

W8KEA

MARC



MIDLAND AMATEUR RADIO CLUB
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www.w8kea.org

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	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, August 3, 2017, 6:00 PM
Law Enforcement Center, 2727 Rodd St.
Midland ARC Meeting — Thursday, August 3, 2017, 7:30 PM
Salvation Army Bldg, 330 Waldo Ave.
Talk-in 147.000+

August 2017

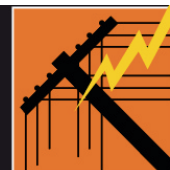
Static Discharge

John Wolters, W8QN

This version of the newsletter comes after the Midland Flood. I hope you made it through safe and secure. If not, my prayers are with you. I also want to say thanks to all that worked in various roles after the flood. You know who you are and your work was appreciated.

I am writing this in a hotel room in Clute, Texas. I drove all the way here from Midland and am happy to report that there was a lot more simplex activity on 2 meters this trip than on a lot of other cross-country trips. What was surprising is that the frequencies were around 147.40 simplex rather than 146.52. Some big gun fixed stations between Dallas and Austin, Texas were chattering away for quite a while. Some nets in St. Louis and Houston on repeaters and a lot of activity on DMR repeaters, maybe due to active links. I could not tell as I have D-star and not DMR. At least in the south it appears that VHF activity is alive and well.

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



Hope you are enjoying your summer, remember that the swap is August 12th, and advertise to any ham you talk to.

And last for this time, our PIO and newsletter editor, Pat Mullet, is having some medical procedures performed that may keep him

from his duties in the next month. Please keep him in your thoughts.

John Wolters, W8QN

MARC Minutes

Linda Hodges, KC8MUD

The meeting started with an ice cream social at 7:30 pm. Martin W8MGM called the meeting to order with 21 members and

MARC MEETINGS

Mark Murray, W8MGM, 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 Marc at (989) 513-7174, or via e-mail: mark.g.murray@icloud.com.

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)

guests present. A sign-in sheet was passed around and introductions were made.

- Next meeting— Martin W8MGM— Please bring your portable radios and set-ups in for show-and-tell to the next meeting. We'll be talking about emergency preparedness and how our equipment is most useful.

- Field Day— Pat W8PMR— This year's Field Day was a combined effort with the Saginaw group. Pat reports a highly successful day with no rain, great location, and wonderful hosts. Several members from Midland attended and one 13 year-old had a very positive experience. Thank you very much to the Saginaw club for the invitation, it was all very nice.

Steve WA8Y also told about his field day experiences at another location up north.

- Flooding— Al KA9WCS— This was Al's very first emergency event as EOC for the Midland area. Using graphs and charts he explained how many organizations come together to assess and figure out what needs to be done as quickly and as efficiently as possible. He says it was all a learning experience and he stayed at the LEC for the entire time. Our club members were given compliments by the LEC staff for their expert help. Thank you Al, for all your time and talent. Questions, answers and discussion followed.

- John WB8RCR— John gave an overview of the same event but

from the state's perspective. More discussion followed.

- Treasurer's report—Larry N8CGP— Thank you to all those who renewed their memberships.

- SDR—Larry N8CGP— Larry found a source for buying these units for a lower cost with a wider bandwidth.

- Swap—Keith KB8SOE— Keith says pass the word about our Late Summer Swap on August 12th. We'll be at the Salvation Army Building. Set-up sites are free with the cost of a ticket. There will be tables inside, trunk sales, a testing session and food. Lots and lots of items for sale, knowledgeable people to talk to and tons of bargains. Please come on out and be part of this exciting day. Help to set up and clean up is always welcome.

NET Control

July 13th Chris KB8UIH

July 20th Lee KC8ITI

July 27th Al KA9WCS

- Hamfest— Steve WA8Y— Steve mentioned the Hamfest in Harrison on July 22nd.

- Lupton— John WB8RCR— John told about the Lupton Michigan Section Family Camping Outing on July 7th and 8th.

A motion on the floor by Larry N8CGP to adjourn.

Seconded by John W8ZSX

The meeting ended at 9:05 pm.

Respectfully submitted

by Linda KC8MUD

My Two Cents

Field Day has come and gone, and in my case, the lousy weather definitely rained on my parade.

Pat Mullet, KC8RTW

Oh, not literally, other than a good deal of standing water around the yard, we didn't suffer

any damage from the weather, though my mood was certainly dampened. Coupling that with both poor conditions and the fact that my autotuner isn't matching anything above 40 meters, I threw in the towel after about two dozen contacts—I could hear 'em, but I couldn't work 'em.

