



MIDLAND AMATEUR RADIO CLUB  
 PO BOX 1049, MIDLAND, MICHIGAN 48641  
[www.w8kea.org](http://www.w8kea.org)

President	Al Bailey, AD8BA	
Vice President	Art Peters KOACP	(989) 400-3745
Secretary	Linda Hodges KC8MUD	(989) 835-7746
Treasurer	Larry Macklin N8CGP	(989) 631-7748
W8KEA Station Trustee	Larry Macklin N8CGP	(989) 631-7748
Midland County EC/RO	Al Bailey, KA9WCS	
Midland County AEC	Chris Rose KB8UIH	(989) 832-7179
Newsletter Editor	Pat Mullet KC8RTW	(989) 828-6657
Newsletter Publisher	Art Peters KOACP	(989) 400-3745
ARRL Liaison	John Tallman KB8PGW	(989) 859-0364
ARRL VE Liaison	Dennis Klipa N8ERF	
Web Page Chairman	John McDonough WB8RCR	(989) 631-0178
Club Historian	Stan Rowe K6VWE	(989) 837-7252
Quartermaster	Lee Hodges KC8ITI	(989) 486-3771
Public Information Officer	Pat Mullet KC8RTW	(989) 828-6657
Field Day Committee	John Tallman KB8PGW (Ch)	(989) 859-0364
	Pat Mullet KC8RTW	(989) 828-6657
Swap Committee	Pat Russell W8PMR	(989) 832-2924
	Chuck Cribley WA8LQD	(989) 488-9409
	Keith Johnson KB8SOE	(989) 488-4337
	Pat Mullet KC8RTW	(989) 828-6657

#### LIFE MEMBERS

Don W8WOJ, Lee KC8ITI, Dennis N8ERF, Larry N8CGP, Denny WD8BPT, John WB8RCR

Midland County Public Service Net, Thursdays at 9 PM  
 W8KEA Repeater — 147.000 MHz+ PL 103.5 • W8QN Repeater — 443.325 MHz+ PL 103.5  
 W8KEA Digipeater — 145.090 MHz

Next ARES®/RACES Meeting — Thursday, June 7, 2018, 6:00 PM  
 Law Enforcement Center, 2727 Rodd St.  
 Midland ARC Meeting — Thursday, June 7, 2018, 7:30 PM  
 Salvation Army Bldg, 330 Waldo Ave.  
 Talk-in 147.000+

June 2018

## Static Discharge

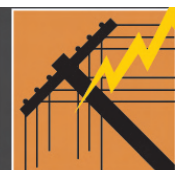
Al Bailey, AD8BA

The temperature seems to be warming up slowly, but for sure the amateur activities are in high-speed demand! We had the MS walk right at the end of April, followed the next weekend by the balloon launch, then the Frankenmuth MS Walk, followed by the Dow Run on Saturday May 19<sup>th</sup>. We will zoom into June with the Swap meet on Saturday, June 16<sup>th</sup>, then Field Day weekend with the Saginaw Club June 23 & 24. I'm exhausted just writing this up! No, not really, just enjoying the great times with people who like to use their equipment to do something good for the community.

I will let other individuals note the details on these activities. Just want to say thank you to all of you for the things you bring to these activities. It makes it fun, to be with such a good group of people who enjoy what they do and smile while doing it.

We were informed this month that the Zoe Club has donated \$1300 to the Electronics and Wireless Club to assist

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



their efforts to reach our kids with the electronics club. Our members help these young people to assemble, build and launch a sophisticated electronic package for a balloon flight. It rises up to 20 miles into the atmosphere, sending location data and taking pictures. What a feat. This is something the kids will always remember they did. It will influence

them for the rest of their lives in some way or another. The Zoe group recognized this dedicated group of members in our club. We thank them for their generous donation, and we also thank those who make this happen.

On June 11<sup>th</sup>, the Midland City Council will vote to proclaim the week of June 18 -24 as Amateur Ra-

dio Week in Midland. Feel free to attend this meeting and show your support and enthusiasm. The meeting will start at 7:00 pm in the City chambers at the Midland City Hall.

What a year so far!

73,  
Al Bailey  
AD8BA

## MARC Minutes

Linda Hodges, KC8MUD

### 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](mailto: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](mailto:kc8rtw@arrl.net).

### EXAMINATION SCHEDULE

Saginaw - All future VE testing will be done on an appointment basis only.

Corunna - Contact Thomas Carpenter (517) 579-0599 [ki8as@charter.net](mailto:ki8as@charter.net).

