



The Scope

Central Michigan Amateur Radio Club

Lansing Civil Defense Repeater Association

December 2015
Volume 15
Issue 10

December CMARC Meeting

Come join us as we celebrate our Annual Christmas Potluck! Don't forget to bring your favorite dish to pass. *(More information is available on page 6)*

We will also be voting for our 2016 Board members.

Three 2-year positions and the Under 22 position open. The nominees are as follows:

- John Doornhaag/KD8NNQ
- Jimmy Dunahoo/KD8IWQ
- Russ Fitzgerald/N8FZ
- Don McLain/KB8RAD
- Julie McLain/KB8ZXR
- Sam Fitzgerald/N8FPR (Under 22)

Candidate biographies can be found on Pages 2-4.

Don't forget voting is allowed by email. You have up until 11:59 pm on Thursday, December 10 at cmarcvoting@gmail.com. Only one vote per member will be accepted and you must be a full member to vote.

"Christmas Potluck & Voting"

When: CMARC Monthly Meeting,
7:00 pm, Friday, December 11, 2015

Where: Salvation Army South Corp
701 W. Jolly Rd, Lansing MI 48910

For more information, you can check out our website at www.centralmiarc.com or get a hold of Club contact Don McLain/KB8RAD at (517) 694-0812 or KB8RAD@arrrl.net.

October/November Food Drive



Thank you to everyone who donated food or money to purchase food during the October/November Food Drive. The Salvation Army will benefit greatly from your donations.

**Donations are welcome anytime.*

News in Brief

Santa Claus Arctic Circle Team Active During December

The Santa Claus Arctic Circle Team will be active as OH9SCL (Santa Claus Land), from the Finnish Lapland above the Arctic Circle during December.

Flight MH17 - QSL Cards

Malaysia Airlines Flight MH17 was shot down July 17, 2014, killing all 298 people onboard. The Dutch QSL bureau reports there were 465 QSL cards onboard which were all recovered, and are now at Schiphol Airport in the Netherlands.

Radio Amateurs of Canada Releases Revised 0-30 MHz Band Plan

Radio Amateurs of Canada (RAC) has released an updated 0-30 MHz band plan. It became effective on December 1, replacing the band plan released last January 1.

Richard A. Strand, KL7RA, (SK):

Well-known contestator and station builder Richard Strand, KL7RA, of Kenai, Alaska, died on November 20 after suffering a heart attack a couple of weeks earlier. He was 69.

2016 Board Member Nominations



Hi, I am John Doornhaag KD8NNQ. I am married to Paula Doornhaag and have a son and daughter and two grandchildren. I am a retired Maintenance Supervisor for Speedway, for whom I worked for thirty two years.

I have been a ham since 2010, at which time I studied and got my extra class license. I also joined CMARC in 2010. In 2011 I went on and got my VE certificate. I am now the head VE for the Ingham County VE Group.

I was a director on the CMARC board in 2013 and 2014. I did not run in 2015 due to shoulder and back surgery. Never having any type of surgery before, I was not sure how much this would interfere with my position on the board, so I decided not to run at that time.

I would like to be on the board again, because I feel this board can help CMARC accomplish many great things and I would like to be a part of that.

Thank you for considering me for the CMARC board.



Hi, I am Jimmy Dunahoo, and my Call is KD8IWQ (Kilowatt-Delta-8-I-Won't-Quit). I have been a General class Ham since 08-25-09, as well as a member in good standing with CMARC for over 2 years. I have helped out with the Outdoor hamfest for a couple of years also.

I am no stranger to leadership, as I was President of the Lake Station Jaycees in Porter County Indiana for a year, Secretary, Treasurer of the Alert Firefighters association, in the lower peninsula of MI for 1 year being elected the next year to Vice President for the next year and President for the next year.

I was a Journeyman Millwright for 34 years before retiring from GM in Lansing in 2005. While there, I had the privilege of being chosen to be on the Emergency Response Team and served with them for ten years and when I retired, I retired with the rank of Lieutenant.

I also served as Associate Chaplain for six years before retiring.

Since retiring I have stayed busy in prison ministry, and drove clients to medical appointments for about a year for the Michigan department of Human Services.

I would consider it an honor to be able to serve on the executive board of CMARC, if you would allow me to be your servant, by voting me in.

Thank you very much for your consideration & 73's.

2016 Board Member Nominations



I am Russ Fitzgerald N8FZ. I have been licensed since 1977 and an Extra since 1982. I have been a CMARC member for most of those years.

My interests in the hobby include HF Dxing, contests VHF/UHF and I am very strong love of CW. Also included in my interests are Skywarn and VE testing locally and for many years at the Dayton Hamvention with the Laurel, MD VEC.

I see many opportunities for the club in the coming year. I want to continue my "dress up" of the club station. I would also like to see an expansion of club fellowship activities. For example, "A new ham barn raising" This comes from an idea I got while at Dayton. The idea is to take a new (or existing) ham and spend a day setting up a station from the equipment to the antenna. Many hams who are new to the hobby quickly become overwhelmed with all there is to do. I think this would be a great way to introduce this person to who we are as a club and give them a chance to meet new friends within the hobby.

I would also like us to be more visible when we are at events or involved in service projects. This could easily be done with bringing back club jackets or polos.



Hello, my name is Don McLain, KB8RAD. I've been a Ham now for 22 years and an Extra Class for 17. I've been a CMARC member since I first got my Amateur license. Over the years, I've served on the Board of Directors (on and off) for a total of 13 years. I've been involved in many CMARC activities since becoming a member, including: Vice President, Club Contact, Youth Liaison, New Ham Ambassador, and Chairman of the CMARC Speaker/Entertainment Committee. I was even awarded the 2011 Ziegenbein Award. My term on the Board is currently expiring and I'd love to be reelected because I love CMARC so much and it's such an honor to serve you!

