



# The Scope

Central Michigan Amateur Radio Club

Lansing Civil Defense Repeater Association



August 2015  
Volume 15  
Issue 6

## 2015 CMARC "Outdoor" Hamfest

**W**ell, we did it again, CMARC's 2015 "Outdoor" Hamfest was a BIG SUCCESS! Everyone agreed that the weather was spectacular for our outdoor event! We had great attendance, with vendors coming from all around the state. For the fourth year in a row, a large number said they had a great time during their stay with us and would be back again next year. Many vendors also told me that ours is one of the best swaps they visit all year!

So, to all of you who made this happen...THANK YOU! We couldn't have done it without all of YOU! Whether it was setting up canopies, tables or chairs; selling tickets or parking the vendors and visitors; working the GOTA Station; manning the PA System, documenting our Hamfest with tons of photographs, or attending to the gifts at the Ladies Table; teaching at the Forum or grilling the food and serving the patrons; or for the entertainment provided by our Swap Mascot "Tycho Aussie" – you ALL did a fantastic job! Thank You for volunteering those many hours on your feet and helping to make our Hamfest a great success!

A BIG "THANK YOU" also goes to ALL who made donations to help our Hamfest...giving items such as the prizes for our hourly drawings (especially the Grand Prize, which was a Yaesu 2-m HT); providing canopies, traffic cones, tables and radio equipment; donating the Donuts and Rolls for our volunteers, two pork shoulders for the BBQ Sandwiches, along with many miscellaneous kitchen and food items we needed. ALL of your donations were indispensable!

Now, for the "icing on the cake", after deducting all our expenses, I am pleased to announce that our grand total of pure profit from this year's Hamfest is \$1,167.76! Way to go, CMARC! •

73,  
Julie McLain KB8ZXR  
2015 CMARC Hamfest Chair



PHOTO BY: MATT BEHA/N8BPI



PHOTO BY: MATT BEHA/N8BPI

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# Pictures of 2015 CMARC "Outdoor" Hamfest



**GOTA Station:**  
Brian Wellwood/  
KD8ONC making a SSB  
contact



**Head Chef:**  
Dan Dembinski/  
KD8YDE stationed at  
the grill



**Digital Forum:**  
John Tyree/KD6KCX  
(center) and Matt  
Miller/KD8OOS (right)



**Food Tent:**  
Sharon Waite/  
KD8HHK and Bob  
Strobel/KB8DQQ



**Great Find:**  
Homebrew SWR Meter  
with custom wood  
case by Gregg Mulder/  
WB8LZG



**Ladies Prize Table:**  
Mary Lou Tillitson and  
Jane Hosford/KC8FSK



**Testing Station:**  
Jan Bradfield/KC8BFK  
offered to test for  
"Lemons"



**Hamfest Mascot:**  
"Tycho Aussie"

\*\* All photos on this page by Phillip Woodward/KD8ZZK

## August Birthdays

8/1 Charles Stahl / N8DWI  
8/2 Dan Cameron / KD8QFB  
8/3 Joseph Denomme / N8VYS  
8/7 Jeremy Kapella / KD8ZZJ  
8/8 John Tyree / KD8KCX  
8/9 Dan Stockwell / KD8YVA  
8/11 Debbie Headley / KD8YUX  
8/14 Sam Fitzgerald / N8FPR  
8/27 Matt Beha / N8BPI  
8/27 Chris Ranes / NS8Q

## August Anniversaries

8/10 Jack Wiswasser/WA8IAL  
8/11 Don/KB8RAD and Julie/KB8ZXR McLain  
8/12 Chris/NS8Q and Shannon/WA2NVK Ranes  
8/14 John/KC8QZB and Jane/KC8FSK Hosford  
8/22 Dan/W8VVR and Barb Fuller  
8/26 Don/WB8NUS and Mary Lou Tillitson (65 Yrs)

## Treasurer's Report

Jerry Waite / KD8GLN - CMARC Treasurer

### Bank Balances for July 2015

Primary Share Acct. (Humphreys Fund)	\$1,091.84
Business Checking	\$3,483.12
Net Worth	\$4,554.96
Youth Fund Balance*	\$253.58
Building Fund (Club Station)	\$9.09
Field Day	\$472.12
* Separate from CMARC Funds	

## Meeting Information

### CMARC



Don't forget to join us for our next Club meeting on Friday, **August 14th** at 7:00pm in the

Salvation Army building, located at 701 W. Jolly Road in Lansing. Our speaker for August will be Mr. Larry Camp/WB8R, the ARRL Great Lakes Division, Michigan Section Manager. We'll also be meeting Lt. King who is replacing Pastor Lee and his family at the Salvation Army. The August meeting is also our annual "Indoor Summer Potluck" where CMARC springs for the hot dogs and brats (with all the fixings along with coffee and pop), and everyone else is asked to bring all the things that make for a good Summer picnic like potato salad, baked beans, potato chips, watermelon, etc. And don't forget all the yummy desserts, too! So come on out to the August meeting for the social event of the Summer! For more information, you can check out our website at [www.centralmiarc.com](http://www.centralmiarc.com) or just get a hold of Club contact Don McLain/KB8RAD at (517) 694-0812 or [KB8RAD@arrl.net](mailto:KB8RAD@arrl.net)

### ARPSC



The ARPSC meeting for the month of July is at 7:00pm on Monday, **August 17th**. 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](http://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!



# How much performance do you really need?

By Dan Romanchik, KB6NU

When he's not agonizing over what radio to buy, Dan operates CW on 30m and blogs about amateur radio at [www.kb6nu.com](http://www.kb6nu.com). He's the author of the "No Nonsense" amateur radio license study guides and the CW Geek's Guide to Having Fun with Morse Code.



A reader recently e-mailed me: "Just a quick question – Are you still in the thinking stage about getting an Elecraft K3? Great rigs, aren't they?"

