



W8KEA



MARC

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

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

SEPTEMBER 2018

Static Discharge

Al Bailey, AD8BA

I have several items to discuss today.

First, we held an executive committee meeting this past week. The Executive committee is made up of the club officers, the trustee (who also happens to be a club officer) and the life members of the club. The Executive committee is required to meet twice a year to discuss the club, its organization and any plans for future improvements. These meetings are open to the general club membership. I was very pleased to see several club members present at the meeting.

I printed up the Club's bylaws and we spent some time going through these, making some recommendations for improvements. I appointed Dennis Klipa, N8ERF to a committee to go and look at how the bylaws can be improved, based on these discussions. He will lead a committee with 2 other people to come up with

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



recommended changes to the club's bylaws.

We modified the Repeater Committee charter, led by Max Schneider, KE8DON, to include installation of the new repeater. Dennis Caney, WB8BPT has been added to the repeater committee. The committee will continue ahead with purchasing and installing the new equipment.

We reviewed the various club

licenses and when they are due for renewal. None of the club licenses expire before June 2020.

I was informed the club is responsible for an internet connection at the hospital, and the bill is accruing overdue costs. Because the cost continues to rise, I authorized the club treasurer to pay the bill in full. The bylaws allow the president to authorize up to \$200 per year for urgent immediate club needs. We will discuss the continued need for this connection at the upcoming club meeting.

Secondly, we will be electing club officers and affirming the committee members on the High School Advisory Board this coming meeting. These Elections shall

be by secret vote. The club bylaws require the election to be by a secret vote. It may seem silly when there is only one person running for office. But for now, that is how the bylaws are written. The committee looking at the club bylaws may recommend a change for such a situation in the future.

There is a lot happening in the club and in radio. My last meeting will be this upcoming meeting Sept 6th. I certainly hope to see you there. If you are not able to make it, then please let me tell you I have thoroughly enjoyed being your club president and wish the club and its great members the best in the future.

73, Al Bailey, AD8BA

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 John, W8QN at w8qn@arrl.net.

MEDIA HITS!

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

MARC Minutes

Linda Hodges, KC8MUD

The meeting was called to order by Al, AD8BA at 7:30 pm with 31 members and guests present. A sign-in sheet was passed around and introductions were made.

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

Al, AD8BA started the evening with a short discussion about the upcoming exec committee meeting.

- HS Report— Dennis, N8ERF— Announced that the Schools clubs are receiving grant money from the Nicholas Award and the Zoe Club. Money will be well spent on kits that students will build. The next HS club meetings will begin around the 3rd week in September.

Net Control:

Aug. 9th Dennis, N8ERF

Aug. 16th TBD

Aug. 23rd Paul, KE8GEM

Aug. 30th Lee, KC8ITI

- Dirty Dog Run— Lee, KC8ITI— Sign-up sheet was sent around to help with this year's Dirty Dog Run on Sat. Aug 25th. Come early and watch the five and ten K racers and their dogs run by your position. Contact Lee, KC8ITI to sign up.

- Crim Race—Al, AD8BA—The Crim Festival of Races is also on the 25th of August.

- Swap— Larry, N8CGP—The Tuscola County Swap meet is on August 11th.

- Treasurer's Report— Larry, N8CGP—Thank-you to all who have renewed their club dues.

- Committee Report— Larry, N8CGP— Larry gave a comprehensive explanation of the Repeater Committee's recommendations and proposal. Discussion followed. Larry, N8CGP made a motion to accept the committee's proposal to spend \$7500.00, seconded and then a paper ballot followed. The club has accepted the proposal. Thank you to all the committee members for your time

Amateur Radio is a Contact Sport!

and thought put into this process.

A motion was made by Larry, N8CGP to adjourn and seconded.

The meeting ended at 9:10pm.