2016 Board Member Nominations



Hi, my name is Julie McLain/KB8ZXR. I'm a General Class Ham and on June 7th I celebrated my 20th year of being licensed. I've been on the Board of Directors of CMARC on-and-off for many of those years. In addition to being a past Club Secretary, I'm now CMARC's President, the Coordinator of Ladies Activities, Chair of CMARC's Annual Hamfest, Chair for the Ladies Night Banquet, I write monthly articles for the SCOPE and I'm the Founder and Net Control of the "Ladies Tea Time Net". I've also been the recipient of the Ziegenbein Award and I'm an active Volunteer Examiner. As you can see, I've been intimately involved with most aspects of the Club and Ham Radio and would find it a great honor to once again, serve on the Board of Directors in the coming year. One of the things I love most about Amateur Radio is the ever increasing Ham "Family". It amazes me to watch the easy way that friendships are made in this great Hobby, despite our diverse education, employment, and heritage – Amateur Radio just brings us together into one big Ham Family!



Hi My name is Sam Fitzgerald N8FPR. I am currently your Under 22 director. I was first licensed in 2009 getting my tech when I was 9. I later got my General when I was 11. Now between band and school I am working on my Extra.

As a youth in this club I now see the challenges of bring others into the hobby. We are buried in homework at school and have other activities. I think one way to bring more youth in is to form bonds with other youth groups. The Boy Scouts for example. Many troops in the area would be a perfect fit with Field Day.

Related to that is that I think the role of Under 22 director should be expanded to a liaison for the MSUARC and CMARC. We should form a stronger alliance between the two groups.

The future of youth in the club is going to depend on each and every member to ask themselves if there are any young people who might be interested in the hobby of ham radio.

December Birthdays

12/5 Jason McLaughlin/KC8RBK
12/7 Michael Boensch/W8MKB
12/8 Ted Sadilek/WA8MFQ
12/8 William Smith/KD8INX
12/9 Charles Taricska/KD8VJM
12/11 Russ Fitzgerald/N8FZ
12/12 Robert Mann/WD8OEV
12/16 Alan Shaw/WB8YOX
12/24 John Listermann/KD8ZHC

December Anniversaries

12/18 Dan Cameron/KD8QFB
12/23 James Fick, Jr./KE8ABZ
12/28 Dave Hayhurst/K8QH
12/31 Dan/WX8MOJ and Dawn/KD8MWA Beuchert

Upcoming Meetings

ARPSC



The ARPSC meeting for the month of December is at 7:00pm on Monday, December 21st. We will be meeting in Mason at the Ingham County Sheriff's Department off Curtis Rd and Cedar St.

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

VE Exam Session

Charlotte, MI

Date: **12/12/15**
Time: 12:00 PM (Walk-ins allowed)
Sponsor: Eaton County ARC
Contact: Mark D. Korroch/WB8TGY
(517) 645-2378
Email: wb8tgy@yahoo.com
Location: Eaton Cty Sheriff's Dept-EOC
1025 Independence Blvd.
Enter Back of Building
Charlotte, MI 48813-1031

Treasurer's Report

Jerry Waite / KD8GLN - CMARC Treasurer

Bank Balances for Nov. 2015

Primary Share Acct. (Humphreys Fund)	\$1,092.20
Business Checking	\$4,426.29
Net Worth	\$5,518.49
Youth Fund Balance*	\$253.66
Building Fund (Club Station)	\$9.09
Field Day	\$472.55

* Separate from CMARC Funds

REMEMBER

Your nominations for the Ziegenbein Award are due March 15th. This year's Senior Chairman of the Ziegenbein Committee is John Hosford/ KC8QZB.

Send your e-mail nominations with a subject line of "**Ziegenbein Nomination**", to jon.jan44@hotmail.com.

If you prefer to use snail mail:
John Hosford
7057 Kieppes Court
Lansing, MI 48911

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

See Page 14 for the official guidelines.



YOU ARE ALL CORDIALLY INVITED TO JOIN US FOR CMARC'S 2015 ANNUAL CHRISTMAS POTLUCK

WHO'S INVITED?

All Members and Friends of CMARC,
Along with Your Families

WHERE'S IT AT?

The Salvation Army South Corps. Building
Located at 701 W. Jolly Road in Lansing

WHEN IS IT?

Friday, December 11, 2015
At 7:00 p.m.

WHAT SHOULD I BRING TO EAT?

You definitely **WON'T** want to miss our December 11th "CMARC Christmas Potluck Meeting", which is always the best attended meeting of the year!! And because it's always the **BEST** attended meeting, we're asking everyone to bring something yummy to contribute to the Christmas Potluck so there will be plenty to go around. You can bring your favorite Appetizer, Casserole, Salad, Holiday dessert, Christmas Candies or non-alcoholic beverage. And Crock pots are always welcome because they always have something really delicious inside like Baked beans, Scalloped potatoes and ham, Holiday meatballs, Chili, or Little Smokies, just to mention a few!!

I'll have a sign-up sheet at the November 13th meeting, so you can write down what you're planning to bring. If you're not sure right now, you can always call me throughout the month of November and then I can let you know what has and hasn't been signed up for yet. We hope you will **ALL** be able to join us at the 2015 CMARC Christmas Potluck on Friday, December 11th at 7:00 pm! I'll see you there!!

Julie McLain KB8ZXR, Refreshments Coordinator
517-694-0812 or KB8ZXR@aol.com





DECEMBER TEA TIME LADIES' DAYS

December 31st – Dawn/KD8MWA & Daniel/WX8MOJ Beuchert's 8th Anniversary!!

DECEMBER LADIES TEA TIME CHRISTMAS PARTY

Ladies, whether you have a Ham license or not, you are **ALL** invited to attend our Annual Ladies Tea Time Christmas Party. Our party is on Saturday, December 5th from 11am until around 4pm and it's being held at the Grovenburg United Methodist Church located at 1368 Grovenburg Road in Holt. We always have a lot of fun playing Bingo, eating delicious food and visiting with each other.