"What I would like you to think about, though, is how many contacts you log in one year's time. If you log 100 per year (check your log) then your cost will be \$50 per contact for that year. If you log 500, then your cost will be \$10 per contact. If you keep that rig for three years, and log 500 contacts over that time, then you will have spent \$10 per contact.

"Now, consider what that rig will be worth in three years. Will there be something come along that just blows the K3 away in terms of performance?"

I replied:

"K3s are great radios. I've just purchased a used KX3, though, so I am not planning on getting a K3 in the near future. I have purchased a 50-W HobbyPCB amp to use with the KX3, so I'm not going full QRP.

"I make a lot of QSOs/year. My average over the last 13 years is more than three per day, and that doesn't include contacts made with other callsigns, such as the club station, or on Field Day. I'm sure that my cost/QSO will be low enough to justify my investment. :)

"In addition, rigs seem to keep their value pretty well. I'd guess that you can sell a three-year-old K3 for at least 80% of what you paid for it. I think that one of the reasons that an Elecraft K3 is worth the investment is that Elecraft provides such good customer support, and that they are continually improving their radios. For example, they just came out with a new synthesizer board, with better RF specs, for the K3.

"I don't see anyone coming out with a radio that blows the K3 away in terms of performance in the near future, although I might be wrong. FlexRadio has perhaps the best chance of doing that, but you'll have to buy into the Flex user interface philosophy to take advantage of that. I think that Elecraft and Flex, plus the three Japanese manufacturers, will make incremental performance improvements over the coming years, leapfrogging one another as they bring out new models.

"One thing to think about is how much performance is overkill? Just like you can now buy a computer that has way more computer power than the average user will ever need, I think that most of these high-end radios offer way more performance than the average ham will ever need. It's cool to look at the Sherwood Engineering receiver tests and see that your rig is in the top ten, but will the average ham actually notice the difference? My guess is probably not.

"Thanks for sparking my thought process on these issues."

My guess is that most amateur radio operators don't think about what the rig will be worth in three years when buying an HF transceiver. Instead, they're looking at what the radios that are currently available cost, and when there's a big price difference between two models that appeal to them, they're trying to figure out if the higher price is warranted. In many cases, the lower-priced model wins out. It's not because the more expensive radio isn't better, but it's not that much better.

It all goes back to how much performance you actually need. Yes, you can probably do more with a \$10,000 radio than you can with a \$1,500 radio, but is it really worth the added expense? In other words, are you going to have more fun with a \$10,000 radio than you are with a \$1,500 radio?

Let me know what you think.

E-mail me at [cwgeek@kb6nu.com](mailto:cwgeek@kb6nu.com). •

# How do we promote better operating practices?

By Dan Romanchik, KB6NU

When not worrying about the state of amateur radio operating practices, you'll find KB6NU working on updates to his "No Nonsense" study guides, teaching one-day Tech classes, or blogging about amateur radio at [www.kb6nu.com](http://www.kb6nu.com).



**A** lament that I often hear is that many amateur radio operators either don't seem to understand the importance of good operating practices or just don't care about them. Just this morning, a reader sent me an e-mail

saying, "I think there are too many hams out there that don't know how to call a station on split frequency. It's amazing that we have so many dummies out there."

I wrote back, saying, "Maybe we need another type of Official Observer, called the Operating Observer. This group would note when operators aren't following good operating procedures and send people gentle reminders." Of course, as soon as I hit Send, I knew this wasn't a very good idea. As my reader noted, this would be a thankless job, and chances are the poor operators would simply ignore the notices, anyway.

Even so, there must be some way to encourage good operating procedures. One effort to promote better operating procedures is the DX Code of Conduct (<http://www.dx-code.org/>). This is a list of 13 suggestions to make DX operation, particularly pileups, less chaotic. The website includes a small image that you're supposed to post to your website to show that you support the Code. While this is certainly a step in the right direction, I wish there was something that we could do to be more proactive in improving operating practices.

There is, of course, the ARRL Operating Manual. This publication is now in its tenth edition and is a valuable source of information about how to operate properly. The problem is only a fraction of the amateur radio operators on the air have a copy, much less read it.

Another attempt at promoting good operating practice is the ARRL's A-1 Operator's Club (<http://www.arrl.org/a-1-op>). While a noble effort, I think that this program really requires more promotion. In addition to being more aggressive about finding A-1 operators and bringing them into this "club," the ARRL should use it to promote better operation. Perhaps a series of videos with the A-1 Ops logo showing how to operate split or how to properly call CQ would help improve operating practices overall.

Talking about videos, I'd be surprised if there weren't already some YouTube videos that illustrate good operating practices. If you know of any, please e-mail me. It would be great to have a list of really good ones that I can send to people who want information on how to operate better.

What do you think? Do we need to be more proactive about encouraging hams to use good operating practices? If so, how do we go about it? What do you do to encourage better operating practices? •



# Is the “HT Trap” Slowing our Hobby’s Growth?

By Don Keith, N4KC

Copyright by Don Keith N4KC, reprinted by permission. Don writes many articles on Amateur Radio, available at his web site, [www.n4kc.com](http://www.n4kc.com), or in his various books on our hobby. See [www.donkeith.com](http://www.donkeith.com) for info on those or other books by N4KC.



**G**et two or more Hams together and the topic of our hobby’s growth—or lack thereof—will eventually come up. Some among our ranks are convinced we are doomed. Kids nowadays prefer Pinterest, YouTube

and iPhones to DX, DSP and D-Star. Scan a hamfest crowd and it looks like a Grecian Formula test gone berserk. Others prefer that we not grow our ranks or just do not care one way or the other. Keeps the bands less congested. Or so what if nobody new joins the hobby? Don’t affect me none. I can still jump in with that same bunch of guys that have been meeting every night on 75 meters since Eisenhower was president.

The truth is, much of that stuff in the previous paragraph is wrong. Our numbers are growing. Kids are finding us. So are middle-aged people and even older types who see what a great retirement avocation Amateur Radio is. All should be welcomed with open arms and a helpful spirit.

