



W8KEA



MARCA

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

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Swap Committee	Mark Rodgers, KC8GRQ/Ch	(517) 672-1060
	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 June 5, 2014, 6:00 PM
Law Enforcement Center, 2727 Rodd St.
Next CLUB Meeting — Thursday June 5, 2014, 7:30 PM
Salvation Army Building, 330 Waldo.
Talk-in 147.000+

June 2014

Static Discharge

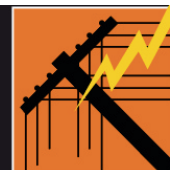
Kevin Martin, KD8QAM

It's been a great start to the summer with all the typical Michigan weather. I hope that those of you who made it to Dayton this year will share your experiences. Thank you to the folks that have donated their time to the different events we work as a club. It wouldn't be possible without your help.

I hope to see you all at the Swap and Field Day. If you just want to stretch your legs and stop by to chat for a bit, please do so. See you there.

73, Kevin KD8QAM

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



MARC Minutes

Dorie French, N8WTQ

The meeting was called to order at 7:40 p.m. by KD8QAM with 23 members and guests present.

There were no corrections or additions to the minutes published in the newsletter. W8QN gave the treasurer's report.

- EC/RO report: He also reported that there was a weather net for the storm

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

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)

on the west side of the county with 14 checking in. He said spotters should stay safe when reporting weather during the nets. There will be a packet exercise in the next six weeks and people will get email information about it. Contact W8QN if you want to participate. *FLDigi* net is 8 p.m. on 3.583 every Sundays except holidays.

- Easter weekend was the Michigan QSO party but there were not as many contacts as last year. The High School club also participated in the event.

- Dow Run 7 a.m. to noon on May 17th. See W8QN for details.

- GLB Marathon begins at 6 a.m. on May 18th. There will be a meeting before the event for training.

- Field Day is June 28th-29th at the Tridge (Chipawasse Park). The pavilion will not be available until 7 p.m. Saturday.

- The Midland High School AR club is winding down. They had two fox hunts and had guests from MI Tech visit. They are winding down for the summer.

- A motion to purchase 5 boxes for the tube collection was made by

KB8RCR and seconded by KC8IHB. Motion passed.

- The Saginaw club meets Friday 7 p.m. at the Red Cross building on Michigan Avenue. The club is invited to attend.

- Saturday 7:30-4 at the Harry Brown Airport has an open house with the Tuskegee Airmen there with a P-51 Mustang. Breakfast costs \$7. All are invited.

- The MS Walk in Frankenmuth is May 10th. See KB8UIH if interested in helping.

- The Michigan Section Outing will be July 11-13. Go to MIsectionouting.info to get information and sign up. It takes place in Lupton at Woodlands.

Net Control:

May 8 W8QN

May 15 KB8RCR

May 22 KB8SOE

May 29 KD8QAM

The meeting adjourned at 8:20 p.m. with a motion by W8QN seconded by KB8UIH.

Respectfully submitted,
Dorie N8WTQ

My Two Cents

Pat Mullet, KC8RTW

If you've been following my column, you'll recall that I've been using the ARRL Centennial W1AW portable stations in an effort to fill my 5 band WAS slots. This week South Dakota was operating as W1AW/0, and I wasn't sure I'd be able to make any contacts with them, much less on the bands I hadn't work the state before. Between bad propagation on the bands I wanted, conflicts between my schedule and their operating schedule and the rude and uncooperative stations making the pileup impossible to navigate, I was positive I wasn't going to be able to check off South Dakota at all.

Saturday evening, I checked the online spotting sites and noted that W1AW/0 was up on 20 meters, so I tuned up and dialed in the frequency. I

don't know if it was luck, band conditions or just the fact that half the nation's hams were in Dayton, but my call was the fourth or fifth returned after I joined the pileup! (I also worked them on Sunday, and as I write this, I have roughly 36 hours to bag the bands I haven't as yet worked them on.)