For our main meal, we have decided to each bring a different kind of Salad (hot or cold) and don't forget those goodies you want to snack on while we're playing Bingo. If you have trouble coming up with something, just give me a call and I'll let you know what other's are doing and maybe it will give you an idea of what you can bring.

Remember we are **BRINGING** 10 – \$1.00 wrapped gifts for the Bingo prizes, **AND** a wrapped \$6.00 gift to exchange, plus a few dollars to donate for using the Church. You **DON'T** have to exchange gifts or play Bingo if you don't want to, we just want you to come and have fun with us eating and socializing! Please **RSVP** me on Thursday, Dec. 3rd to let me know that you're planning to attend (and what you're bringing). That way, we'll know how many tables to set for the party. If you have any questions just call or email me: Julie McLain, KB8ZXR at (517) 694-0812 or KB8ZXR@aol.com.



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". This Net can also be accessed via the EchoLink ***DODROPIN*** Conference Server (Node ID# 355800). We love to have our Lady Hams out on the air each week, making friendships around the world as we visit together. For those Ladies that don't have a Ham license yet ... as long as you have a licensed husband or friend, who's willing to check you in, you can talk "Third Party" on their Callsign. We just ask them to check in first and then they can introduce you. For all the Gentlemen that like to check in, we always have two chances for you to that—one at the beginning

(Short Time or In & Out) in case you can't stick around. There's also a second chance for the guys to check in after the "Ladies Only" spot, if you want to visit longer. So, everyone, 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!! 73, Julie McLain, KB8ZXR – Net Control

CMARC's Zoo Night Recap

Thanks to Ted/WA8MFQ and Bev Sadilek for putting on another great Zoo Night for our November club meeting. We appreciate it and look forward to next year's event.



Happy 90th Birthday to Don Tillitson/WB8NUS

At break time, we had a surprise birthday celebration for Don's 90th Birthday. A special cake was provided and Don was presented with a homemade BaoFeng UV-5R HT, made by Leota Strobel/KD8SQD.



All pictures used with permission from Kenneth Hazlett/N8BPV.

For other pictures from the November CMARC Meeting, please visit the following link:
<http://www.kennethhazlett.com/CMARCzoo/>

CMARC Classifieds

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

Please contact Matt Beha/N8BPI by email mattbeha@hotmail.com or call 517-646-6925 and leave a message

- Hamarlund SX117 Receiver (w/ clock) Unknown Condition **\$75**
- Kenwood TM231 2-meter Mobile Works Great **\$50**
- Kenwood 12-amp Power Supply Works Great **\$50**
- Kenwood 2-meter Hand Held Works Great **\$40**
- Icom 2m/440 Hand Held *Works great but needs new battery* **\$60**

- Yaesu FT-747GX transceiver, original MH-1 B8 mike, matching FP-757 HD Power Supply, power cord. Working condition; recently tested. Original owner, non-smoker. **\$450**
- Hustler HF Mobile antenna mast and resonators for 10, 15, 17, 20, 40 & 80 meters. Includes mount and spring. Excellent condition. **\$95**
- Nikon D3100 14.2 Megapixel SLR camera, 18-55mm Nikkor lens & 55-200mm Nikkor lens. Like new. 8GB SDHC card included. **\$275**

Remaining Items from the Estate of Louis Larche/KD8BWL

The following items of equipment from the station of Louis Larche / KD8BWL, SK, are still available. Listed is the suggested price for each. Please make an offer if you are interested. All the proceeds will go to Barb, Louie's XYL. Contact me at 517-896-3570 or kfaiver@sbcglobal.net. -- Ken / W8HNI

- Kenwood SP-230 ham speaker, with audio filters -- **\$75**
- Kenwood AT-230 antenna tuner, for use with TS-830, TS-530, etc. 200 Watts, 1.8 to 30 MHz, 20 & 200 watt scales -- **\$120**
- Kenwood VFO-230 digital synthesized VFO, for split frequency. 20 Hz steps. 5 memories. Designed to connect to TS-830s or TS-530 -- **\$135**
- Radioshack HTX-420 Handheld FM transceiver -- 3 to 4 watts -- 2M & 70cm -- with AC adapter. Includes electronic compass. (needs new battery). -- **\$65**
- Radioshack Pro-97 Scanner Receiver -- triple trunking -- 1000 channel. With AC adapter. (battery not included). Good condition -- **\$75**
- RCA VWV-120A voltmeter -- AC power line monitor -- **\$12**
- Leader LPM-885 SWR/power meter -- 3 ranges: 20, 200, 1000 watts
- Pyramid CB-1000 speaker -- mobile speaker
- RL Drake 1525 EM microphone -- mike with touch tone ham keypad -- **\$5**
- MFJ-418 Morse Code Tutor -- w/ LCD display, pocket sized, for learning (improving) CW skills -- **\$40**
- Low-pass filter -- no specifications -- **\$3**
- 3-shelf wooden structure, designed to hold ham equipment (no charge. Come and pick up)

Kids are Not the Future of Ham Radio

By Bob Witte / KoNR

Note from the Editor: Dan/KB6NU has decided to use this article in lieu of his own this month.

Bob Witte, K0NR, blogs about amateur radio at K0NR.Com. You can find this post at <http://www.k0nr.com/wordpress/2015/11/kids-not-the-future/>. You can e-mail him at bob@k0nr.com. He is also on Twitter: @K0NR.

You've heard it a million times: our kids are the future. That statement gets applied to almost everything, including amateur radio. How can you argue with an obvious fact like that?

But I am starting to think it is incorrect.

We've had really good success on creating new hams of all ages in our Technician License Class (at the Tri-Lakes Monument Radio Association). We've been doing this for a while now and I think I am seeing a pattern emerge. We've been able to attract middle schoolers to the class and help them get their ham radio license. I've talked to many of them on the air. They've helped out with public service events. They seem to have fun playing with radios.

Then this thing called high school happens. The high school phase in the US is filled with tons of stuff to do: studying, homework, AP classes, science competitions, sports, dating, movies, driving and after school jobs. Way too much stuff. Ham radio starts to take a backseat to these normal high school activities. Then we don't see the kids at the radio club meetings or chatting on the local repeater because they are busy doing other things. Have we lost them forever? Not sure.

