



W8KEA



MARC

MIDLAND AMATEUR RADIO CLUB
PO BOX 1049, MIDLAND, MICHIGAN 48641
www.w8kea.org

| | | |
|----------------------------|--------------------------|----------------|
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| Secretary | Linda Hodges KC8MUD | (989) 835-7746 |
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| | Pat Mullet KC8RTW | (989) 828-6657 |
| Swap Committee | Pat Russell W8PMR | (989) 832-2924 |
| | Chuck Cribley WA8LQD | (989) 488-9409 |
| | Keith Johnson KB8SOE | (989) 488-4337 |
| | Pat Mullet KC8RTW | (989) 828-6657 |

LIFE MEMBERS

Don W8WOJ, Lee KC8ITI, Dennis N8ERF, Larry N8CGP, Denny WD8BPT, John WB8RCR

Midland County Public Service Net, Thursdays at 9 PM
W8KEA Repeater — 147.000 MHz+ PL 103.5 • W8QN Repeater — 443.325 MHz+ PL 103.5
W8KEA Digipeater — 145.090 MHz

Next ARES®/RACES Meeting — Thursday, April 5, 2018, 6:00 PM
Law Enforcement Center, 2727 Rodd St.
Midland ARC Meeting — Thursday, April 5, 2018, 7:30 PM
Salvation Army Bldg, 330 Waldo Ave.
Talk-in 147.000+

April 2018

Static Discharge

Al Bailey, KA9WCS

Al is under the weather as this issue is being prepped, but Chris, KB8UIH, Coordinator of MARC's support for this year's MS Walk is in need of volunteers for this year's event. The MS Walk is a low impact event and is the perfect way for those with an interest in public service activities to get their feet wet. If you would like to volunteer, see the information on the MS Walk inside. — ED

When all else fails...
...Amateur Radio!



The meeting was called to order by AI KA9WCS at 7:30 pm.

Please bring any corrections or additions of the minutes to the attention of the secretary Linda KC8MUD.

The meeting started with a National Weather Service Skywarn® Training given by Andrew

Arnold at the Grace Dow Public Library.

- General Business- NET Controls:

March 8th Paul KE8GEM

March 15th ?

March 22nd Art K0ACP

March 29th Ryan KB8RCR

- Treasurer's Report - Larry N8CGP - Thank-you to all those Hams who have renewed their club membership. Also a CD came due.

- ARES® Request-AI KA9WCS- Three ARES® members helped with an emergency event is Arenac County on February 24th. The area had been declared an emergency due to flooding.

- PL Code – Rich KD8QXK – Rich added that as we travel

around the state that we should know how to program other PL codes into our radios that may be different than our own.

- Class- Lee KC8ITI- The Technician Class will start April 26th at the Midland High School. VE Testing will take place on April 7th and at the Swap Meet on June 16th.

Larry N8CGP made a motion to adjourned

Seconded by Art K0ACP

The meeting ended at 9:20 pm.

Respectfully submitted,
Linda KC8MUD
MARC Secretary

MARC MEETINGS

Art Peters, KOACP, is in charge of special events and topics for the MARC monthly meetings. If you have any agenda items, or topics for the meetings, please contact Art at (989) 400-3745, or via e-mail: k0acp@arrl.net.

COMMUNICATIONS

Pat Mullet, KC8RTW, is in charge of communications and publicity for the club. If you have any questions or ideas regarding these areas, please contact Pat at kc8rtw@arrl.net.

EXAMINATION SCHEDULE

Saginaw - All future VE testing will be done on an appointment basis only.

Corunna - Contact Thomas Carpenter (517) 579-0599 ki8as@charter.net.

Bay City - All future VE testing will be done on an appointment basis only.

Isabella/Clare Counties - Contact Gus Glass, K8GUS at k8gus@arrl.net

With all examinations, your original license, a copy of that license, a second photo identification (drivers license, etc.) and a check or money order for \$15.00 made out to "ARRL/VEC" are required.

The address listed below gives testing sessions scheduled for Michigan. <http://www.arrl.org/arrlvec/exam-search.phtml?State=MI>

SUBMISSIONS FOR NEWSLETTER

Contact Pat Mullet, KC8RTW at kc8rtw@arrl.net if you want to submit anything for the newsletter.

I need your items by the 15th of the month. Anything received after that may not make it into the newsletter for that month.

If you prefer to download the MARC newsletter from our web site, or have trouble with delivery via USPS, contact John, W8QN at w8qn@arrl.net.

MEDIA HITS!