Bay City - All future VE testing will be done on an appointment basis only.

Isabella/Clare Counties - Contact Gus Glass, K8GUS at [k8gus@arrl.net](mailto:k8gus@arrl.net)

With all examinations, your original license, a copy of that license, a second photo identification (drivers license, etc.) and a check or money order for \$15.00 made out to "ARRL/VEC" are required.

The address listed below gives testing sessions scheduled for Michigan. <http://www.arrl.org/arrlvec/exam-search.phtml?State=MI>

### SUBMISSIONS FOR NEWSLETTER

Contact Pat Mullet, KC8RTW at [kc8rtw@arrl.net](mailto:kc8rtw@arrl.net) if you want to submit anything for the newsletter.

I need your items by the 15<sup>th</sup> of the month. Anything received after that may not make it into the newsletter for that month.

If you prefer to download the MARC newsletter from our web site, or have trouble with delivery via USPS, contact John, W8QN at [w8qn@arrl.net](mailto:w8qn@arrl.net).

### MEDIA HITS!

Have you seen or heard mention of the Midland Amateur Radio Club in the news or in the paper? If so, please forward it, or mention of it to either Pat, KC8RTW ([kc8rtw@arrl.net](mailto:kc8rtw@arrl.net)) or John ([w8qn@arrl.net](mailto:w8qn@arrl.net))

The meeting was called to order by Al AD8BA at 7:30 pm with 34 members and guests presents. A sign-in sheet was passed around and introductions were made.

Please bring any corrections or additions to the minutes to the attention of the secretary Linda KC8MUD.

- Report-Al AD8BA gave a short report about the Mass Casualty Training that four members of the club participated in.

- The meeting started with a virtual club meeting presented by Steve WA8Y. Using internet connections he contacted Michael Walker from Toronto who told us all about the Flex Radio Systems. A lengthy discussion followed.

### General Business-

- Reminder- Al AD8BA- The next meeting is at 7:30 pm at the Salvation army building on June 7<sup>th</sup>.

- MS Walk- Chris KB8UIH- Thank-you to all the operators who came out to help with this worthwhile fundraiser. There were some challenges with the repeater going down but it was still a good day and a successful event.

- The treasurer was not here so a financial report was sent around for members to look at.

- Dow Run- John W8QN- The Dow Run will be held on May 19<sup>th</sup> starting from the parking lot on Collins St. Set up time is 7:30 am and volunteers will be done about 10:30 to 11:00 am. A sign-up sheet was passed around or

please contact John W8QN if you can help.

- MS Walk in Frankenmuth- Ron KC8YVF- Their MS walk is on May 12<sup>th</sup>, contact Ron or the Saginaw club if you can help out for MS in Frankenmuth.

- Swap-Keith KB8SOE- The date is Saturday, June 16<sup>th</sup>. Vendors will get a free table for the price of an admission ticket. There are no fliers yet. If you can volunteer for a swap job please contact Keith.

Keith also is finding out more about 70<sup>th</sup> anniversary stickers.

- Balloon Launch- Dennis N8ERF- The School club balloon launch is set for May 5<sup>th</sup>.

- Repeater failure- A long discussion about the repeater took place. Questions included, should it be replaced and what should it be replaced with. A fact-finding committee was set up. A discussion followed. A motion was made by Jack K8GTG and seconded to set up a committee to investigate the repeater system.

- Field Day-Mike KD8HMM- Field Day plans are in the works in Saginaw.

- Tech. Class- Lee KC8ITI- The Tech. Class is going well with six students.

### Net Control:

May 10 <sup>th</sup>	Jack K8GTG/Al AD8BA
May 17 <sup>th</sup>	Lee KC8ITI
May 24 <sup>th</sup>	Paul KE8GEM
May 31 <sup>st</sup>	Bob W8LSS

# Amateur Radio is a Contact Sport!

A motion made by Art K0ACP to adjourn, seconded by Bob W8LSS.

The meeting ended at 9:15 pm.

Respectfully submitted,  
Linda KC8MUD  
MARC Secretary

## My Two Cents

Pat Mullet, KC8RTW

This time around, I'm finally mapping out some time to build a few simple kits for use while operating.

Shortly after Yaesu's FT-817 debuted, [Phil Salas, AD5X](#), published an article in the June 2005 *QST*, entitled "Input Voltage Conditioner—and More—for the FT-817." This simple circuit protected the rig's final transistors by limiting the input voltage while providing full power output, sinking the excess heat to the rig's own heat sink and provided polarity protection. Stuffed into a tiny project box, the conditioner plugged directly into the power input, was secured by and extended the grounding screw and provided standard Powerpole connectors for the DC source.