That being said, I do believe there is one thing that is costing us many enthusiastic newcomers before they have had a good chance to experience most of what our hobby has to offer. I have seen this phenomenon over and over and it saddens me. See if you have observed it, too. Or maybe you are living it right now.

Someone gets excited about Ham Radio, studies hard, passes the exam, and gets a license and call sign. Immediately he or she is faced with the challenge of how to get on the air. What radio to buy? How is it possible to put up an antenna? What would the newcomer even say to all those experienced operators out there if he or she did manage to get a working station on the air?

Most likely if you are a new Ham you start with the Technician-class license—as most people do—and thus have very limited HF operating privileges (“HF” means “high frequencies,” the shortwave frequencies assigned to Amateurs as opposed to the bands on VHF and UHF, where you typically find your local repeater stations). Why should you even think about a new (or used) radio that covers all those frequencies you cannot yet use and still have to worry about an ugly outside antenna? Shouldn’t you even avoid purchasing a 50-watt, \$300 VHF/UHF FM radio until you see if this hobby is really all it is cracked up to be? You just need a radio that will allow you to talk through the “repeater” stations around town. That would let you get your feet wet and get you on the air...NOW! Now and with minimum hassle.

Besides, you reason, the catalogs and radio store web sites are packed with those little walkie-talkie things for sale. There are guys at hamfests with tables full of the cute little gizmos. And some of those are priced at less than fifty bucks! That’s less than a family night out at Applebee’s and, with one of those tiny hand-held radios, you would be ON THE AIR, using your license, testing the waters in your newly-adopted hobby. They are a real Amateur Radio station right there in the palm of your hand.

So okay, you decide, that’s it. Easy decision. You want to get on the air quickly and inexpensively and with minimum aggravation. The little HT comes complete with antenna, five watts of FM power, and a built-in battery and drop-in charger. Nothing else to buy. With one of those, you are on the air with no muss and fuss. No surreptitious antenna-raising when the neighbors are not watching. No major ding to the credit card for a big old multi-band/multi-mode transceiver. No steep learning curve while trying to figure out all those meters, buttons and knobs on a big, expensive—and very complicated—shortwave radio.

I understand the reasoning. The day your new call sign pops up in the FCC database, you can turn on that little handheld device and start yakking on the local repeaters. Ham Radio is yours and you can jump right in, enjoying it without fear or stress.

Those little HTs are great and with the entry into the market of the Chinese manufacturers, they are available at so-what-if-I-lose-it prices. Everyone should have at least one walkie-talkie for local repeater use and to assist in public service events, storm spotting, and emergency situations. They are handy for monitoring repeaters, too, no matter where you might be, especially early on in your Ham career as you learn protocol and who is who.

But they are a trap, I tell you. A trap! And here is why.

You finally see your call sign in the FCC database, get excited, pull out the little \$50 radio you have already been listening to, and you summon up the courage to make a call. You check to be sure nobody else is using the repeater. You carefully pronounce that convoluted set of letters and numbers the FCC assigned you and ask if anybody is around, just as you have heard others do on the repeater. When you let up on the button you hear the squelch tail of the repeater for a few seconds, and maybe the voice or Morse Code identification.

The radio works! You have emitted radio-frequency energy into the atmosphere! The repeater apparently actually heard you!

But nobody responds. You try several more times over the next few days. Nobody answers. Where are all those friendly voices you have been hearing chatting about anything and everything? And even offering friendly welcomes to other newcomers just like you.

Finally, afraid you have gotten a busted radio, you decide to break into an ongoing conversation you hear, just to see if they can pick you up. You gather your courage and wait for a lull, then say your call sign, just as you have heard others do.

“Joe, sounds like somebody trying to get into the repeater. Try it again, Old Man.”

(No insult intended there, by the way. Hams call each other “Old Man” all the time if they don’t know the other guy’s name, and whether you are young, old or somewhere in between. Don’t ask why. Just accept it. Unless you are female. Then you have every reason to get mad about it.)

So, pulse racing, you push the PTT (“push-to-talk”) button once again and give your new call sign, your name, your location, and ask them for a signal report. They heard you! You are about to make your first actual Amateur Radio “QSO.”

“Sorry, friend, you just are not making it into the repeater,” comes the soul-crushing response. “Maybe try again later when you are in a better location.”

And that happens to you a couple more times. Better location? You are hearing the repeater’s signal just fine. And this radio is supposed to put out five watts. Maybe it is broken after all.

There is likely nothing wrong with your radio. That is just the nature of VHF and UHF communications. They are termed “line of sight” frequencies. You literally have to be able to see the repeater antenna—or come very close—for the repeater to hear your signal well enough for it to repeat it back by re-transmitting it.

Plus you are most likely using the stock antenna that came with your radio, what Hams call a “rubber duckie.” It is a flexible but stubby aerial, made for convenience and toughness, not efficiency or effectiveness. Very few of your five watts are actually being radiated. Instead, they are being used up as heat in that compromise antenna screwed to the top of your HT.

If you plan to use the HT much and are not in a prime position to reach the repeater, you should actually invest in a quarter-wavelength antenna and attach it to your little handheld. Or a simple ground plane or j-pole and mount it outside your house with coax feed run inside to hook to your HT’s antenna output. If you intend to use the HT in the car, buy an outside “mag-mount” antenna which can be stuck on the roof or trunk deck, run the coax feedline inside, and attach it to the radio. It will make all the difference in the world.



## the “HT Trap” *continued from page 6*

Of course, you can also get one of those more powerful FM transceivers, put a more permanent antenna on the car, or put up an outside antenna at home. Note that for a home setup, you will need a twelve-volt power supply of some kind, too.

But the fact is that those negative experiences with the cheap HT have dampened your enthusiasm for Amateur Radio more than somewhat. Heck, that cell phone of yours operates somewhere up there in the UHF portion of the spectrum and it runs far less than five watts of power, yet it works. Most of the time anyway. Shoot, you can call China on the thing if you want to, but that doggone HT won't even reach Mount Whozit twenty miles away!