Feeling better about my luck, I noticed a couple of DX stations from entities my log noted as unconfirmed were being reported, so I went ahead and worked them, hoping that they'd post the contacts to Logbook of the World for verification. Then I spotted a new one on the list. After a few tries, he dug me out of the pileup and I logged Karel, OK1CF, from the Czech Republic, my one hundredth DX entity! I'd officially qualified for the DXCC award!

Amateur Radio is a Contact Sport!

Working 'em is just the start of the task, however. Now I've verify 'em. Two thirds of my DX contacts have been confirmed via LotW, but a large percentage of the remaining contacts do not, cannot or will not use the ARRL's electronic verification service, so I'm going to have to do it the old-fashioned way and send out QSL cards. Some of these are going to be done via direct mail, but it looks as if I'm going to be putting in some time learning the workings of the ARRL's outgoing QSL bureau. I've heard tales that some of the

cards coming back from the bureau are old enough to vote, but I'm hoping I can submit my cards while I'm young enough to enjoy the award! In the meantime, I plan on working more new entities as well as the unconfirmed ones, in the hope I can score more timely confirmations through LotW.

Right now, I'm going to see if I can get this newsletter put to bed so I can go back and get some more time on the air.

73, Pat, KC8RTW

ARES®/RACES John Wolters, W8QN

Dow Run

I wish to thank the people listed below for their assistance in communications support for the Dow Run. They represent members of the Midland Amateur Radio Club, Midland County Search And Rescue, and other counties: Dennis Caney, WD8BPT; Dave Wallick, N8LBF; Gail Crachiola, NO8U; Joe Tuscher, N8OSL; Emmett Bengry, NE8B; Michael Dougherty, KD8MMH; Suzanne Marshall, KD8VEL; Keith Johnson, KB8SOE; Steve Linley, WA8Y; Kevin Cuthbertson, KD8QXL; Robert Winchester, W8LSS; Sharon Winchester,

WD8AXR; Larry Macklin, N8CGP; Pam Macklin, N8KRL; Lee Hodges, KC8MUD; Gloria Fath, KC8IHB; John Hutchinson, NX8A; Chris Rose, KB8UIH and Dorie French, N8WTQ.

Thanks,
John Wolters
W8QN

ARES® / RACES Meeting

There will be a June ARES®/RACES Meeting at the Midland Law Enforcement Center, 2727 Rodd St., 6 pm, June 5th.

VP dB... Art Peters, KOACP

(Art's column got in after we went to press last month, so I'm running it here—Ed.)

OK, we had our annual storm spotter training last month thanks to W8QN! I've been through the program six times now and seem to recall something new each time. NOAA does a great job, and we are fortunate to have support from our Detroit office. Hopefully, all this training will be excellent preparation and never needed, still like my old scouting days, it does pay to "be prepared."

Operating activities continue, last weekend, Dennis, N8ERF, led an inaugural effort with W8MHS in the MI QSO party, along the way, a couple of hams learned what contesting is all about. For my part, I got to run 20m and 80m in support at the W8MHS multi-multi station. My pursuit of WIAW/p stations continues, since the

last article, I've added TN, NM, Guam, VT, IA, OR, PA, VA, MA, ND, and MS. If you aren't catching them all this time, no problem, they will all repeat in the fall.

Our programs for the next couple of meetings will focus on Field day and your field day committee will be leading the conversation.

See you all in May, till then ____

Meeting	Topic
May	Field Day Planning
June	Field Day Planning
July	Open
Aug.	Computer/Rig Integration Pat KC8RTW
Sept.	Open

Till next month, 73 de K0ACP

Upcoming Events	
6/7-8	Museum Ships Weekend
6/28-29	Field Day
7/11-14	Lupton
Michigan Hamfests	
6/1	Chelsea
6/7	Hudsonville
6/7	Newberry
6/14	Midland
6/15	Monroe
6/21	Lowell
7/26	Lansing
8/2	Escanaba
8/3	Port Huron
9/13	Wyoming
9/14	Adrian
10/18	Muskegon
10/19	Kalamazoo
10/26	Madison Heights
* Denotes date based on 2012 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
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Midland High School Amateur Radio Club News

First of all I want to remedy an omission I made in the last newsletter. At our April 9th meeting Lt. Lisa Speary District 3 Coordinator for the Michigan State Police; Roger Garner, Emergency Services Director for Midland County and John McDonough, State RACES Officer and Michigan SEC, visited the MHS ARC club meeting and gave a series of talks on the role and value of Amateur Radio in Public Service and Emergency Communications. Thank you Lisa, Roger and John for taking the time to speak with the students.

