



W8KEA



MARCA

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

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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 September 4, 2014, 6:00 PM
Law Enforcement Center, 2727 Rodd St.

Next CLUB Meeting — Thursday September 4, 2014, 7:30 PM
Salvation Army Building, 330 Waldo.
Talk-in 147.000+

September 2014

Static Discharge

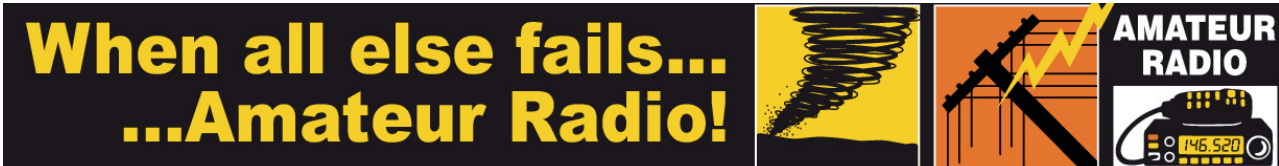
Kevin Martin, KD8QAM

This month we will be holding elections. If you would like to run for something and can't make it to the meeting, please let someone know. We will put you in for the position you would like.

With the new school year almost here, things are starting to get a little busy again. My daughter is starting to want to get back into radio and wanting to work on projects. At her age I can understand getting burned out easily as we all can. I am glad that she is ready to get back at it. I think this month we will be back at the tape-measure yagi.

I hope to hear you all on the next Thursday night net.

Kevin KD8QAM



The meeting was called to order at 7:40 by KD8QAM with 26 members and guests present.

The minutes for the last meeting were published in the newsletter and any corrections or additions should be given to Dorie N8WTQ.

- The treasurer's report and the

swap report were given by John W8QN.

- EC/RO report – there was discussion on the recent weather events. There will be a meeting on 10/15 to discuss the drill planned for October 7 from 8 a.m. To 2 p.m.

- The repeater maintenance was discussed. The club is going to replace the antenna, coax, connectors, surge protector. We discussed the climber to do the work. The tower should be ok. It may need paint. Because it is Dow property, the club can do nothing to replace the tower.

- The Porter Safety fair was discussed and details are in the last newsletter.

- The MARC picnic will be held Sept. 20th at Homer Park across from the fire station. Bring a dish to pass, drinks and table service. Dorie N8WTQ will provide charcoal for the grills.

- Don't forget the election of officers for the next year will be held at the September meeting. Everyone is requested to be present for the election.

- A motion was made by Del WB8FYR and seconded by Dave N8LBF for up to \$200 to be used to have the ID800H radio from the Salvation Army vehicle fixed. Motion passed.

Net Controls for August:

Aug 14 Dennis N8ERF

Aug 21 Lee KC8ITI

Aug 28 John W8QN

- A presentation about the different repeaters was made by John W8QN.

A motion to adjourn was made by Dave N8ERF and seconded by Cindy KD8JQY. Meeting adjourned at 9:12 p.m.

Respectfully submitted,
Dorie French, N8WTQ
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 Keith, KB8SOE, at kb8soe@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 Kevin (cherryrediroc@sbcglobal.net)

My Two Cents

My chase of states in the ARRL Centennial QSO party slacked off in the last few weeks as either the states were repeating or conditions limited the bands I could cover, leaving me some extra time on my hands when not chasing DX contacts. Not one to look a gift horse in the mouth, I got busy re-installing ham programs I'd been using on my old XP box on the Windows 7 machine that replaced it.

Of course, I ran in to the problem typically encountered when updating your platform—some of the oldest programs will no longer run under the new system. Windows 7 & 8, being 32 and 64 bit systems no longer run 16 bit software (Win 3.1-Win 98), let alone DOS based programs. Now, most of the ham-

Pat Mullet, KC8RTW

related software I use most runs fine under Win 7, I either had to upgrade some others, or find a work around.

In looking for upgrades for some of the shareware programs I occasionally need, I managed to come across a few programs I'd been trying to obtain for years, and wouldn't you know it, they wouldn't run under Win 7, either. What's a ham to do?