Have you seen or heard mention of the Midland Amateur Radio Club in the news or in the paper? If so, please forward it, or mention of it to either Pat, KC8RTW (kc8rtw@arrl.net) or John (w8qn@arrl.net)

My Two Cents

Pat Mullet, KC8RTW

For the Midland ARC, June has always been our busiest month, what with the annual Hamfest falling the day before Fathers' Day, and Field Day the last weekend of the month. Some time back, the Dow Run/Walk fell on the first weekend of the month, but of late, that event has been pushed forward to the middle of May, and didn't that cause much gnashing of teeth among those headed down to the Dayton Hamvention? Still it did ease the congestion on the Club's calendar.

Traditionally, the lead-in to the MARC public service season has been the Club's involvement with the annual MS Walk, held the end of April each year, and as an aside, Chris Rose, KB8UIH, who spearheads our involvement with the MS Walk really, really needs volunteers for this year's event. If you can help, see the

separate article on how to get in touch with Chris.

The first week of March saw the release of the ARRL's Field Day packet, which marks the busiest part of my year. The release of the Field Day packet signals that it's time for me to get started on the Club's PR push. First off, I have to start writing requests for proclamations to local, County and State Governments in recognition of Amateur Radio Week, the week prior to Field Day. Generally, I have to come up with multiple press releases so that one can be sent out each week in June, though with our Club joining forces with SVARA, I'm not certain whose job that will be.

Then there's the Hamfest. If I haven't done so already, I have to gin up this year's flier for distribution. Again, I have to do multiple releases for the Hamfest.

Amateur Radio is a Contact Sport!

Why so many releases, you ask? It's due to the fact that different types of media have differing lead times for events. The rule of thumb is that print and radio media need a week or two to lay the ground work for a feature article, while TV needs two to three weeks. And, since each Hamfest has a VE session scheduled, I have to send out a release for that, as well.

Now, I won't say that I do more work than those organizing the Hamfest, Field Day or any of the other public service events. Each event has its own requirements and demands on the organizer's time, and I'm always impressed with the

way each one of them pull off a well-coordinated event with skill and grace, making it all seem easy while somehow managing to keep at least a modicum of sanity. If anything, I'm trying to say that since I, as well as the chair-folk of our events are starting the process of preparing for the Midland ARC's busy season, you might want to keep it in mind, as well. If you want to volunteer, go ahead. You'll make someone's day and have some fun along the way.

Hope to catch you on the air.

73, Pat, KC8RTW

Upcoming Events

| | |
|-----------------|------------|
| MS Walk | April 29 |
| Dow RunWalk | May 19 |
| Museum Ships | Jun 1-3 |
| Midland Hamfest | June 16 |
| ARRL Field Day | June 23-24 |
| GLHamCon | Oct 6-7 |

Michigan Hamfests

| | |
|-------|-----------------|
| 4/28 | Chassell |
| 4/29 | Madison Heights |
| 5/5 | Cadillac |
| 6/3 | Chelsea |
| 6/16 | Midland |
| 6/17 | Monroe |
| 7/21 | Gladwin |
| 7/28 | Lansing |
| 8/4 | EsCANaba |
| 9/16 | Adrian |
| 10/6 | Brooklyn |
| 10/28 | Madison Heights |
| 12/2 | Madison Heights |

MS Walk Volunteers Needed

Time is getting tight, and **volunteers are urgently needed!**

The Midland MS Walk for 2018 will occur on April 28th, centered on and around Midland High School. 1301 Eastlawn Drive. The event site opens at 9 a.m.; the walk begins at 10 a.m. Operators will be needed from 9 a.m. until roughly 1p.m. Plan on using the Midland VHF repeater on 147.00+. Other frequencies may be assigned later.

Please put this date on your calendar. Seventeen operators are

requested. If you can help, contact Chris, KB8UIH. I need a head count of who may be available to plan on what positions can be filled that day. Thanks in advance for your help.

If you were interested in the trip, Frankenmuth's Walk will be May 12th. Contact the Saginaw Valley ARA to volunteer.

