds/KE8BIJ, Mary Ann Prince, Larry Camp/WB8R, Joel Zachrich/NoKEX, Ed Hude/WA8QJE and Vicki Dembinski.

NEW LICENSES, UPGRADES AND VANITY CALLS: Roy Reynolds/KE8BIJ.

CARDS AND FLOWERS REPORT: None.

INTERESTING DX CONTACTS: None

OLD BUSINESS:

- A motion to accept the July secretary's report as printed in the August Scope was made by Paul/KB8YQZ, seconded by Phillip/KD8ZZK and approved.
- A motion to accept the July treasurer's report as printed in the August Scope was made by John/KD8NNQ, seconded by Don/KB8RAD and approved.
- PLEASE PAY YOUR DUES: NEW HAMS GET ONE YEAR FREE MEMBERSHIP
- CMARC dues to Jerry/KD8GLN and LCDRA dues to Julie/KB8ZXR.
- Jerry/KD8GLN is the CMARC Coordinator for SATERN, but since he is also involved in RACES, someone else is needed to be the SATERN Coordinator.

NEW BUSINESS:

- Paul/KB8YQZ goes to a ham club in Florida and they always start the meeting by doing the pledge of allegiance.
- Paul suggested that maybe that is something our Club could do, so we are going to start doing it also.

HAMFEST:

- Over 250 people attended.
- Our profit was $1167.76.
- Thanks to Holt Christian Church for allowing us to have the hamfest at their Church.
- Thanks to all the volunteers.
- Thanks to everyone who donated prizes for our hourly drawings.
- Thanks to Dan/KD8YDE and Vicki for providing two pork shoulder for barbecue pork sandwiches.
- Thanks to Julie/KB8ZXR for chairing the hamfest.
- John/KC8QZB won a $25.00 gift certificate from the ARRL.
- Ted/WA8MFQ won a $50.00 gift certificate from the ARRL.

UNDER 22 REPORT: None.

50/50: Bill/WD8NYW won $22.50.

Leon/KD8ZEP was given two tickets to the Peoria Superfest, Amateur Radio and Accessories/Electronics Show-Saturday and Sunday, September 18-20, 2015.

Frequency charts and grid square maps were also handed out.

Bumper stickers were donated from Icom.

PROGRAM:

Larry Camp/WB8R, the ARRL Great Lakes Division, Michigan Section Manager and Edward Hude/WA8QJE, the State Government Liaison.

Motion to adjourn by John/KD8NNQ, seconded by Mark/KD8YUY and approved.

Will all business concluded, the meeting was adjourned at 8:50 pm.

Respectfully submitted,
Jane Hosford/KC8FSJK-Secretary

"PRACTICE AMATEUR RADIO EXAMS"
Sponsored by the "Ingham County VE Group"
VE Julie McLain KB8ZXR

Technician Class 2014 Pool

1.) Question T1D07 - What types of amateur stations can automatically retransmit the signals of other amateur stations?

A. Beacon, repeater, or space stations
B. Auxiliary, repeater, or space stations
C. Auxiliary, beacon, or Earth stations
D. Earth, repeater, or space stations

2.) Question T5A11 - What is the basic unit of electromotive force?

A. The watt
B. The ohm
C. The ampere
D. The volt

3.) Question T8A06 - Which sideband is normally used for 10 meter HF, VHF and UHF single-sideband communications?

A. Lower sideband
B. Upper sideband
C. Suppressed sideband
D. Inverted sideband

General Class 2015 Pool

1.) Question G2D04 - Which of the following describes an azimuthal projection map?

A. A map that shows the angle at which an amateur satellite crosses the equator
B. A map that shows the number of degrees longitude that an amateur satellite appears to move westward at the equator with each orbit
C. A map that shows true bearings and distances from a particular location
D. A map that shows accurate land masses

2.) Question G4E04 - Why is it best NOT to draw the DC power for a 100 watt HF transceiver from a vehicle's auxiliary power socket?

A. The socket is not wired with an RF-shielded power cable
B. Drawing more than 50 watts from this socket could cause the engine to overheat
C. The socket's wiring may be inadequate for the current drawn by the transceiver
D. The DC polarity of the socket is reversed from the polarity of modern HF transceivers

3.) Question G4C11 - Which of the following is a function of a digital signal processor?