Well, first off, I found a program called *DOSbox*. A DOS emulator that runs under Win 7, it was originally intended to allow gamers to run their older games on new machines. I'm hoping to get this installed next week so I can play with some old antenna design software. Maybe I can dig out my old copy of *Battle Chess* and get it running, too. (For those

Amateur Radio is a Contact Sport!

of you who don't recall Battle Chess, think of the chess game on the *Millennium Falcon* in the first *Star Wars* movie, cross it with Harry Potter's wizard's chess, and toss in a large dollop of Monty Python and the Holy Grail)

Okay, that's got the DOS software handled, what about the Windows stuff? Microsoft has a free application called *Virtual Machine* which allows you to run earlier operating systems under Win 7&8. The twin caveats with this program is that it has a large footprint, (and when hasn't that been true of any Windows OS?) and you need to have a copy of the second OS. One of the positives is that once VM is installed, you can actually install the OS and the software you want to run on removable media and swap different programs suites in and out, or run them on any machine that has VM installed. Again, I haven't got the program installed, but I'm hoping to do so soon—I may pop a new hard drive into a spare slot and dedicate it to older

software.

My computer-based to-do list has two final entries to it. I've got my sound-card mode software installed and the interface connected to my radio, but I have to take the time to get the levels calibrated so I can get back to work on PSK-31 and maybe get my feet wet in RTTY. Last, but be no way least, I need to get my APRS I-Gate back on the air. When my XP box died, so did my I-Gate. When I started noticing problems getting into the Midland repeater, I swapped out radios, exchanging my dual-bander for the 2 meter rig I was using on APRS. I've got the APRS software re-installed; now I need to hook the dual-bander up to the TNC and get back on the air. If I'm lucky, my system will be able to hit the new Coleman fill-in digipeater.

Well, time to put this to bed so I can finish up the newsletter and get back to work. Hope to hear you on the air.

73, Pat KC8RTW

ARES®/RACES John Wolters, W8QN

From the Skywarn® space the weather has been interesting. While we should be out of the severe weather season we have seen heavy rain that spawned some rotation in the clouds and then last week large hail and as I write this, flash flood warnings in the surrounding area. It's a reminder that severe weather can happen anytime, so be alert.

You may have heard that Bay City issued a water emergency when they could not find where their water system was "leaking" over a million gallons of water a day. Because of that, on Monday Aug. 11th we and other area ARES® organizations were put on standby to support the Red Cross and other agencies as required. Luckily for Bay City, they found the leak late Monday and rescinded the emergency removing the need for our support. When we were

notified of the need I sent out an e-mail to everyone I have a valid e-mail address for notifying them of the standby status. If you did not receive an e-mail please let me know so I can update my records. W8QN@arrl.net

Repeater Status

At the August club meeting I talked about the actions we plan to take to update the repeater hardware to get it into a more dependable shape. Phase 1 will be the replacement of all antennas and coax at the main repeater site. Look for this to occur before October. Addressing the West Midland Remote, the voter, and the repeater control system will follow.

W8KEA Packet Digi

The W8KEA packet digipeater

Upcoming Events

9/20	MARC Picnic
Michigan Hamfests	
9/13	Wyoming
9/14	Adrian
10/18	Muskegon
10/19	Kalamazoo
10/26	Madison Heights
12/7	Harrison Township

* Denotes date based on 2013 event

Area Nets

SVARA; Mn, 147.24 MHz, 2100 ET
 Gladwin; Tu, 147.18 MHz, 2000 ET
 BAARC; Tu, 145.31 MHz, 2100 ET
 Isabella Co EOC 146.72 Mhz, 1900 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

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.

located at the hospital developed problems with a symptom of failing RF output. After investigation, I replaced the existing radio with a temporary replacement which fixed the RF problem but did not repair the ailing digi. The digi could hear well and could be heard now when it transmitted but you could not connect to it. After working with John (WB8RCR) we agreed to replace the TNC as the next step. I configured a TNC

I had to work with JNOS and replaced the existing one. After a little more testing, the new equipment was declared a success. Moving forward, hopefully the new Raspberry-Pi with attached TNC's and 220 MHz radio will be ready to install soon.

Look for new APRS DIGI

On Wednesday Aug. 13th we will replace a RACES radio loc-

ated at the Coleman fire station with new equipment. At the same time we will attach a TNC configured for APRS to the radio and set it into operation. This hopefully will fill in a hole in Midland County as well as extend the range of APRS operation to the west. The new APRS station will be identified as COLMAN if you look at APSR-FI.com.

Field Day Leftovers — Missing Flatware

At Field Day someone else got my container of plastic knives, forks and spoons. I'm not concerned about losing that but it

also contained a metal fork that I got as a wedding present and a paring knife that I would like to get back. If anyone has

information about them, please contact me.

Thanks,
Dorie, N8WTQ

Michigan Section News

It will soon be back to school time for the kids in Michigan and that means that all drivers will need to readjust their driving skills to watch out for the school busses and their occupants. It will soon be time for high school and college football and for the fall weather.