Chris, KB8UIH
Home 989-832-7179
Cell 989-948-9153
kb8uih88@charter.net

Area Nets

SVARA; Mn, 147.24 MHz, 2100 ET
Gladwin; Tu, 147.18 MHz, 2000 ET
BARTS; Tu, 145.31 MHz, 2100 ET
Canadian Lks, Wed, 146.8, 2100 ET
Edmore, Th, 146.8, 2000 ET
MARC; Th, 147.00 MHz, 2100 ET
District 3 ARPSC; Su, 145.31 MHz, 1830 ET
Mi VHF Trffc Net: MWF, 145.15 MHz, 0900 ET
TMMTN; Mon-Sat, 147.30 MHz, 2130 ET
MACS; Sun-Sat, 3953 kHz 1100 ET
MIARPSC; Su, 3932 kHz, 17:00 ET
UPN; Sun-Sat, 3920 KHz, 17:00 ET
MITN; Sun-Sat, 3952 kHz, 1800 ET
QMN; Sun-Fri, 3563 kHz, 1830 & 2200 ET
WSSBN, 3932 kHz, 1900 ET
UP-ARES; Fr, 3932 kHz, 1930 ET
GLETN; Sun-Sat, 3932 kHz, 2030 ET
SEMTN; Sun-Sat, 145.33, 2215 ET
MIDTN - 1900 local Tu, Th, Sat 3.583
+waterfall, Oivia 8/500

Extra License Class Status

By the time you read this we will be in final couple of classes for the Extra license class. It has been an interesting experience with the students I've had in this class. The class will run through March 29th with a testing session

on April 7th. Hopefully, the knowledge class members have gained will allow them to be successful in upgrading their licenses to Amateur Extra. I know from the questions that have been asked in class their curiosity

about many aspects of amateur radio has been peaked. Good luck to all of the students in this class on the exams and your amateur radio endeavors.

Lee - KC8ITI

Spring 2018 Technician Class Scheduled

The Midland Amateur Radio Club is organizing an Amateur Radio Technician License class starting Thursday, April 26th and will meet on Mondays and Thursdays for the next eight weeks at Midland High School

Room 321, 1301 Eastlawn Drive. Each class will start at 7:00 pm and run approximately two hours, covering everything you need to know to obtain your first Amateur Radio license. There is no fee for the class, though the textbook

used—*ARRL Ham Radio License Manual, Third Edition* has a list price of \$29.95. If you order the book through the class, you can get in on the club discount and get the book for \$25.00. NOTE: I will not be ordering extra books for

this class. This is the last time this edition will be used for these classes. A new edition of the book

will be coming out in July. A testing session will be scheduled at the conclusion of this class. For more

information, contact Lee Hodges either via email at kc8iti@arrl.net or by phone at (989) 486-3771

MARC Database Cleanup

Larry, N8CGP and I have been working on updating and generally cleaning up the records in the club information database. At this time, we think we've got it in pretty good shape with as much updated information as we have. We have used information from club meeting sign in sheets and from FCC ULS database to make

some of these updates. I've noticed that some of the information we have doesn't match what the FCC has in the ULS database so it might be a good time to take a look at what the FCC has on file and update that record if needed. By the way, Part 97 of the FCC rules requires that you keep your contact information current in the

ULS database. If you would like to know your current information in the club database contact Larry at a club meeting or email Larry at larrymacklin@att.net or Lee at kc8iti@arrl.net and we will email your club database information to you.

Lee - KC8ITI

Announcing the 2018 Michigan QSO Party

Let's all help make Michigan "radio-active" on April 21-22!

Get your local EOC on the air and show the emergency management team how amateur radio can benefit their efforts!

The 2018 Michigan QSO Party, sponsored by the Mad River Radio Club, is from 1600Z April 20 until 0400Z April 21.

Stations may operate the full 12 hours. Phone and CW on 80/40/20/15/10 meters. Single-op, multi-op, and mobile categories. Work stations once per band and mode. MI-to-MI QSOs allowed. Work portables and mobiles again as they change county, state or province. Exchange QSO

number and location (county for MI stations, state/province or "DX" for others).

Suggested frequencies: CW-3545, 7045, 14045, 21045, 28045; Phone-3825, 7200, 14250, 21300, 28450. One point per phone QSO, two points per CW QSO. Count multipliers once per mode.

Multipliers are MI counties for all entries, plus states, provinces and "DX" for MI entries only. Final score is total QSO points times total multipliers.

Submit logs no later than 30 days after the contest. Electronic logs in Cabrillo format are submitted via the Log Submittal page on the MiQP web site [ht-](http://www.miqp.org)

[tp://www.miqp.org/submitLog-FileMiQP.html](http://www.miqp.org/submitLog-FileMiQP.html). Mail paper logs with summary sheets to: Mad River Radio Club, c/o Dave Pruet, 2727 Harris Road, Ypsilanti, MI 48198.