If this Ham Radio stuff is this persnickety, you decide, you'll just go back to talking to people on the phone and chatting on Facebook. The HT ends up back in its box or on Craig's List. You tell friends you just don't understand why folks are so gung-ho on this radio hobby. Heck, you can't even talk reliably across town with the stuff.

That, in a nutshell, is the “HT trap.” And I am convinced it robs our avocation of many people who would enjoy it tremendously if they only got past that initial disappointment. That is why I urge people to go ahead and invest in a real station and get at least a marginal antenna up in addition to the cheap HT. There is so much more to the hobby than a handheld and a local repeater, even if you only hold a Technician license.

The good news? There was a time in our hobby's history when you had to build or modify military or commercial surplus gear to get on the air. We are fortunate to live in a time when manufacturers offer surprisingly sophisticated gear at reasonable prices. Despite what some claim, ours is not an expensive pastime at all. Compare getting started in golf, fishing, or most any other hobby.

Priced a bass boat, trailer, trolling motor, tackle, lures and licenses lately? Do you have any idea what a bag of golf clubs, greens fees or club membership will run you? Believe me, Ham Radio can be much less expensive.

And you can sample most of the aspects of our hobby with a new HF radio (that can cost much less than a bag of golf clubs) and with a simple wire antenna.

Don't let the cheap HT be your only experience with Amateur Radio. Go a few steps deeper, see what else the hobby has to offer, and you will learn why our numbers continue to grow even as we dive into our second century of existence.

And those numbers will grow even more if we can move folks past that enticing HT trap. ●



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](http://www.ecacolleges.com)). We own and operate Virginia College ([www.vc.edu](http://www.vc.edu)), Golf Academy of America ([www.golfacademy.edu](http://www.golfacademy.edu)), New England College of Business and Finance ([www.necb.com](http://www.necb.com)), and Ecotech Institute ([www.ecotechinstitute.com](http://www.ecotechinstitute.com)). The company is headquartered in Birmingham, Alabama. I'm also an author with over thirty books published.



# A Young Ham's Perspective.

By Sam Fitzgerald, N8FPR



If you have been to any of the club meetings recently you may have noticed a quiet kid sitting up front. That's me Sam Fitzgerald N8FPR. I am your under 22 director. I am starting a column to run in the Scope about what it is like to be a teen ham called "A Young Ham's Perspective." But first a little introduction.

I am guessing that many of you know my dad, Russ Fitzgerald, N8FZ. Oh yeah, I am writing this on Father's Day so Happy Fathers Day Dad! Back in 2010, we decided to take a run at getting my ticket. Each day we would work for a half hour on the material mostly on Ham Test Online. We started right after school got out for the summer so I was still in the habit of studying. Our goal was to see if I could get licensed before I turned 10 on August 14th. I made it by 5 days! So now I can say I was first licensed at age 9! My first call was KD8OQT, but I had another call in mind. As soon as I got my ticket, I applied for my Grandpa's call N8FPR. That is who I am today. Two years later in Dayton, I passed my general at age 11. There is one upgrade left and now my goal is to get that before I turn 15 this August.

So far my interest in the hobby has mainly been on 2 meters. I am still learning about all of the different modes and areas of interest. I want to learn CW as that is a favorite of my Dad. With all this being said, it is worth noting that I am avid in many parts of technology. Ham radio is not my main focus, but it sure is great.

My favorite project that I have ever worked on was from April to June of this year. It was a retro gaming console powered by a Raspberry Pi Model A and RetroPi software. Raspberry Pi should be a pretty recognizable name to many hams, as it's known as a DIY necessity. A quick Google search can tell you more about that. RetroPi is pre-made software, but it takes an excessive amount of programming, especially from trial and error. With the heart of the console complete, it can play hundreds of titles across many old consoles. I'm talking early 80's to mid 90's. In my pre-engineering course at school, I designed a miniature scale Nintendo Entertainment system case from 100% scratch. I even 3-D printed it, and then painted it.

My goal with this column is to share my experiences in this hobby with young and old alike. I want to share ideas with current and perspective hams and with the help of those of us who are licensed and pass on what we can to get others to get their ticket. I would like to say well I am just a really smart kid that why I got my license. But the reality is that anyone can young or old. ●



Raspberry Pi Model A:  
A single board computer  
the size of a credit card.  
It weighs approx. 1oz.  
and measures 2.5" x  
3.63" and is 0.58" thick

PHOTO BY: ADAFRUIT.COM

# Let's Build A Dipole

By Gregg Mulder, WB8LZG



Ok, so you just came back from the Hamfest with the latest new OCFD, EFLW, Super Looper Antenna. Ya take the rest of the afternoon putting it up in the air between a couple nearby trees. Then as the XYL is starting to get “riled up” cuz ya “wasted the whole day away”, you fire up the rig in anticipation of the DX this new aerial is supposed to bring in. You swap between the Ol’ vertical in the backyard and the new aerial. Hmm not much difference. In fact, the vertical may even be better. Well what’s the scoop?

This antenna guarantees “full size” performance. Full size compared to what? Well this is the situation for many Hams today. They are “lured in” by many of the antenna maker’s boastful claims. The fact is, I see many of our local hams spending \$75 to \$100 on nothing more than a dipole. I just built two new dipoles for Field Day this year. Cost for both using all new stuff, less than \$40. Including coax. So what’s the difference? About \$60. In fact, most of you have many of the items in your “junk box”, reducing the price even more.

In fact, the dipole you can build from scratch will do just as good if not better than the “store bought” job. A dipole antenna cut for resonance is about 99% efficient. Get the center up in the air 30 or 40 feet and it will usually perform quite well. It’s Soooooo easy to build a dipole. So let’s do it!

Start with some wire. Just about any old wire will do. I like the “free” kind. Try to get at least #18 ga. or larger, for mechanical strength. I just happened to have some #16 ga. stranded handy so that is what I used here. You QRP guys can go very small, # 22 or # 24. But if you run high power (over 1KW) consider # 12 ga. to handle the current. Bare or Insulated wire, stranded or solid, it doesn’t matter. Although stranded and larger diameter wire will stand up to the elements and flexing better. I just happened to have some insulated stuff in the “junk box”.



