



W8KEA



# MARC

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

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

July 2018

Static Discharge

Al Bailey, AD8BA

I am writing this as the results of our Hamfest are coming in. It was great to see so many of our club members helping to setup, perform the many functions, and clean up. Thank you. You are what make it work. We cannot hold this large of a function without you. The financial results will come in and I'm sure Larry will inform us of the final results this next meeting. We will then vote on a measure to send a donation to the Salvation Army as thanks for their letting us use their facility throughout the year.

At the July Club meeting, I will bring in the Midland City Council proclamation we received proclaiming an Amateur Radio Week in Midland. This was another opportunity to highlight our accomplishments within the community because of all of the things you do with our club. It was nice to see the appreciation in the eyes of the council members. A shout out to Pat Mullet, KC8RTW who does such a great job putting those

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



things together. He is an asset to the club, and greatly appreciated.

I am told we have some people who are interested in becoming club officers. If you are

interested please contact either Rich Ripke, KD8QXK or Dennis Klipa, N8ERF. Don't be shy, we always need people willing to step up and help lead the various club

activities.

Hope to see you at the club meeting in July.

Al Bailey, AD8BA

## MARC Minutes

## Linda Hodges, KC8MUD

Al, AD8BA brought the meeting to order at 7:30 pm with 34 guests and Members present. A sign-in sheet was passed around

and introductions were made. Any corrections or additions to the minutes should be brought to the attention of the Secretary Linda KC8MUD.

KD8HMM said the Saginaw club would pay for it.

- Election Committee - Al, AD8BA - Dennis, N8ERF and Rich, KD8QXK are on a committee to seek people who would like to be next year's club officers.

- School Club - Dennis, N8ERF - It was an awesome year for the Middle and High School students, sponsors and advisers. Every year has seen an improvement in finding a perfect balance of learning and fun for all involved. Pat, W8PMR added that the E.A.E. Co. made a generous donation of tools, lights, soldering stations, and various items to the school clubs. Thank-you for your support.

NET Control:

June 14<sup>th</sup> Keith, KB8SOE

June 21<sup>st</sup> Paul, KE8GEM

June 28<sup>th</sup> Art, K0ACP

- Treasurer's report - Larry, N8CGP - Thank you to everybody who have renewed their membership.

- Next Meeting - Art, K0ACP - Please bring your latest bench project for show and tell for the July meeting. Share what you are working on with other members.

- Tech Class - Lee, KC8ITI - Lee has finished his Tech Class with four students. All are expected to pass their tests and become the next new licensed operators. Congratulations to Lee for all his hard work and dedication to amateur radio and to his students for sticking with it.

- Name Badges - Mike, KD8HMM - Mike has offered to take orders for name badges, please contact Mike for more information.

### 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: [kOacp@arrl.net](mailto:kOacp@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](mailto: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](mailto: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](mailto: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](mailto:kc8rtw@arrl.net) if you want to submit anything for the newsletter.

I need your items by the 15<sup>th</sup> 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](mailto: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](mailto:kc8rtw@arrl.net)) or John ([w8qn@arrl.net](mailto:w8qn@arrl.net))

# Amateur Radio is a Contact Sport!

Larry, N8CGP made a motion to adjourn the meeting and it was seconded by Dorie, N8WTQ. The meeting ended at 9:00 pm.

Respectfully submitted,  
Linda, KC8MUD  
MARC Secretary

## My Two Cents

Pat Mullet, KC8RTW

Last Thursday, the moderator for the Midland County Public Service Net, Keith, KB8SOE, asked the attendees what we thought could be done to improve the annual Midland Hamfest. Several good ideas were kicked around, and when my turn at the mike came, I suggested demonstrations of digital modes as well as technologies that could benefit or were of interest to hams, specifically 3D printing.

A few more check-ins took their turn tossing ideas into the hat when Jack, K8GTG had his turn. It turned out that Jack owned a 3D printer, and was, in fact, planning a demo at one of the upcoming Club meetings. I got with Jack, told him I'd downloaded several ham-related 3D printer files and had been looking to have some items made up, but hadn't found a place to print them. I ended up emailing Jack the files, and he was impressed. Going to one of the online 3D file repositories, he found a number of items he's now planning to look into printing.