This month we have been focusing on fox hunts. After completing the five tape-measure yagis last month the students completed the five Handi-Finder direction finders. This relatively simple circuit uses a flip-flop circuit to switch between two butterfly wing shaped antennas. If the two antennas are broadside to the signal source the signal arrives at each antenna in phase. If one antenna is a little farther away than the other the phase at each antenna will be slightly different. If there is a phase difference the FM receiver detects that as a phase shift and generates a tone with a frequency of the antenna switching frequency, which is about 900 Hz. When the antennas are broadside to the signal the tone falls drops in volume to nothing.

The tone volume peaks when the antennas are in line with the direction of signal travel. Theyagi antenna works best at relatively low signal strength as you are looking for a peak signal or a null. If you get too close to the signal source the yagi cannot distinguish the signal source unless you put an attenuator in line between the yagi and the receiver. I found three of them at the Dayton flea market this year. The Handi-Finder, on the other hand, works very well at high signal strength so is very good for up close RDF. Both techniques suffer from reflections of the signal off of buildings and wire fences!

We have two foxes so we can set up two consecutive hunts without having to re-hide the fox. The first fox is an Arduino-based set-up. The program, called a sketch, was written by Mark Rogers, KC8GRQ. I modified the message sent out by the Arduino in order to properly ID the transmission and had to build an interface between the Arduino and my HT to make the PTT and audio lines work properly. Modifying Mark's very well documented sketch is a snap. The HT is hooked up to a dummy load otherwise the signal is so strong that it swamps out the yagi even at a few hundred yards.

The second fox is a Byonics MicroFox which is a self-contained fox.

It contains both the frequency agile 300 mW transmitter and the programmable controller. It is easy to program, change frequency, call sign and the data being transmitted. Not counting the whip antenna, the entire transmitter including the 9 Volt battery is about the size of the package that your new tooth brush come in.

We have had two fox hunts so far and the kids love it. It was cold and drizzly during the last one but that didn't stop them. We did learn that hiding the fox near the building does make it very difficult to find because of reflections.

The end of the year is coming up soon and we will be having a party at one of the upcoming meetings. We are also looking forward to Mike Strobel's performance on the theremin. We plan on continuing activities throughout the summer but probably not every week. It has been a great year and I want to acknowledge the participation of my fellow Board members: Lee Hodges, KC8ITI; John, W8QN; Dennis, WD8BPT and Andy, KD8ULJ. Also, special thanks to Art, K0ACP for his recent and increasing contributions.

Best Regards,
Dennis, N8ERF

Plans in Motion for Field Day, June 28-29

MARC will be returning to the Chippawassee Park again for Field Day this year. We're hoping to spread out the antennas a bit more to minimize interference between modes. Details such as layout of the site and parking are still being worked out by the Field Day committee.

The Committee will need volunteers to help set up and tear down, as well as those willing to volunteer to operate or bring their gear to help in the cause. Volunteers will be needed to help show folks around and ex-

plain things, as well as make certain no one gets into trouble by grabbing the wrong wire. If you'd like to help out, contact Mark Rodgers, KC8GRQ. And don't forget our traditional pot luck dinner Saturday night!

In 2013, 2548 clubs, groups and individuals across the US and Canada submitted score-sheets to the ARRL, who sanctions and conducts the exercise. These logs recorded participation by 36,560 individuals all over the world—1,268,916 two-way contacts were reported during

the all-too-short 24-hours of the event. Last year, MARC made 458 contacts and received a score of 2,524, working as a 6A (six radios, emergency power.) With any luck, the bands will be in better shape this year so our score should be a bit more impressive.

See you during Field Day!