Figure 1



Figure 2



Figure 3



Figure 4

# Let's Build A Dipole continued from page 9

Get out the measuring tape. Measure and cut 2 equal length pieces of wire from the  $\frac{1}{2}$  wave formula. Don't have the formula? Use these.

80 M	3.550 MHz	66'	80 M	3.900 MHz	60'
40 M	7.050 MHz	33.5'	40 M	7.250 MHz	32.5'
20 M	14.1 MHz	17'	15 M	21.1 MHz	11.5'
10 M	28.5 MHz	8.5'			

Cut the 2 halves, Equal length. Strip back about an inch of the insulation to solder to the feed point (*Figure 1*)

I chose to use RG58u coax for weight and size for storage. At the home QTH, I used the "good stuff" RG213. However at 3-30 Mcs we're not losing a lot of signal in the coax, when feeding a resonate antenna. So I just got 2 lengths of about 75 feet each of RG58u for the feedlines.

Prepare the coax. Remove about an inch and a half of the outer jacket. Careful not to nick or cut the shield.

Undo the shield and re-braid it. Yes, just like your sister's hair. Strip back about  $\frac{3}{4}$  inch of the insulation around the center conductor (*Figure 2*).

Prepare center insulator. I use old pieces of Plexiglass™ to hold all the wire and coax. Just drill some holes to "snake" the wire and coax through (*Figure 3*). Then solder one wire to the center of the coax, the other wire to the braided outer conductor. I then pull the wires tight so they won't pull off. Then when all looks good, I give it a "lathering" of some liquid electrical tape to make sure that water doesn't get into the coax. You can see how the wires are "snaked back and forth" to provide strain relief (*Figure 4*).

A hole is also drilled to accommodate a string or rope with which to raise the center up in the air (*Figure 5*). If you prefer to buy the center insulator, Budwig makes a good one under \$10. Or you can make your own. Here's a couple of examples (*Figures 6 and 7*).

PL-259 Jacks or BNC connectors may be used. You can also buy pre-made coax/ connector assemblies in lengths of 100 feet at reasonable prices. But the essence of this article is building it "on the cheap". So soldering your own coax and connectors may save you money.



Figure 5



Figure 6



Figure 7



Figure 8



# Let's Build A Dipole continued from page 11

The other ends of the wires are looped through a pair of homebrew insulators and wrapped around for about an inch (*Figure 8*). I don't solder them yet. Not until the antenna's been "pruned n tuned" for resonance.

Now attach a BNC or PL259 connector on the other end of the coax. Solder it carefully. READ IT with an Ohmmeter when you're done to make sure you did not short it (*Figure 9*)! Now the BIG TEST!

Raise the center up in the air at least 30 feet and try to get the ends up at least 15 feet above the ground. Then you can cut and trim the ends if needed, to bring your SWR into the ballpark. Put the center up as high as you can, the higher the better. Hang it in a dipole or "Inverted-V" fashion. Both will work just fine. Hook up the connector to the antenna jack on your rig and "watch the smile come to your face" when you make contacts on an aerial you built yourself.



Figure 9

I hope this shows you how simple it is to "roll ur own" dipole. It's what real ham radio is all about. Go ahead. Roll up your sleeves and "melt some solder!" •

73 Gregg WB8LZG

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## Additional Useful Facts about Dipole Antennas

- A half wave dipole presents a very good impedance match for modern solid state transceivers.
- A half wave dipole has a good operating bandwidth with respect to frequency.
- A half wave dipole does not require an antenna "tuner" to work efficiently.
- A half wave dipole does not require a radial system to work efficiently.
- A half wave dipole does not require a balun to work efficiently.
- A half wave dipole (properly measured and cut) does not require an "antenna analyzer" to get it working.
- A half wave dipole does not require computer modeling software to get it designed and working.
- A half wave dipole is relatively quiet on receive.
- A half wave dipole can be built from scratch by the average HAM in half an hour or less.
- A half wave dipole can be built from brand new components for much less than the cost of a typical commercial antenna.
- A half wave dipole can be built (in a pinch) from scrap material, costing absolutely nothing.
- A half wave dipole at typical height (especially below 20 meters) does not really "care" what direction it runs.
- A half wave dipole cut for 40 meters will also work on 15 meters.
- A half wave dipole cut for the upper end of 75 meters will also work on the lower end of 10 meters.
- A half wave dipole, properly constructed and installed, will have little or no change in performance or SWR in the rain.
- The legs of a half wave dipole can be (within reason) zigged and zagged to fit within the confines of a small lot without much (if any) noticeable loss in performance.
- A half wave dipole is easily supported by trees or a simple pole and some nylon twine.
- A half wave dipole will perform in the real world as well or better than most any single element commercially produced antenna, regardless of cost.

# CMARC Meeting Minutes

June 12, 2015

President Julie/KB8ZXR brought the meeting to order at 7:03 pm.

We do have nametags for everyone if you do not have your own, so please use, so we know who everyone is.

## **Silent Key Report:**

- Matt McMillan/KD8KUN/WB8KWQ, on June 6, 2015.
- John Carter, Mark Carter's/KD8YUY Dad.
- Ralph Chapman/WA8NHD.
- Lee Gardner, DeAnna Barnhill's/KD8BDI Dad.
- Louis Larche/KD8BWL.
- Don Defeyter's/KC8CY brother.

A moment of silence for our silent keys.

## **ATTENDANCE:**

- There were 40 people in attendance.
- Visitors include Judy Lynn Bradford, Vicki Weaver, Glen Briggs and Scott Briggs.