A. To increase antenna gain
B. To increase antenna bandwidth
C. To provide adequate grounding
D. To remove noise from received signals

Extra Class 2012 Pool

1.) Question E3C13 - What type of polarization is best for ground-wave propagation?

A. Circular
B. Horizontal
C. Elliptical
D. Vertical

2.) Question E1D03 - What is a telecommand station in the amateur satellite service?

A. An amateur station that transmits telemetry consisting of measurements of upper atmosphere data from space
B. An amateur station located more than 50 km above the Earth's surface
C. An amateur station that transmits communications to initiate, modify or terminate functions of a space station
D. An amateur station located on the Earth's surface for communications with other Earth stations by means of Earth satellites

3.) Question E7G05 - How can unwanted ringing and audio instability be prevented in a multi-section op-amp RC audio filter circuit?

A. Restrict gain, but increase Q
B. Restrict Q, but increase gain
C. Increase both gain and Q
D. Restrict both gain and Q

Questions and Answers Copied from ARRL's "Practice Amateur Radio Exams"
found at: http://www.qrz.com/hamtest/

ANSWERS Technician: 1-B; 2-D; 3-B General: 1-C; 2-C; 3-D Extra: 1-D; 2-C; 3-D

ARRL MI Section News

By Larry Camp, WB8R

Amateur Radio Parity Act of 2015

Note: This information was also published last month, but needs to be revisited as we still need to press our Representatives and Senators to support HR 1301 and S 1685.

US Senator Roger Wicker (R-MS) introduced S 1685 on June 26, with Senator Richard Blumenthal (D-CT) as the original cosponsor, into the US Senate.

The wheels of Congress turn with help of communication from constituents. Without our guidance and direction to tell our representatives what we want them to do, they try to do their best but amateur radio regulations are not high on their list of concerns. It is up to us to advise them that those regulations are high on our list and we would like them to support our legislation.

As you know, the House of Representatives version is known as HR 1301 and it currently has 95 co-sponsors. Michigan is fortunate in that four of our Representatives have signed on as co-sponsors of HR 1301 (Walburg, Huizenga, Bishop, and Benishek). If your Representative is not one of these four, consider sending a letter to him or her asking for their support and possibly co-sponsoring HR 1301. If your Representative has not yet signed on as a co-sponsor, sending them a second letter requesting their support is not a problem. If your representative is one of the four MI co-sponsors, please send them a letter thanking them for their support.

Now the focus takes a new direction: Contacting our US Senators asking them to support and consider co-sponsoring S 1685. This makes our work a bit easier than it was with our Representatives in that every citizen in Michigan has the same US Senators: Senator Debbie Stabenow and Senator Gary Peters. ARRL members are urged to contact their members of Congress in both the House and the Senate, asking them to sign on to the bill as cosponsors. Complete information is available on the ARRL website at **http://www.arrl.org/amateur-radio-parity-act.**

Be sure to pay attention to ensure that if writing your Senators, that you send letters only to your Senators. While the list of your congressional representatives on the ARRL website includes both congress-persons AND Senators, please be sure to choose the Senators for letters directed to members of the Senate, and the same for Representatives.

The most effective method of contacting your Representative or Congress-persons are: By routing your letter(s) through the ARRL either by snail mail or by signed letter converted to a PDF file and emailed.

Correspondence will be sorted at ARRL Headquarter and hand delivered to the appropriate US Representatives and Senators. We suggest that you follow the instructions on the aforementioned ARRL web page. A sample letter is available for you to download and customize with the Senator or Representative's name and address and your name and address, print, sign and send to the ARRL for hand delivery in Washington.