High school is often followed by college which has its own set of challenges: a totally new environment, away from home, a new set of people, new studies, etc. There might be a ham radio club on campus but maybe not. If a kid is not off to college they are (hopefully) out doing something to establish themselves in this world. Eventually they emerge on the other side, get a job, get themselves established, sometimes with a spouse and maybe a kid or two. By this time they are 25 to 30 years old, depending on the individual.

I recently posted about the demographics of our students in the Tech License Class (<http://www.k0nr.com/wordpress/2015/10/where-are-the-new-technicians-coming-from/>). The chart below shows the age distribution of our students from our most recent class. Hmmmm, clearly most of our students are 30 or older. (Sorry, we have not collected age data with finer resolution.) This particular class is light on the under 18 crowd...sometimes we have a clump of kids in the mix.

For whatever reason, it seems that most people find themselves in a situation as an adult that causes them to say "I want to get my ham radio license." When asked why they want to get their ham license, the top response is always emergency/disaster communications, followed by backcountry communications, pursuing electronics as a hobby and learning about radio communications. I suspect that starting to be established in a community and having

some disposable income also play a role.

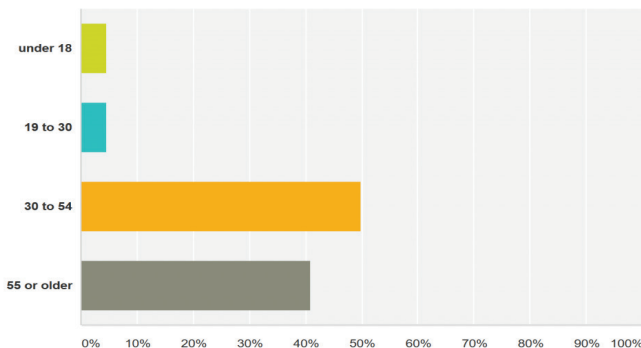
My hypothesis is that the most effective way of growing a vibrant ham radio community is to target adults ages 25 to 40.

This age range is more equipped and ready to be ham radio operators and are still young enough that they will be around for a while. Of course, we still want to work with all age groups, including kids and retirees. We've all seen very young hams get the bug for ham radio early and carry it throughout their life. And we also see plenty of older folks get interested in the hobby as they approach or enter retirement. We don't want to miss out on either of those groups.

So that's my read on the situation. I've got some data to support my theory but I can't really prove it. What do you think? What are you seeing in your ham radio community? •

What is your age?

Answered: 22 Skipped: 0



Mo Power #16: G'Day Mates!

By Bob Tail



Just returned from the monthly hammy club meeting and happy to report that Ned Novice and Nil Current are still experimenting with aerials on the HF bands. Ned liked Nil's vertical dipole setup so well that he decided to go one better and build one of

the "Four Square" phased array vertical setups. Got all the necessary dimensions from the RSGB handbook. The hard part was getting 4 steel pipes driven into the ground. After nearly a day of taking turns pounding them in with a few chaps from school, our boy Ned was ready to go. The installation of the vertical elements went more easily than expected but it's the ground screen where Ned ran into trouble. Ned carefully laid out 16 radials for each element in the array, and "staked them" at the ends so they wouldn't move around. Nil suggested that they "spade 'em in" so to be out of the way. But Ned said "nah, too much work". Ned should've listened to Nil. The lass knows more than she lets on. With the electrical connections complete, Ned and Nil went off to test the new skyhook out. 40m metres was the band of choice, and the hard work appeared to pay off as Ned tuned the band with the new aerial. Many South American and west coast North American stations were coming in.

For the next week or two, Ned had a "new DX story" to tell Nil every day. All looked good until..... until the grass grew up over the ground radials concealing them from the ever "hungry" lawn mower. Not having put any "markers" outlining the radials, Ned's little brother proceeded to "mow up" the radial field entangling several hundred metres of wire around the blades before the wire finally "choked" the lawn mower in an agonizing last gasp! Oh boy. The mess was bad enough, but It's the "I told you so" from Nil the next day that really hurt. "Live and learn," I said, I was going to relate some of my more embarrassing moments with wire, But I didn't want to spoil Nil's goodhearted ribbing. "I'm going to spade in the next bunch of radials this weekend," proclaimed Ned. Nil volunteered her assistance and Ned graciously accepted. Can't wait to hear what they come up with next! Always improving, and looking for a better aerial is the essence of this radio stuff.

I overheard a couple of gents lamenting about not being able to work DXCC due to their poor station performance. After learning that both of them had similar antennas I asked them both a few things to ponder in their quest for awards. First, both had several aerials with which to choose from. Both had dipoles up about 15 metres for 40 and 80, and a ground mounted multiband vertical for all bands. I asked if they had many radials out under their verticals. They assured me that they had. Well what times do you operate was the next question. Both usually operated for an hour or so in the early eve after dinner meal. I asked if either of them had tried operating at different times, such as sunrise or sunset. Not really." Well" I explained, "we hams are creatures of habit." "Have you thought about what time it is over in the country you trying to contact?" "If it's 9pm here in Adelaide, it may be very early morning in the Americas. Also midday in Europe so many people will be at work, or in bed asleep, not at home playing radio." So I recommended to both that they try altering their operating times to hear those stations on the other side of the world when they are in their normal evening routine. Another good way to increase your country count in a hurry is to enter one of the big contests. Many hams can work DXCC in just a weekend with modest equipment and aerials. With the contest approaching, both chaps agreed to "give er a go" and report back next month. Which leads to ask the question, are you doing all you can to give yourself an edge working DX? Give it a try. You may be pleasantly surprised at who comes back to your CQ in the "wee hours" of the morning.

