



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

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	Pat Mullet KC8RTW	(989) 828-6657
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	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 — **CANCELLED**

Law Enforcement Center, 2727 Rodd St.

Next CLUB Meeting — **CANCELLED**

Salvation Army Building, 330 Waldo.

Talk-in 147.000+

January 2015



John W8QN brought the meeting to order at 7:40 P.M. with 27 present. A slightly delayed Kevin KD8QAM was able to take over. A sign-in sheet was passed around and introductions were made.

The meeting meetings are published in the newsletter. If

corrections or additions need to be made please bring that to the attention of the secretary.

- Presentation—Mark KC8GRQ—An informational talk and slide show on how to monitor and track aircraft using computer equipment and programs.

- Due to the date there will be no January meeting.

- EC/RO—John W8QN—RACES cards are expiring, John will let us know more about renewing them later.

- General announcements-

Ryan KB8RCR—Don't forget the District 3 training net Sunday evening at 8:00 P.M. Also call in to the 145.310 Net on Tuesday at 9:00 P.M.

John WB8RCR—Plans for a build project and soldering practice may be in the works.

Mike KD8MMH—The Saginaw Club is hosting an Auction on February 6th. Saginaw's meetings are held on the 1st Friday of the month at the Red Cross Building.

- Thoughts and prayers to our club members who are in the hospital.

- Christmas Party—Dorie N8WTQ—As of now there are 14 signed up. We'll gather at 5:30

and eat at 6:00. Don't forget your white elephant gift.

- Subscription—John W8QN—The *QST* magazine subscription at the library is not being used enough to keep it, it will be dropped.

- MHS Club—Art K0ACP—The club at the high school is going well, there is enthusiasm for many subjects.

- Parade—Kevin KD8QAM—It was cold but everybody still had a good time passing out candy.

- The next meeting is on February 5th.

NET Control:

Dec 11th John W8QN

Dec 18th Lee KC8ITI

Dec 25th John W8QN

Jan 8th Ryan KB8RCR

Jan 15th John W8QN

Jan 22nd Kevin KD8QAM

Jan 29th Lee KC8ITI

A motion to adjourn made by Larry N8CGP

Seconded by Art K0ACP

Meeting ended at 8:35 P.M.

Respectfully submitted by

Linda KC8MUD

Secretary

MARC MEETINGS

Mark Rodgers KC8GRQ, 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 Mark at (517 672-1060), or via e-mail: kc8grq@yahoo.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 Kevin (cherryredirocz@sbcglobal.net)

My Two Cents

The ARRL Centennial QSO Party is winding down, and while I've been concentrating on the W1AW WAS, I've found that I've qualified for the Second Level certificate on the points accrued from points earned from QSOs with ARRL personnel. Speaking of the W1AW WAS, I've logged contacts with 49 states, and as I write this, the last state I require, Hawaii, is scheduled to be on the air next week. Looks like I'm going to be busy.

Pat Mullet, KC8RTW

Speaking of logs, Scott Davis, N3FJP, has updated his *Amateur Contact Log* to version 5.1. At the same time, he continues to update his contest log programs to the Microsoft .NET framework and has introduced a new Morse code tutor to his line of software. Scott supplies free technical support and lifetime upgrades to purchasers of his software.

One of the topics that came up recently on Scott's online software support forum dealt with a user

Amateur Radio is a Contact Sport!

having his attempt to submit the results of the contest online rejected. It turns out that he'd mis-typed the letter "O" for the number zero in some call signs. A simple way to prevent that is to install a slashed zero font on your system and use it for logging. Many fonts will contain slashed characters that can be substituted for zero by either cut and pasting them or by using a specific key sequence. These characters have a different ASCII code from the zero character, and will be rejected by contest robots. A slashed zero font actually has a slashed zero character associated with the zero character's ASCII code. There is a collection of slashed fonts online you can find by googling "hamfonts.zip." If none of these strike your fancy, just google "slashed zero font."

There are a number of these fonts out there, since programmers use these fonts for much the same reasons that hams do.

If you have propagation software such as *ViewProp* and *IonoProbe* you've probably noted that they haven't been behaving properly lately. It turns out that the Space Weather Prediction Center / National Oceanic and Atmospheric Administration's website has made some changes which prevent the programs from downloading the needed data. Check out the *ViewProp* and *DXAtlas* user groups on Yahoo to find the patches to update your software.