Respectfully submitted,
Linda, KC8MUD
MARC Secretary

My Two Cents

Pat Mullet, KC8RTW

The *Hints & Kinks* column in the June 2017 *QST* featured a simple GPS interface for the Icom ID-880H, which enables the D-Star mobile rig to display and transmit GPS data. This interface will also work with Alinco mobile radios equipped with internal TNCs for use with APRS. The shortcoming of this interface is designed around older GPS units that have an NEMA serial RS-232 (TTL) output. The author, Don Dorward, VA3DDN, used a Gamin GPS 18X, but there are a number of the older serial style GPS “pucks” still available online— Globalsat’s BU 353-S comes with a mini-din connector on the cable that allows you to choose between serial or USB connection. Still, as stated in the ID-880H manual, newer units with USB outputs won’t work.

Or will they?

Remember back when USB hit the market and serial ports evaporated from laptops? RS-232 serial to USB adapters hit the market so that users could still use everything from serial keyboards and mice to their venerable TNCs. And therein lies the clue.

The dirty little secret here is that the GPS units still output the same serial NEMA strings at TTL

levels, but a level converter chip is molded into the USB connector on the end of the cable. Chop off the end, and you’re back to a serial output. Then the problem becomes one of finding the pinout of the unit online and identifying the proper leads on the cable. If you left enough of a pigtail on the USB connector, you should be able to use a meter to determine which wires are the +5V lead and which is ground. The other two will have to be the data leads.

If you’re very careful, some of the puck covers can be removed using a watch knife or back removal tool. You can then trace the leads back from the circuit board. If you happen to break the cover retaining pins in the process, a little superglue will put things right.

You can also use this information to modify a GPS puck for Byonics TinyTrak 3/4. Since the TT will provide the voltage for the puck, once you “ring out” the cable, you can make all the connections inside the DB-9 connector and you’re good to go.

Just remember when you decide to tackle a project like this, *Google* is your friend.

That’s it for this month. Hope

Upcoming Events

Dirty Dog Run	August 25
Crim Races	August 25
Skywarn Recognition Day	December 2

Michigan Hamfests

9/8	Wyoming
9/16	Adrian
10/6	Brooklyn
10/20	Muskegon
10/21	Kalamazoo
10/28	Madison Heights
12/2	Madison Heights
2/17	Livonia

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

to hear you on the air.

73, Pat, KC8RTW

ARES® / RACES

Al Bailey, KA9WCS

This month will be my last meeting for ARES®/ RACES. Chuck Cribley, WA8LQD will present a review of ICS forms, and we will try to get some of the paperwork completed for renewing our RACES cards.

There have been some questions, let me try and answer them here. We need a photo for the ID card. It needs to be similar

to a passport photo. It does not need to meet the passport photo requirements such as no glasses, no smiling, etc. The county does have the ability to crop the photo. We will need a copy of your driver’s license; Jenifier tells me they can make copies at the law enforcement center between the hours of 8 to 5 Weekdays. There is a form to fill out which is

electronic, or we can do paper forms.

We have received and have most of the required course work certificates. If you have taken the FEMA required courses (ICS-100; ICS-200; ICS-700; ICS-800) you do not have to take them again as long as you can get the certificates for the FEMA courses. Jack Robinson is helping to organize

this effort. He and I will be at this next meeting.

Send me and or Jack any questions you may have.

Al Bailey, AD8BA

August 15th Executive Meeting Minutes

The meeting was called to order at 7:00 pm by Al, AD8BA at the Homer Township fire barn with 13 members present.

- ARES update- Jack, K8GTG has agreed to become a EC/RO Assistant.

- Grant Money – A discussion about potential grant money to Midland County there may be and on what and where it can be used. Future Grant money may be used for updated equipment at Homer Township because that is where the back-up emergency communications is.

- Al explained what *ARES Connect* is.

- Antenna Update at the Midland Family Center. Jennifer B. says it's cheaper to paint the tower than it would be to tear it down.

Also another antenna may be put on the tower for communications to neighboring school district buses.

- A discussion about renewals of club licenses, their status and expiration dates.

- By-laws discussion- Especially about authorizing treasurer to spend club funds and how officer elections are conducted. Al has appointed Dennis, N8ERF to head a committee that can recommend amendments to the by-laws.