Michigan Section Traffic/ARPSC Nets (All times Local)

MACS - MI Amateur Communications System 3.952 1000 Daily

UPN – Upper Peninsula Net 3.921 1700 Daily; Noon Sunday

MIARPSC – MI Amateur Radio Public Service Corps 3.932 1700 Sunday

QMN – The Michigan Net 3.563 1830 and 2200 Daily

MITN – MI Traffic Net 3.952 1900 Daily

MIDTN – MI Digital Traffic Net 3.583 (Olivia 8/500) in waterfall 2000 Tues, Thurs, Sat

D8EN - District 8 Emergency Net 3.909 Wed 2100

GLETN – Great Lakes Emergency and Traffic Net 3.932 2000 Daily

The DX Corner

By Col McGowan, MMoNDX

Just over a month ago, the S79C team released information about their plans to activate brand new IOTA AF-119, Coetivy Island

With little over 2 months before our departure, we are delighted to confirm that plans are definite and large deposits have already been paid to the relevant departments. We have obtained all necessary permits, both to visit and operate from Coetivy, and are looking forward to bringing this new one to so many island chasers and DXers around the globe.

As of last week, all individual flights have now been booked. Departing from cities such as Adelaide, Paris, Dublin, Rome, Warsaw and Amsterdam, will see the whole team meet up in Mahe, capital of Seychelles, on November 14/15th. On November 16th we leave for Coetivy.

As private airplane charter is needed to access the island, costs are terrifically high – higher than staging a DXpedition to some rare entities! We kindly urge IOTA and DX chasers to support our activation. **http://af119new.com/donate/**

To those who have already supported, we thank you very much, and will reward those advance donors of $5 or more with a free QSL card. Just send us your QSO details after the DXpedition. It's our way of saying thanks!

We are most grateful to our corporate sponsors and early support from GMDX, CDXC, GDXF, Nippon, DX World and IREF.

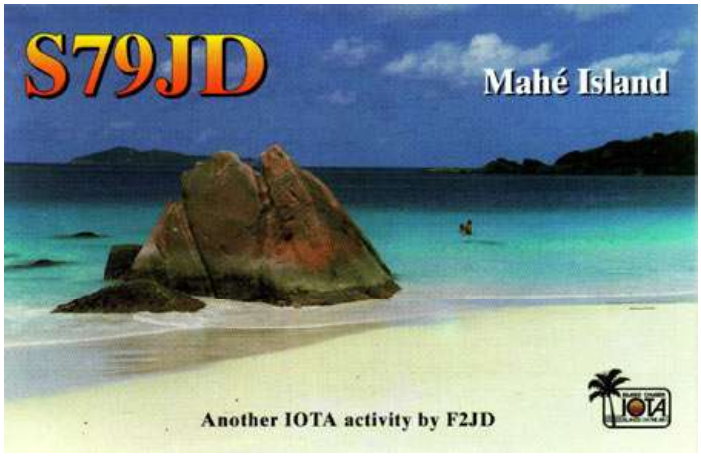
Station design and antennas are currently being discussed. We aim to have 6 stations QRV at peak times to fulfill the demand for this first activation and will concentrate on all geographical areas.

We know many of you trust us to deliver a first class island activation.

Please visit our webpage **http://af119new.com/** for full information, updates and latest Tweets from the team.

Thank you, S79C Team.

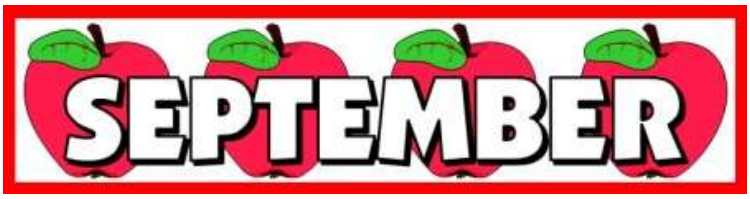
VQ9TF 1970 Seychelles Island - Courtesy of W3CJF



S79JD 1995 Seychelles Islands - F2JD DXpedition - Courtesy of F6AJA

The images and articles about current and/or upcoming DX operations are published here with permission by Col McGowan/MM0NDX as made available on www.dx-world.net.

Images for the QSL cards are published with permission from Tom Roscoe/K8CX and the QSL Card Museum at www.hamgallery.com/qsl.



TEA TIME LADIES DAYS

September 2nd – Ericka KD8KJU & Jamie KD8IAP Kahler's 14th Anniversary!!
September 8th – Jessica & Jon N8SUA Seaver's 3rd Anniversary!!
September 12th – Leota KD8SQD & Bob KB8DQQ Strobel's 51st Anniversary!!
September 15th – Mary KC8RME Rue's Birthday!!