[Brian Rilely, N1BQ](#) came up with an \$18.00 kit of Phil's conditioner that included all parts save the thermal grease needed to mount the voltage regulator. For some reason, Brian has substituted a different style coaxial plug than the one Phil used, one which requires hacking away the molded on shell. Luckily, I had one of the original type, and you could probably source on from Mouser or another electronics retailer.

With any luck, this week I'll get the holes drilled in the project box (spacing on these need to be rather precise, good thing I've a small drill press and a micrometer) and have it wired and attached to my FT-817 before the end of

next week.

One of the reasons I had my eye out for a used FT-817 was to use it as the centerpiece of a portable digital station for packet and other digital modes. I also had thoughts of using it as a portable satellite station, especially since I already had software that would tune the rig to compensate for Doppler shift. A number of articles online noted that the use of a low-noise amplifier for 440 MHz such as the discontinued Ramsey kit would go a long way in hearing the birds in the field. After doing a bit of research, I found that a similar kit offered by Vecronics used essentially the same circuit and the same device. The VEC-1444K kit is available for about \$15.00 at various retailers. Now that I have the kit, I'm going work out a tx/rx switch and a bias "T" to power the system so it can be mast-mounted.

Lastly, the April 2018 edition of *CQ Magazine's* Kit Building column devoted some time to a single-channel 20 MHz pocket oscilloscope kit. The DSO 15001K kit comes with an enclosure, color TFT display and an enclosure. All surface mount parts are pre-assembled, leaving only the through-hole parts to be soldered. The kit can be ordered through [Banggood](#) for \$22.00. I plan on using this little scope for chasing down some audio hum problems as well as using it as a signal monitor in the shack. It's

### Upcoming Events

Dow RunWalk May 19  
Museum Ships Jun1-3  
Midland Hamfest June16  
ARRL Field Day June 23-24

### Michigan Hamfests

6/2	Hudsonville
6/3	Chelsea
6/9	Newberry
6/16	Midland
6/17	Monroe
7/21	Gladwin
7/28	Lansing
8/4	Escanaba
8/12	Port Huron
9/8	Wyoming
9/16	Adrian
10/6	Brooklyn
10/20	Muskegon
10/21	Kalamazoo

### Area Nets

SVARA; Mn, 147.24 MHz, 2100 ET  
Gladwin; Tu, 147.18 MHz, 2000 ET  
BARTS; Tu, 145.31 MHz, 2100 ET  
Canadian Lks, Wed, 146.8, 2100 ET  
Edmore, Th, 146.8, 2000 ET  
MARC; Th, 147.00 MHz, 2100 ET  
District 3 ARPSC; Su, 145.31 MHz, 1830 ET  
Mi VHF Trffc Net; MWF, 145.15 MHz, 0900 ET  
TMMTN; Mon-Sat, 147.30 MHz, 2130 ET  
MACS; Sun-Sat, 3953 kHz 1100 ET  
MIARPSC; Su, 3932 kHz, 17:00 ET  
UPN; Sun-Sat, 3920 kHz, 17:00 ET  
MITN; Sun-Sat, 3952 kHz, 1800 ET  
QMN; Sun-Fri, 3563 kHz, 1830 & 2200 ET  
WSSBN, 3932 kHz, 1900 ET  
UP-ARES; Fr, 3932 kHz, 1930 ET  
GLETN; Sun-Sat, 3932 kHz, 2030 ET  
SEMTN; Sun-Sat, 145.33, 2215 ET  
MIDTN - 1900 local Tu, Th, Sat 3.583  
+waterfall, Oivia 8/500

not a 200 MHz dual trace digital storage 'scope, but for the price, it should do what I want it to.

That does it for this month. Hope to hear you on the air.

73, Pat, KC8RTW

## ARES®/RACES

The ARES®/RACES group will meet again Thursday night at 6 pm on June 7<sup>th</sup>, at the Law Enforcement Center. We will again fire up the laptops and practice our packet skills

including transmitting to another station. We will try to get further into the BBS systems and see if we can start retrieving some previously stored messages.

Al Bailey, AD8BA

If you have not ever used packet before we will show you how, with hands on practice. So come on out and see how fun it is to work with this communication protocol. Many

of our group who had not done this before were naturals because of their computers skills. It was impressive to see.