The troubles with my tuner seem similar to those we had in the SATERN COMM van. It may be that RFI is confusing the tuner logic. I'll need to shuffle the transmission line's common mode chokes to see if that helps, as well as inspect the coax itself—my sis-

ter and I did some re-arranging of the deck in the back yard, and it may be that the cable was damaged in the process.

I could swap out the autotuner with my manual tuner, or I could swap in my FT-817 and its autotuner, but since the little rig only puts out 5 watts, it wouldn't be a true test of the transmission line. It might be better just to try the manual tuner.

With any luck, I'll get it all figured out before the snow flies!

Hope to hear you on the air!

73, Pat, KC8RTW

ARES®/RACES

Al Bailey, KA9WCS

Ok, so that was not what I was thinking the last few weeks were going to be like! My thoughts were a small table-top exercise and then off to do some Field Day fun! For the record, our group logged 177.5 man hours of assistance in the month of June, and 33 man hours in the month of July. Well done to John Wolters, Pat & Wendy Russell, Dennis and Jacqueline Klipa. Your assistance really mattered. As of this afternoon, the total damage amount for Midland County from the Flood Emergency is at \$115.8M. The

next county is Isabella County (Mt. Pleasant) at \$43 M.

The flood event proved to be a great learning experience. These are some of the items I would like to discuss with everyone at the next meeting, which is on Aug 3rd, 6:00 pm at the Law Enforcement Center. Bring your handheld radios, as we will go out for some field work for sure.

Plan on coming and bring your handheld.

Al Bailey, KA9WCS

September Elections

Just a reminder that election of officers occurs in September. A key reason for bringing this up is that I will not be running for re-election. I have too many things on my plate in the next 12 months

that will lessen my involvement and I don't want the club to suffer due to me. Please consider an officers position.

John Wolters, W8QN

Love your EMA

John McDonough, WB8RCR

As a result of the Midland/Isabella floods, I learned something distressing. It is really hard these days for the government to get the word out.

Think about it; nobody reads the paper anymore, the radio stations are all automated, with hundreds of channels few people watch the local news. So how does the

government let people in on important stuff? Sure, there is the Emergency Alert System for really critical emergencies, but EAS messages have to be quite short and can only be issued for certain specific messages.

During the floods, the county issued a press release advising people to be careful of materials

Upcoming Events

8/21 Solar Eclipse QSO Party
10/07 Great Lakes Div. Con.

Michigan Hamfests

7/22 Shelby Township
7/22 Harrison
7/29 Lansing
8/5 Escanaba
8/12 Midland
8/13 Port Huron
8/19 Alpena
9/9 Wyoming
9/17 Adrian
9/23 Shelby Township
10/7 Brooklyn
10/21 Muskegon
10/22 Kalamazoo
10/29 Madison Heights
12/3 Madison Heights
4/29 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
OMN; 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

MARC MERCHANDISE

T-Shirt	S- XL	\$10
	2X - 3X	\$12
Long-Sleeve Tee	S- XL	\$12
	2X - 3X	\$15
Crew Sweatshirt	S- XL	\$18
	2X - 3X	\$20
Hoodie	S- XL	\$24
	2X - 3X	\$26
Zipper Hoodie	S- 3X	\$30
Winter Coat	S- XL	\$42
	2X - 3X	\$45
Spring Jacket	S- XL	\$32
	2X - 3X	\$35
Hat		\$10

All garments are royal blue with white print and embroidered name and number. Extended sizes available.

Please call Bill Lee at B&C Sportswear with questions @ (989) 839-4537.

potentially contaminated by flood water. Not everyone thinks of this, so it is a safety issue.

Then there was a press release advising people to go online to report damage. This was critically important. Damage must be reported within 72 hours of the disaster declaration. If the damage is high enough, the county may be eligible for a Federal declaration, which makes a number of aid programs available. If you neglected to report your damage, we might not reach the threshold, and you and your neighbors might not get aid. But how do you know this if you don't see the press release?

Then a Multi-Agency Resource Center was opened where people could find out what kind of aid is available, and there are tons of programs that most people don't

know about. The MARC had insurance specialists, people to help clear out flooded basements, places where you could find shelter, even food in case your freezer was flooded. But if you didn't see the press release, you didn't know it was there.

Today the way to get the word out to people is social media, especially Facebook and Twitter. But that still doesn't help if you aren't following the right agencies.

I think to be socially responsible, each of us should be following all relevant agencies, and when something happens, share or retweet anything important so our followers can be informed. While none of us may have all the followers that Myley Cyrus has, together we can reach out to a significant fraction of Midland's

population.

