

W8KEA



MARC

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

President	Al Bailey, KA9WCS	
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, February 1, 2018, 6:00 PM
Law Enforcement Center, 2727 Rodd St.
Midland ARC Meeting — Thursday, February 1, 2018, 7:30 PM
Salvation Army Bldg, 330 Waldo Ave.
Talk-in 147.000+

February 2018

Static Discharge

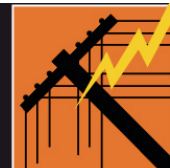
Al Bailey, KA9WCS

If you missed the January club meeting dinner at Annabelle's you missed a good time; twenty-four of your fellow amateurs (and some spouses) ate dinner, swapped gifts, and stories. Laughter, food and good times were had by all. No one is really sure what Larry intends to do with the jet plane gunsight he picked up!

Our next club meeting will be at the Salvation Army Building on Feb 1st at 7:30 pm, where we will get down to some regular club business. We have already reserved the Salvation Army Building for our annual club swap on June 16th, this year, so we can start planning this big club event and we have our Annual Skywarn Training set for the club meeting in March at the Midland Public Library.

So while shoveling out the walkway and looking at the cold, wind-swept tundra of Midland County, be warmed by the thoughts of plans and activities coming for the Midland Amateur Radio Club this year.

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



We want you to be a part of the activities, so make a resolution this year to get involved and do one new thing in amateur radio this year. Maybe you have never

run a net before, or participated in run or sponsored walk before. Ask us how you can get involved and you will be amazed how fun it is to know your skills as an

amateur radio operator are needed and useful to the community. It is going to be great year!

Al Bailey
KA9WCS

MARC Minutes

Linda Hodges, KC8MUD

In lieu of a club meeting in January we held our annual Christmas party at Annabelle's Own restaurant with 25 people

present. Ordering off of the menu, the food and service were excellent. Al, KA9WCS had some surprises for those that attended. Along with the white elephant gifts, a good time was had by all of the attendees. The only club business conducted were net controls for January.

be February 1st at the Salvation Army building at the regular time.

• Net Controls;
Jan. 11th Art K0ACP
Jan. 18th Lee KC8ITI
Jan. 25th Al KA9WCS

Respectfully submitted,
Linda KC8MUD
MARC Secretary

MARC MEETINGS

Art Peters, KOACP, is in charge of special events and topics for the MARC monthly meetings. If you have any agenda items, or topics for the meetings, please contact Art at (989) 400-3745, or via e-mail: k0acp@arrl.net.

COMMUNICATIONS

Pat Mullet, KC8RTW, is in charge of communications and publicity for the club. If you have any questions or ideas regarding these areas, please contact Pat at kc8rtw@arrl.net.

EXAMINATION SCHEDULE

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

Corunna - Contact Thomas Carpenter (517) 579-0599 ki8as@charter.net.

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

Isabella/Clare Counties - Contact Gus Glass, K8GUS at k8gus@arrl.net

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

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

SUBMISSIONS FOR NEWSLETTER

Contact Pat Mullet, KC8RTW at kc8rtw@arrl.net if you want to submit anything for the newsletter.

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

If you prefer to download the MARC newsletter from our web site, or have trouble with delivery via USPS, contact 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)

My Two Cents

Pat Mullet, KC8RTW

One of the "strays" that pops up on eHam.net from time to time bemoans the fact that many hams spend a large portion of their rag-chewing time complaining about their various aches, pains and ailments. My intent when I started doing this column was to use it to document what I learned as a ham and hopefully save someone from re-inventing the wheel (or inventing a square version, which could be worse.)

It's been several months since I could post my scribbling here, much less touch a radio, so I thought I would fall back on the above truism and kill two birds with one stone.

At the end of March, I finally followed my doctor's orders and scheduled my first colonoscopy. Several days later, I was told they'd found a cancerous lesion on the sigmoid colon. Tests, scans and consultations were the order of the day until surgery was scheduled for August 11th. Surgery went well, and I ended up

with a neat little "railroad track" of metal staples alongside my umbilicus. Then they told me I was hemorrhaging, and they'd have to go back in.

This time, I ended up with a number of incisions, including one you could comfortably tee up a baseball on, a Foley catheter and an ileostomy bag. I spent the next two months undergoing rehab and fighting with the ostomy bag until I had that reversed in November.

I'm currently back home, doing more therapy and looking at a round of low-dosage chemo to make sure we got it all.

So, that's the story. I'm slowly getting better and have been dropping in on the Thursday night nets. I've returned to my newsletter duties—I'd like to thank Paul Tolly, KE8GEM for picking up the slack during my absence—and I'm hoping to get my HF rig back on the air sometime soon.

73, Pat, KC8RTW

Amateur Radio is a Contact Sport!