There's a multitude of ham related items available online, everything from dipole center insulators to coil forms to replacement knobs for specific brands and models of radio. There's even a group known as [SATNogs](#) dedicated to constructing an open network of internet linked ground stations for the purpose of receiving telemetry from LEOSats and making it available to scientists, engineers and other interested parties. SDR dongles serve as receivers with Raspberry Pi type computers to link to the internet and run the software to drive their 3D printed AZ/EL rotors and helical antennas!

All that from a little box that can create almost anything you can draw! No wonder this technology is so popular with the maker community and it will probably be taking the homebrewing hams by storm soon, as well.

Hope to catch you on the air!

73, Pat, KC8RTW

## ARES®/RACES

Al Bailey, KA9WCS

Ok, every once in a while things don't go as we plan them. I'm sure you have all had that experience. Our last meeting really fit the bill. Not only is the Homer station not setup for Packet, but when we finally got to just trying to run the radio it failed. The radio failure is actually the good news. Why good? Because we want to know the equipment works when we need it, so to do

that we occasionally have to go test it. So in the end we were able to accomplish something valuable for our group. Thank you to all of you for your patience as some times it just goes like that.

This next meeting we will be going to the Law Enforcement Center. We will continue with some packet radio exercises. Bring your handheld radios too. I

have some information relay ideas in mind. It will be fun and good to practice with your own equipment too. As I have a firm belief in doing things at these meetings rather than talking about them. Hands on is always better.

Hope to see you there, at the Law Enforcement Center at 6:00 pm, Thursday July 5<sup>th</sup>.

Al Bailey, AD8BA

### Upcoming Events

ARRL Field Day June 23-24  
Sec Fam Out. July 6 & 7  
GL HamCon Oct 6/7

### Michigan Hamfests

7/21	Gladwin
7/28	Lansing
8/4	Escanaba
8/12	Port Huron
9/8	Wyoming
9/16	Adrian
10/6-7	Brooklyn
10/20	Muskegon
10/21	Kalamazoo
10/28	Madison Heights
12/2	Madison Heights

### 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

# Explore the World with Amateur Radio!

## 2018 Dow Run/Walk Wrap-Up

I want to thank the people listed below for their assistance in the Dow Run. The weather was rainy and wet for the whole event but there were no incidents and everything went well. Everyone was on site by 7:30 and we were all gone by 11 am. Thank you for your assistance under less than ideal conditions. Operators that participated this year were: Kevin, KB8TAR; Mike, KD8MMH; Debbie, KB8J; Gloria, KC8IHB; John, KB8PGW; Jim, KC8HTH;

Chris, KB8UIH; Max, KE8DON; Bob, W8LSS; Sharon, WD8AXR; Dorie, N8WTQ; Dennis, WD8BPT; Linda, KC8MUD; Keith, KB8SOE; Kevin, KD8QXL and Mike, K8ABJ.

Lee - KC8ITI

— § —

I also want to thank all those that helped with the Dow Run this year. It is my understanding that

the date for the run will return to the first week of June next year. With no more conflict with Dayton perhaps more folks could join us.

I also want to give a big thanks to Lee and Linda for stepping in on my sudden absence. Its folks like them in the club that makes it enjoyable to be a member.

John – W8QN

## 2018 Spring Technician License Class

The Technician class finished in time for the VE session at the Swap. Of the 6 students that started the class 4 students completed the course. Tim Walters and Nicholas Heinrich earned their General license, Brooklyn Taylor and Craig

Kressler earned their Technician license. Congratulations to all of the successful candidates and I'm sure they are eagerly awaiting their new call signs. I look forward to teaching this class in the future if there are enough people that show an in-

terest in earning their Technician license. I am working on updating the material to match the new question pool that becomes effective on July 1<sup>st</sup>.

Lee - KC8ITI

## 2018 Midland Amateur Radio Club Swap

I want to thank all of the club members who helped with the club table setup on Friday. Moving all of the equipment and boxes from the trailer to the gym at the Salvation Army building was a

large task and all of the helping hands were appreciated. Also, thanks to all of the people that helped reload all of the boxes and equipment back into the trailer after the Swap was over. Special

thanks to Pat, W8PMR for the use of the big trailer and hauling it around for us. Again, my appreciation to everyone that helped.