On Facebook, follow Midland County Emergency Management, Midland County 911, Midland Police Department, City of Midland, Michigan - Municipal Government, and Michigan State Police. On Twitter, Midland MI Police, MSP Public Affairs, MichEMHS, Readygov. Obviously, if you are in Saginaw or Isabella your list would be different. There are a lot of sources, but they won't be bombarding you with Aunt Millie's latest recipe or Uncle Joe's back problems, so following all of them isn't a big deal.

But one day it might be a really big deal to you or one of your friends.

73 de WB8RCR

Weather, Flooding and APRS

Pat Mullet, KC8RTW

Okay, let me say upfront, that while I run a low-power APRS digipeater, by no means am I an expert and invariably I'll manage to put my foot in my mouth during this article. Disclaimer of my abilities aside, the recent storms and flooding have prompted this article in an attempt to promote some discussion amongst the Midland ARC and the ARES®/RACES group.

First off, let's discuss APRS. APRS is the Automatic Packet Reporting System, conceived by developed by Bob Bruninga, WB4APR. In its simplest form, APRS encodes location data furnished either by a GPS receiver or manually set in the program and transmits short bursts that are received by others, decoded and plotted on a map.

As Bob has been known to say, there is a lot more to APRS than just an automatic positioning system. APRS is a tactical inform-

ation system. Depending on the setup, hams can pass short messages similar to cell phone texts using computer keyboards or HT DTMF keypads. This capability would be invaluable to Search and Rescue operations as well as weather spotting.

Various forms of telemetry can be transmitted as well. One of the more popular types of data sent is weather data generated either by commercial weather stations like those offered by Davis or Peet Brothers, or homebrewed stations managed by Arduino or Raspberry Pi microprocessors.

Greater range is for APRS signals is accomplished by relaying the signal though one or more so-called digipeaters. Tying the "digi" into the APRS-IS internet backbone creates an I-Gate that allows world-wide dissemination. Once we get to this point, really interesting things begins to happen. Now, information can be in-

jected from the internet into the APRS stream. One data source consists of NWS Severe Weather Warnings that many APRS clients display as shaded areas on their maps. At one time, watch areas and advisories were also injected, but due to server congestion, this practice was discontinued.

But then the Firenet Server system came about. Paralleling the APRS-IS feed and interconnected with it, Firenet does inject all NWS severe weather information but that stream is not injected into the APRS-IS stream proper.

Some APRS clients can use the internet to query NWS radars and display weather systems on the map; again, a useful capability when it comes to weather spotting.

The US Geologic Survey's system of sensors monitoring river levels is also injected into the Firenet stream; those of interest to us are located on the

It's Not Your Grandfather's Amateur Radio!

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Chippewa River near Mount Pleasant, the Pine River near Midland and the Tittabawassee River at Midland. While these are the official flood monitoring stations, Bob Bruninga outlines [how to](#)

[make your own river gauges](#) that can be tied into local APRS nets. I can't help but think that this might be something to look into as a project for the School Clubs as well as their balloon launches.

For more on displaying weather on APRS and the Firenet servers, I suggest you read Stephen Smith, WA8LMF's excellent [APRS/UI-View32 website](#).

Michigan Section News July 2107

(ARRLWeb—7/16/2017)

Greetings to the hams of Michigan,

We are now in the middle of the Michigan summer and Labor Day is creeping up on us. Now is the time to get outside and enjoy ham radio. The Michigan State Parks on the Air (MSPOTA) activity is a three-year program to make our beautiful state parks radio-active. See their website at [MSPOTA.org](#) or our Facebook page for more detail.

Field Day 2017 After-Action Report

The 2017 Field Day effort is now in the record books and now is the time to review what went well during our individual events and what didn't go so well. Just as our emergency preparedness groups conduct a 'hot wash' review of a completed activation, an after-action report on Field Day is certainly appropriate. A review of plans vs what happened can give us insight for our plans for next year and beyond.

Don't forget that the lessons learned at FD often have meaning in our emergency preparedness activities and vice-versa.

Michigan Section Family Outing July 7 & 8

The 19th annual Michigan Section Family Outing was held at the Woodlands Conference Center and Campground in the woods near Hale, Michigan. This year's event was a great success with a good crowd of folks that really had a good time. John McDonough and his crew produced a great program

with several speakers with interesting topics. Plans for the 2018 event (our 20th year!) are set for July 6 & 7, 2018. Mark your calendars now!

Great Lakes HamCon @ Michigan International Speedway

Planning and preparation for the October 7 & 8 continues at a fever pitch. We are now less than 90 days out so it won't be long now.