- We are looking for a signed agreement with Dow for permission to use the building and tower that is on Dow property. Several names came of people who might have or know where that agreement is.

- Repeater Committee mem-

bers will stay on task with repeater equipment replacements. Max, KE8DON will be project manager of the extended committee which includes opportunities for club members to participate. A discussion followed about repeater equipment choices.

- Larry, N8CGP brought up that Speed Connect at the hospital is no longer free and that a bill has already accrued that is not yet been paid. Rather than let the bill go higher Al, AD8BA has authorized Larry to pay the bill. Short discussion followed.

The meeting ended at 8:30 pm

Respectfully submitted
Linda, KC8MUD
MARC Secretary

D-Star Correction

A correction to the information in last month's newsletter: KC8ARJ is still on

444.3500 MHz. It will move to 442.9500 MHz when the new repeater is configured.

— John J. McDonough,
WB8RCR

D-Star Repeater Questions

John McDonough, WB8RCR

A number of people have had questions about the D-STAR repeater. A few notes

To set up your radio for normal use:

Frequency: 444.3500 MHz

Offset: 5.000+

MYCALL: your call sign

URCALL: CQCQCQ

RPT1: KC8ARJ B

RPT2: KC8ARJ G

Note the space between the repeater call sign and the module.

D-STAR repeaters can be linked to other repeaters through reflectors, and often are. KC8ARJ is often linked to REF024C which is a commonly used Michigan re-

flector. Repeaters in Dearborn, Lapeer, Owosso, Stutsmanville and Wyandotte are almost always linked. Hams using hot spots also frequently link to this reflector.

If the repeater is linked, it will say so from time to time and the reflector to which it is linked will display on your radio.

Unlike the DR-1X/UDRC, when you put seven spaces followed by an I in URCALL, if it is linked, it will say it is linked and the reflector will show on the radio display. If it is not linked, it will simply identify. It also identifies on the hour during the day, less frequently overnight.

End user linking is normally enabled, so if you have friends on another reflector feel free to link to that reflector. We MAY disable end user linking from 8 to 9 on Monday evening for the ARES net; remains to be seen.

Because we had a lot of interest in repeater announcements indicated at the club meetings, we have added a few announcements to see how that works out. On Wednesday and Thursday afternoon and evening at the bottom of the hour the repeater will broadcast a reminder of the upcoming meeting or net. We will see how annoying that gets. We can easily

add other announcements. If someone is using the repeater, it will not do any announcements.

Sometime soon I will be asking users to register with the repeater. We aren't there yet. We have a registration page but we may yet rebuild the database so be patient.

Our current thinking is that we will use the 442.9500 MHz pair

for analog instead of moving the D-STAR repeater there. The 444.3500 MHz frequency shows up in a lot of places already, probably many we don't know about, so perhaps keeping it put is a better idea.

So use the repeater, it is quiet a lot of the time. But sometimes you can get pleasant surprises. While most of the time, most of

the stations linked in are in Michigan, sometimes you will hear a Brit or German or whatever. And there is no rule against linking to an Australian or South African reflector, if that tickles your fancy.

73 de WB8RCR

W8KEA Repeater Replacement Update Max Schneider, KE8DON

As many of you know, the club repeater died the morning of the MS Run/Walk event. When Larry, N8CGP and John, W8QN prepared to swap the spare repeater in for the primary, they discovered that it too was out of service. Fortunately, Larry was able to swap out components and bring the spare repeater back to life.

It became clear that the repeater equipment was aged, and probably approaching end of life. At the May meeting, Al, AD8BA called for a committee to be formed with a goal to present a recommendation to be presented to the general membership. Volunteering for the committee were John, W8QN; Larry, N8CGP; Lee, KC8ITI; Max, KE8DON; Pat, W8PMR and Will, K8VFO. Max was chosen to chair the committee.

Over the course of three months, the committee met and worked through a definition of scope, review of offerings from three different manufacturers, establishment of a budget, and development of the proposal. Throughout the summer, Larry gave updates in the general meeting on behalf of the committee.