Some people have asked what they need to do to join the group—to start with, just show up at a meeting. We welcome all amateur radio operators of any class or skill level. We do want you to take a few FEMA classes. These are intended to help you understand how the incident command structure works in the

event you are ever involved in a real emergency. The courses are: ICS -100 Introduction to Incident Command Structure; ICS -200 Single Resources and Initial Action Incidents; ICS -700 NIMS an introduction and ICS -800 National Response Framework – An Introduction.

These are self-study and open book quizzes at the end of the course. All courses will require you to register and get a FEMA Student Identification Number. These are not

hard, and give some good insight into what is going on within all of those national emergency news stories for floods, fires and earthquakes. So give it a try. If you need help just let me know and I can assist you.

These courses are important so we can get you registered before any emergency occurs. Once the emergency occurs it is too late. So give it a try.

AL Bailey, AD8BA

## MS Walk Wrap-Up

Chris Rose, KB8UIH

Hello,

I wish to thank all who came out to help at the walk on Saturday, April 28. These events don't happen without your help. I appreciate you all: Jim, KC8HTH; John, W8QN; Lee, KC8ITI; Linda, KC8MUD; Pat, W8PMR; Jack, NX8A; Gail, NO8U; Larry, N8CGP; Kevin, KD8QAM; Tina; Jack, K8GTG; Jim, KD8HID;

Ron, KC8YVF; John, KC8WZM; Stan, K6VWE; Al, AD8BA and Paul, KE8GEM.

Also, I want to pass along my thanks to Jack and Gail, who helped me through my hissy fit and thanks to John and Lee for their help running the net.

If anyone has any information on what they saw that went right let me know.

If someone has input to anything that went wrong, let me know also.

Please make a suggestion as to how to fix something that may have gone wrong.

Once again, thanks!

Chris, KB8UIH

## W8KEA Repeater Status

John Wolters, W8QN

We have had some major failures at the repeater site:

1. The main repeater transmitter failed.

2. The 12 volt power supply for the remote receivers failed.

While this is unfortunate, it is not surprising because the equipment is 25+ years old and no longer sold.

As a result we have had to replace the main repeater with a backup repeater and the remote receivers are off. When Larry Macklin pulled the backup repeater off

the shelf it also had some problems but luckily he was able to repair it.

So, the repeater cannot be accessed by the Edenville remote and the transmit and receive characteristics may be different. This will probably remain until the alternatives are investigated.

A committee was selected at the May meeting to look at the future needs to keep the repeater going. Everything is on the table for discussion. The committee consists of: Max Schneider, Lee

Hodges, Pat Russell, John Wolters, Will Halphen and Larry Macklin.

If you have any concerns, pass them on to a committee member.

There is no set date for presentation of results from the committee but I would not expect anything at the June meeting.

John Wolters - W8QN

## Midland Hamfest, June 16<sup>th</sup> Keith Johnson, KB8SOE

The 44<sup>th</sup> Annual Midland Hamfest will be held at the Salvation Army Family Center (330 Waldo Rd, Midland, Mi) on June 16<sup>th</sup>, 2018. The show runs from 8:00 am to noon, admission is \$5, and tables are available for

\$5. Trunk sales are also \$5. Food will be available.

A VE session will be held at 11:00 am (signup begins at 10:30 am). Please bring an ID, and a copy of your present license, if applicable.

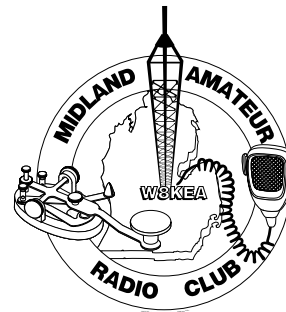
We need help setting up on Friday, June 15<sup>th</sup> at 5:00 pm. Tear down will occur after noon on Saturday.

Please join us in a fun day of radio, swapping, and information exchange!

MICHIGAN HAMFEST WEEKEND  
MIDLAND JUNE 16      MONROE JUNE 17

## MIDLAND AMATEUR RADIO CLUB

# MIDLAND HAMFEST '18



**JUNE 16, 2018**  
**SALVATION ARMY BUILDING**  
**330 WALDO AVE.**  
**MIDLAND, MI**

**Set-Up at 6:30 AM**  
**Show Runs 8:00 AM - Noon**

**Admission \$5.00**  
**Tables \$5.00**  
**Trunk Sales \$5.00**

**Featuring:**

- FCC Exam**
- New & Used Amateur Radio Equipment**
- Parts, Coax & Connectors**
- Large Selection of Vacuum Tubes**
- Seminars/Demos**
- Refreshments**



An ARRL  
Sanctioned  
Hamfest

---

Talk-in: 147.00 MHz – Midland Repeater  
For More Information & Reservations Mail  
**MARC Hamfest, PO Box 1049, Midland, MI 48642**  
or Contact

Keith Johnson, KB8SOE at (989) 488-4337 email: [KB8SOE@arrl.net](mailto:KB8SOE@arrl.net)

## Electronics and Wireless Communications Clubs

First I want to thank all of the volunteers who have made this another successful year for the Electronics and Wireless Communications Clubs. We all had a lot of fun. The students learned a lot, built projects and got excited about electronics and we will likely get a few new ham radio operators out of the deal. It doesn't get any better than that.