MiQP Log Submittal
www.miqp.org

Enter or Select info for all the fields below and then press the submit log button on the bottom of the page. Enter Callsign Used during Michigan QSO Party.

For full rules, along with free logging software, log and summary sheets, see <http://www.miqp.org>.

Section Manager News

(ARRLWeb 3/15/2018)

Greetings to ALL the Amateurs of Michigan,

I am hopeful this note is finding you well, and wherever you are, the spring thaw is beginning. I have had the opportunity to chat with many of you in person, or electronically, and as always, I am excited to hear from you. Please note that I'm not just interested in

hearing about issues, but also your take on how we might be able to resolve them. And yes, although I encourage you all to consider becoming a member of the ARRL, I will still love to chat with you, even if you choose not to support the only active lobbying organization the hobby has. Amateur Radio needs your input to continue to thrive and grow in Michigan.

Great Lakes HamCon

Almost immediately after the successful inaugural event, the Great Lakes HamCon team began planning the 2018 event. This year, the dates are October 7th and 8th. Many ham clubs have already volunteered to assist, and new for this year will be FREE amateur radio exams. Get you club involved in continuing to make this event even greater for

2018.

Radio Interference

Reports around Michigan are suggesting that RF Interference is on the rise. For many older amateurs, this is a little like the reverse of the times when radio operators had to tip toe around causing issues to consumer devices. Now, the consumer devices are generating much of the interference. I encourage you to take advantage of the section volunteers, however, please note that this isn't a magic fix. Interference issues are in many cases difficult to track down, and even after the source(s) are located, there can be little action that can take place, outside of real diplomacy. If you've had success, or want to volunteer to join the section technical specialist team, feel

free to reach out.

DXCC Field Card Checkers

DXCC Field Card Checkers have come up in many conversations recently. Director Williams has chosen to appoint an additional Field Card Checker to augment the great work being done by the existing volunteers. There have been some changes in what Field Card Checkers can process, please review the DXCC section at the ARRL website for details. Additionally, consider extending the same hospitality to these volunteers at your next swap or club meeting.

No Crystal Ball

We have a great number of volunteer resources in our section, but to my knowledge none of us

are members of the Physic Friends Network. If you don't let us know what's going on, it's not likely that we can "guess" effectively. Please consider dropping a detailed email or letter, passing conversations at a swap may get lost.

Final Thoughts

"... Silence Remains Inescapably, A Form Of Speech..."
Susan Sontag

I'm looking forward to running into you on the air!

73,
Jim K8JK

James A Kvochick, K8JK
ARRL Michigan Section
Section Manager
k8jk@arrl.org

Dale's Tales—Division Newsletter

(ARRLWeb site 3/1/2018)

Greetings everyone, welcome to "Dale's Tales" for March 2018.

"So close and yet so far" as the 3Y0Z effort to put Bouvet on the air again has been delayed. The other interesting news is that the 3Y0I team who also has plans to activate Bouvet is continuing that effort. 3Y0I had delayed their schedule to allow 3Y0Z the earlier opportunity to activate. This may get very interesting as the 3Y0Y team turned down the offer from 3Y0I to collaborate for the effort.

A word about our QSL Bureaus. Two Bureaus serve the Great Lakes division as we fall into two different call areas, 4-Land and 8-Land. Each bureau operates slightly differently, but each provided the same service, getting our foreign QLS delivered to us.

NO, it is not totally automatic; you must provide the bureaus with postage and/or envelopes to get your cards delivered. Each group will let you know the method they prefer. Still it all works very well and we owe a debt of gratitude to the many folks that work together to make this happen.

Basically, it typically works like this: the incoming cards are received at a central point for the respective call areas and are then sorted and bulk shipped to "Letter Managers". The Letter Manager completes the sorting process and stuffs the cards into individual envelopes we supply and mails them to us when enough cards have been accumulated. Sounds simple but keep in mind that there is an individual letter manager for the first letter in the suffix of the recipient's call. Mine is the "E" manager for example. 10 call

areas times 26 letters means as many as 260 people sorting across the USA and each Letter Manager may have a couple hundred envelopes on hand. They really do deserve some thanks, don't they?

To learn more about the QSL Bureau service in the Great Lakes Division check out the following URLs. The 8th Bureau has its own web page and the 4th is linked to the ARRL page.

8th AREA: http://arrl-great-lakes.org/8th_bureau.htm

4th AREA: <http://www.arrl.org/incoming-qs1-service>

TOM'S COMMENTS: Comments from our Vice Director Tom Delaney W8WTD

February saw me attending more club meetings than normal. I was trying to get around and discuss some of the changes at ARRL. Thank you all for your

Explore the World with Amateur Radio!

hospitality and your willingness to discuss issues of importance to you and the League.