SEPTEMBER LADIES TEA TIME LUNCHEON

Summer is almost just a sweet memory and Fall is creeping around the corner. Vacations have come to an end and schools are back in session. From the sounds of it, all of our Ladies have been keeping busy this Summer and now that things are starting to calm down a little (before planning for Thanksgiving and Christmas!), many of you are looking forward to our next "Ladies Tea Time Luncheon", and so am I! So, don't forget to mark your calendars for Saturday, September 19th at 12:30pm when we'll be going back to the "Cracker Barrel Old Country Store", located at 608 Commercial Drive in Lansing. Take I-96 Exit 93A towards Grand Ledge and then turn left on Commercial Drive which runs south off W. Saginaw (before you get to Wal-Mart on your left just behind the gas station). I know you won't want to miss out, because we always have so much fun looking at the fall merchandise and catching up on what everyone's been doing this summer! I'll see you there!!

LADIES TEA TIME NET!

Please join me every Tuesday evening at 7pm on the 145.39 Lansing-area repeater (100 Hz PL) for the "Ladies Tea Time Net". The Net can also be accessed via the EchoLink *DODROPIN* Conference Server (Node ID# 355800). The main purpose of this Net is to get our Lady Hams out on the air each week, having fun as they visit together. And for those Ladies without a Ham license...you can still check in "Third Party", as long as your licensed husband or friend checks in first. Remember, we always look forward to having our Gentlemen join us for a fun time, too... AFTER the "Ladies Only" portion of the Net!! So, pour yourself a nice cup of tea, key up the mic and join me for the "Ladies Tea Time Net"...I'll be listening for you!!

~Julie McLain, KB8ZXR~
Ladies Tea Time Net & Luncheon Coordinator
(517) 694-0812 or KB8ZXR@aol.com
www.centralmiarc.com

Greater Lansing Nets

The **"Central Michigan Slow Scan TV Net"** meets every Sunday evening from 7:00- 8:30pm on the 145.39 repeater (PL 100 Hz), with Net Coordinator Carl Canfield/K8YHH. EVERYONE is welcome to join in and have fun learning and using this interesting and useful mode of communication. Other digital modes will be explored from time to time. For more information, call Carl at: (517) 755 6627.

The **"Ladies Tea Time Net"** meets every Tuesday evening at 7pm on the 145.39 repeater (PL 100 Hz), with Net Coordinator Julie McLain/KB8ZXR, and can now also be found on the *DODROPIN* EchoLink Conference Server (ID# 355800)! Everyone is welcome to check in—even all you guys!! This Net has been around now for over SEVEN YEARS (since July 3, 2007), so let's keep it going and growing!!

The **"Quarter Century Wireless Association Net"** also meets every Tuesday night but at 8pm and on the 146.70 repeater (PL 107.2 Hz), with Net Coordinator Don Tillitson/WB8NUS. Be sure to stop by after Julie's Net and say "Hello!"

The **"Mid-Michigan Information & Trader's Net"** meets every Wednesday evening at 7:00pm on the 145.39 repeater (PL 100 Hz), with Net Coordinator Julie McLain/KB8ZXR. This Net has been around now for over FIVE YEARS (since November 11, 2009) and is still growing!! Be sure to join Don for a time of FUN, FELLOWSHIP, and INFORMATION!! There will be helpful Ham-related information to share from bothNet Control and our check-ins, time for questions and answers, and "Trader's Net" style on-the-air swapping of Ham-related equipment throughout the Net. Sounds like a good time to me!!

ALL are welcome on these nets, so be sure to check in to show your support. And as with all Nets, 3rd party check-ins are welcome, but must have Control Operator present at check-in time.