ARRL Simulated Emergency Test

As a heads up, the planning for the 2014 version of the Simulated Emergency Test (SET) is well underway for the first part of October. Talk with your county Emergency Coordinator now to learn how you can participate.

HR 4969

There is a bill that is currently in the U.S. House of Representatives that as amateur radio operators, we should be very interested in. This bill, if passed through Congress and signed into law will be one of the most important pieces of legislation to become law from an amateur radio operat-

or's perspective. Most importantly, it will ensure that every ham in the US, regardless of the community they live in, will have the opportunity to practice their avocation from their own homes without breaking any rules or fear of reprisal.

If enacted, HR 4969 would direct the FCC to extend the reasonable accommodation protections to those amateurs who are living in deed-restricted communities. Known as "CC&Rs" (covenants, conditions and restrictions) are the prohibitions and limitations placed on properties by builders or home-owner associations (HOAs) which prevent licensed Amateurs from erecting even modest antennas.

HR 4969 would not give Amateurs "carte blanche" to do whatever they wished. It would require HOAs and other private land use regulations to extend reasonable accommodation to Amateurs wishing to erect antennas. There are currently over 60 million people in the US living in deed restricted communities, so

this really is something that affects many of us. Even if some of us live far away from any land use regulated areas, this is important to our brethren and as time goes on, may become important to us as the "need to regulate" creeps outward.

Please go to the ARRL website and locate "HR 4969" on the main page and follow the instructions there to print a copy of a letter to your Congressperson, sign it with your signature, print your name, call sign, and address, convert it into a PDF file and email it to ARRL HQ to n1nd@arrl.org with "HR 4969 Letter" in the subject line. Please remember to copy me on your letter as well (wb8r@arrl.org).

Due to security issues, a snail mail letter to your Congressperson can take weeks to arrive, so electronic distribution is best. By sending your letter to ARRL HQ, this will allow the letter to be printed there and hand carried to your Congressperson's office in Washington, where ARRL personnel will deliver the printed let-

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Amateur Radio!

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ters to the Congressperson or his or her aide. This personal visit will allow for some 'face time' at which our cause can be discussed. This is a much greater impact than a simple letter arriving in the mail!

If you have a relationship with your Congressperson, please contact me at wb8r@arrl.org to discuss visiting your representative's District office in person. I have some information that will help you to ensure that your visit ac-

complishes our goals.

73 until next month,

Larry Camp, WB8R
ARRL Michigan Section Mngr
wb8r@arrl.org

Technical Topics and Information

(ARRL Contest Update—July 30, 2014) After WRTC2014 there was a lot of discussion comparing the site terrain to the scores. One of the site managers, Rich K1CC, contributes some very important considerations when doing terrain and *HFTA* (HF Terrain Analysis) modeling and analyzing RBN ([Reverse Beacon Net](#)) data:

1) Any dB data (including *HFTA* Figure of Merit) must be averaged using a geometric mean, not an arithmetic mean.

2) Data across Skimmers cannot be averaged as they all have different SDR sensitivities and different antenna gains. In other words, their "S-meters" do not have the same calibrations and they use different antennas.

3) Terrain data must be of sufficient fidelity to capture diffraction effects in *HFTA*. Try turning the diffraction on and off in *HFTA* any you will see the importance of diffraction on uneven ground (e.g. New England)

4) There are various sources of terrain data and they are not all the same. The accuracy of the terrain data varies even within the US. The simplest and quickest way to assess the accuracy and fidelity of terrain data is to run some profiles and compare them against known landmarks (distance to edges of lakes, across known flat ground such as an airport runways, etc.). The USGS maps within the US are a good sources of such reference points. Man-made features such as fill for roads can distort the terrain data

significantly. Field checks against terrain model results should always be made to check for these errors.

5) The *HFTA* model can sometimes be very sensitive to terrain data across different databases (NED, DEM, etc.). Running sensitivity tests with small perturbations in antenna location, terrain files and azimuth can sometimes show large variability in result. It is only a model!

6) The coordinates used for WRTC antenna locations were given using the WGS-84 datum. There can be significant differences in antenna placement across different coordinate systems, as our beam teams discovered (antennas in the middle of a street, etc.)

6) N6BV has available newer arrival angle distributions than those that are published, be sure to use the latest ones.

7) Intuition about the effects of terrain on antenna response does not seem to work very well. The effect of terrain on a 40 ft high antenna is much different than it is on a 100 ft antenna. Local terrain features within the reflection zone can sometimes result in very large gain difference over a narrow range of radiation angles. *HFTA* has been used many times very successfully by station designers but it is not a rigorously validated model.