I was especially pleased to get your reactions on some of the work the various committees are doing on advancing education, both for our newest hams, and for all of us.

I'd say more, but for the past several days I have been working mostly full-time with the Red Cross on the Disaster Relief operation for the Ohio River flooding.

So these brief remarks will have to do for this month. A quick note on ham radio communications. There has been no communication outage, so ham radio has not played a role in this effort. But I was impressed with the preparation and coordination of the ARES teams locally and at the state level to make sure they were ready to respond if necessary. There will be communica-

tions needs in some future disaster. We just don't know where or when. So keep your batteries charged.

- 73, Tom W8WTD Vice Director, Great Lakes Division

CONVENTIONS: Hamvention® will host the ARRL Great Lakes Division Convention this year, by special request, May 18-20. Be sure to get it on your calendar. Hamvention's new venue in Xenia worked well last year and another building has been added for vendor use. Check out their web site for the latest information. <http://hamvention.org/>

In even numbered years, the Great Lakes Division's three Sections normally host their individual State Conventions. Kentucky's ARRL State Convention will be hosted by the Greater Louisville Hamfest in Shepherdsville, KY on

September 8, 2018. See <http://louisvillehamfest.com/> Michigan's State ARRL Convention will be held at HamCon Brooklyn, MI on October 6-7. <http://glhamcon.org/>. While not a state convention, Ohio will be holding the Ohio Section Conference in conjunction with the Columbus Hamfest on August 4, 2018. See <http://columbushamfest.com/>

73,
Dale Williams, WA8EFK
Director
Great Lakes Division
wa8efk@arrl.org

Operating Tip

(ARRL Contest Update—Mar 7, 2018)

Search and Pounce to Run

On busy, crowded bands, finding a clear frequency to run may

take a while. Earn some points while you're looking by searching and pouncing until you find a good spot. Don't forget, the object is to find an empty frequency to

run, so only work stations that are calling CQ. Tune past contacts in progress, and don't get involved in pile-ups.

Technical Topics and Information

(ARRL Contest Update — Feb 21, 2018) Dick, W7WKR, suggests that Rudy, N6LF's [website](#) be referenced for radial systems for vertical antennas. "He presents a six chapter study of vertical antenna designs with a strong focus on MF and LF (630 and 2200 meter bands.)"

♦ The wireless transfer of power is currently in vogue for powering or charging items that vary in size from cellular telephones to electric cars. At [least one company has obtained temporary authorization](#) to use radio spectrum to test its technology, and Amateurs should be suitably wary of any technology that has

the potential to put thousands of watts of RF near or on the ham bands. There are other technologies that are also being pursued in the quest to eliminate the charging cable such as [this one by Disney Research](#) where the test setup is akin to placing a medium-wave loop antenna inside of a Faraday cage containing the devices to be charged. And then using around 2 kW of RF with radiator currents up to 140 Amperes.

♦ Dave, NK7Z, has added a second chapter on finding and identifying RFI sources using SDRs to his website: "[RFI Site Survey - Part II, Interpretation.](#)" Dave discusses his setup, and

provides real-world examples of certain types of signals that can be found, including over-the-horizon RADAR, switching power supplies, etc. (Jim, K9YC, via RFI mailing list)

♦ Faraday cages block electric fields, and are considered a good way to reduce the thread of electronic eavesdropping. But they don't shield against magnetic fields and [in a recent paper](#) researchers describe how an adversary could use regular computer hardware and special software inside a Faraday cage to transmit information via magnetic fields to a receiver located outside the cage.

More Technical Topics and Information

(ARRL Contest Update— Mar 7, 2018) During last summer's solar eclipse, researchers at MIT's Haystack Observatory and the University of Tromsø, Norway, [observed bow waves](#) created in the ionosphere by the shadow of the eclipse. The waves are created because the "eclipse shadow is supersonic with respect to the local sound speed in the upper atmosphere" according to Phil, W1PJE, a co-author of the study. The referenced article contains a visualization of the collected



◆ According to an [article refer-](#)

[enced on SpaceWeather.com](#), decreased solar activity can allow more cosmic rays to penetrate Earth's atmosphere. Those rays can be harmful to humans, and also negatively affect radio wave propagation by increasing ionospheric radio wave absorption. (David, WA1OUI)