I want to thank all of the teachers and adult advisors for helping to make this another successful year for our school clubs. Andrew Fawcett (KD8ULJ, MHS), Carman Kessler (NEMS), Bernadette Wood (NEMS), Brian Brown (NEMS), Will Halphen (K8VFO), Jackie Klipa (N8NNA), Lee Hodges (KC8ITI), Art Peters (K0ACP), John McDonough (WB8RCR). I would also like to thank the high school students who have helped out with the Middle School club; Caroline Zeigelein, Felecia Morey, and Ron Rice.

### Balloon Launch Update.

May 5<sup>th</sup> was a beautiful, sunny, calm, not too hot, not too cold day in mid-Michigan. A perfect day for a launch! We had 24 students and about another 20 students, teachers, parents and ham radio operators on hand for the activities. We met at Northeast Middle School at 7:30 AM. After going through the Staging process under Jackie's, N8NNA, skilled leadership, we had a short mission briefing where we laid out the plan and emphasized personal safety. The Launch Team, under the direction of Will (K8VFO) and Carman Kessler (NE teacher and Club Co-leader), headed out to Sunnyside Park in Mt Pleasant, while the Tracking and Recovery Team, under the direction of Dennis, N8ERF, headed out to Elkton, MI, in the Thumb, home of the Wind Turbine Festival – Catch the Breeze.

The launch team was greeted by hordes of soccer players but was able to find plenty of space in the south parking lot. While Will and his Payload Team set to work

preparing the payload for launch, Mr. Brian Brown (NE Math Teacher and club volunteer), monitored the students while the filled the balloon with Helium and got the launch vehicle assembled. Lots of folks were watching with interests as the teams did their work. While several members of the photography team were taking pictures of the activities, Jack, K8GTG, got some very cool photos of the activities from above with his drone and Felecia Morey, one of the high school students, took a time lapse video of the balloon inflation process. Thanks, Jack and Felicia! When the balloon and the payload were ready, the payload was attached to the balloon and the whole system was released in a textbook launch.

In the meantime, the Tracking and Recovery team made their way to Elkton, MI. If you think there are a lot of windmills down in the St. Louis, MI area, you need to take a drive up to the Thumb. According to Dennis Buda, DTE Operations Manager, for all utility companies, there are 680 windmills in the Thumb!! We set up our Communications and Command Trailer, thanks to Denny, WD8BPT, in Ackerman Memorial Park, where, you guessed it, we were greeted by hordes of soccer players. John, WB8RCR, was our net control station. We sent Radio Direction Finding team north and south of Elkton to track the balloon.

Almost immediately upon lift off the APRS trackers showed up on [www.aprs.fi](http://www.aprs.fi) and shortly after that they showed up on the aprs tracking platforms in the recovery area that were tracking the signals directly without going through the internet. It took a while longer for the 2 meter FM CW signals from the Fox Transmitter to be heard by our RDF teams. When the teams took their reading they were relayed to net control and then on to the plotting team of Al, AD8BA, Zach, KD8ULE and Doug, KD8OLD, who plotted both the RDF data and the APRS data on a large map of the area. While there was some error in the

RDF data, it was surprisingly good.

Everything was going well with the balloon being only a mile or so off from the predicted flight path when it crossed directly over Midland. When the balloon got over Saginaw Bay, we knew we had a problem. The balloon was predicted to burst and begin its decent when it reached 92,000 ft right over the middle of Saginaw Bay. However, the telemetry was reporting that the balloon was only at 53,000 feet and still climbing. Oooops! At that point it was pretty clear that the balloon was not going to make landfall in the Thumb, which is only about 35 miles wide from east to west at that point. Sure enough the balloon continue to rise until it burst at 99,000 ft when it was directly over Elkton and the RDF antennas were pointing straight up! The payload then began its descent. We continued to track the balloon as it crossed the Thumb and headed out over Lake Huron, crossing the International Boundary and finally losing its signal, and presumably going for a swim, 16 miles from the Canadian shore. As undoubtedly the most optimistic thing I ever heard Jackie, N8NNA, say; "It might have landed in a boat!" We are still waiting for a call.