Ignoring any of the above can lead one to very erroneous conclusions in site analysis and in comparing sites against each oth-

er. Proceed with caution.

◆ If you have a TDR or pulse generator and a scope you can make some fairly quick length and impedance measurements of transmission lines as shown in this [EDN online article](#).

◆ The June 2014 issue of [Nuts and Volts](#) includes a useful product for hams who want to build their own test equipment. "A 150 MHz RF Signal Generator for Your Test Bench" by Robert Reed. It's based on the venerable MC1648 ECL-family LC oscillator and includes the ability for AM and FM. The design avoids the complexities of building the attenuator by recommending the builder use an external switched attenuator, of which there are many on the surplus market. The author also published the article "180 MHz Sweep Generator" in the December 2013 issue. Also check out the author's follow-up comments in the July 2014 issue.

◆ At the hamfest you've just spotted a clean rotator in the HAM-M series at a good price - but which one is it? A HAM-M, -II, -III, or -IV? The rotator series can be identified by the numbers stamped into the base plate. They will typically give the series, serial number, and month/year of manufacture. (Thanks, Joe W4TV)

◆ Speaking of rotators, perhaps this tip will help a reader avoid having to learn an important repair lesson the hard way: "Don't forget the MOST important piece of rebuild equipment, a shallow

Explore the World with Amateur Radio!

cardboard box to catch the ball bearings that will fall out when you crack apart the two halves of the housing." And they do fall out and roll off everywhere unless you are prepared! (Thanks, Mike NF4L)

◆ In case you were wondering how or are teaching someone how to solder and they were wondering, here is an explanation for what jobs the different types of [soldering iron tips](#) are intended.

◆ Jim W6RMK is a big fan of the [Paladin adjustable coax stripper](#). "It comes with a tiny Allen hex wrench to adjust the height of the blades, and you can move them to various positions along

the cut. Once you get it dialed in for YOUR coax and YOUR connectors, it's the work of 10 seconds to make a perfect strip. Paladin (and others) make fixed strippers too, but you need to choose wisely. Compare the cut lengths and depths for the stripper against the assembly diagram for your connector and coax. Paladin is part of Greenlee (the folks who have made chassis punches for probably a century)"

◆ Some ham radio software does not run well under the default installation folder for Win 8.x of Program Files (x86). Running Windows 8.1 Update, Dennis NE6I relates some success in fol-

lowing instructions "to create a separate Program Files folder and install my ham software there." Ron WM9Q concurs, "I typically install software of this type in a directory directly under the "C:" root directory. If a particular program still gives me issues, I set the compatibility mode for windows 7 and run it as an administrator. That typically fixes all ills."

Technical Web Site of the Week - Not only is the vacuum tube still around, the basic technology may be making a comeback in the digital world as this [story](#) from the *IEEE Spectrum* explains.

More Technical Topics and Information

(ARRL Contest Update—August 13, 2014) Lance W7GJ has followed the footsteps of K1WHS who designed a high-power low-pass [filter](#) for 6 meters. Lance's easily duplicated [design](#) is based on a design by YU7EF and will attenuate all harmonics more than 60 dB. The new filter also fits nicely into a standard commercially available enclosure! (From the August 2014 issue of the Mt Airy V.H.F. Radio Club's "Cheese Bits")

◆ How to take care of those expensive deep-cycle batteries is the topic of this Batteries Northwest "Battery School" [web article](#). (Thanks, Gary KBØH)

◆ Scott Bidstrup, TI3/W7RI suggests, 'No sunspots? *Sky and Telescope* magazine recommends observing faculae.' Even in the absence of sunspots, faculae generate enough ultraviolet light to account for about half of the observed F2-layer propagation. An image of the solar disk at a 304 angstrom wavelength is available on Scott's [web page](#). The faculae may not be as bright as the sunspots, but they make up for that in a much larger area on the solar surface. (From ARRL [Propagation Bulletin ARLP031](#))

◆ Information by WRTC2014 Site Selection Manager, Rich K1CC, on the [methodology](#) for choosing sites is now available, including an outline of the analytical methods used to evaluate them. A link is provided to the terrain and *HFTA* data for all 59 sites used in the competition. Rich will publish a more detailed article appearing the Sep/Oct issue of the *National Contest Journal* about the effort that went into finding equivalent sites in the hills of New England. (Thanks, WRTC2014 Vice-President, Randy K5ZD)