Lee – KC8ITI

## 2018 Hamfest VE Exam Results

We had 12 candidates at the VE session and 11 walked out happy. There were one upgrade to Extra, one upgrade to General, three new Generals and six new Technicians. Congratulations to the following folks—

Technician Class: Craig Kressler, Hope; Randall Bowman, Millington; Cathertne

Clark, Hope; Brooklyn Taylor, Midland; Ryan Manz, Bay City and Phil Jozwiak, Sanford.

General Class: Terry Cline, KE8FJD; Nicholas Heinrich, Bay City; Tim Walters, Beaverton and Jeremy Pelt, Midland.

Extra Class: Everett Vansickle, Midland.

Thanks to the following VEs:

Art Peters, K0ACP; Debbie Cuthbertson, KB8J; Del Lafavor, WB8FYR; Pat Russell, W8PMR; Larry Macklin, N8CGP; John Tallman, KB8PGW and Mike Dougherty, KD8MMH.

Best Regards,  
Dennis Klipa, N8ERF  
VE Liaison

## ARES® E-Letter Briefs

(ARES E-Letter — May 16, 2018)  
*FEMA Releases New Damage Assessment Independent Study Course*

Damage Assessment Operations is a new online FEMA Emergency Management Institute

(EMI) Independent Study (IS) course. This course will equip participants to conduct damage

assessment in accordance with the *Damage Assessment Operations Manual: A Guide to Assessing Damage and Impact*. Objectives: Upon completion of this course, participants will be able to: 1. Describe the relationship between damage assessment and Federal disaster assistance 2. Describe roles, responsibilities, and activities during each phase of the damage assessment 3. Prepare to conduct damage assessment 4. Conduct damage assessment for Individual Assistance (IA) and Public Assistance (PA) 5. Evaluate damage and impact to the community.

Click [here](#) for the course.

*Letters: On HAZMAT Responses*

I read your article *Handling HAZMAT Incidents* in the [February 2018 ARES E-Letter issue](#). In re the case study presented, I agree with what you said in your wrecked tanker scenario. It was good that you pointed out that even first responders are limited in what they can do — or should even try to do — in a HAZMAT situation.

One additional consideration that can assist responders if they can't see placards is to assess the actual construction of the tank trailer. For examples: the usual large and fairly smooth sided oval shape of gasoline or diesel tanker versus a tanker carrying corrosives like mining acids, which are usually narrower round tube type tanks that are heavily buttressed

on the outside due to the increased weight, versus a grain or other hopper type trailer, etc.

While not being able to say exactly what is in the tanker from a description, the person reporting should be prepared to give a good description of the tank's construction if possible, from a safe distance, of course.

And those binos can really make the difference. The [Emergency Response Guidebook](#), or the "Orange Book," has good info on rail cars and road trailers in the first 10-20 pages. As they say, good information is key to an effective, safe response. — *Ed Hutchinson, WE7H, Tucson, Arizona*

## May 2018 Section Newsletter

James A Kvochick, K8JK

Greetings to all the Amateurs of Michigan,

There are many exciting things happening relative to amateur radio, especially within our state. I encourage everyone to jump on in, try something new or different, and share your skill and expertise with others. This would be a great time to go to a club meeting that you haven't attended for a while.

I have heard many comments either in person or on the air relative to the ARRL request to expand HF privileges for Technician Licensees. Feel free to share your thoughts with your fellow amateurs, and of course your section team.

The ARRL Great Lakes Division Convention at Hamvention this year will be my first as your Section Manager. I'm looking forward to meeting up with you at the ARRL Expo area, the Great Lakes HamCon booth (6612), or perhaps wandering the flea market. The ARRL Expo area will be

even better than it was last year at Hamvention.

### *Great Lakes HamCon News*

Plans are in full swing for the second annual Great Lakes HamCon, October 6th and 7th, 2018.