**NEW LICENSES, UPGRADES AND VANITY CALLS:** None.

## **CARDS AND FLOWERS REPORT:**

- A card was sent to the family of Matt McMillan/KD8KUN/WB8KWQ.
- A card was sent to the family of John Carter, Mark Carter's/KD8YUY Dad and flowers were sent to the funeral. A card was sent to the family of Ralph Chapman/WA8NHD and flowers were sent to the funeral.
- A card was sent to DeAnna Barnhill/KD8BDI on the loss of her father, Lee Gardner.
- A card was sent to the family of Louis Larche/KD8BWL.
- A card was sent to Don Defeyter/KC8CY on the loss of his brother.
- Get well cards were sent to: Mary Tilottson, Richard Stortz/K8JNZ, Robert Mann/WD8OEV, Roger Barnhill/AB8RX and to Bill Cote'/WD8NYW.
- We received a thank you from the family of John Carter.

Bill Cote'/WD8NYW has been in contact with Louis Larche's/KD8BWL family and they are having a party in July for Louis.

## **INTERESTING DX CONTACTS:**

John/KC8QZB S570Z9A9A, Brian/KC8ONC Japan and South Korea, Gregg/WB8LZG QRP contest Bulgaria.

## **OLD BUSINESS:**

- A motion to accept the May secretary's report as printed in the June Scope was made by Ted/WA8MFQ, seconded by Bob/K8ZAP and approved.
- A motion to accept the May treasurer's report as printed in the June Scope was made by Don/KB8RAD, seconded by Ted/WA8MFQ and approved.

The April secretary's minutes will be voted on in July.

# CMARC Meeting Minutes

June 12, 2015

**CLUB DIRECTORY:** Dan/KD8YDE The directory is ready to be printed and may be finished by Hamfest.

**MEMBERSHIP IN SATERN:** Waiting to hear from Major Hellstrom.

**PLEASE PAY YOUR DUES:** NEW HAMS GET ONE YEAR FREE MEMBERSHIP

CMARC dues to Jerry/KD8GLN and LCDRA dues to Julie/KB8ZXR

## **HAMFEST:**

Saturday, July 25. We still need volunteers. We always have a lot of fun and could really use your help.

## **NEW BUSINESS**

- Chris Ranes/NS8Q is our new Scope editor.
- Thanks Dan/KD8YDE for all the work you did on the Scope.
- The deadline for submission to the Scope is the 20th of the month.
- Sunday, June 21st the Monroe Hamfest and ARRL Kid's Day.
- Michigan QSO party received a certificate for participating. Michigan Cabinet Counties Award Recognizing W8PLP CMARC for establishing 2-way amateur radio communication during the Michigan QSO Party with seven of the 10 Michigan cabinet counties. Dated April 18, 2015.

**ORGANIZING THE CLUB ROOM:** Russ/N8FZ has suggested hanging Ham license plates on the walls, with a separate spot for our silent keys.

Have a committee of Chris/NS8Q, Tom/WA8WPI, Gregg/ WB8LZG, John/KC8QZB and Bob/K8RDN, to go thru everything to see what we need to be keep, throw out, or otherwise sold at Hamfest.

**UNDER 22 REPORT:** None...

50/50: Don/KD8BD won \$15.50.

Motion for break made by Don/KB8RAD, seconded by Kenny/N8BVV and approved..

## **PROGRAM:**

- Ron Harger/WD8BCS talked about Field Day.
- Will meet at the Clubroom on Saturday the 27th at 7:00 am to pick up supplies for Field Day. Should get to Mason by 8:30 am.
- There will be VE testing at 11:00 with set-up at 10:00.
- There is a food sign-up sheet.

Motion to adjourn made by Ted/WA8MFQ, seconded by Kenny/N8BVV and approved.

With all business concluded, the meeting was adjourned at 8:34 pm.

Respectfully submitted,  
Jane Hosford/KC8FSJK-S ecretary



# CMARC Board Meeting

July 10, 2015

President Julie McLain/KB8ZXR called the meeting to order at 6:54 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, Director Chris Ranes/NS8Q, and Under 22 Director Sam Fitzgerald/N8FPR.

- There are no new silent keys.
- Dale Williams/WA8EFK is scheduled for the August meeting. We will also be having our annual indoor picnic in August.
- Someone is needed to handle new ARRL memberships for new hams that want to join ARRL.
- Dan/KD8YDE brought a demo storage bench that he made for the Club room.
- The Club room roof leak is fixed.
- Per Gregg/WB8LZG, MSU wants to borrow our 20x30 canopy, the first week of August for the Boy Scouts.
- Don/KB8RAD made a motion to let MSU borrow our 20x30 canopy, seconded by Chris/NS8Q and approved.
- Still need to finish 501(c)3. A mission statement is needed.
- Motion to adjourn made by Don/KB8RAD, seconded by Jerry/KD8GLN and approved.
- Meeting adjourned at 7:01 pm.

Respectfully submitted,  
Jane Hosford/KC8FSK-Secretary

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## CMARC Meeting Minutes

July 10, 2015

President Julie/KB8ZXR brought the meeting to order at 7:05 pm.

A moment of silence for our silent keys.

The Board was introduced to everyone: Vice President Tom Rocheleau/WA8WPI, Treasurer Jerry Waite/KD8GLN, Secretary Jane Hosford/KC8FSK, Director Chris Ranes/NS8Q, Director Don McLain/KB8RAD, and Under 22 Director Sam Fitzgerald/N8FPR.

### **ATTENDANCE:**

- There were 35 people in attendance.
- Visitors included: Linda Dunahoo, Bonnie Carter, Roy Reynolds/KE8BIJ, Mary Tillitson, Robin Lyon/N8BQV and Anthony.

**NEW LICENSES, UPGRADES & VANITY CALLS:** None.

**CARDS AND FLOWERS REPORT:** None.

### **INTERESTING DX CONTACTS:**

- John/KC8QZB Trinidad and Germany.
- Bob/K8ZAP Greece and Russia on 20 meters.