CMARC Officers and Appointees

President
Julie McLain, KB8ZXR
(517) 694-0812

Vice President / Webmaster
Tom Rocheleau, WA8WPI

Secretary / Cards & Flowers
Jane Hosford, KC8FSK

Treasurer / Salvation Army Liaison
Jerry Waite, KD8GLN
(517) 882-5406

Director / Club Contact
Don McLain, KB8RAD
(517) 694-0812

Director / Scope Editor
Chris Ranes, NS8Q
(517) 487-8376

Under 22 Director
Sam Fitzgerald, N8FRP

Club Historian
William Cote, WD8NYW

Antenna Projects Chairman
Gregg Mulder, WB8LZG

Lansing ARPSC Liaison
Jim Hannahs, KC8QWH

Public Relations Manager
Brian Wellwood, KD8ONC

QSL/Awards Manager
Don DeFeyter, KC8CY
(517) 641-4533

Youth Liaison
Russ Fitzgerald, N8FZ

Photographers
Kenneth Hazlett, N8BVV
(517) 348-5513
Phillip Woodward, KD8ZZK
(517) 803-7081

Meetings Held Monthly on the second Friday of the month at:
Salvation Army-Capital Area, 701 W. Jolly Rd, Lansing at 7:00 PM. Board Meeting begins at 6:30 pm.

CMARC Calls: W8MAA & W8PLP

LCDRA Officers and Appointees

President
John Imeson, N8JI
(517) 449-1517

Vice President
Don Tillitson, WB8NUS
(517) 321-2004

Secretary
Ron Harger, WD8BCS
wd8bcs@arrl.net

Treasurer
Jeff Oberg, KB8SXK

Director
Jan Bradfield, KC8BFK
(517) 202-1779

Director
Don McLain
(517) 694-0812

Director
Jim Harvey, KA8DDQ
(517) 882-5796

Membership Chair
Julie McLain, KB8ZXR
(517) 694-0812

Repeater Trustee
Dennis Boone, KB8ZQZ

Meetings Held Quarterly on the third Thursday of the month at:
Fire Station #48, Marshall St, Lansing at 7:00 PM.

LCDRA Call: W8BCI

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

Please send all articles, classified ads, or other Information to the editor, Chris Ranes, NS8Q, at cmarcscope@gmail.com.

The deadline for each issue is midnight on the 20th of the preceding month.

Findlay Hamfest

Sunday Sept. 13, 2015

at the Hancock County Fairgrounds

Admission - $7
Flea Market Space - $5
Inside Table - $20 $15 for the 2nd or more

Reservations inside space only:

FRC Tables
PO Box 587
Findlay, OH 45839

419-423-3402 and leave a message

Adrian Amateur Radio Club

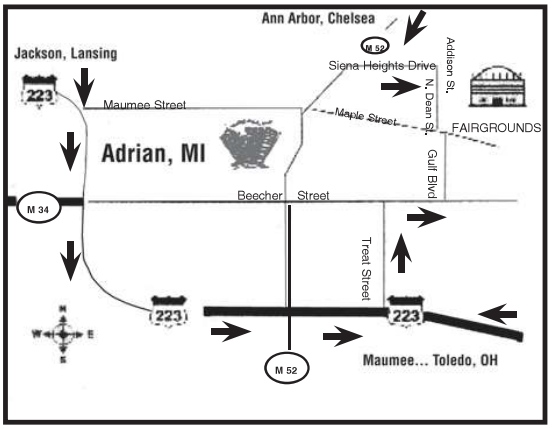
Adrian, Michigan

43RD Annual Hamfest and Computer Show

Sunday September 20, 2015

8:00 A.M. until the event ends.....

Talk-in 145.370--85.4 pl



At the

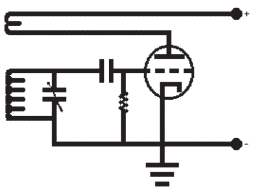
Lenawee County Fair Grounds

Tickets $5.00

8 ft. tables $10.00 each

Trunk Sale Spots $3.00 each

HANDICAPPED PARKING



Additional Information Email:

adrianhamfest@w8tqe.com

Table forms are on the web

www.w8tqe.com

GRAHamfest 2015

Grand Rapids Area Hamfest

Saturday, October 3

an ARRL Approved Hamfest

The Home School Building
5625 Burlingame, SW
Wyoming, MI 49509-9702

Annual Electronics, Ham Radio, Shortwave
CB and Computer Equipment, Trains, Airplanes
or *just about anything with an electron in it* !
Swap Meet / Flea Market

Opens at 8 AM

Ends at 1:00 PM

Seller Setup: Friday 7- 9PM, & Saturday 7AM
(Vendors only prior to 8AM)
Indoor and Outdoor Sales

ARRL VE Session - 10AM
QSL card Field checking
Concessions available on-site

Admission: $6 at the door
K-12 students free admission
See: www.w8dc.org
for updates, maps, directions and additional information.