That'll pretty much do it for this month. Hope to hear you on the air.

73, Pat, KC8RTW

No January Meeting

Due to the regular date for the holiday this year, there will be no MARC meeting falling on a January MARC meeting.

Midland High School ARC News

The Midland High School Amateur Radio Club is wrapping things up for this year with one more meeting before the holiday break. We have approximately 6 regular students coming to the meetings. I am finishing up the presentations on digital electronics. When the students come back after the first of the year, we will start laying out the construction plans for the building the 4-bit computers. The students are looking forward to this project.

John, AC8QF, and Art, K0ACP continue the effort to explore satellite communications. This last Wednesday we listened to digital packet communications coming from the International Space

Station (ISS) as it made a pass over Midland. The students are definitely interested in upgrading the club station to add satellite and packet communications to the mix.

John, AC8QF, brought in some tube gear for the students to look at. There was a lot of interest by the students in how this type of equipment was constructed and how it compares with construction techniques used today.

My thanks to Dennis, N8ERF; Denny, WD8BPT; Andrew KD8ULJ, John, W8QN; Art, K0ACP and John, AC8QF for their continued involvement in MHS ARC.

Best Regards,
Lee, KC8ITI

Upcoming Events

12/31-1/1	Straight Key Night
1/4	Kids Day
2/9-13	School Club Roundup
4/19	Rookie Roundup - Phone
4/18	Mi QSO Party
6/20	Kids Day
6/27-28	Field Day

Michigan Hamfests

1/11/2015	Hazel Park
2/7/2015	Negaunee
2/14/2015	Traverse City
2/15/2015	Livonia
3/14/2015	Kalamazoo
5/2/2015	Cadillac
6/20/2015*	Midland
10/17/2015	Muskegon

* Denotes date based on 2014 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.

It's Not Your Grandfather's Amateur Radio!

Technical Topics and Information

(ARRL Contest Update—Nov 19, 2014) Leave some extra room! Power system designer Gene AD3F suggests that when running cables, use conduit large enough so that the ultimate fill occupies only 40% of the area of the conduit. Two-inch conduit might seem to be large enough but even that first pull will be tough! Go all the way to four-inch as the cost is only slightly higher and you won't have the problem of an over-stuffed conduit. Gene reminds us to use "sweeps" with large radius curves and not sharp 90-degree elbows.

◆ This online [article](#) from *EDN magazine* gives a nice explanation of what s-parameters are and what they represent.

◆ Since antennas, like aircraft, are made from aluminum and stainless steel hardware, this *Savvy Aviator* article "[Thwarting Corrosion](#)" will be of interest. (Thanks, Mickey N4MB)

◆ Arggh - you opened the lid

on that bottle of liquid electrical tape and it was solid because the solvent had slowly evaporated through the lid! Roger K8RI suggests putting the can inside a sealing food jar to slow down that solvent. It works for PVC pipe glue, too!

◆ An alternative to installing special waterproof connectors on rotator cables is a waterproof outdoor utility box. The box keeps a terminal strip dry and "it is not difficult to disconnect the wires for occasional servicing. You can also install MOVs on this strip to protect your motor and indicator from lightning damage which may eliminate some rotator failures. A terminal strip...is easier than sealing and unsealing a "quick disconnect" and there is little risk of water ingress or corrosion. Disconnecting screw terminal wires is the easiest part of removing, repairing and replacing an antenna rotator." (Thanks, John KK9A)

◆ To minimize the torque on

your rotator from the wind blowing on your antennas, install the antennas on opposite sides of the mast. This old trick results in a lot of torque canceling in the mast. (Thanks, Steve K7LXC)

◆ Magnetic loop antennas are popular for portable and stealthy operation. The loss mechanisms for these small antennas can rapidly eat up a signal, so it's important that losses be minimized. They are nicely characterized in the article "Loss Mechanisms in the Electrically Small Loop Antenna" in *IEEE Antennas and Propagation Magazine*, Vol 56, No 4, Aug 2014 by Austin (GØGSF), Boswell (G3NOQ), and Perks (ZS6BIM).

Technical Web Site of the Week - Bell Labs, home of many great inventions and discoveries, is on its way back according to this [EE Times article](#). Read up on the new Bell Labs Prize, as well!