Michigan Section News May, 2014

Happenings (Kalamazoo Amateur Radio Club)

On April 26th a dozen members of the Kalamazoo Amateur Club gathered the local Red Cross Chapter House to put together a surface mount battery monitor. The monitor functions like a fuel gauge for batteries. Based on the Mert Nellis' WOUFO battery monitor found in the June 2013 QST, it was modified by the folks at the Baton Rouge Amateur Radio Club for surface mount components reducing the size significantly.

The device uses SOIC's (small outline integrated circuits) and 1206 size resistors and capacitors. The event focused on learning some new soldering techniques and participants had hands on practice getting components in place and soldered. The device was then calibrated for the finished product.

Most of the participants had not used these components before and used the opportunity to help each other assemble and test the project. Nearly everyone left with a working monitor. A couple units had bad components and were completed later. In all, everyone had fun and learned more about surface mount building and troubleshooting. Comments suggest that the club should be look at more of these events as a winter activity.

*Courtesy of John Mathieson,
AC8JW MI Technical Specialist
ac8jw@arrl.net*

ARRL Centennial QSO Party

The ARRL Centennial QSO Party continues to be the highlight of 2014. As of this writing, there have been more than 1.14 million QSO's completed with WIAW portable stations. Thousands of hams around the world are working hard to contact each week's WIAW portable stations on as many bands and modes as possible. There are some pretty impressive individual contact totals out there.

We are just slightly past the half way mark (NE just finished their second week on May 13) and there are still many opportunities to work lots of WIAW stations. This week South Dakota is up to bat.

Don't forget the Centennial Points Challenge where you earn points for simply contacting other ARRL members on the air in addition to contacting the WIAW portable stations. If you load your contacts into Logbook of The World, you can also log into www.centennial-qp.arrl.org to see how your totals stack up against the rest of the world and the rest of your section. There is lots of additional information on that site as well.

Complete information concerning the ARRL Centennial Celebration is available on the ARRL website at www.arrl.org.

Michigan Section Family Outing

This is the monthly reminder about the 16th annual Michigan Section Family Outing that will be held

at the Woodlands Convention Center & Campground near Hale, MI on July 10 – 13. This annual event is an opportunity for us to get together in a very relaxed atmosphere for a day or two or three or four, depending on your interests and time available.

If you are a camper or an RV'er or just like to get out into the woods, the Section Outing is for you! What could possibly be better than being up north in the summer at a beautiful campground with ham radio friends? Of course, the answer is that nothing is better than that! For those that like the comfort of a hotel room, those are available in West Branch just a short drive from the campground.

There will plenty of fun events along with learning experiences for the whole family. More information can be found at www.sectionouting.info. Saturday is already jam packed with ARPSC activities and guest speakers. Friday has a Fox Hunt and a HF Digital Sound Card Mode program and demonstration. Look on the website for full details....

Grab a copy of the flyer that is available on the website (near the bottom) and print some copies to take to club meetings, hamfests or anywhere that you may think there might be interested folks. Check that website often as more activities and details are added as we get closer to the event date.

73 until next month,
Larry Camp, WB8R
ARRL Michigan Section Manager
wb8r@arrl.org

Technical Topics and Information

(ARRL Contest Update—April 23, 2014) Element sections getting stuck together are one thing but what about boom-sized pieces? Roger K8RI makes some suggestions about getting the pieces apart. "Clamp to each end of the boom. Hook one end to something solid and use a block and tackle or come-along off the other end to carefully pull the sections

apart. The pull needs to be balanced so it pulls straight. There are many ways to clamp to the boom ends, such as using two [boom-to-mast] mounting plates each held with a pair of U-bolts...anything to allow a straight pull. The sections should easily pull apart although you might have to use some [PB Blaster](#) and let it soak...the clamps should not take

much force. Just a cable loop anchored on opposite sides with the pull from the middle of the loop. Keep it simple and if it appears to look like it's going to take much force, stop and reevaluate. You might need to tap on opposite sides with rubber mallets to loosen things up. Do not use metal hammers. Apply hits to opposite sides at the same

time. Do not hit hard.

- How *do* you grab on to large-diameter tubing, anyway? Steve K7LXC says "I've found that a [chain wrench](#) is *real* handy when dealing with round objects like booms and masts." Be careful not to let the chain bear on a corner or edge - that will create a permanent dimple.