Problem Definition:

To recap the project scope that was defined:

- New equipment, not used
- Replace the primary and backup (spare) repeater
 - Backup repeater does not have to be as "feature rich"
 - Repeater will be analog (ensure continued service for the present audience)
 - Should be able to upgrade to digital
- Must interface with the voter
- Desired features to include:
 - Announcements
 - User control macros
 - CTCSS (PL) both receive & transmit
 - Remote repeater control
- Replacement of the 12-volt infrastructure

- Refurbish or replacement of the duplexer
- Possible replacement of the equipment rack to make it more rodent proof
- Improvement of the climate control of the shed interior

Items that were excluded from the scope included:

- Replacement of the power amplifiers as they in good working order
- Location of a new site

Solution Proposed

After careful consideration, the committee developed the following proposal which was presented in the August meeting (*see Figure 1 below*)

Item	Amount
2-BridgeCom BCR-50V 2m repeaters	\$2,200
Arcom RC-210 controller, with options installed	600
Reserve for duplexer refurbish/replacement	2000
12-volt DC power supply for operational power	300
12-volt battery for back-up power, 200 Amp-hours	500
Intelligent battery charger	250
12-volt power switch-over unit	150
12-volt power distribution unit	200
Insulation, crack sealer, and wall covering for shed	400
Portable air conditioner	500
Contingency	400
Total budget proposed	\$7,500

Figure 1

Explore the World with Amateur Radio!

A secret ballot was cast, and the proposal passed 24-1.

The committee has been asked to continue with the next phase, which will be to acquire the equipment and carry out the pro-

posal. The committee will be looking for volunteers to assist with the effort. Skills needed will include general carpentry skills, painting skills (to refurbish the equipment rack), housekeeping in

the shed, as well as help setting up the new equipment. If you're interested in helping, please contact a member of the committee.

MARC Surplus Equipment Sale

After the Cadillac and Midland swaps there is quite a lot of equipment still available. It doesn't benefit anyone sitting in my basement and garage so I will start listing what is available in the newsletter on a rotating basis. Here is the second group with suggested prices but if interested let's talk. Email kc8iti@arrl.net or Phone (989) 486-3771.

Lee – KC8ITI – Club Qtrmstr

Kenwood TS-450S radio w/ PS-53 pwr sply; MC-60 desk mic; MC-43S hand mic — \$500.00

Kenwood TS-440S radio w/ MC-

60 desk mic; MC-43S hand mic; Astron RS – 35A pwr sply — \$450.00

Icom IC-761 radio w/ SM-10 desk mic; Heil Headset — \$750.00

Kenwood TS-520 radio w/ 520 VFO; SP 520 SPEAKER; D-104 mic — \$400.00

Kenwood TS-950S digital radio w/ MC-90 mic; IF-232C SERIAL Interface — \$925.00

Kenwood TS-830S radio w/ HS-5 headphones; MC-50 mic; PC-1 Phone Patch; SM-220 Station Monitor; SP-180 speaker; VFO-240 — \$800.00

40 foot alum. tower 5 sections \$400.00

Heathkit SB-614 Station Monitor \$75.00

100 ft Saxton 8316 52 ohm coax \$75.00

13 ft RG-8 foam \$4.00

14 ft RG-8 foam \$4.00

28 1/2 ft BELDEN 8259 RG-58 \$17.00

38 ft Channel Master RG-8 coax \$40.00

73 ft 9913 50 ohm low loss coax \$73.00

75 ft Belden 8214 RG-8 \$136.00

80 ft Belden 8214 RG-8 \$145.00

13 ft Channel Master RG-8 coax \$10.00

27 ft RG-8 coax \$20.00

Great Lakes HamCon 2018 has been Cancelled

(ARRLWeb—08/06/2018)
Great Lakes HamCon 2.0, set to occur in October at Michigan International Speedway, has been cancelled. This would have been the second Great Lakes HamCon, which had been sanctioned as the 2018 ARRL Michigan State Convention. In announcing the cancellation, sponsors said failure to come to a final agreement for the

use of the speedway led to the difficult decision to cancel the event. "With just 2 months remaining before the event, the issues caused by the lack of agreement were found to be insurmountable," the announcement said.