There are a number of improvements being planned to make this event even better than the inaugural showing, but I'm particularly proud and excited about the efforts that our government liaison team (Ed, WA8QJE and Larry, WB8R) made on improving the sales tax issues for vendors attending this venue.

When you are buying or browsing equipment or parts from vendors, point them to the Great Lakes HamCon website ([glhamcon.org](http://glhamcon.org)) or our own section website for more details. Please encourage vendors to visit us in October!

### *Section Staff Changes*

During the next several

weeks, I'll be posting staff changes on the Section website. Many of our existing staff members have served proudly for many years, and their lives are moving into next chapters. I deeply appreciate all that they have done for amateur radio in the Michigan section, and will truly miss them. Please join me in welcoming new staff members when the announcements are posted.

### *Final Thoughts*

Remember that I'm always interested in hearing about your solutions for issues within our amateur radio community, the issues are sometimes really easy to spot, but the solutions are just a bit more challenging. I'm looking forward to hearing from all of you!

73,  
Jim K8JK  
ARRL Mich. Section Manager  
[k8jk@arrl.org](mailto:k8jk@arrl.org)

# Ham Radio: The Original Social Media!

## GL Division Newsletter Dale Williams, WA8EFK

(ARRLWeb—5/32/18)

The feedback I have personally received from the *Hamvention*<sup>®</sup> attendees was very positive again this year. A little rain did not seem to be too disappointing. We had great attendance at the ARRL EXPO Booth and it was neat get around to see some new products introduced by key amateur radio equipment manufacturers. At the ARRL Forum, President Rick Roderick, K5UR covered some of the essentials coming under review at the next ARRL Board meeting. Those included some needed updates to the ARRL Articles of Association as recommended by the ARRL's Connecticut attorneys. Rick also reported that the Board will be considering a template of a Code of Conduct provided through the National Council of Non-profits.

At the ARRL Forum, I was able to present an overview of the planned upgrades to the nationwide ARES<sup>®</sup> program. This included the newly developed ARES Strategic Plan which will serve as the guideline for ARES<sup>®</sup> in the future.

At this point, the Strategic Plan must be approved by the ARRL Programs and Services Committee and also the Board of Directors. This may mean changes to the plans before they are introduced in the field, but the team remains optimistic there will be minimal changes. The entire program was actively reviewed by a team of experienced Section Managers, Section Emergency Coordinators and Emergency Coordinators during the development process. Look for more information to be forthcoming from ARRL HQ over the next few months. Needless to say HQ staff will be busy updating much of the ARES<sup>®</sup> material the League publishes to bring it in line with the new program.

Since 1935, we have done a great job with the ARES<sup>®</sup>, but changes in the needs of our served partner agencies, their demands for improved training, alignment with the National Incident Management System and the Incident Command System, technological changes and new messaging requirements have all come into play in bringing ARES<sup>®</sup>

into a new age.

**Further progress on Amateur Radio Parity Act.** As you are aware, the House has passed HB 555 and it was stalled in the Senate by Sen. Bill Nelson of Florida. It was then attached to the National Defense Appropriations Bill and passed the house by a significant margin. It has also been attached to the House Financial Services and General Government Appropriations Act. It has cleared the subcommittee and is on its way to the full House. The Senate has not yet taken up these two measures. Please bear in mind that this legislation directs the FCC to draft a regulation similar to PRB-1 to allow the installation of effective amateur radio antennas in certain areas where they are not permitted because of deed covenants and restrictions.

73, Let's light up the bands,

Dale Williams, WA8EFK  
ARRL Great Lakes Division  
[wa8efk@arrl.org](mailto:wa8efk@arrl.org)

## Technical Topics and Information

(ARRL Contest Update—May 16, 2018) Jim, K9YC, commenting on the remote outside placement of an antenna tuner for a 630 meter antenna: "Because coax loss is quite low at those frequencies, unless the coax is a significant fraction of a wavelength, a tuner in the shack should work equally well." By putting the tuner in the shack, concerns about remote control and weatherproofing can be minimized.