Although, we lost the payload, the first loss in 10 flights, the experience was a great success. The students understood in advance that this could happen and that we don't have perfect control over all of the variables. Everybody had a great adventure and had fun. Everybody did their best. Everybody came home safe and the students learned so much. We went to a local restaurant, the "Hitching Post" and celebrated. When we returned to Northeast Middle School later in the afternoon, three students came up to me and said they wanted to earn their Amateur Radio License! Folks, it doesn't get any better than that!

In addition to the folks I mentioned near the start of this report I also want to thank the following hams for making this a great ex-

perience for everyone; Paul - KE8GEM, Chris - KB8UIH, and Kieth - KB8SOE. We are already

talking about the modifications we want to make for the next launch!

Best Regards,  
Dennis Klipa, N8ERF

Zoe Club of Midland donates \$1300 to Support E&WC Clubs

The Zoe Club of Midland has donated \$1,300 to support the ongoing activities of the High School and Northeast Middle School Electronics and Wireless Communications Clubs. The E&WC Clubs are an educational outreach program of MARC in cooperation with Midland Public Schools. In October of last year I was asked to be the entertainment portion for a meeting of the Zoe

Club and to talk about our school club activities. It was well attended with a lot of interest in what we were doing with the students. After my presentation, they told me that the Zoe Club is a philanthropic women's club who raise funds during the year and then make donations to organizations in the community who are making Midland a better place to live.

On May 7<sup>th</sup> I was informed

that the Midland Amateur Radio Club was one of the groups chosen to receive a donation from the Zoe Club. We are very grateful for their interest and support. I suspect in a year or so I will be invited back for an update. I am looking forward to the opportunity.

Best Regards, Dennis Klipa, N8ERF

Will Halphen, K8VFO, Earns \$2,500 Donation to E&WCC

This year, Will Halphen, K8VFO, in addition to making invaluable technical, time and effort contributions to both the High School and Northeast Middle School Electronics and Wireless Communications Clubs, he also volunteered to be an advisor to a team of students at Midland High School who participated in the A.H. Nickless Innovation Award competition. The goal of the Nickless competition is to inspire passion for Science, Technology, Engineering and Math (STEM) among high school students in the

Great Lakes Bay Region in order to promote personal development, educational advancement and economic growth. Monetary awards are presented to the students of the winning teams to further their education and to the schools which they represent. Will's team came in 3<sup>rd</sup> place in the competition. Congratulations to Will and his team!

Actually the 1<sup>st</sup> place and 3<sup>rd</sup> place teams were both from Midland High School. The money that was awarded to Midland High School on behalf of the two teams was distributed

amongst various school clubs. Because of Will's involvement, \$2,500 was donated to the Electronics club. The funds were put into a school Electronics Club account and will be accessible by Andy Fawcett, KD8ULJ, the physics teacher and club sponsor. This is just another example of Will's many contributions to our clubs and the students of Midland High. Thank you, Will!

Best Regards, Dennis Klipa, N8ERF

It's Getting Real John McDonough, WB8RCR

Over the past few years, amateur radio has been getting more and more engaged with government emergency preparations. For years, ARES® groups wanting to be involved with their local governments felt like they were pushing a string. There was little interest, and even when there was, there was considerable distance between government and amateurs.

Over the past few year, that has shifted to the point where some of us feel

like we a clinging on by our fingernails.

FEMA requires each Governor to appoint a board to provide governance of public safety communications. In Michigan, that board is called the "Michigan Public safety Communications Interoperability Board" (MPSCIB). That board holds an annual conference, and in 2014, the board began funding a significant number of amateurs to attend that conference. In 2015, the MPSCIB commissioned a formal Auxcomm

Working Group to coordinate volunteer communicators; ARES®, RACES, MARS, CAP and SATERN. About 95% of the volunteers are ARES®, so that working group largely focuses on ARES® issues.

FEMA has a Regional Emergency Communications Coordinator (RECC) who hosts a Regional Emergency Communications Coordinating Working Group (RECCWG), consisting of the Statewide Interoperability Coordinators

from the states and tribes in the region, and representatives of other interested parties like the FCC, FEMA Spectrum, Office of Emergency Communications, as well as key private partners like AT&T and Sprint. In 2017, the RECC created an Auxcomm committee to coordinate efforts among volunteer communicators from all the states in the region.