Our Special Event Station (K8MIS) will be on the air during the NASCAR race on August 12 & 13. We will have a station in the Fan Plaza area of MIS as well as a station in the Graves Farm Campground which will be operating during the evenings. The campground is the center of the universe when there are no on-track activities happening. We expect a huge audience of interested folks that will want to see what ham radio is all about. This is gonna be fun!

Our forum schedule for the GLHamCon is close to being nailed down and we will publish the schedule as soon as it is finalized.

On July 15, 2017 we are hosting the founding member amateur radio clubs at MIS to discuss plans and to give the club members a good look at the facility.

Great Lakes HamCon Ticket Hamfest Giveaway

We are giving away two General Admission tickets at every ARRL hamfest in Michigan between now and September 23. When I am present at a swap, I will bring the tickets with me and for the swaps that I am unable to

attend, I will mail them to the hamfest committee in advance. The tickets will be given out via two separate drawings at each swap using the ticket information collected from participants at each hamfest. You will want to make sure that you get your swap ticket stubs into the hopper at every hamfest you attend.

Be advised that the GLHamCon ticket winners will not receive their tickets (wristbands) until a couple of weeks before the event. Out ticketing process is electronic and will have our MIS ticketing partners process all winning tickets at the same time. The wristbands will either be mailed to the winners or made available at the will-call office at the event.

Thus far, the following Michigan hams have won tickets to GLHamCon: K8TB, K8AJ, W8VWY, WB8SAM, KC8TU, K8VOX, KD8UXC and N8REZ.

Congratulations to all!

GLHamCon Information

Be sure to keep an eye on our website ([www.glhamcon.org](#)) for the latest information. You can sign up for receiving updates and other information on the website. Michigan amateur radio clubs and individuals who are signed up to receive information get the periodic HamCon News updates that are periodically published and distributed to all who sign up.

Stay tuned.... It's Gonna be Great!

73 until next month,
Larry Camp, WB8R
ARRL MI Sec Man
[wb8r@arrl.org](#)

Operating Tip

(ARRL Contest Update—July 12, 2017) Don't linger over DX while searching and pouncing. If you're searching and pouncing for multipliers and come across a rare one with a big pileup, remember

that you're seeking to maximize the number of points per unit time, and it may not pay make sense to spend a lot of time trying to make the contact. If there are other multipliers available, put the

rare one on the second VFO, and look for other stations while keeping the pileup in one ear. Conditions could also change to be more in your favor later in the contest.

Technical Topics and Information

(ARRL Contest Update—June 28, 2017) Older digital gear like RTTY demodulators can still be useful in certain situations, but it's getting harder to find computers that still include serial interfaces. Most laptops haven't had RS-232 serial interfaces for a number of years. USB to serial adapters are one option. Another is using an ESP8266 board to make a [serial port available over your Wi-Fi network](#), so you can TELNET to your device. If you have an old terminal or computer you'd like to use to connect to the Internet, here's a [solution that emulates a Hayes-compatible modem](#) to connect via TELNET.

♦ The RTL-SDR website has

published a spate of projects that have potential applicability for contesters. One project shows how to [integrate data collected from aircraft beacon broadcasts \(ADSB\) so that it can be queried through an Amazon Echo device](#). As source code is provided, it's a stepping stone to being able to retrieve packet spot information by voice command. Meteor scatter mode users may appreciate [another article](#) detailing the detection of signal reflections using the waterfall of an SDR display.

♦ A [new design for sound-diffusing panels](#) like those used in performance spaces or studios, could achieve the same effect with just a fraction of the materi-

al. North Carolina State University did the research, which could ultimately result in sound diffusing panels being used in more applications than before. (Dennis, N6KI)

♦ Some [new research on the Sun's coronal mass ejections](#) (CMEs) indicates that they are cloud-like structures, subject to amorphous behavior. Previous models indicated CMEs were more bubble-like in their behavior. The new thinking means that it may be more difficult to model or predict CME influences such as the solar wind, and therefore harder to model threats to Earth.

More Technical Topics and Information

(ARRL Contest Update—July 12, 2017) Joe, K1JT, and the WSJT team have released a **beta version** WSJT-X version 1.8.0, which includes a new FT8 mode. FT8 provides "QSOs 4 times faster than JT65 or JT9" among other features. Version 1.8.0 provides other features beyond the new mode, including improved performance for the JT65, QRA64, and MSK144 protocols, and improved CAT (rig) control. Version 1.8.0-rc1 is available from the [WSJT-X web page](#). Make sure you read the Release Notes as you install new versions of WSJT-X.

