

October 2006



Central Michigan Amateur Radio Club

# The Scope



Lansing Civil Defense Repeater Association

[www.qsl.net/cmarc](http://www.qsl.net/cmarc) 84 Years of Service to Our Community! [www.qsl.net/lcdra](http://www.qsl.net/lcdra)

## TRICK OR TREAT

Have a safe and wonderful Halloween everyone!!!

May the goblins be frightful,  
And the witches be scary  
The ghouls be haunting,  
The wolves big and hairy

May your Halloween night,  
Bring the scariest of creatures  
With a full moon shining,  
And lots of trick – or – treaters!!

Written By DeAnna



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**Breakfast groups**

1. Rod's Breakfast Bunch Each Friday - Starts about 8:00 - 8:30 AM  
location: Bob Evans Restaurant - DeWitt - north of I-69 at 13101 S. US 27 145.390 Talk in.
2. QCWA – Last Saturday of every month – at 8:00 AM – New Location: Delhi Café on Willoughby Rd.
3. 539er's – Every Saturday – 8:00 AM – New Location: Penn Ave Diner on Pennsylvania Rd near Miller.

**Regular Announcements**

**Lansing VE testing is held the 2<sup>nd</sup> Saturday of the odd months at the Red Cross building.**

Registration begins at 9:30 am and testing starts at 10:00 am. The address is 1800 E. Grand River Lansing. The next date is?

March 11 <sup>th</sup>	May 20 <sup>th</sup>	July 8 <sup>th</sup>
September 9 <sup>th</sup>	<b>November 11<sup>th</sup></b>	January 13 <sup>th</sup>

Charlotte has their VE testing on the 2<sup>nd</sup> Saturday of even months at the Eaton County Sheriff's Department, Charlotte MI at 12:00 noon. The next Registration date is?

February 11 <sup>th</sup>	April 8 <sup>th</sup>	June 10 <sup>th</sup>
August 12 <sup>th</sup>	<b>October 14<sup>th</sup></b>	December 9 <sup>th</sup>

The Delta Township Auxiliary Communications Service meetings are held on the 1<sup>st</sup> Monday of each month at Fire Station Number One on Saginaw and Canal Rd. at 7:00 pm. The Next meeting is?

March 6 <sup>th</sup>	April 3 <sup>rd</sup>	May 1 <sup>st</sup>
June 5 <sup>th</sup>	July 10 <sup>th</sup>	August 7 <sup>th</sup>
September 11 <sup>th</sup>	<b>October 2<sup>nd</sup></b>	November 6 <sup>th</sup>
December 4 <sup>th</sup>	January 8 <sup>th, 2007</sup>	February 5 <sup>th, 2007</sup>

The Lansing Civil Defense Repeater Association, LCDRA, meeting is held quarterly on the Third Thursday at Fire Station Number 8 on Marshall and Saginaw St in Lansing at 7:00 pm. The next meeting will be?

April 20 <sup>th</sup>	July 20 <sup>th</sup>	<b>October 19<sup>th</sup></b>	January 18 <sup>2007</sup>	April 18 <sup>2007</sup>
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ARPSC meets the 3<sup>rd</sup> Monday of every month @ 7:00 pm. Odd months they meet @ Fire Station 8 on Marshall and Grand River Even months they meet @ Ingham County Sheriff's Department 630 N. Cedar St Mason MI Next dates...