Many of you are aware that the state recently built a new State Emergency Operations Center and we have a station in that center (and an antenna farm) that has everything we could ask for. Since then, the state has been pushing us to exploit state resources to leverage our efforts. For example, state planners have been doing some of our documentation, recently the state added about a half-dozen screens to its critical incident management system (MI-CIMS) to help the working group with some data collection, the state exercise officer has helped set up some of our exercises, etc.

At Hamvention this year, the FCC is holding a workshop, supported by

FEMA, the National Telecommunications and Information Administration, the National Protection and Programs Directorate and others to examine a number of amateur radio/emergency communications issues. Among those issues are things like national emergency calling frequencies, national activation plans, and figuring out how a state can request amateur radio resources from another state.

The Region V Auxcomm Committee is trying to develop a 'Black Sky' activation plan that states in the region can use as a template. FEMA seems convinced that a Black Sky incident, one in which virtually all infrastructure is disabled for a long period of time, is almost a certainty. FEMA is convinced that amateur radio will be a key asset to respond to such an incident.

Emergency communications, and especially the ability to be flexible, is a key reason the government grants us spectrum. It is becoming more and more clear that we may be called on to pay back for those privileges with our effort

and expertise. Emergency response has become much more professional and structured over the past few years. It is impossible to be a useful contributor unless you are "plugged in" to the structure and methods of emergency management. For that reason, it is important to be engaged with your local responders, amateur and professional, well before you are called upon to serve. No longer can you simply show up with an HT and be willing to help. You will be part of the problem, rather than the solution.

If you haven't joined your local ARES group, do it! If you have skills and expertise that could be useful on a district or state level, let me know. We can each play a part in being prepared in case bad things happen.

73 de WB8RCR

Co-chair Michigan Auxcomm Working Group

Interim Chair Region V Auxcomm Committee

Michigan Section Emergency Coordinator

Michigan State RACES Officer

Michigan Auxcomm Emergency Management Coordinator

## Technical Topics and Information

(ARRL Contest Update—April 18, 2018) Bob, N6TV, has updated his [Win-Test LUA scripts](#) to provide better support of Icom radios, including support for the new IC-7610. Certain Icom models can now utilize the built-in voice keyer functions from the Win-Test keyboard. [Win-Test](#) is unique among contest loggers with its [built-in LUA language interpreter](#), providing for very advanced functionality to be added without a program update.

♦ Paul, WA3GFZ, found that inexpensive Analog Devices ADF5355-based boards available on eBay can be used as the basis for a 54 MHz to 13.6 GHz synthesizer with the addition of a few parts. He eventually wants to use his work as the basis of a transverter to cover additional bands in VHF and Up contests. His describes his work in the [April 2018 Mt. Airy VHF Radio Club's](#)

[Cheese Bits newsletter](#).

♦ The Twin City DX Association's March 2018 [The Gray Line Report](#) describes how a number of their members are adding SDR hardware to their existing HF rigs for more flexibility and increased capabilities. The comprehensive article by Kirk, N0KK, details the modifications performed to their transceivers, along with the software that they are using to add panadapter and other advanced functionality.

♦ Subvocalization is the silent, internal speech sometimes made when reading or practicing speaking without making sound. Even though no sound is emitted and the mouth may not move, small movements in neck and head muscles still occur. [Researchers at MIT have built a headset to detect these muscle movements](#) and use them to command a computer. Combined with a digital voice

keyer, could this be a way to do a "silent" phone contest in the future? (Dennis, N6KI)

### **Operating Tip: Room to Run**

Be aware that if a frequency sounds unoccupied to you, it may not be elsewhere in the world. While you're running, occasionally ask stations that are calling you how they are copying you, and if there's any interference on their end. Another indicator that your run frequency may be busy is stations giving their call signs, but not responding when you call them back. A precipitous drop in your rate could indicate interference, or changing band conditions. If you are allowed to use spots in your entry category, seeing DX spotted near your run frequency can also indicate that your rate is in peril.



## More Technical Topics and Information

(ARRL Contest Update—May 2, 2018) Machine Learning may help predict solar storms in the future. Researchers are [applying machine learning to chaotic systems](#) using a technique they've named "reservoir computing." Rather than constructing a precise model of a system's behavior, data is collected on the actual behavior of systems and used to train the "reservoir" to be able to predict future states with greater accuracy. Solar storm prediction as a problem is similar in nature to using the heart's electrical signals to predict cardiac events, and the use of weather readings to

predict future weather events.