All who purchased tickets will receive refunds. *PayPal* ticket purchases will be handled via *PayPal*. Sponsors said arrange-

ments for refunds for cash purchases are being formulated and will be announced soon. "The support of our affiliated Amateur Radio clubs and their members was very much appreciated," the announcement said. "We share your disappointment that this year's event cannot be held. Thank you for your understanding."

NIST FY 2019 Budget Would Eliminate WWV and WWVH

(ARRLWeb—08/11/2018)
The National Institute of Standards and Technology (NIST) FY 2019 budget request includes shutting down "NIST radio stations in Colorado and Hawaii" — in other words, WWV and WWVH. Radio amateurs, HF listeners, and others around the world routinely make use of the

time and frequency standard signals, which also include propagation information. NIST said eliminating funding currently "supporting fundamental measurement dissemination" would include putting WWV and WWVH off the air for a saving of \$6.3 million. The overall NIST FY 2019 budget request is \$127 mil-

lion, which, the agency said, is a net decrease of \$49 million from FY 2018 levels.

"The proposed reductions will allow NIST to consolidate and focus on narrower core [fundamental] measurement programs while meeting budget levels," the agency said in its FY 2019 budget summary. "NIST will focus on

basic research while reducing funding for efforts applying some of its breakthroughs into new measurement applications.

The FY 2019 proposed budget cuts developed earlier this year came to light via Tom Witherspoon, K4SWL, who maintains The SWLing Post website, after a number of viewers called it to his attention. He posted an article on his blog.

“I’ve always considered WWV and WWVH to be the heartbeat of the shortwaves here in North America — a constant, timely companion and brilliant gauge of HF propagation,” Witherspoon wrote. I assumed both stations would be some of the last to go silent on the shortwaves.”

NIST said other “illustrative” cuts in the FY 2019 budget in-

clude:

- \$3.5 million for Lab to Market, which seeks to accelerate technology transfer from federal laboratories

- \$6.6 million in environmental measurements projects across NIST laboratories, including work measuring the impact of aerosols on pollution and climate change, and gas reference materials used by industry to reduce costs of complying with regulations

- \$5.8 million eliminating the NIST Greenhouse Gas (GHG) Measurements program, including Urban Dome research grants to advance the direct measurement of GHG emissions on the scale of cities or regions.

- \$6.7 million in forensic science, reducing the program size to \$7.3 million by prioritizing meas-

urement science in the NIST labs and eliminating program management functions and external grants for the Organization of Scientific Area Committees for Forensic Science and the Forensic Science Center of Excellence

- \$4.1 million in R&D targeting application of NIST quantum breakthroughs to applied measurement needs, including temperature and atmospheric gas metrology

“I find this budget request very disappointing,” Witherspoon said with respect to the proposed elimination of WWV and WWVH. “Let’s hope, somehow, this does not come to fruition.” He said The SWLing Post would be tracking and posting any new developments.

FEMA Releases Revised Basic ICS/NIMS Independent Study Courses

(ARES E-Letter—July 18, 2018) FEMA released two revised online ICS/NIMS courses last month:

- IS-100.c, An Introduction to the Incident Command System

This course introduces the Incident Command System (ICS) and provides the foundation for higher level ICS training. The course describes the history, features and principles, and organizational structure of the Incident Command System. It also explains the relationship between ICS and the National Incident Management System (NIMS).

- IS-700.b, An Introduction to

the National Incident Management System

This course provides an overview of NIMS, which defines the comprehensive approach guiding the whole community - all levels of government, nongovernmental organizations (NGOs), and the private sector - to work together seamlessly to prevent, protect against, mitigate, respond to, and recover from the effects of incidents. The course provides learners with a basic understanding of NIMS concepts, principles, and components.