Odd-

March 20<sup>th</sup> May 15<sup>th</sup> July 17<sup>th</sup> September 18<sup>th</sup> November 20<sup>th</sup> January 15<sup>th</sup> 2007

Even-

April 17<sup>th</sup> June 19<sup>th</sup> August 21<sup>st</sup> **October 16<sup>th</sup>** December 18<sup>th</sup> February 19<sup>th</sup> 2007

**NETS:**

- Sunday-147.080 @ 8 pm. No pl tone. Eaton County Amateur Radio net.
- Monday-443.625 @ 9 pm. PI tone 100. Traders net.
- Tuesday-443.625 @ 9 pm. PI tone 100. Michigan IRLP net.
- Wednesday-443.625 @ 9 pm. PI tone 100. Canadian IRLP net.
- Friday-443.625 @ 9 pm. PI tone 100. International IRLP net. (New net)

### Nets Continued....

The central Michigan six-meter fun net is held every Sunday evening @ 9 pm on 52.525 MHz. The CMARC information and fun net is held every Sunday evening @ 8:30 pm on the 145.390 repeater 100Hz. PL.

The Eaton County, ECARC net is held every Sunday evening @ 8 pm on the 147.080 repeater. Tuesday evenings @ 8 pm the QCWA- Quarter Century Wireless Association holds it's net on the 146.700 repeater, 100Hz. PL You do not need to be a member.

All check-ins are welcomed.

Thursday evenings @ 7 pm the CCARA – Clinton County Amateur Radio Association holds their net on the N8ZMT repeater 145.13 (94.8 PL) and 444.850 (141.3 PL) and 146.86 (107.2 PL). You can also use 147.48 simplex.

**Please support these area nets, their survival depends on you!!!**

ZCZC AG17

QST de W1AW

ARRL Bulletin 17 ARLB017

From ARRL Headquarters

Newington CT September 19, 2006

To all radio amateurs

**Sent in by Don De Feyter**

SB QST ARL ARLB017

ARLB017 Radio jammer Jack Gerritsen gets seven years, fines

It was a day a lot of radio amateurs in Southern California had been anticipating for a long time. On September 18, US District Court Judge R. Gary Klausner sentenced convicted radio jammer Jack Gerritsen, now 70, to seven years imprisonment and imposed \$15,225 in fines on six counts -- one a felony -- that included transmitting without a license and willful and malicious interference with radio transmissions. Before sentencing, Gerritsen apologized to the federal government, the FCC and the local Amateur Radio community, which had endured the brunt of Gerritsen's on-air tirades and outright jamming. "I'm sorry, and I apologize to everyone here," Gerritsen told those in the courtroom.

Gerritsen's contrition did nothing to convince Klausner toward leniency. The judge berated Gerritsen as a repeat offender and said he believed Gerritsen would continue to commit similar offenses. The sentence even exceeded US District Attorney Lamar Baker's recommended 46 months incarceration. In addition to the prison time, Klausner fined Gerritsen \$225, payable immediately, and an additional \$15,000 to be paid through the Probation Department. Klausner tacked on two years' supervised probation and recommended Gerritsen remain in custody in Southern California during that period.

Klausner further ordered Gerritsen to participate in a substance abuse program at his own expense. He told Gerritsen he could not use any identification, including his previous Amateur Radio call sign KG6IRO, other than his real name when identifying himself, and he told Gerritsen he could not own, possess or use any radio transmitting equipment. The FCC had been investigating complaints of illegal radio transmissions linked to Gerritsen for four years. According to court documents, the FCC investigation revealed that Gerritsen transmitted both prerecorded messages and real-time harassment and profanity for hours at a time, often targeting local Amateur Radio repeater systems and precluding their use by licensed operators.

Following trial last December, Gerritsen was found guilty of causing malicious interference to a communications system operated by the United States, a felony. The court also found him guilty of two misdemeanor counts of willful or malicious interference with radio communications and three misdemeanor counts of transmitting radio signals without a license. Gerritsen has been in custody since his conviction. **The FCC has already levied \$52,000 in fines on Gerritsen for violating its rules and the Communications Act.**

**Listening up for Lids**  
**by Gregg Mulder**

I've been very active on the ham bands this past year and have noticed a few things about radio operators in general that I would like to share. Our operating ethics are deteriorating. I used to pass a bad op and look for the good ones. Now a quick tune up and down 40 or 80 meters will show there are more and more Bad Ops on the air. I know many of the lousy habits I hear on the air could be prevented, with some simple guidance. The fact is many hams don't know some of the errors they make simply because they, were not properly trained or not trained at all in common "on air" procedures. One simple solution is to be a mentor. If you hear a ham making some common errors in the way they communicate, please take the time to help them learn the correct way. A little time spent mentoring now will pay off big dividends in our future operators. Another is to encourage advancement. Show enthusiasm for the hobby by helping out the new guys. Become a leader in club activities.