Until next time here's to your signals hoping over the pond "like a roo playing tag"! •

73, Bob Tail

Everybody's S-Meter Is Correct

By Don Keith / N4KC



What is the first bit of information we typically glean or give when we begin an on-air conversation with another amateur radio station? The signal report, of course. Later, we talk about the weather,

brag about our stations, decry the lousy lack of sunspots, but first, we want to know what kind of signal we are getting to the other guy's radio. And we want to make sure we give the other op an accurate idea of how well we are receiving his or her transmission as well.

It's a courtesy, of course, but it also helps us get an idea of how the band is behaving so we can gauge if we can continue the chat. It can certainly help each operator involved in knowing how well his station is performing. And in some cases, it gives us a chance to inform the other guy of a problem with audio, keying, or other aspects of the signal he is putting out there on the air.

Fortunately, there are a couple of standardized ways of letting a station know how well his signal is making the haul from his place to yours—the “RST” system and that dancing little back-lit indicator there on the front of your whizbang new radio...the S-meter.

“RST” originated way back in the early days of telegraphy as a way to quickly and concisely inform a station how well he was being heard. It is a 3-digit number with the numbers standing in order for “readability,” “signal strength,” and “tone.” Readability is a five-number scale while the other two parameters are nine digits. The scale, according to the American Radio Relay League, is:

Readability:

- 1—Unreadable
- 2—Barely readable, occasional words distinguishable
- 3—Readable with considerable difficulty
- 4—Readable with practically no difficulty
- 5—Perfectly readable

Signal strength:

- 1—Faint signals, barely perceptible
- 2—Very weak signals
- 3—Weak signals
- 4—Fair signals
- 5—Fairly good signals
- 6—Good signals
- 7—Moderately strong signals
- 8—Strong signals
- 9—Extremely strong signals

Tone (CW only):

- 1—Sixty-cycle AC or less, very rough and broad
- 2—Very rough AC, harsh and broad
- 3—Rough AC tone, rectified but not filtered
- 4—Rough note, some trace of filtering
- 5—Filtered rectified AC but strongly ripple-modulated
- 6—Filtered tone, definite trace of ripple modulation
- 7—Near pure tone, trace of ripple modulation
- 8—Near perfect tone, slight trace of modulation
- 9—Perfect tone, no trace of ripple or modulation of any kind

Operators can also add a “C” if there is a chirp on the keying or a “K” to denote the presence of key clicks. There's also a quaint “X” indicator that can be included if the station's signal demonstrates the frequency stability of being “crystal-controlled.” And of course, the “Tone” number is not used for voice communications, though I think I could make a strong argument for making some kind of audio evaluation a third number for voice reports.

The obvious problem with this method—even a system that has stood the test of time for almost a hundred years—is that it is totally subjective. What exactly is the difference between a signal that is “barely readable” and one that is “readable with considerable difficulty?” And how do you bring yourself to give a guy a “4”—readable with practically no difficulty—when it's so close to being a “5”—perfectly readable? Oh, and how many of you could describe what a “rough AC tone, rectified but not filtered” actually sounds like?

Continued on Page 13

Everybody's S-Meter *Continued from Page 12*

One thing that prompted this article was hearing a station the other day give another ham a signal report of “Five by two!” I suppose it is possible to be perfectly readable with a very weak signal, given a quiet band, but hardly likely, and especially considering the conditions that particular day. I also have a QSL I received that has a CW signal report of “3-8-9.” Maybe it was my fist that made me difficult to read despite my strong signal with a perfect tone!

Of course, I am almost always “5-9-9” or “5-9” to DX stations in pileups, even if they have to ask me to repeat my call a dozen times or insist on calling me “K4NC,” so I’m obligated to give them the same report right back, right?

And I hesitate to even bring up those QSOs in which one station’s audio is so distorted or hum-ridden that he can hardly be understood and the fellow on the other end of the circuit doesn’t even mention it to him. I’ve even heard such accolades as, “Good audio!” when the offending station was using so much compression I could hear pots and pans rattling in the kitchen and he sounded as if he was talking through a pillow. He certainly should have been smothered by somebody! But is it his fault if nobody tells him he sounds like loud, distorted mush? If this overly diplomatic reporter told him how good he sounded?

So, thank goodness, we have another way to give honest signal reports, one that is totally accurate, unbiased, the same no matter what the make of the rig or the disposition of the operator. I speak of the S-meter. It is the ubiquitous little device available on most every commercially made piece of ham gear or SWL receiver, and since it is—by definition—a meter, it has to be correct. And since all the operator has to do is say where its needle points when giving a signal evaluation, it removes all prejudice from the resulting report.

Another thing that prompted this article was a discussion on the Yahoo Kenwood TS-2000 reflector—one that crops up on a semi-regular basis. Inevitably, someone will do an A/B check of different radios, using the same antenna, listening to the same station at about the same point in time. The result in the latest round of give-and-take was that the TS-2000’s S-meter seemed to read considerably less than the other radio’s. Was it possible that the 2K’s receiver was that much worse? Maybe. But the station being sampled was just as readable on both radios. In some cases, the S-meter read nothing at all on the 2K and S-3

or S-4 on the other rig, yet again the station was equally readable on both.

Dang quirky radios! How is that possible?

Let’s take a quick look at what an S-meter is. In actuality, most S-meters measure the voltage across the radio’s automatic gain control (AGC) circuit, though that is hardly universal. Few are—dare I say it?—accurately calibrated. Likewise, few are linear across their entire scales either. They are actually designed to give the user a RELATIVE measure of signal strengths arriving at the receiver. More on the meaning of RELATIVE momentarily.

“S” stands for “signal strength.” Thank goodness! I’m still miffed that “E” means “voltage” and “I” is “current!” The markings on the scale of the meter—the “S” units—are based on our old friend, the “RST” system above. Things were pretty wild and wooly in the old days of the S-meter, but back in the early 1980s, the International Amateur Radio Union agreed to recommend that an S-9 reading on an S-meter, indicating “extremely strong signals,” would be defined as -73 dBm, or a level of 50 micro-volts at the antenna input to the receiver if the impedance presented there is 50 ohms. That’s for HF frequencies. The recommended standard is different for VHF, but let’s leave that alone for this article.