Together, these two online courses form the foundation of

ICS/NIMS training for all incident personnel. Note that IS-100.c and IS-700.b are updated versions of the IS-100.b and IS-700.a courses. If you have successfully completed a previous version of these courses there is no FEMA requirement to take the revised versions of the courses. However, because these courses contain new information based on the revised NIMS, October 2017, you may find it informative to review the new versions of these courses. The new courses will be available through FEMA’s EMI website.

Use of Drones Gains Traction in CERT Program; Is ARES Next?

(ARES E-Letter—July 18, 2018) Ridgefield is a small town in southwestern Connecticut, and faces common hazards such as hurricanes, thunderstorms, blizzards, and the flooding that often follows. Ridgefield has an active Community Emergency Response Team (CERT), prepared to meet these challenges, and has stepped

up its game recently with its use of drones to collect information for responders on the ground. The Emergency Manager and CERT Coordinator had a successful first deployment during a recent major thunderstorm.

The team has trained over 150 residents in preparedness and disaster response. Of these, 40 mem-

bers belong to the Incident Management Team (IMT), meaning they have received additional, specialized training to support Ridgefield’s Emergency Operations Center (EOC). IMT members, including radio amateurs, are trained in skills such as public information, damage assessment, logistics, sheltering, and Amateur

Radio operation.

Ridgefield's team used drones to perform damage assessment—they give a bird's eye view, which provides a much better picture of the scope of damage than a ground-level survey. For example, several trees, power poles and lines could come down on a twisting road, with emergency responders having no idea what's happening beyond the first fallen tree. The drones help the team see conditions beyond the tangled mass of trees and wires and report to responders on the ground.

Drones were first tested when Ridgefield was hit by a storm with winds as high as 135 MPH. The information collected was then shared with the local power company so that utility crews could

better respond to power outages. The drones succeeded in giving CERT members, and the power company a peek beyond major road blockages. The National Weather Service was also able to make use of the drone footage for its own assessments.

There is rapidly-changing regulation of drones. The key is to operate them within the regulations and to operate them safely. The CERT Coordinator is a certified drone pilot. The Ridgefield CERT program also holds an FAA Public Safety Certificate of Authorization. The team currently has four drone pilots and four visual observers (who assist the pilots with navigation). - adapted from FEMA's June 27 CERT eBrief

[Partners ARRL and FEMA

have enjoyed a longstanding memorandum of agreement (MoA), renewed most recently in 2014. In June 2003, ARRL became an official affiliate program of Citizen Corps, an initiative within the US Department of Homeland Security. The Statement of Affiliation makes ARRL an affiliate under the four charter Citizen Corps programs—Neighborhood Watch, Volunteers in Police Service, Community Emergency Response Teams and Medical Reserve Corps.— Rick Palm, K1CE]

Technical Topics and Information

(ARRL Contest Update— July 25, 2018) The sun has more than just the 11-year cycle for sunspots. According to a short [article by Scientific American](#), other cycles of length 88, 200, and 2400 years have been noted. The 11-year cycle that we're most attuned to is called the Schwabe cycle, discovered in 1843 by German astronomer Samuel Schwabe. The longer-duration solar cycles were discovered from isotope information recovered from cores drilled from ice built up over the last 9,000 years.

◆ Triangulating arbitrary HF signals is just a few website clicks away. [Using a new feature of the global crowdsourced network of Kiwi-SDR receivers](#), multiple receiving sites can be chosen. Receiver IQ data is collected and analyzed, and a map of potential transmitter locations can be displayed. The Time Difference of Arrival method does a very reasonable job when there are multiple receiving stations, and all can hear a ground wave from the transmitter. (Brian, K7ON, via QRP-L list)

◆ Embarcadero has announced the free community edition of their C++ *Builder* toolset, for most hobby scenarios. Some Amateur Radio Software, for example the [EXTFSK RTTY library](#), are dependent on long-obsolete versions of Borland's C++ *Builder*, which is an ancestor of the Embarcadero product. With the new availability of these tools for hobbyist use, *Builder*-dependent packages can be now be maintained and enhanced by a broader population of Amateur experimenters.