Another fact is people make mistakes. We should try to be tolerant. Case in point: The other morning while listening up for gray line openings at dawn, I tuned to 7.040 mcs. And called QRL? I was still half asleep so I was'nt really thinking yet, When another station answered my QRL?, with QRL. Fine and dandy! That's the way it's supposed to be done. However in my sleepy state I thought the other station was also calling QRL in preparation to call CQ just as I was. So I go ahead n call CQ CQ CQ de W8SH. No reply. "I know he can hear me" I thought. A few seconds later he was on the air again and in contact with another ham. Then it dawned on me, I had totally ignored his reply, and transmitted right on top of his QSO ! All because I was not thinking ! Needless to say that after 35 years of considering myself a fine upstanding member of the ham fraternity I was caught being a LID ! Well this just proves that even when you think you're a good operator , that everyone makes mistakes. I felt like crawling under a rock. I just QRMed this guy in the worst way. Well fortunately, I realized my error before completely wiping out his QSO. The point being , please try to be patient with the all the people trying to enjoy this wonderful hobby, and remember to help a Lid , it may be you!

73 , Gregg WB8LZG

**The Watt Widget**  
**by Scott Rowe AB8VN**

Do you ever wonder how much it costs to run an electrical appliance or piece of equipment? There is usually a "spec plate" which will list the maximum draw, but it may be two or more times the actual power the device uses. How do Watts translate to money? Assuming that electricity costs about 8 cents a kilowatt-hour, a single watt of draw for an entire year would cost  $1 \text{ Watt} \times 8760 \text{ hours per year} / 1000 \text{ watts per kWh} \times 8 \text{ cents} = 70 \text{ cents}$ . Round up a bit for taxes and say 75 cents. So that 4 Watt nightlight that runs all the time costs three dollars a year. But the refrigerator that guzzles 400 Watts and runs eight hours a day costs \$100!

If you know how much power something actually uses, and you know about how much of the time it is on (a guess within 10% is fine) you can easily figure the cost. There are some measuring devices on the market which will meter and calculate for you, but if you are like me, you have other uses for \$50, like buying Ham equipment, and would like to figure it out using an old piece of scrap. I knew it should be possible, so I spent some time scratching my head and trying to fit Ohm's laws to the problem, and got it down to something I could build with an electrical outlet in a box with a cord, and a piece of wire inside. The idea is to make a "shunt" (a piece of wire the right size) and use a multimeter to measure the AC millivolts across it, then pretend that number is actually Watts, because for the correct shunt, it is.

This is what I came up with. To show one Watt of draw as one AC millivolt (RMS) across the shunt, the shunt must be a certain number of milliohms. Since power is current times voltage, and the voltage is about 120, one Watt must be 8.3 milliamps. Voltage is current divided by resistance, so to get 1 millivolt from 8.3 milliamps, I need a resistance of 120 milliohms, or about an eighth of an Ohm. If I measure the voltage drop across a piece of wire that is an eighth of an Ohm, my multimeter will read directly in Watts, ignoring the decimal point. How much wire is that? One convenient fact is that a foot of number 10 wire is a milliohm, but I thought that a shunt 120 feet long was inconvenient. I looked at the wire table in the ARRL Handbook, and found that for number 14 wire, fifty feet would do the job. I thought that was still too much so I decided to scale down by a factor of ten, so using a five foot piece of wire pulled from some house wiring cable (the white wire from the cable) my WattWidget reads 1 millivolt for every 10 Watts, and the shunt should be able to handle up to 15 amps for long enough to make a measurement without getting hot.