ARES®/RACES

Al Bailey, KA9WCS

A new year has begun and we are already planning events and activities for this year. We meet at the Law Enforcement Center on Thursday evening at 6:00 pm, Feb 1st, where we will review elements of the Incident Command Structure (ICS). This is a perfect avenue to come out and enjoy the company of fellow amateur members, and go over some things we don't often think on. If you have not completed the FEMA courses this is a fantastic opportunity to go over

this material and then take the FEMA online exam to get credit for the courses. Make it easy for yourself.

Then in March we will have our annual Skywarn Training at the Midland Public Library. We have some plans for the April meeting also. So come on out and enjoy some time with your fellow amateurs.

Al Bailey
KA9WCS

2018 MS Walk Chris Rose, KB8UIH

Midland MS Walk for 2018 will be on April 29th Midland High School. 1301 Eastlawn Drive. (if you were interested in the trip, Frankenmuth's walk will be May 12th.) Hours for the walk are to be determined. Please put this date on your calendar. 17 operators are requested. Contact Chris, KB8UIH. Please do contact if you

are going to help. I need a head count of who may be available to plan on what positions can be filled that day. Thanks in advance for your help.

Chris, KB8UIH
kb8uih88@charter.net
Home 989-832-7179
Cell 989-948-9153

FCC Cites Auto Dealership for Causing Harmful Interference to Cell Phone Site

(ARRLWeb—01/10/2018) The FCC Enforcement Bureau called on a North Dakota auto dealership "to stop operating devices that are causing interference to licensed radio operations and to comply with federal rules and regulations related to radio frequency devices." The Bureau release a Citation and Order on January 9, to Lithia Toyota of Grand Forks. The case stems from interference to a nearby Verizon Wireless site that has been emanating from the dealership's outdoor lighting.

"Specifically, Lithia is being cited for operating industrial, scientific, and medical (ISM) equipment and causing harmful interference in violation of Sections 18.111(b) and 18.115(a) of the Commission's rules," the Bureau said in the citation. The Enforcement Bureau said the

dealership "should take immediate steps to come into compliance with the Commission's rules, including eliminating the interference."

The case dates back to April 2016, when Verizon Wireless complained to the FCC of radio emissions causing interference to a Verizon 700-MHz LTE cell site in Grand Forks. Verizon noticed that the interference appeared to correspond with the outdoor portal lighting schedule of the nearby dealership, and it subsequently contacted a representative of Lithia Toyota, which agreed to leave the portal lighting off for one evening. Verizon said that resulted in a "considerable noise floor drop." Verizon contacted the FCC after Lithia failed to take corrective action, the FCC Citation recounted.

A March 2017 visit by an FCC field agent confirmed that the in-

Upcoming Events

MS Walk April 29, 2018
Dow RunWalk May 19, 2018
Museum Ships Jun 1-3, 2018
Midland Hamfest June 16, 2018
ARRL Field Day June 23-24, 2018

Michigan Hamfests

1/28 Madison Heights
2/3 Negaunee
2/10 Traverse City
2/18 Livonia
3/17 Kalamazoo
4/28 Chassell
4/29 Madison Heights
5/5 Cadillac
6/3 Chelsea
6/16 Midland
9/16 Adrian

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
OMN; 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.

interference was coming from the dealership's portal lighting, which employed Philips model QL55W/840 induction lighting devices. The Enforcement Bureau's Denver Office issued a warning to Lithia Toyota, informing the dealership that it was operating an RF radiating device, an unintentional radiator, that was causing harmful interference to radio communications. The letter stated that the RF energy emanating from the device was detected between 776-787 MHz, frequencies reserved for cellular opera-

tion.

Although the dealership orally agreed to make a good faith effort to resolve the problem, a conference call with Lithia and Verizon representatives last June 28 confirmed that the interference still had not been resolved.

The FCC noted in the Citation that the RF lighting devices at issue are ISM equipment regulated under Part 18 of the Commission's rules, which compel the operator to "promptly take whatever steps may be necessary to eliminate the interference."

"Based on the foregoing evidence, we find that Lithia has violated Sections 18.111(b) and 18.115(a) of the Commission's rules by failing to promptly eliminate the interference," the FCC said. Lithia has 30 days to provide a report to indicate corrective actions it has taken or will take to eliminate the problem.

The FCC said failure to take action to resolve the interference could result in fines of up to \$16,000 per day.

WSPR Beacon on its Way to Antarctica

(ARRLWeb—01/14/2018)

Hardware for a planned permanent WSPR beacon system in the Antarctic is currently on its way. The installation -- a joint project of the Technical University of Munich, the University of Bremen, and the Deutscher Amateur Radio Club (DARC) -- consists of 5-W beacon transmitters for 160 through 6 meters, and a multiband

WSPR receiver that will simultaneously monitor all bands from 160 to 15 meters and post up to 700 reports/hour to WSPRnet.

Commissioning of the system at the German Neumayer III Research Station is planned for mid-January.