More Technical Topics and Information

(ARRL Contest Update—Aug 8, 2018) Logs for WRTC 2018 competitors are [available online](#). The log checking report, raw Cabrillo format, and SH5 statistics for each team are provided. With this information you can see the overview of scores, and get QSO-by-QSO information for your own analysis.

◆ At the same time you're

looking through the data, you can listen to audio of the bronze finishers Chris, KL9A, and Dan, N6MJ in stereo! They've posted [all 24 hours of audio from their WRTC operation](#). (Dave, K3ZJ)

◆ "The deadline to submit a design for the [2018 QST Antenna Design Competition](#) is just ahead — September 1! The competition challenge is to

design the best LF, MF, or HF antenna for limited-space applications. ARRL can only accept one entry per person (or team), but there's not much time left to complete building and testing of your design. Full details appeared in the June 2018 issue of *QST*. Three cash prizes are on the line: First place is \$600, second place is \$250, and third place is \$150.

Even designs that don't win a prize might still be eligible for future *QST* publication. Antennas must be designed for one or more bands between 2200

meters and 10 meters, must fit within a 30 × 50 foot area, and stand no taller than 30 feet at any point."

◆ In future years, maybe

we'll see a [human-emitted CW Pileup competition](#)? An adjunct to the LED badges some wear at hamfests?

Swap & Shop

Tower, Beam, Rotor and Amplifier for Sale

Ralph, K8NK, a good supporter of our school club activities has decided to move to Florida and can't take his tower with him. So he has decided to sell the equipment with which he has worked most if not all countries on mul-

tiple modes.

Best Regards,
Dennis, N8ERF

The following items are for sale:

Tower: Tri-EX 72 ft Crank up. LM-470E or HD? \$1200
Beam: KLM-KT36 XA up-

graded via M2 \$500

Rotor: Ham IV Rotor. \$200
Amplifier: 4-1000, Homebrew Amplifier, w/ power supply, 160-10 M 1500W \$500

Package Price: Negotiable

Phone: 989-280-0316

Ralph, K8NK, Saginaw

MARC Vital Statistics

Memberships Expiring in August

N8FUZ

W8DOD

Memberships Expiring in September

KB8J

KD8QXL

WA8LQD

WB8FYR

WD8ODG

Memberships Expiring in October

KC8RTW

KD8ULJ

W8RBF

WN8QGV

Members in Good Standing

AC8RT	K8WSR	KC8ITI	KD8QAM	N8ERF	W8LSS	WB8RCR
K0ACP	KA9WCS	KC8MUD	KD8QXK	N8FUZ	W8NYO	WB8WNF
K2VMH	KB8J	KC8RTW	KD8QXL	N8GEM	W8PMR	WD8AXR
K6VWE	KB8PGW	KC8VOA	KD8ULJ	N8JBW	W8RBF	WD8BPT
K8GTG	KB8RCR	KD0JHX	KE8DON	N8NGT	W8WOJ	WD8ODG
K8RI	KB8SOE	KD8HID	KE8EOS	N8WTQ	WA8LQD	WN8QGV
K8VB	KB8UIH	KD8HIH	KE8JNA	NX8A	WA8Y	
K8VFO	KC0CJC	KD8MMH	N8CGP	W8DOD	WB8FYR	

Current Active Club Membership 54

Birthdays Celebrated in August/September

K8VFO 8/6	WB8FYR 8/24	N8FUZ 9/17
N8LBF 8/17	K8WSR 8/27	KB8SOE 9/19
WD8BPT 8/18	N8DHF 8/29	KE8CTG 9/22
KD8MRB 8/24	K2VMH 9/1	N8GEM 9/25

Anniversaries Celebrated in August/September

KB8TBI and Margie 8/8	KE8DON and Marcia 8/18	K8AVJ and KB8AWE 9/18
WB8FYR and WD8ODG 8/13	K2VMH and Kathy 8/23	AG8B and Janell 9/22
KD8ULA and Judy 8/14	N8LBF and KB8QYC 9/6	K8RI and N8JBW 9/26
K8VB and ??? 8/15	KC0CJC and Sally 9/12	

Information is from data received 8/12/2018

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