But if my WattWidget only has a resolution of ten Watts, it won't do what got me started on this idea in the first place: measure small loads like a laptop power supply or a clock. I decided to build a second shunt that was

scaled up by a factor of ten: 1.2 Ohms, so that a millivolt on the meter is a tenth of a Watt. I used some handy wirewound power resistors to come up with this, but more than about 300 Watts of load will overheat them, so this second device is for measuring small loads.

Now how do you build it? Find a duplex outlet, and break off the "ear" on the white side. If you used a piece of number 14 wire as your shunt, you can fold it in two, then coil it up (to make a noninductive loop) and push each end into the back-wiring holes on the white side, thus bridging across the ear that you broke off. It is important to do this on the white side (and connect the cord correctly) so that the shunt is at ground potential,

because the next step is to connect a pair of wires to the screw terminals on the white side and attach the other ends to your multimeter (set to read AC millivolts). For safety, you can't have exposed terminals or wire ends

coming from the "hot" side! If you used power resistors instead of a piece of wire, the easiest thing to do is solder short pieces of number 14 wire at each end and push them into the back-wiring holes. Add a cordset and mask off the outlet that connects directly to the cord and you can start measuring.

Just remember not to exceed the power limitations of your shunt and move the decimal place where it belongs, then multiply by 75 cents a year. The whole thing probably won't cost you 75 cents, and it will last a lot longer than one of those expensive meter gadgets. And you did it yourself!

### **Article by Currin Skutt**

Did you attend the club picnic. My wife and I did. True it wasn't a pleasant day weather wise but some of us bit the nail and went. We had a fair crowd and had a good time visiting and some of receiving an award. The burgers and hot dogs were very good and there was a good variety of food so we were well fed. Sorry we missed you there. The officers and their helpers did an outstanding job of keeping things rolling. Why don't we all plan on attending next year.

***Currin - W8FSZ***

### Birthdays

10/5 James Lakin KD8BZL  
10/11 Gloria Cote  
Ken Fuller W8VVR  
10/13 Jane Hosford KC8FSK  
10/14 Don Devendorf W8EGI  
10/27 Marion Stoddard

### Anniversaries

10/2 Dennis Boone KB8ZOZ and Wife  
10/6 Emile Alhadded KC8BFJ and Wife  
10/9 Don KD8BD and Gloria Cote  
10/18 Forrest N8PWD and Kay Clark KD8BDJ  
10/25 Joe N8VYS and Pam Denomme KB8PSF

### Central Michigan Amateur Radio Club September 1, 2006 Treasurer's Report

#### Assets

NuUnion Credit Union	
Primary Share Account (Humphries Fund)	\$ 352.38
Business Checking Account*	\$ 972.59
NuUnion Certificate of Deposit 4.15% (2-13-07)	<u>\$1623.30</u>
Net Worth September 1, 2006	\$2948.27

\*Past several months this has been designated "BUSINESS SELECT CHECKING" and in July the balance went below \$1000 for which we were charged a \$10 BUS MONTHLY CKG SERVICE FEE. Mid – August I protested the fee assessment and asked our account be restored to BUS BASIC CHECKING; \$500 minium balance effective immediately and they've refunded us the \$10.

Respectfully Submitted, Don Devendorf, W8EGI

Treasurer



### October Key of the Month

As promised in a previous issue, the August "Key of the Month" is a key es buzzer practice set. This one was made here in Menommenee, Mich. by Signal Electric Co.