◆ You don't need a compass to set your antenna rotator direction. By using the sun, you can avoid dealing with the details of magnetic declination. By pointing your antenna at the sun, and looking up the local time on a table generated using the [US Naval Observatory website](#), you can read out the azimuth. (Original suggestion from [CT1BOH via Twitter](#))

◆ It's a situation you don't face every day -- you need to combine spot information from multiple sources, for example a packet cluster, and a skimmer operating

locally. Rich, VE3KI, [suggested](#) that in such cases, you could "run a spot aggregator program like *WinTelnetX* on the computer that is running *CW Skimmer*" to combine the local and remote sources of spots, and act as a local spot server.

◆ Lithium battery capacity [may be able to increase 50 percent by incorporating a new cathode design, according to researchers](#). With a combination of structural and chemistry changes, fluorine doping is used to replace cobalt and nickel in traditional cathodes with manganese. (Dennis, N6KI)

### MARC Vital Statistics

Memberships Expiring in May					
KD8QAM			KE8DON		
Memberships Expiring in June					
KB8UIH			N8KRL		
Memberships Expiring in July					
W8ZSX			WD8BDM		
Members in Good Standing					
K0ACP	KB8AWE	KC8MUD	KE8EOX	NX8A	WB8FYR
K2VMH	KB8PGW	KC8RTW	KE8GEM	W8DOD	WB8RCR
K6VWE	KB8RCR	KD0JHX	N8CGP	W8RBF	WB8WNF
K8AVJ	KB8SOE	KD8HID	N8ERF	W8WOJ	WD8BPT
K8RI	KB8UIH	KD8MMH	N8FUZ	W8ZSX	WD8ODG
K8VB	KC0CJC	KD8QXK	N8JBW	W8ZSX	WN8QGV
K8VFO	KC8IHB	KD8QXL	N8KRL	WA8LQD	
KA9WCS	KC8ITI	KD8ULT	N8NGT	WA8Y	
Current Active Club Membership 46					
Birthdays Celebrated in May/June					
KE8CTI 5/1	W8RBF 5/16	W8LSS 6/2	KD8MMH 6/30		
KD8QAM 5/5	KC8MUD 5/19	K8RI 6/16			
KE8DON 5/9	WD8AXR 5/25	WD8ODG 6/30			
Anniversaries Celebrated in May/June					
AC8RT and Julie 4/26	W8LSS and WD8AXR 6/19	K8VFO and Mayumi 6/27			
N8CGP and N8KRL 6/5	WB8WNF and ???? 6/22	KD8HID and ???? 6/28			
WA8LQD and Kathy 6/16	NX8A and Kristina 6/24				
Information is from data received 2/15/2018					
Any corrections or questions contact Larry, N8CGP					

# Amateur Radio. . . We Do That!



Pat Mullet  
Newsletter Editor  
171 E. Orchard Ave.  
Shepherd, MI 48883

If you desire to join the Midland Amateur Radio Club, the dues are \$20 per year for an individual membership. A family membership is available for an additional \$5 per year which covers all of the individual's family members. Family members must reside at the same address as the primary member to be eligible for the family member rate. The membership dues help to cover the operating expenses of the Club, and its radio systems. Membership includes Autopatch privileges on the W8KEA repeater (147.000+), voting privileges at MARC meetings, and a monthly newsletter. Please supply the following information:

Name: \_\_\_\_\_ Callsign: \_\_\_\_\_ License Class \_\_\_\_\_  
Address \_\_\_\_\_  
City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_  
Home Phone (\_\_\_\_) \_\_\_\_\_ Work Phone (\_\_\_\_) \_\_\_\_\_  
E-mail address \_\_\_\_\_  
Spouse: \_\_\_\_\_ Callsign: \_\_\_\_\_ License Class \_\_\_\_\_  
Birthday: (mm/dd) \_\_\_\_\_ Anniversary: (mm/dd) \_\_\_\_\_  
Desired newsletter format: Paper copy via USPS \_\_\_\_\_ or via e-mail \_\_\_\_\_

Are you an ARRL Member? Y/N      Do you want an ARES Application? Y/N

We request this information so we can communicate with you regarding MARC business, and periodically send you newsletters and congratulatory birthday & anniversary greetings. We do not sell this information nor will we knowingly publicize private information without your permission. Information that is publicly available may be distributed to Club members for various purposes, including membership lists, without prior notification.

You may give this completed form to the MARC treasurer, or you may mail it to:

MARC, PO Box 1049, Midland, MI 48641-1049