- I know my readers love their power tools so here's a new way to put your cordless drill to work in the kitchen - a [power peeler](#)!

- Bet you didn't know this! Mobile maven Alan KØBG notes, "Most [automotive fuses](#) are ATO. The difference is that the ATC (the C stands for 'closed') fuse element is completely sealed in plastic and the ATO (open) is not. Since [most radio] power cable fuse holders are not waterproof, only an ATC fuse should be used. If an ATO is used, and water gets into the fuse, the fuse element corrodes over time with predictable results."

Technical Web Site of the Week
- Tim K3HX sent a couple of good links to technical articles that may be of interest. The first is an *EDN magazine* article about [measuring large currents](#) - perhaps like we need to do in the bigger solid-state power amplifiers or in mobile installations. Another [Electronic Design article](#) explains the difference between watts and volt-amperes, a key specification of large transformers.

More Technical Topics and Information

(ARRL Contest Update—May 7, 2014) Whatever did happen to Fahnstock clips? Electronic Design author W5LEF (Louis Frenzel) asks the provocative question in a recent blog post titled "[Cable and Connector Hell](#)". I wonder if he saw the cable mess web page mentioned above?

- Gary K4FS contributed this link to a website that is a [laundry list of various modules](#) you can use to build something interesting and possibly RF-related. The author lists sources to acquire these modules as well as a brief description of them. It would be useful for a great club building activity or competition, too.

- The short article "[Turn a Spread-sheet Into a Delta-Sigma Modulator](#)" shows just how these common analog-to-digital converters work. As a bonus, author Dave Van Ess gives possibly the simplest description of Morse code ever. I didn't say it was useful, just the simplest!

- Looking for cool way to get those "alternative power" Field Day bonus points? How about a [bicycle-powered generator](#) as in this *Popular Mechanics* article?

- Having just wrestled with this problem yesterday, I can certainly

endorse the [Savage GripLine](#), a tape measure that can hang on to round things - even up to 2-inch diameter things! Now who will invent one that on command from the other end lets go of whatever it has gripped.

- Trying to accurately (and safely) drill holes in round or irregularly-shaped objects can be quite a challenge. This [Instructables project](#) shows a way to do it by fashioning a custom jig with modeling clay to hold the object in place.

- This [video](#) shows a rather unusual way to power a digital isolator IC. Or a QRP rig. Who knows - with a little ham ingenuity we could even have vacuum tubers! (Thanks, Doug K1DG - he is not responsible for that bad pun)

- This [website](#) by VE2DBE uses topo map data, transmitter and receiver antenna height and gain, transmitter power, frequency (and a host of other factors) to generate color-coded maps for signal strength, that can be saved and linked to as an overlay to Google Maps. Just the thing for evaluating those Rover sites! Setting up a login is required but no personal information is needed and the price is right - free!

(Thanks, Charlie, KX7L)

- I think we've all heard the story about [holding your car keys to your head](#) to get more range out of your wireless key fob. Here's how it really works! (Thanks, Brian K1BRF)

- Need a manual for older Hewlett-Packard equipment? It just might be here in this [online archive](#). (Thanks, Tom WØEAJ)

- This issue's magazine mailbag features a couple of interesting radio astronomy stories from the *IEEE Antennas and Propagation Magazine*.

- The Mobile Laboratory for Radio-Frequency Interference Monitoring at the Sardinia Radio Telescope (Oct 2013)

- Phased-Array Antenna System Development for Radio-Astronomy Applications (Dec 2013)

Technical Web Site of the Week
- Hams not only talked to the Juno spacecraft but were instrumental in advancing a new 1950s technology known as "slow scan TV." This story about [recovering "lost" lunar photos](#) originally transmitted back to Earth by an SSTV variation makes for a great "how dunnit." (Thanks, Bill Saltzstein)

Swap and Shop

I have 2 items for sale:

1. Solar charge controller; MorningStar SunSaver SS-10. 12 volt, 10 amp input, 10 amp load. Re-

tails for \$38.85; asking \$25.