The set was designed to be used in conjunction with another set wired together so 2 people could send back es forth to each other for code practice. The U.S. Army ordered them from many different manufacturers during the WWII years, so there are several models of various shapes es sizes, but all were made to facilitate code practice. I have another model from Signal Elec. that was given to me as a Novice by a high school teacher. We'll take a look at that one next month. 73's Gregg WB8LZG

## 2006 Club Officers

<b>President</b>	<b>John Hosford</b>	<b><a href="#">KC8QZB</a></b>	<b>517-699-2540</b>
<b>Vice President</b>			
<b>Secretary</b>	<b>Richard H. McGuire</b>	<b><a href="#">KI8C</a></b>	<b>517-782-1430</b>
<b>Treasurer</b>	<b>Don Devendorf</b>	<b>W8EGI</b>	<b>517-332-8754</b>
<b>Director</b>	<b>Jane Hosford</b>	<b><a href="#">KC8FSK</a></b>	<b>517-699-2540</b>
<b>Director</b>	<b>Ron Harger</b>	<b><a href="#">WD8BCS</a></b>	<b>517-204-4897</b>
<b>Membership Chairman</b>	<b>John A. Ingraham</b>	<b><a href="#">NG8L</a></b>	<b>517-484-8027</b>
<b>Under 22 Director</b>	<b>Jordan Mulder</b>	<b>KC8QYU</b>	<b>517-646-6257</b>
<b>APPOINTMENTS</b>			
<b>Scope Editor</b>	<b>DeAnna Barnhill</b>	<b>KD8BDI</b>	<b>517-505-1983</b>
<b>Web Chairman</b>	<b>John Ingraham</b>	<b>NG8L</b>	<b>517-484-8027</b>
<b>SkyWarn Chairman</b>	<b>Jim Hannahs</b>	<b>KC8QWH</b>	<b>No #</b>
<b>Awards Manager</b>	<b>Don De Feyter</b>	<b>KC8CY</b>	<b>517-641-4533</b>
<b>Zieg. Nom.</b>	<b>Pam Denomme</b>	<b>KB8PSF</b>	<b>517-589-5868</b>
<b>VE Team Liaison</b>	<b>Laurence Nordeen</b>	<b>N8VEN</b>	<b>517-676-1799</b>
<b>VE Team Contact</b>	<b>Joseph Denomme</b>	<b>N8VYS</b>	<b>517-589-5868</b>

## Upcoming Hamfests

<b>Dates</b>	<b>Type</b>	<b>Event and Contact</b>	<b>Location</b>
22 Oct 2006	+	Blossomland Blast Blossomland ARA <a href="http://www.blossomlandara.org">http://www.blossomlandara.org</a> <b>Talk-In:</b> 146.82(-) & 146.72(-) <b>Contact:</b> Gary Wallis, KB8VIM BARA PO Box 175 St. Joseph, MI 49085 Phone: 269-429-3629 Fax: 269-982-8979 Email: <a href="mailto:w8mai@comcast.net">w8mai@comcast.net</a>	Berrien Springs, MI St. Joe Kickers Sport Club <a href="#">M-139 at Linco Road</a> <b>Div:</b> Great Lakes <b>Sect:</b> Michigan
21 Oct 2006	+	Great Lakeshore Super Swap Holland ARC <a href="http://www.hollandarc.org">http://www.hollandarc.org</a> <b>Talk-In:</b> 147.060 (PL 94.8) <b>Contact:</b> Sue Seidelman, KC8RQS HARC PO Box 2104 Holland, MI 49422-2104 Phone: 616-394-9821 Fax: 269-673-8632 Email: <a href="mailto:swap@hollandarc.org">swap@hollandarc.org</a>	Holland, MI Harbor Lights South Campus <a href="#">3600 152nd Avenue</a> <b>Div:</b> Great Lakes <b>Sect:</b> Michigan