Furthermore, the IARU suggested that each S-unit gradient represented a difference of 6 dB. That is a power ratio of four.

So, since the IARU came up with a recommendation for a standard, the S-meter Police must guarantee that all S-meters everywhere work exactly the same way and are completely accurate devices. You know the answer to that! Without getting technical—and primarily because I don’t understand it all either—suffice it to say that the manner in which most S-meters work makes them anything but accurate, rarely linear so that each unit on the meter equals a 6 dB difference, and almost completely inconsistent from one radio to another.

Also, the accuracy of a signal report, including an S-meter reading, is still dependent on the operator and his setup. Is my signal really 40 over S-9 when I hear that wonderful report, or does the guy just need a QSL from Alabama? Is that an average of the peaks or a momentary peak on

Continued on Page 14

...S-Meter *Continued from Page 13*

that rapidly dancing little meter? If I'm not even moving the meter, could it be that the op over yonder runs with his pre-amp off, the way I usually do on 160 through 40, or does my signal really suck? And we haven't even gotten into other parameters that affect my signal strength at his place. Minor little things like antennas and propagation!

What the S-meter can do just fine is give a **RELATIVE** indication of strength between two or more incoming signals. "Don, you are peaking about S-9, but your buddy down the street...running the same power and about the same audio setup...is 20-over. You may want to do some antenna work!"

Your meter may be inaccurate and nowhere near the IARU's hopeful standard and dismally without linearity, but it is inaccurate and non-standard and non-linear for everybody. Just don't try to compare the S-meter reading on your Goshdarn 3000 Plus with your buddy's Heckfire Pro IV. They won't be the same...necessarily.

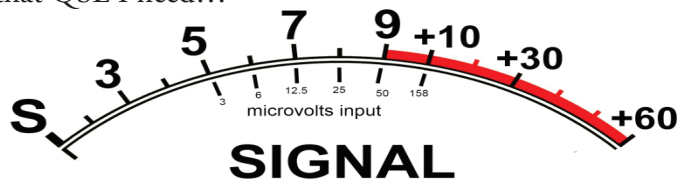
So here is the good news. Everybody's S-meter is completely accurate! Accurate as long as he is using it to give **RELATIVE** signal strength reports.

Permit me a brief illustrative fable. When I was a youngster, I was helping my dad (SK WA4AZJ) with a carpentry job. He asked me to cut him a 2X4. I asked him how long it needed to be. He answered, "About as long as a piece of rope." I stood there perplexed, saw in hand, for a bit, trying to figure out where to start cutting, until he finally let me off the hook and gave me the exact measurement for the board he needed. Lots of things in life are relative.

Maybe I can apply that same bit of whimsy next time I begin a QSO.

"What is my signal there, old man?"

"Oh, you're peaking about two inches with peaks to the screw-head on the old S-meter. You even got up to the 'n' in 'Kenwood' a couple of times. Good signal! Now about that QSL I need..." •



Ziegenbein Nominations

It's time to begin thinking about who you would like to nominate for the 2015 Ziegenbein Award.

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

Nomination Guidelines

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

CMARC Board Meeting

November 13, 2015

❖ CALL TO ORDER:

- President Julie McLain/KB8ZXR called the meeting to order at 6:30 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.

❖ SILENT KEYS:

- Robert Lindberg/WA8ZWR – July 4, 2015
- Richard McGuire/KI8C – October 18, 2015
- Bill McAuliffe/WA8TIA – October 23, 2015
- Nancie Stahl-wife of Charlie Stahl/N8DWI – October 30, 2015

❖ CARDS & FLOWERS REPORT:

- Sympathy cards were sent to the families of Robert Lindberg/WA8ZWR, Richard McGuire/KI8C, and Nancie Stahl-wife of Charlie Stahl/N8DWI.
- In lieu of flowers, a \$40.00 donation was made to The Wounded Warrior Project in the name of Robert Lindberg/WA8ZWR.
- In lieu of flowers, a \$40.00 donation was made to the National Parkinson Foundation in the name of Richard McGuire/KI8C.
- In lieu of flowers, a \$40.00 donation was made to Hospice of Lansing in the name of Nancie Stahl-wife of Charlie Stahl/N8DWI.

❖ TOWER PROTECTION PROJECT:

- Thanks to Bob Berger/K8RDN, John Hosford/KC8QZB, and Joe Urdzela/K8JJU, we have completed the tower protection on both of our towers.

❖ TONIGHT'S MEETING:

- Ted Sadilek/WA8MFQ and his wife Bev are bringing animals from the Potter Park Zoo where they are docents.
- Formation of a three-person election committee.
 - Must be full members of CMARC.
 - If more than three individuals volunteer, we will place each name into a hat, and draw three names randomly.

- These three people will form the election committee whose sole purpose is to count the ballots after all votes are collected during the December meeting.
- The rest of the names will be saved in case one of the three is unable to fulfill their duties.
- Nominations will be accepted tonight.

❖ MISCELLANEOUS UPDATES:

- Tom Rocheleau/WA8WPI has tentatively rescheduled the CW classes, starting Tuesday, January 5, 2016 for six weeks @7:00pm.
- The December meeting is our annual Christmas party, please let Julie/KB8ZXR know what you will be bringing.
- In December, we will also be voting for our 2016 Board.
 - We need to fill the following three positions: Julie McLain/KB8ZXR, Don McLain/KB8RAD and Jerry Waite/KD8GLN, plus the Under 22 position.
 - Julie and Don have both expressed that would like to stay on the Board if nominated.
 - Jerry has expressed his desire to not be nominated.
 - The new Board will get together before the January 2016 meeting to elect the new Board. When you vote, you are not voting for a position, you are voting for that person to be on the Board and the Board decides who holds which position.
 - We do allow absentee voting until midnight December 10, 2015, by sending your votes to cmarcvoting@gmail.com. You must write on the subject line "CMARC Voting - December 11, 2015".