◆ [New polymer technology](#) is behind a recent breakthrough in capacitor energy storage, and future commercially produced capacitors could rival or exceed the energy storage capacity of current Lithium batteries, according to researchers. Capacitors offer higher current capa-

cities than batteries, but traditionally can't store as much charge. (Ward, N0AX)

◆ The Arecibo radio telescope will be [managed by a consortium led by the University of Central Florida \(UCF\) under a new operating agreement](#). Starting April 1, the consortium will administer the 54 year old facility. Repairs after damage by Hurricane Maria and upgrades to expand the capabilities to serve new users are high on the to-do list. The facility's dish is 305-meters in diameter, and on 430 MHz has an EIRP of 2.5 terawatts (pulsed).

MARC Vital Statistics

| | | | | | | | |
|-----------------------------------|---------------|------------------|-----------------|-----------------|-------|--------|--------|
| Memberships Expiring in March | | | | | | | |
| N8LBF | | N8WTQ | | | | W8QN | |
| Memberships Expiring in April | | | | | | | |
| K8RI N8JBW | K8VB K8VFO | KD8MMH KC8IHB | K6VWE KE8GEM | K8AVJ KB8AWE | | | |
| Memberships Expiring in May | | | | | | | |
| KD8QAM | | | KE8DON | | | | |
| Members in Good Standing | | | | | | | |
| K0ACP | KA9WCS | KC8IHB | KD8QAM | N8CGP | N8WT | W8ZSX | WD8ODG |
| K2VMH | KB8AWE | KC8ITI | KD8QXK | N8ERF | NX8A | WA8LQD | WN8QGV |
| K6VWE | KB8PGW | KC8MUD | KD8QXL | N8FUZ | W8DOD | WA8Y | |
| K8AVJ | KB8RCR | KC8RTW | KD8ULT | N8JBW | W8QN | WB8FYR | |
| K8RI | KB8SOE | KD0JHX | KE8DON | N8KRL | W8RBF | WB8RCR | |
| K8VB | KB8UIH | KD8HID | KE8EOX | N8LBF | W8WOJ | WB8WNF | |
| K8VFO | KC0CJC | KD8MMH | KE8GEM | N8NGT | W8ZSX | WD8BPT | |
| Current Active Club Membership 51 | | | | | | | |

Birthdays Celebrated in March/April

| | | | |
|-------------|------------|-------------|-------------|
| AC8RT 3/4 | K8VB 3/20 | KB8TBI 4/14 | KA8EZT 4/28 |
| KC8RTW 3/17 | W8QN 3/31 | KC8IHB 4/19 | N8JBW 4/30 |
| KD8QXL 3/18 | KC8TQS 4/9 | WA8LQD 4/27 | |

Anniversaries Celebrated in March/April

| | |
|------------------------|------------------------|
| WN8QGV and Belinda 3/2 | WD8BPT and Melody 3/13 |
| KC8ITI and KC8MUD 3/6 | AC8RT and Julie 4/26 |

Information is from data received 2/15/2018
Any corrections or questions contact Larry, N8CGP

Amateur Radio. . . We Do That!



Pat Mullet
Newsletter Editor
171 E. Orchard Ave.
Shepherd, MI 48883

If you desire to join the Midland Amateur Radio Club, the dues are \$20 per year for an individual membership. A family membership is available for an additional \$5 per year which covers all of the individual's family members. Family members must reside at the same address as the primary member to be eligible for the family member rate. The membership dues help to cover the operating expenses of the Club, and its radio systems. Membership includes Autopatch privileges on the W8KEA repeater (147.000+), voting privileges at MARC meetings, and a monthly newsletter. Please supply the following information:

Name: _____ Callsign: _____ License Class _____
Address _____
City _____ State _____ Zip _____
Home Phone (____) _____ Work Phone (____) _____
E-mail address _____
Spouse: _____ Callsign: _____ License Class _____
Birthday: (mm/dd) _____ Anniversary: (mm/dd) _____
Desired newsletter format: Paper copy via USPS _____ or via e-mail _____

Are you an ARRL Member? Y/N Do you want an ARES Application? Y/N

We request this information so we can communicate with you regarding MARC business, and periodically send you newsletters and congratulatory birthday & anniversary greetings. We do not sell this information nor will we knowingly publicize private information without your permission. Information that is publicly available may be distributed to Club members for various purposes, including membership lists, without prior notification.

You may give this completed form to the MARC treasurer, or you may mail it to:

MARC, PO Box 1049, Midland, MI 48641-1049