<b>Dates</b>	<b>Type</b>	<b>Event and Contact</b>	<b>Location</b>
8 Oct 2006	+	Kalamazoo Hamfest Kalamazoo ARC & Southwest Michigan AR Team <a href="http://www.kalamazoohamfest.com/">http://www.kalamazoohamfest.com/</a> <b>Talk-In:</b> 147.640/147.040 (PL 94.8) <b>Contact:</b> Jim Simons, N8IJH PO Box 33 Richland, MI 49083-0033 Phone: 269-388-4865 (voice mail) Email: <a href="mailto:info@kalamazoohamfest.com">info@kalamazoohamfest.com</a>	Kalamazoo, MI Kalamazoo County Fair Grounds. "Exhibition Hall E" <a href="#">2900 Lake Street</a> <b>Div:</b> Great Lakes <b>Sect:</b> Michigan
29 Oct 2006	+	USECA Swap Utica Shelby Emergency Communications Association <a href="http://www.useca.net">http://www.useca.net</a> <b>Talk-In:</b> 147.180 + (PL 100) <b>Contact:</b> Bob Hollingsworth, KZ8N PO Box 46331 Mt. Clemens, MI 48046 Phone: 586-716-9114 Email: <a href="mailto:hamfest@k8uo.com">hamfest@k8uo.com</a>	Sterling Heights, MI Polish-American Century Club <a href="#">33204 Maple Lane Drive</a> <b>Div:</b> Great Lakes <b>Sect:</b> Michigan
29 Oct 2006	+	Hamfest and Auction Massillon ARC <a href="http://www.marcradio.org">http://www.marcradio.org</a> <b>Talk-In:</b> 147.180+ (PL 110.9) <b>Contact:</b> Terry Russ, N8ATZ 3420 Briardale Circle NW Massillon, OH 44646 Phone: 330-837-3091 Email: <a href="mailto:truss@sssnet.com">truss@sssnet.com</a>	Massillon, OH Massillon Boys & Girls Club <a href="#">730 Duncan Street SW</a> <b>Div:</b> Great Lakes <b>Sect:</b> Ohio

**Central Michigan Amateur Radio Club**  
**Minutes of the Meeting (September 8, 2006)**

The business meeting was brought to order by club president John Hosford (KC8QZB) at 7:30 p.m.

**Members**

19 members were present at the meeting.

**Visitors**

Mary Lou Tillitson  
Jim Hamilton (WA8KDP)  
Barbara Hosford  
Gloria Cote  
Suzanne Boone

**Cards and Flowers**

Dick McGuire (K18C) sent a get-well card to Beverly Stoner (K8ZJU).

**Sick or in Hospital**

None

**Upgrades and New Licenses**

None

### **Old Business**

Minutes of the August meeting had been distributed in The Scope. The secretary's report was accepted as submitted. Moved by Rocky Beckner (K8DRB) and seconded by Don Cote (KD8BD).

Treasurer Don Devendorf (W8EGI) reported that we have no liabilities, \$352.38 in the Primary Share Account, \$972.59 in the Business Checking Account, and \$1623.30 in the Certificate of Deposit, as of August 31st. Don reported a \$10 charge based on minimum balance. The report was accepted as submitted, moved by Rocky Beckner (subject to annual audit) and seconded by Richard Cole.

### **New Business**

John Hosford reminded us that officer nominations are coming up, so it is time for us to think of possible candidates.

John had recently received a call at home from Steve Polo (K8SP) looking for somebody to do some tower work. John agreed to mention the call at the next meeting. Don Cote (KD8BD) offered to share the name and phone number of somebody who might be able to help.

Gregg Mulder (WB8LZG) announced the coming Sweepstakes Contest. Gregg is promoting a joint effort with the MSU group, at the W8SH station, for the cw portion. The MSU station is located on the second floor of the Engineering Building.

Currin Skutt (W8FSZ) reported that Don Rickerd (W8BQD), who had some recent medical problems, is home and doing fine now. Don is now on proper medication.

Don Cote announced that the last issue of The Scope was done very well.

Bernie Gaffney (N8PVZ) announced the availability of "slightly used" computer equipment.