More Technical Topics and Information

(ARRL Contest Update—Dec 3, 2014) A recent post by Tom W8JI notes an unexpected noise source: "Phono (plugs) and BNC's are a little prone to having some resistance in the shield path as they age and a (ferrite bead) sleeve over the shield reduces common mode that might couple in at the connector. When I've had switching supply noise, the BNC's and phonos have generally been the way the noise has gotten in. Wiggling them changes the level when they act up, just like it does on a bad F connector shield connection."

◆ Patrick NJ5G answered several questions at once by noting a

link to some information about [crimp vs. solder connections](#) by the gurus at Davis RF who provide BuryFlex cables and other types of wire and cable.

◆ In the previous issue, I posted a tip about mounting antenna booms on opposite sides of the mast to cancel out their respective wind-induced torque. George N4UA suggested this might not be true, so after thinking about it for a while, I decided he might have a point and asked Hank KR7X about it. Hank is a registered PE and analyzed the case for a 2-element "shorty forty" and a typical tribander mounted on the same and then opposite sides of

the mast. For the opposite-side case, when the elements are aligned so that the wind blows directly in-line with the boom there is some cancellation. (About one-half the torque remains and the fraction depends on the relative sizes of the antennas. If the antennas were identical, such as in a stack, then the torques would cancel completely.) The net torque resulting from wind blowing perpendicular to the booms depends on where the center of action (pressure) is located along the boom and cannot be canceled simply by opposite-side mounting. So we'll have to rate that tip as "Partly True." Hank pointed out

Explore the World with Amateur Radio!

that the most significant torques encountered by amateurs come when big 80 meter and 40 meter Yagis quickly start and stop turning. (Thanks, Hank KR7X)

♦ *Gizmag* recently ran a story about a [new RF circulator](#) that is smaller and more efficient, using active devices instead of lossy ferromagnetic material. At the moment, this is a UHF-and-up device but perhaps some of the principles could be applied at HF in other ways. (Thanks, Dennis N6KI)

♦ More cutting-edge developments were found in a recent issue of *Microwave Journal* as well-known amateur, Ulrich Rohde N1UL, collaborated on a paper about [creating metamaterials with and other effects of Möbius strips](#). Again, this is primarily a microwave technology but maybe we'll see one-sided loops at VHF

and lower frequencies someday!

♦ Spotted in the latest *Circuit Cellar*, here's a new product that 70 cm users might employ - a [low-power frequency-programmable, narrow-band transmitter](#) that operates from 425 to 470 MHz.

♦ David WØIM reported a handy discovery for portable antenna users. "I was wandering in Menards, and found some 5-foot aluminum extension poles...officially for a Roof Rake, or Snow Rake. One of those things us Northerners use to remove snow from a roof. They were \$7 for 5 feet, so now a 25-foot mast is \$35 dollars total." There are lots of seasonal products at hardware stores that would be expensive if purchased in low quantities for electronics. For example, watch for the fiberglass "snow stakes"

that mark the edges of walkways and driveways -- they make great insulating material for a couple of bucks each.

♦ Mentor Graphics and Digi-Key have announced a low-cost electronic CAD package for printed-circuit board layout and schematic capture. [Designer Schematic and Designer Layout](#) aren't free, costing about \$600 together, but they are fairly powerful and not limited in capability like the free and student versions of other such software.

Technical Web Site of the Week - Tis the season of an annual favorite, the *EDN Magazine* ["Design Notes"](#) classic to help you rapidly zero in on those bad bulbs in string of lights! Then you can get back to the bands and work some of that great DX!

MARC Vital Statistics

Memberships Expiring in December

KB8TBI

N8MYS

Memberships Expiring in January

K0ACP
KD0JHX

K8RI
N8JBW

KD8OLC

Memberships Expiring in February

KD8IVZ
KD8IWB

W8QN

Current Active Club Membership 48

Birthdays Celebrated in December/January

WB8WNF 12/7
N8ERF 12/10
N8CGP 12/21
NX8A 12/22
WA8KJR 1/2
KA8HQW 1/13

W8PMR 1/20
N8KRL 1/24
W8ZSX 1/28
KD8HID 1/29
KB8QWQ 1/29

Anniversaries Celebrated in December/January

KB8UIH and Shelley 12/8
W8WOJ and KD8HIF 12/12
W8PMR and KD8IWB 12/16

W8ZSX and WD8BDM 12/23
N8ERF and N8NNA 12/23
KA8EZT and Linda 1/2

Information is from data received 9/25/2014

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