General questions:
KC8NKA 616-531-6218
Table reservations:
W8QZ 616-791-9411 (evenings)
or streyle.j@comcast.net
Deadline for guaranteed reservations (paid in advance): Sept. 22
Make checks payable to:
G.R.A.R.A.
Paid table requests rec'd after August 26 will be held at the door. Tables unclaimed after 8 AM are available first-come, first served! Reservation form and payment to:
John Streyle W8QZ
1487 Maderia Ave. SW
Grand Rapids, MI 49534

Talk-In: W8DC on 147.26+ (94.8HZ PL)

Table Reservation Form

Description	Qty.	Ext. amount
6' table along wall / WITH access to electricity (*check for availability—limited quantity*) @ $10 ea.		
6' table no electricity @ $6 ea.		
Total	—	

Table rental does *not* include admission to the swap. No charge for tailgate space(s), except: a hamfest admission ticket is required for each person

Name / Callsign	
Phone (optional)	
Email * (req'd for table confirmation)	
Address	
City, State, Zip	

See other side for map & directions

Show Your Support for Amateur Radio and Join CMARC & LCDRA Today!

JOIN TODAY!

Central Michigan Amateur Radio Club, Inc.

As a licensed Amateur, you can **sign up today** as a Full Member. As a Full Member of CMARC, you will receive voting rights and an annual subscription to 'The SCOPE'.
This newsletter is filled with Club News, special interests and events.

Sign up today as an Associate Member and it includes an annual subscription to 'The SCOPE'. (no voting rights as an Associate Member)

New licensees are now eligible for a *one FREE year membership* at CMARC and **Under 18** licensees are *eligible for FREE membership!*

Name **Callsign**

Address **City** **State**

ZIP **Phone** **Lic. Class**

ARRL Member? **Birthday** **Wedding Anniversary**

Year 1st Licensed **Please supply email for SCOPE mailing**

Full ___ Associate ___ New Licensee (1 yr free) ___ Under 18 (free) ___

Full Membership $15 per calendar year
(must be a licensed Amateur to obtain a Full Membership)
Associate Membership $5 per calendar year.

Please make your checks payable to "CMARC" and mail to:
Jerry Waite KD8GLN
2816 Cabot Dr
Lansing MI 48911

JOIN TODAY!

Lansing Civil Defense Repeater Association

Lansing Civil Defense Repeater Association

Any Licensed Amateur can become a member of LCDRA for ONLY $15 a year! Just sign up today and as a member, you'll receive an annual subscription to "The SCOPE", as well as, voting rights in the Association. All Hams under 18 yrs. are *eligible for FREE membership!*
LCDRA owns, operates and maintains four Lansing Area repeaters, and while use of the repeaters does NOT require membership in LCDRA or CMARC,
your support is **very appreciated!!**

Name **Callsign**

Address **City** **State**

ZIP **Phone** **Lic. Class**

ARRL Member? **Birthday** **Wedding Anniversary**

Year 1st Licensed **Please supply email for SCOPE mailing**

Membership in LCDRA is $15.00 per calendar year
(Add a family member for only $7.50 per person, per year.)
LCDRA maintains our four local repeaters
and your support is greatly appreciated!!
(Membership is not required to use our repeaters.)

Please make your checks payable to "LCDRA" And mail to:
Julie McLain KB8ZXR
4444 Sycamore St. #1Holt, MI 48842

Central Michigan Amateur Radio Club
P.O. BOX 27321
Lansing, MI 48909-7321

CMARC	ARPSC	LCDRA
WWW.CENTRALMIARC.COM/	WWW.LANSINGARPSC.COM/	WWW.LCDRA.NET