Among other events, John announced the club picnic the next day. Since the event involved a minor expenditure of club funds, we voted to approve the expenditure. Moved by Don Tillitson (W8NUS).

Roger Barnhill (AB8RX) announced VE testing the next day.

Don Tillitson announced that next year's Skywarn training has been moved to April 14<sup>th</sup>, to avoid a conflict with Easter weekend.

Currin Skutt talked about events connected with the ARRL State Convention in 1968. The club made \$1999.99, which became our Certificate of Deposit.

Roger Barnhill announced his resignation as Vice President, effective at the end of the meeting.

### **Event Announcements**

- Grand Rapids Hamfest will be September 9<sup>th</sup>.
- CMARC Picnic will be September 9<sup>th</sup>.
- Run with the MSU Basketball Girls will be September 10<sup>th</sup>.
- Findlay Hamfest will be September 10<sup>th</sup>.
- Hospice Walk will be at 1 p.m. on September 17<sup>th</sup> at Potter Park.
- There will be a trunk sale in Owosso on September 17<sup>th</sup>.
- Adrian Hamfest will be September 17<sup>th</sup>.
- Cleveland, Ohio Hamfest will be September 24<sup>th</sup>.
- Kalamazoo Hamfest will be October 8<sup>th</sup>.

Meeting was adjourned at 8:07 p.m. Moved Don Tillitson and seconded by Richard Cole.

Jane Hosford (KC8FSK) won \$7.00 at the 50/50 drawing, and Don Tillitson was given two donated tickets to the Kalamazoo Hamfest.

Dennis Boone (KB8ZQZ) presented a program on amateur television.

**Note from the Editor:**



**Just a quick note to let you know our printer died. So I will see what I can do about getting copies to those that need them. Sorry for inconvenience.**

Central Michigan Amateur Radio Club



Please print and complete the form below. Make check or money order payable to CMARC. Mail completed membership form and the membership fee to:

John Ingraham / NG8L, Membership Chairman  
2807 Greenbriar Avenue  
Lansing, MI 48912

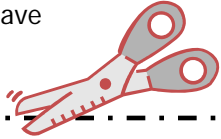
NAME: \_\_\_\_\_ Call: \_\_\_\_\_  
City: \_\_\_\_\_ St: \_\_\_\_\_ Zip: \_\_\_\_\_  
Phone: ( ) \_\_\_\_\_ Lic. Class: \_\_\_\_\_

ARRL Member?	Yes	No	(Circle Answers)
Email Scope?	Yes	No	

Email Address: \_\_\_\_\_  
 Birthday \_\_\_\_\_ Month: \_\_\_\_\_ Day: \_\_\_\_\_  
 Wedding Anniversary: \_\_\_\_\_

Full Membership: \$10.00 / year  
 Associate Member: 5.00 / year  
 Membership dues are from January to December.

As a licensed Amateur, you can sign up today as a Full member of CMARC. This grants you voting rights and an annual subscription to SCOPE, the club newsletter. An Associate member does not have voting rights but does receive an annual subscription to the SCOPE.



Lansing Civil Defense Repeater Association



**Lansing Civil Defense  
Repeater Association**

Please print and complete the form below. Make check or money order payable to L.C.D.R.A.. Mail completed membership form and the membership fee to:

L.C.D.R.A.  
PO Box 26281  
Lansing, MI 48909-6281

NAME: \_\_\_\_\_ Call: \_\_\_\_\_  
City: \_\_\_\_\_ St: \_\_\_\_\_ Zip: \_\_\_\_\_  
Phone: ( ) \_\_\_\_\_ Lic. Class: \_\_\_\_\_

Birthday \_\_\_\_\_ Month: \_\_\_\_\_ Day: \_\_\_\_\_

Full Membership: \$15.00 / year  
 2nd Membership of same family: \$ 7.50 / year  
 Membership dues are from January to December.

Use of the repeaters does not REQUIRE membership, but your support is GREATLY appreciated.