2. Headphones and Microphone; Warren Gregorie brand, comes with an 8 pin microphone

connector (currently wired for TenTec products), has the jack for foot or trigger PTT. Retail for \$58.95, asking \$35.

Both items or best offer.
 Contact Pat or Wendy Russell
 Russell_p@chartermi.net
 989-832-2924

The following equipment is for sale from the estate of Everett Van Sickle, WB8YAG. If you are interested in any of this equipment contact Lee, KC8ITI at (989) 486-3771 or email me at kc8iti@arrl.net:

ICOM HF STATION consisting of IC-718 TRANSCEIVER AT-180 AUTO-TUNER PS-85 POWER SUPPLY asking \$850.00

KENWOOD TR2600A 2 METER HANDHELD AND EXTRA PB-26 BATTERY PACK asking \$75.00

NPC 109R 10 AMP POWER SUPPLY asking \$40.00

ICOM IC-27A 2 METER MOBILE WITH IC SP4 SPEAKER asking \$80.00

KENWOOD HF STATION consist-

ing of TS-520SE TRANSCEIVER 520S VFO SP-520 SPEAKER ASTATIC D104 MICROPHONE asking \$525.00

MFJ 815 SWR POWER METER asking \$45.00

DRAKE TV 42LP LOW PASS FILTER asking \$10.00

SWAN SWR-1 SWR POWER METER asking \$25.00

HEATHKIT IM-18 VTVM asking \$35.00

HEATHKIT CW STATION consisting of HEATHKIT HW-16 TRANSCEIVER HEATHKIT SB600 SPEAKER HEATHKIT HG-10B VFO (UNBUILT) asking \$325.00

NRI NOVICE CW PAIR consisting of CONAR 500 RECEIVER CONAR 400 TRANSMITTER (UNBUILT) asking \$200.00

KLM PA 10-80BL 2 METER AMPLIFIER asking \$100.00

SUPER STICK/TUNED DUCK 2

METER ANTENNA asking \$20.00

JOHNSON CB MATCHBOX asking \$15.00

MICRONTELETESTER/VOM asking \$15.00

JANEL QSA 5 2 METER PREAMP asking \$30.00

MFJ 107B CLOCK asking \$5.00

NR-100 100 FEET NYLON ROPE asking \$20.00

VAN GORDEN 1:1 BALUN asking \$20.00

TELETRON SLINKY ANTENNA asking \$50.00

ALLIED CW COURSE VINYL RECORD make an offer

NRI CW COURSE VINYL RECORD make an offer

MISC CW CODE TAPES VARIOUS SOURCES make an offer

2 METER VERTICAL ANTENNA asking \$30.00

MARC Vital Statistics

Memberships Expiring in May

KD8HID
KD8UCW

WB8FYR
WD8ODG

Memberships Expiring in June

N8KRL

WA8KJR

Memberships Expiring in July

None

Current Active Club Membership 43

Birthdays Celebrated in May/June

KC8KOC 5/5
KD8QAM 5/5
KC8YHQ 5/11
KD8FSI 5/12
KD8MRC 5/12
KD8MQZ 5/18
KC8MUD 5/19

K8CCE 5/20
WD8AXR 5/25
WD8SDX 5/27
W8LSS 6/2
K8RI 6/16
KB8VSS 6/21
KD8IWG 6/23

K8HP 6/24
N8POX 6/25
KC8URV 6/28
WD8ODG 6/30
KD8MMH 6/30

Anniversaries Celebrated in May/June

KD8OLC and Lori 5/14
KB8QWQ and Kate 5/16
KD8EUR and Julie 05/17
N8CGP and N8KRL 6/5
N8KFE and Cheryl 06/12
KB8VSU and Barbara 06/13

WA8LQD and Kathy 6/16
N8STF and Mary 6/16
N8POX and Kris 06/17
W8LSS and WD8AXR 6/19
N8UPP and KC8AVI 06/21
NX8A and Kristina 6/24

KD8WZG and Mayumi 6/27
KB8PGV and Connie 6/27
K8CCE and Clarice 06/28
KD8HID and ??? 06/28
AA8EJ and Beverly 06/28

Information is from data received 5/7/2013

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