❖ MEETING ADJOURNMENT:

- Motion to adjourn made by Jerry/KD8GLN, seconded by Don/KB8RAD and approved
- Meeting adjourned at 7:01 pm.

Respectfully submitted,
Jane Hosford/KC8FSK-Secretary

General CMARC Meeting

November 13, 2015

❖ **CALL TO ORDER:**

- President Julie/KB8ZXR brought the meeting to order at 7:15 pm.
- If you do not have your own nametag, there are some available. Please use so we know who everyone is.
- The meeting began with the Pledge of Allegiance. The flag was held by Sam/N8FPR.
- A moment to honor our veteran's. For all those who never made it back home, for all those who came home whose lives will never be the same and for those who continue to serve us today. Fathers, mothers, sons and daughters, we thank you and ask God's blessings on your lives and families.
- A moment of silence for our veterans.

❖ **SILENT KEY REPORT:**

- Robert Lindberg/WA8ZWR – July 4, 2015
- Richard McGuire/KI8C – October 18, 2015
- Bill McAuliffe/WA8TIA – October 23, 2015
- Nancie Stahl-wife of Charlie Stahl/N8DWI – October 30, 2015
- A moment of silence for our silent keys.

❖ **ATTENDANCE:**

- There 56 people who attended.
- Our visitors included: Mary Tillitson, Arlene Pedersen, Michael Pedersen, Vicki Weaver and her granddaughter Kaydence, Jeffrey Tompkins, Judy Terbrack, Cara Terbrack, Haven Terbrack, Dennis Dann/KE8ACA, Bev Sadilek – wife of Ted Sadilek/WA8MFQ, Greg Wesley/KD8PA, John Lane/W8KX, Brian Noelp/KE8CCI, Al Wright/KE8DR, Abby Beuchert, Heavenly Bence, Cooper Kapalla, Cole Kapalla, Beau Kapalla, Marty, Pam and Kylee Strobel.

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

❖ **CARDS AND FLOWERS REPORT:**

- Sympathy cards were sent to the families of Robert Lindberg/WA8ZWR, Richard McGuire/KI8C and Nancie Stahl-wife of Charlie Stahl/N8DWI.

- In lieu of flowers a \$40.00 donation was made to The Wounded Warrior Project in the name of Robert Lindberg/WA8ZWR.
- In lieu of flowers a \$40.00 donation was made to the National Parkinson Foundation in the name of Richard McGuire/KI8C.
- In lieu of flowers a \$40.00 donation was made to Hospice of Lansing in the name of Nancie Stahl-wife of Charlie Stahl/N8DWI.

❖ **INTERESTING DX CONTACTS:** None

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

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

❖ **NEW BUSINESS:**

- ❖ A motion to accept the October secretary's report as printed in the November Scope was made by Dan/KD8YDE, seconded by Ted/WA8MFQ and approved.
 - A motion to accept the October treasurer's report as printed in the November Scope was made by John/KD8NNQ, seconded by Don/KB8RAD and approved.
 - CW classes have been tentatively scheduled starting Tuesday, January 5, 2016 for six weeks @7:00pm.
 - Tomorrow is VE testing at Fire station 44.
 - John Tyree/KD6KCX: May 15, 2016 is the Hike/Bike for Hospice.
 - Tonight is the last night for the Salvation Army Food Drive. Thanks to everyone who contributed.
 - Tower protection: Done, thanks to Bob Berger/K8RDN, John Hosford/KC8QZB and Joe Urdzela/K8JJU.
 - The December meeting is our annual Christmas party, please let Julie/KB8ZXR know what you will be bringing. In December, we will also be voting for our 2016 Board. You must be a full member to vote.

Continued on Page 17

- We require a three-person election committee; they must be full members.
 - The volunteers to be on the election committee are Ted Sadilek/WA8MFQ, Bob Strobel/KB8DQQ, John Tyree/KD6KCX, Michael Boensch/W8MKB and Mark Carter/KD8YUY.
 - Since they only require three people, they put the names in a hat and drew out names. The three-person election committee consists of Michael Boensch/W8MKB, Mark Carter/KD8YUY and John Tyree/KD6KCX.
 - The other names will be held in case one or more of these cannot fulfill their duties.
 - At the December meeting, the election committee will be counting the ballots after the voting is done.
 - You will be voting for the 2016 Board. They have three positions open: Julie McLain/KB8ZXR, Don McLain/KB8RAD, Jerry Waite/KD8GLN, and the Under 22 Director Sam Fitzgerald/N8FRP.
 - Jerry/KD8GLN has expressed his desire to not be re-elected.
 - Don/KB8RAD and Julie/KB8ZXR have expressed that they would like to stay on the Board.
 - Before the January, 2016 meeting, the new Board will meet to select who will have what position.
 - Nominations:
 - Sam Fitzgerald/N8FPR nominated Russ Fitzgerald/N8FZ.
 - Cheryl Davage/KD8QFE nominated Julie McLain/KB8ZXR.
 - John Tyree/KD6KCX nominated Don McLain/KB8RAD.
 - Jerry Waite/KD8GLN nominated John Doornhaag/KD8NNQ.
 - Shannon Ranes/WA2NVK nominated Sam Fitzgerald/N8FPR.
 - Leota Strobel/KD8SQD nominated Jimmy Dunahoo/KD8IWQ.
 - Each nominee accepted his or her nomination.
 - We do allow absentee voting until midnight December 10, 2015, by sending your votes to cmarcvoting@gmail.com. You must write on the subject line "CMARC Voting - December 11, 2015".
- ❖ **UNDER 22 REPORT:** None.
 - ❖ **50/50:** Haven Terbrack won \$19.50.
 - ❖ **MISCELLANEOUS:**
 - Motion for break made by Michael/W8MKB, seconded by Ben/WD8OVL and approved.
 - Don Tillitson/WB8NUS is turning 90 on November 24, so we brought in a cake from Sam's Club to celebrate his birthday.
 - Thanks to everyone who brings goodies in each month!
 - ❖ **PROGRAM:**
 - Ted Sadilek/WA8MFQ and his wife Bev are docents at Potter Park Zoo and they brought some of their animals for a visit. They brought a blue-tongued lizard, a pygmy hedgehog, a red tail boa constrictor and a rabbit.
 - Potter Park Zoo normally charges \$150.00 but since Ted/WA8MFQ he is only charging the Club \$75.00. The Club took up a donation tonight of \$137.00 for the Zoo.
 - ❖ **MEETING ADJOURNMENT:**
 - Motion to adjourn made by Don/KB8RAD, seconded by Jerry/KD8GLN and approved.
 - With all business concluded, the meeting was adjourned at 9:00 pm.