### **OLD BUSINESS:**

- A motion to accept the April secretary's report as printed in the July Scope was made by Ted/WA8MFQ, seconded by Dan/WX8MOJ and approved.
- A motion to accept the April treasurer's report as printed in the July Scope was made by Bob/K8ZAP, seconded by Jan/KC8BFK and approved.
- A motion to accept the June secretary's report as printed in the July Scope was made by Jimmy/KD8IWQ, seconded by Ted/WA8MFQ and approved.
- A motion to accept the treasurer's report as printed in the July Scope was made by Ben/WD8OVL, seconded by Kenny/N8BVV, and approved.
- PLEASE PAY YOUR DUES: NEW HAMS GET ONE YEAR FREE MEMBERSHIP. CMARC dues to Jerry/KD8GLN and LCDRA dues to Julie/KB8ZXR.
- There are no contests at this time.
- Louis Larche's/KD8BWL family is selling his radio equipment. A list will be provided in the Scope.
- Dan/KD8YDE is working on the new Club directory.
- Jerry/KD8GLN is the CMARC Coordinator for SATERN.
- Pastor Lee and his family are moving to Baltimore, Maryland. Next week the Salvation Army will be getting a new female lieutenant to replace him.
- Dan/KD8YDE brought in a demo storage bin that he made for the Clubroom. He is also going to make a bench-style storage unit that we can use as extra seating. They will be painted and have "Property of CMARC" on them, with locks. Mark/KD8YUY has offered to help Dan/KD8YDE with building the bins.

### **NEW BUSINESS:**

- The March of Dimes sent us a thank you for volunteering at their walk in April. The March of Dimes raised almost \$94,000.
- Dale Williams/WA8EFK will be our speaker in August. We will also be having our annual indoor picnic. Please let Julie/KB8ZXR know what you will be bringing.
- Ham fest meeting July 24 @5:00 pm @ Holt Christian Church.
- Jimmy Dunahoo/KD8IWQ donated many things from Harbor Freight to be used for prizes. Thanks Jimmy.

### **ORGANIZING THE CLUB ROOM:**

- The leak in the roof is fixed and Russ/N8FZ is in charge of spiffing up the Clubroom.
- He is collecting ham license plates to make a collage of them on the wall.
- Another wall will be devoted to the ham plates of our silent keys.
- The Secretary of State has forms on their website for the ham license plate.
- The web site is [www.michigan.gov/sos](http://www.michigan.gov/sos).

### **HAMFEST:**

- July 25 at Holt Christian Church. Workers are required to be there at 5:00 am.
- We still need volunteers for ham fest. You do not need to work the entire time if unable to, but if only for an hour or two that would help someone so they can take a break.
- A \$3.00 admission gets one free spot and additional spots are \$5.00.
- All volunteers get a free donut.
- Volunteers do not have to pay, but can to help the Club and need to pay if you wish to win any of the prizes.

- Kenny/N8BVV and Clyde/K8CPT are doing the PA. Mike Holcomb/WX8MH is donating the use of his sound system. Thanks Mike.
- A flyer is being attached to the tickets. Ladies' tickets are two-part red tickets.
- There will be VE testing at 11:00.
- Brian Wellwood/KD8ONC and his son will be handling the GOTA station.
- Ham fest flyers were left at Fulton's.
- Need gas for the grill.
- Dan/KD8YDE and Vicki are once again donating two pork shoulders for pulled pork barbecue sandwiches. Thanks Dan and Vicki.
- We will need help with tear down.
- Vests are supplied for people working attendance and security.
- John/KD6KCX brought cones to help for parking.
- Kenny/N8BVV is doing publicity for the ham fest.

**UNDER 22 REPORT:** Sam/N8FPR has an article that will be submitted for the August Scope.

**50/50:** Ben/WD8OVL won \$8.50, which he donated, back to the Club. Thanks Ben.

Motion for break made by Bob/K8ZAP, seconded by Dan/KD8YDE and approved at 7:40.

**PROGRAM:** Julie/KB8ZXR had people talk about their Field Day experiences. For some people this was a new experience and in spite of the weather, people had a good time and are looking forward to next year. Pictures are online under Central Michigan Amateur Radio Club on Facebook.

Motion to adjourn by Jimmy/KD8IWQ, seconded by Bob/K8ZAP and approved.

With all business concluded, the meeting was adjourned at 8:49 pm.

Respectfully submitted,  
Jane Hosford/KC8FSJK-Secretary

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## Ham Radio Equipment for Sale

The following equipment is for sale from the estate of Louie B. Larche / KD8BWL.  
Please contact Ken Faiver W8HNI at 517-896-3570 for more details.

- |  |   |
|--|---|
| • Kenwood TS-830 S Transceiver               | • RCA VWV-120A Voltmeter                              |
| • Kenwood SP-230 Ham Speaker                 | • Leader LPM-885 SWR/Power Meter                      |
| • Kenwood AT-230 Antenna Tuner               | • Pyramid CB-1000 Speaker                             |
| • Kenwood VFO-230 Digital Synthesized VFO    | • R.L. Drake 1525 EM Microphone                       |
| • Kenwood MC-50 Dynamic Cardioid Desk Mic    | • Realistic Pro-60 Headphones                         |
| • Kenwood R-5000 General Coverage Receiver   | • Heath Antenna Dummy Load                            |
| • Icom IC-706 Mark II-G Transceiver          | • Morse Code Oscillator                               |
| • Radioshack HTS-420 Handheld FM Transceiver | • MFJ-418 Morse Code Tutor                            |
| • Radioshack Pro-97 Scanner                  | • Wooden 3-Shelf Structure                            |
| • Kenwood VFO-820                            | • (2) Towers: Approx 25' w/ 10' Mast & 8' w/ 10' Mast |
| • LDG Electronics AT-200 Antenna Tuner       |   |





# ARRL VEC

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

## Technician Class 2014 Pool

1.) Question T3C02 - Which of the following might be happening when VHF signals are being received from long distances?

- A. Signals are being refracted from a sporadic E layer
- B. Signals are being reflected by lightning storms in your area
- C. Signals are being reflected from outer space
- D. Signals are arriving by sub-surface ducting

2.) Question T1B03 - Which frequency is within the 6 meter band?