♦ [Squirrels and other climbing animals are a big problem for electric utility companies](#), and

they can also do damage to Amateur Radio coax and rotator cables. Commercial broadcasters have problems too, but their coax is generally larger. A recent *RadioWorld* article suggested using [plastic flowerpots to block animal climbers on coax](#).

It's good to know that if you need a long-lived small power source for your specialized project, you can get [one that uses the decay of Tritium, and is packaged in industry standard package sizes](#). The betavoltaic NanoTritium power source from City Labs has application in encryption devices, military, and space uses. Another option for power: harvest it from a noisy RF environment,

like in this [cellular phone proof of concept](#). (Dennis, N6KI)

♦ Independent researchers examining data from the Laser Interferometer Gravitational-Wave Observatory's (LIGO) detection of gravitational waves have found some [anomalies suggesting further analysis of the data may be needed, and potentially calling into question whether gravitational waves have actually been detected](#). According to an article in *Wired* magazine, gravitational waves are detected by looking for correlations of a radio signal between two distinct receiver sites, reasoning that non-signals will not be correlated due to their geographical separation. The in-

dependent researchers' analysis of the data may show that the assumption of noise non-correlation may not be correct, or that the original gravitational wave detection was a false-positive due to the [Gibbs phenomenon](#) - a type of "ringing" as might be experienced in DSP filters.

♦ The [Red Pitaya](#) is a "Test & Measurement applications running on a credit card sized SoC (FPGA+CPU) based Open SW source DAQ platform" with oscilloscope, signal generator, spectrum analyzer, and more, but most importantly for contesting, it can also be an

SDR receiver. It's been getting some recent traction for [CW](#) and RTTY Skimmer applications with it's ability to simultaneously decode six 192 kHz swaths, and now Bob, N6TV, has succeeded in getting it to simultaneously [skim CW and RTTY spots](#). For 6-meter use, some users report improved performance by using an 9:1 or 14:1 impedance matching transformer.

♦ A company that masters music CDs has [published an analysis of the changing 'fashion' of loudness levels used in CD production](#) over the years. It appears the current fad is to increase the meas-

ured RMS levels to a graph-filling level, using a combination of compression, limiting, clipping, or digital compression with look-ahead. The result of these techniques when used poorly or with a very heavy hand is distortion and diminished dynamic range, similar to what occurs when transceiver microphone compression or gain settings are set incorrectly.

♦ With modern equipment with switching power supplies, we don't think too much about power line frequency compatibility, [seventy years ago, the Los Angeles power grid was 50 Hz!](#)

MARC Vital Statistics

Memberships Expiring in July

KE8EOW

W8ZSX

WD8BDM

Memberships Expiring in August

N8NGT

Memberships Expiring in September

KD8QXL

KE8EOX

WA8LQD

Members in Good Standing

AC8QF
K6VWE
K8AVJ
K8RI
K8VB
K8VFO
KA8EZT
KA8ORL

KA9WCS
KB8AWE
KB8PGW
KB8SOE
KB8VSS
KC8IHB
KC8ITI
KC8MUD

KC8RTW
KD8HID
KD8IWB
KD8MMH
KD8MRB
KD8QAM
KD8QXK
KD8QXL

KE8EOW
KE8EOX
KE8FIX
KE8FIY
KE8FIZ
KE8FJA
KE8FJB
KE8FJD

KE8GEM
N8CGP
N8ERF
N8JBW
N8LBF
N8NGT
W8PMR
W8QN

W8WOJ
W8ZSX
W8ZSX
WA8LQD
WB8RCR
WD8BPT

Current Active Club Membership 46

Birthdays Celebrated in July/August

KA8ORL 7/1
KB8RCR 7/2
KG8YG 7/6
K8RRB 7/8
N8NGT 7/14
AG8B 7/18

KD8DWX 7/21
WB8RCR 7/21
N8LMS 7/27
W8OKN 7/30
N8XD 8/1
KB8QWO 8/3

K8VFO 8/6
KB8QYB 8/9
N8LBF 8/17
WD8BPT 8/18
KD8MRB 8/24
WB8FYR 8/24

K8WSR 8/27
N8DHF 8/29
KD8EUR 8/31

Anniversaries Celebrated in July/August

KE8CTI and Molly 7/8
KC8RTU and Brenda 07/20
KD8MQX and Emily 7/20
WB8FYR and WD8ODG 8/13

KD8ULA and Judy 8/14
K8VB and ??? 8/15
KE8DON and Marcia 8/18
KA0KPP and Gail 08/19

Information is from data received 3/20/2017

Any corrections or questions contact Larry, N8CGP

Amateur Radio. . . We Do That!



Pat Mullet
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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