◆ Aluminum pipe and PVC pipe are often fitted together in building antennas. The extreme limits of the two types of pipes sometimes result in the PVC being too small to allow the aluminum to fit. Heating the PVC in some boiling hot water solves that problem since the expansion coefficient of PVC allows it to expand enough to get the aluminum into the heated plastic pipe. (Thanks, Grant KZ1W)

◆ If you've ever gotten a funny look from your spouse for saying, "Hey, that's the GOOD electrical tape!" you'll want to stick with the name-brand cable

ties, particularly for UV resistance - Panduit and Thomas & Betts here in the U.S. Another tip is that covering even off-brand ties with a layer of that good-quality Scotch 33+ tape keeps them in place for years. This is particularly important when you don't want to have to replace them - such as way out on that boom! (Thanks, Glenn K6NA and John VE3EJ)

◆ Did you know that LEDs are photodiodes, too? True! As described in this *Analog Dialog* [article](#).

◆ Working on towers means standing on rungs and that can be hard on the feet! What boots to wear provoked quite a discussion on the *Towertalk* reflector recently! Red Wing, Carhart, Caterpillar, Wesco, Vasque, Asolo, and Lacrosse - these brands were mentioned as offering a steel shank model that takes the load off your arches. No doubt there are others, too! Tree climbing and forestry boots also got the nod. A valuable reminder - measure the inside clearance of the tower you'll be climbing and be sure a pair of boots for your feet can fit comfortably side-by-side on the rung!

◆ Tired of replacing incandescent pilot lamps? Jim K5LAD discovered an [easy method](#) to provide, inexpensive, and easily reproducible lighting for rotator control boxes. His new article is titled, "Adding LED Illumination to Antenna Rotator Control Box" and is menu choice #4.

◆ In a short piece titled, "Toiletries to Tools," [Popular Mechanics](#) for July/August points out that toothpaste - which contains a fine abrasive - clears up cloudy plastic and burnishes dull chrome. Dental floss can be used as a thread locker to prevent a nut from coming off with waxed floss working the

best. Nail clippers, as I suspect many of us have learned, also make good wire strippers and cutters in a pinch, so to speak.

◆ Here's a web page that will answer some of those long-standing questions about nominal [pipe sizes](#) from Piping Engineering.

◆ I sure wish I had one of [these](#) to solve all of my adaptor problems. While I might not lose it, lifting it might be another issue! And where do all my adaptors wander off to, anyway? (Thanks, Doug K1DG)

◆ Here's a cable lifting tip from the HSØAC antenna crew: Cut the end off a plastic water

bottle, slip it over the lifting rope, tie the rope around the cable, and slide the water bottle over the connector and knot. The water bottle keeps the cable and rope aligned while preventing snags during the lift.

Technical Web Site of the Week - In another excerpt from *The Circuit Designer's Companion*, EDN magazine has published a discussion of [crosstalk and twisted-pair cables](#). RF folks like hams will find this article's approach from the standpoint of digital signals to be of interest.

Swap & Shop

For sale: one 500 ft. roll of 5/16" double braided dacron, strength 1790 lbs. for sale for \$100.00.

It is brand new, still on the

spool—too large for what I intended it for. Please call if serious. I will not be cutting lengths and selling pieces. All or nothing.

Kevin D Cuthbertson, KD8QXL.
Phone: 810 287 2404
Email: papafrog777@yahoo.com

MARC Vital Statistics

Memberships Expiring in August

KC0CJC

N8NGT

Memberships Expiring in September

KC8IHB

KC8RTW

Memberships Expiring in October

NONE

Current Active Club Membership 37

Birthdays Celebrated in August/September

N8XD 8/1
KB8QWO 8/3
KD8WZG 8/6
KB8QYB 8/9
N8LBF 8/17
WD8BPT 8/18
KD8MRB 8/24

WB8FYR 8/24
KD8IWB 8/27
N8DHF 8/29
KD8EUR 8/31
KC8ZMQ 9/6
N8STF 9/9
N8FUZ 9/17

KB8PGV 9/17
KB8SOE 9/19
KB8WEE 9/24
KC8GRQ 9/27

Anniversaries Celebrated in August/September

KD8QXL and ??? 08/04
KB8TBI and Margie 8/8
WB8FYR and WD8ODG 8/13
KA0KPP and Gail 08/19

N8LBF and KB8QYC 9/6
W8JBD and ??? 09/10
KC0CJC and Sally 9/12
K8RI and N8JBW 9/26

Information is from data received 5/7/2014
Any corrections or questions contact John, W8QN

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