Respectfully submitted,
Jane Hosford/KC8FSK-Secretary

The DX Corner

By Col McGowan / MMONDX

Note from the Editor: I felt this particular DXpedition deserved its own page. As many of you may be aware, North Korea continues to top the DX Most Wanted list, holding the #1 spot. This month's submission will bring you up to speed on the latest happenings, and future updates will be made available in upcoming issues.

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



December 2, 2015 - Shortly before Christmas, Dom 3Z9DX arrives in North Korea for high level talks with officials and inspectors with regards his upcoming P5 activity which, all going well, will take place January or February 2016. Dom is taking all radio equipment with him on this visit (as it needs to stay there until the activity and will not be returning home with him). He will be staying for 3-5 days. It's not expected that Dom will operate this time, but rather discuss with the various departments about his future activity.

October 29, 2015 - Dom 3Z9DX updates that he's returned from the SP7GXP antenna factory where he and Waldek did final adjustments on the GP7 vertical Dom will use in P5, North Korea. Delivery of equipment happens in December, as does final meeting with officials, with the radio activity in January or February 2016.



May 9, 2015 – Last few months 3Z9DX has received many emails asking about the possibility of an additional operator (CW) going with him to P5. To be clear, it's Dom's dream for a CW op to join, but at this moment only SSB will be used. Currently, there is no negotiations or ongoing dialogue about CW. Please understand this is the first step to opening doors for future P5 expeditions and it's not helpful to "complain" about type of mode, antenna choice or how much power will be used since it's military personnel and local administration who make these restrictions. Please, no more requests about CW. In addition, a website will not be available until the final meeting with the telecoms department in December. The next Press Release will also be issued in December upon his return from North Korea.

March 10, 2015 – On February 28th, news broke that Dom 3Z9DX had written permission to operate amateur radio from a VERY wanted DXCC entity. Today, we can reveal that entity is North Korea (P5). Dom 3Z9DX explains he has received a further letter from authorities in Pyongyang inviting him to a final meeting to discuss [and for he to accept] rules by the North Korean military and the relevant telecommunications department. This meeting will take place in December with activity planned for January or February 2016. According to P5 telecoms, Dom will be permitted only three bands (20-15-10) likely using a multiband vertical from a secured place in Pyongyang with two government supervisors over-looking 24/7. Activity will last for 5 days. At the moment this is a solo expedition to the #1 Most wanted entity using SSB only. He is working hard behind the scenes to get one more op (CW) to possibly join him. Please realise this project is a work in progress and to understand that it may only be Dom who operates from North Korea.

More updates throughout 2015.



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

Technician Class 2014 Pool

1.) Question T7A04 - Which term describes the ability of a receiver to discriminate between multiple signals?

- A. Sensitivity
- B. Selectivity
- C. Harmonic Distortion
- D. Discrimination ratio

2.) Question T5B06 - If an ammeter calibrated in amperes is used to measure a 3000-milliamperere current, what reading would it show?

- A. 0.3 amperes
- B. 3,000,000 amperes
- C. 3 amperes
- D. 0.003 amperes

3.) Question T1C01 - Which type of call sign has a single letter in both its prefix and suffix?

- A. Sequential
- B. In-memoriam
- C. Vanity
- D. Special event

General Class 2015 Pool

1.) Question G1D07 - Volunteer Examiners are accredited by what organization?

- A. The Universal Licensing System
- B. The Federal Communications Commission
- C. A Volunteer Examiner Coordinator
- D. The Wireless Telecommunications Bureau

2.) Question G2B01 - Which of the following is true concerning access to frequencies in non-emergency situations?

- A. Contest operations must always yield to non-contest use of frequencies

- B. Except during FCC declared emergencies, no one has priority access to frequencies
- C. QSOs in progress always have priority
- D. Nets always have priority

3.) Question G9B03 - What happens to the feed point impedance of a ground plane antenna when its radials are changed from horizontal to sloping downward?

- A. It stays the same
- B. It reaches a maximum at an angle of 45 degrees
- C. It decreases
- D. It increases

Extra Class 2012 Pool

1.) Question E1F12 - Who may be the control operator of an auxiliary station?

- A. Only Technician, General, Advanced or Amateur Extra Class operators
- B. Any licensed amateur operator
- C. Only Amateur Extra Class operators
- D. Only General, Advanced or Amateur Extra Class operators

2.) Question E1A11 - What authorization or licensing is required when operating an amateur station aboard a US-registered vessel in international waters?

- A. Only General class or higher amateur licenses
- B. Any FCC-issued amateur license or a reciprocal permit for an alien amateur licensee
- C. An unrestricted Radiotelephone Operator Permit
- D. Any amateur license with an FCC Marine or Aircraft endorsement

3.) Question E9C03 - What is the radiation pattern of two 1/4-wavelength vertical antennas spaced 1/2-wavelength apart and fed in phase?

- A. Omni directional
- B. A Figure-8 broadside to the axis of the array
- C. A cardioid
- D. A Figure-8 end-fire along the axis of the array

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

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

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.

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 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

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



Central Michigan Amateur Radio Club

THE SCOPE

Lansing Civil Defense Repeater Association



centralmiarc.com

Serving Our Community Since 1921

lcdra.net

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