- A. 49.00 MHz
- B. 52.525 MHz
- C. 28.50 MHz
- D. 222.15 MHz

3.) Question T0C07 - What could happen if a person accidentally touched your antenna while you were transmitting?

- A. Touching the antenna could cause television interference
- B. They might receive a painful RF burn
- C. They might develop radiation poisoning
- D. All of these choices are correct

## General Class 2015 Pool

1.) Question G0A08 - Which of the following steps must an amateur operator take to ensure compliance with RF safety regulations when transmitter power exceeds levels specified in FCC Part 97.13?

- A. Post a copy of FCC Part 97.13 in the station
- B. Post a copy of OET Bulletin 65 in the station
- C. Perform a routine RF exposure evaluation
- D. All of these choices are correct

2.) Question G2A03 - Which of the following is most commonly used for SSB voice communications in the VHF and UHF bands?

- A. Double sideband
- B. Vestigial sideband
- C. Lower sideband
- D. Upper sideband

3.) Question G4E02 - What is the purpose of a corona ball on a HF mobile antenna?

- A. To increase the "Q" of the antenna
- B. To reduce high voltage discharge from the tip of the antenna
- C. To narrow the operating bandwidth of the antenna
- D. To reduce the chance of damage if the antenna should strike an object

## Extra Class 2012 Pool

1.) Question E4B01 - Which of the following factors most affects the accuracy of a frequency counter?

- A. Temperature coefficient of the logic
- B. Decade divider accuracy
- C. Time base accuracy
- D. Input attenuator accuracy

2.) Question E6C02 - What logic state do the inputs of a TTL device assume if they are left open?

- A. A logic-low state
- B. A logic-high state
- C. The device becomes randomized and will not provide consistent high or low-logic states
- D. Open inputs on a TTL device are ignored

3.) Question E4A01 - How does a spectrum analyzer differ from an oscilloscope?

- A. A spectrum analyzer displays radio frequencies; an oscilloscope displays audio frequencies
- B. A spectrum analyzer measures ionospheric reflection; an oscilloscope displays electrical signals
- C. A spectrum analyzer displays the peak amplitude of signals; an oscilloscope displays the average amplitude of signals
- D. A spectrum analyzer displays signals in the frequency domain; an oscilloscope displays signals in the time domain

Questions and Answers Copied from ARRL's "Practice Amateur Radio Exams"

found at: <http://www.qrz.com/hamtest/>

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



## ARRL MI Section News

By Larry Camp, WB8R

### Amateur Radio Parity Act of 2015

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 83 co-sponsors. Michigan is fortunate in that three of our Representatives have signed on as co-sponsors of HR 1301 (Walburg, Bishop, and Benishek). If your Representative is not one of these three, 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 co-sponsor, sending them a second letter requesting their support is not a problem.

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.

There are two methods of contacting your Representative or Congress-persons: Both will be most effective by routing your letter(s) through the ARRL either by snail mail or by signed letter converted to a PDF file. 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, 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 M

IARPSC – 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

MIADS – MI ARES D-Star Net Reflector 24A Mon 2000

D8EN - District 8 Emergency Net 3.909 Wed 2100

GLETN – Great Lakes Emergency and Traffic Net 3.932 2000 Daily



### **2015 TEA TIME LADIES' DAYS**

**August 11th** - Julie KB8ZXR and Don McLain KB8RAD's 42nd Anniversary!!

**August 12th** - Shannon WA2NVK and Chris Ranes NS8Q's 9th Anniversary!!

**August 14th** - Jane KC8FSK and John Hosford KC8QZB's 9th Anniversary!!

**August 26th** - Mary Lou and Don Tillitson WB8NUS' 65th Anniversary!!

### **AUGUST LADIES TEA TIME LUNCHEON**



Now that CMARC's Field Day and Hamfest are just memories and we have been getting back into our routines, I know you're all looking forward to starting our "Ladies Tea Time Luncheons" back up again! So, I'm happy to let you know that our next Luncheon will be on Saturday, August 22nd at 12:30pm and we'll be meeting at Falsetta's Casa Nova which is located at 138 S. Waverly Road in Lansing. I hope you'll all be able to attend, as it's been quite a while since we've been able to see a lot of you. If you're unable to attend this one, please be sure to watch for the September issue of the SCOPE or check out the "Ladies Only" page on our Club's website ([centralmiarc.com](http://centralmiarc.com)) for the date and location of our September's Luncheon. Remember, CMARC's website is always a great place for details on ANY upcoming event, so if you want to be able to plan ahead, be sure to check it out!

### **LADIES TEA TIME NET!**



Please join me every Tuesday evening at 7pm on the 145.39 (100 Hz PL) Lansing-area repeater 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 iced 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](mailto:KB8ZXR@aol.com)**  
**[www.centralmiarc.com](http://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 both Net 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 DeFeyer, 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, KB8SXX

*Director*  
Jan Bradfield, KC8BFB  
(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](mailto:cmarcscope@gmail.com).

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

# 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!*

## 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 1<sup>st</sup> 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

Name \_\_\_\_\_ Callsign \_\_\_\_\_

Address \_\_\_\_\_ City \_\_\_\_\_ State \_\_\_\_\_

ZIP \_\_\_\_\_ Phone \_\_\_\_\_ Lic. Class \_\_\_\_\_

ARRL Member? \_\_\_\_\_ Birthday \_\_\_\_\_ Wedding Anniversary \_\_\_\_\_

Year 1<sup>st</sup> 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



Central Michigan Amateur Radio Club

# THE SCOPE



Lansing Civil Defense Repeater Association

[centralmiarc.com](http://centralmiarc.com)
Serving Our Community Since 1921
[lcdra.net](http://lcdra.net)

CMARC	ARPSC	LCDRA
		
<a href="http://WWW.CENTRALMIARC.COM/">WWW.CENTRALMIARC.COM/</a>	<a href="http://WWW.LANSINGARPSC.COM/">WWW.LANSINGARPSC.COM/</a>	<a href="http://WWW.LCDRA.NET">WWW.LCDRA.NET</a>