◆ Bob, N6TV, recommends how to adjust Elecraft K3 AGC

settings for best performance on CW, especially in situations where large pileups are encountered. The rationale for the setting is provided in addition to the setting itself. (Bob, N6TV, via Elecraft mailing list)

◆ "[Mult Chaser](#)" is a free add-on that displays contest multipliers on a map as they are worked." *Mult Chaser* was written by Patrick, NA0N. By setting up an "extra" networked computer running N1MM Logger+, you could display the multiplier map on a

large screen TV on the shack wall to motivate and inform the operator(s).

◆ Say you've got a vertical antenna on a beach in eastern Russia at 58.61667, 162.23333, and you'd like to take advantage of an all-saltwater path. What's the longest saltwater-only path, and what's at the end? According to some [work recently done to find the Earth's longest all-saltwater path](#) it will be 32,090 kilometers ending at the shore in Pakistan at 25.28333, 66.66667. (Ward, N0AX)

## More Technical Topics and Information

(ARRL Contest Update—May 30, 2018) [Club Log QSO statistics](#)

[on a per-mode basis is being made available](#) on the Club Log

website. QSO data are broken out daily, but updated on the Club

Log website monthly, starting with QSOs that occurred in 1990. If you're hankering to see how many of what types of QSOs are being uploaded to their site, you'll want this data. The blog discussion includes other tidbits on how the data might be used, and caveats about using recent data.

◆ The Analog Devices AD9361 is a complex SDR transceiver on a chip, capable of operation from 47 MHz to 6 GHz. Typically used in cellular telephone base stations, it's capable of many different types of modulation schemes. It's been [literally put](#)

[under a microscope to examine how the device has been realized in silicon.](#)

◆ How and why do dielectric materials break down? [Some reasons may involve "nano defects" in the materials](#) (Tom, WA9YI)

Electronic parts are specified to operate within certain temperature ranges, but usually the top-end is about 125 degrees Celsius. The University of Arkansas and the KTH Royal Institute of Technology of Sweden are [working on building a radio that can be used at 500 degrees Celsius.](#)

*Operating Tip: Use WWV to Detect Band Openings*

This one was suggested by a post by Wayne, N6KR, on the Elecraft mailing list: Listen for WWV on 25 MHz to suggest if the 15 meter band is open to your location. A very strong WWV presence could also suggest that 10 meters is open. Note that this works if WWV is not within ground wave distance to you.

MARC Vital Statistics						
Memberships Expiring in June						
KB8UIH			N8KRL			
Memberships Expiring in July						
W8ZSX			WD8BDM			
Memberships Expiring in August						
N8FUZ		W8DOD		NX8A		N8NGT
Members in Good Standing						
K0ACP	KB8PGW	KD0JHX	KE8EOS	N8WTQ	WA8Y	WN8QGV
K2VMH	KB8RCR	KD8HID	KE8GEM	NX8A	WB8FYR	
K6VWE	KB8SOE	KD8HIH	KE8JNA	W8DOD	WB8RCR	
K8GTG	KB8UIH	KD8MMH	N8CGP	W8LSS	WB8WNF	
K8VB	KC0CJC	KD8QXK	N8ERF	W8RBF	WD8AXR	
K8VFO	KC8ITI	KD8QXL	N8FUZ	W8WOJ	WD8BDM	
KA9WCS	KC8MUD	KD8ULJ	N8KRL	W8ZSX	WD8BPT	
KB8J	KC8RTW	KE8DON	N8NGT	WA8LQD	WD8ODG	
Current Active Club Membership 49						
Birthdays Celebrated in June/July						
W8LSS 6/2		KD8MMH 6/30		N8NGT 7/14		
N8LOU 6/8		WD8ODG 6/30		AG8B 7/18		
K8RI 6/16		KA8ORL 7/1		WB8RCR 7/21		
KB8VSS 6/21		KB8RCR 7/2				
Anniversaries Celebrated in June/July						
N8CGP and N8KRL 6/5		WB8WNF and ??? 6/22		KE8CTI and Molly 7/8		
WA8LQD and Kathy 6/16		NX8A and Kristina 6/24		K6VWE and Carolyn 7/16		
N8STF and Mary 6/16		K8VFO and Mayumi 6/27				
W8LSS and WD8AXR 6/19		KD8HID and ??? 6/28				
Information is from data received 6/9/2018						
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