In related news, DP0GVN will be the call sign for Matthias Maasch, DH5CW, starting in Feb-

ruary, at Neumayer III Research Station for 1 year, and he plans to be active on HF. For the past year, he has been using DH5CW from the German Antarctic Base. QSL DP0GVN via DL5EBE. — Thanks to Tom Kamp, DF5JL, IARU Region 1 HF Committee Chairman via Rainer Englert, DF2NU, and The Daily DX

More Room to be Available for Hamvention® at Greene County Fairgrounds and Expo Center

(ARRLWeb—12/20/2017)

Hamvention® reports that the Greene County Commissioners and the Greene County Fair Board have approved the construction of a new building at the Greene County Fairgrounds and Expo Center, the new Hamvention venue in Xenia, Ohio.

"Greene County officials have decided to move forward with construction of a new building, as it will continue to expand their presence in the region as a world-

class Exposition Center," Hamvention Spokesperson Michael Kalter, W8CI, said in a news release. "Hamvention certainly benefits from the decision to expand the Expo Center footprint. Construction is planned to be complete ahead of Hamvention 2018, and [the new building] will be used for the event."

In addition to the new structure, another building on the property, previously known as Fairgrounds Furniture, is being

vacated and will be available for use by Hamvention in May 2018. Additional details are forthcoming. Kalter said Hamvention has been told that the additional floor space will cover an area larger than the tents Hamvention used for some activities in 2017.

"Although this decision was made to expand opportunities at the Expo Center, Hamvention is grateful for the support Greene County, Xenia Township, and the city of Xenia," Kalter added.

Fox-1D Amateur Radio CubeSat Launches Successfully, Now Designated as AO-92

(ARRLWeb—01/15/2018)

Right on schedule at 0359 UTC on January 12, the solid-fueled first

stage and ground-lit strap-on boosters of the Indian Space Research Organisation (ISRO) Polar

Satellite Launch Vehicle (PSLV) ignited and hurtled AMSAT-NA's Fox-1D CubeSat along with 30



other satellites onboard the PSLV-C40 mission toward a sun-synchronous orbit. Less than 18 minutes later, the primary payload, a Cartosat-2 series imaging satellite for the Indian government, separated from the launcher's fourth stage, followed by other satellites on the mission. By 27 minutes into the flight, confirmation came that all nanosatellites had been deployed. Fox-1D was in orbit!

Just before 0500 UTC, Fox-1D passed over western North America, but the onboard timer that ensures the satellite does not deploy antennas and begin transmitting until it's clear of the launch vehicle and other satellites had not yet expired."

"At about 0517 UTC, the satellite came to life and its antennas deployed over the North Pole," AMSAT reported. "The AMSAT Engineering team and Amateur Radio operators worldwide were watching various WebSDRs for signs of life. Around 0525 UTC, the characteristic "Fox tail" of the Fox-1 FM transmitter was seen on multiple WebSDRs. Fox-1D was alive!" At 0528 UTC, the first frame appeared on the AMSAT telemetry server, uploaded by Anatoly Alexandrov, UA9UIZ, and initial telemetry values confirmed that the satellite was healthy.

AMSAT-NA OSCAR Number Administrator Bill Tynan, W3XO, has designated Fox-1D as AMSAT OSCAR 92 or AO-92. Fox-1D, a 1U CubeSat, is the third of AMSAT's five Fox-1 CubeSats to reach orbit. It was preceded by AO-85 (Fox-1A) and AO-91 (Rad-FxSat / Fox-1B).

AMSAT Engineering reminds stations that the satellite will not be available for general use until the on-orbit checkouts are complete. AMSAT invites continued telemetry reports to assist the engineering team to complete commissioning.

"During commissioning, the transponder may be active at

times, but please do not transmit as you may interfere with important tests that must be completed before the satellite is commissioned," AMSAT said. "The commissioning process is expected to take up to 2 weeks."

See the AMSAT-NA website for an update on AO-92 commissioning and payload testing. Additional updates may be posted this week.

In addition to a Fox-1 U/V FM transponder, Fox-1D will carry several university experiments, including a MEMS gyro from Pennsylvania State University-Erie, a camera from Virginia Tech, and the University of Iowa's High Energy Radiation CubeSat Instrument (HERCI) radiation mapping experiment. Fox-1D also carries the AMSAT "L-Band Downshifter," which gives the option of utilizing a 1.2 GHz uplink for the FM transponder. The Fox-1D downlink will be on 145.880 MHz, and uplinks will be on 435.350 and 1,267.350 MHz (67 Hz CTCSS), switchable.

The PSLV launcher also carried the French PicSat, which includes a V/U FM transponder. PicSat will perform space observations. The transponder uplink is 145.910 MHz, the downlink is 435.525 MHz. — *Thanks to AMSAT News Service and Paul Stoetzer, N8HM*

Jim Weaver, K8JE SK

(ARRLWeb—1/15/2018) With a heavy heart, we must report that Jim Weaver, K8JE, former Great Lakes Division Director, died January 14th. He had been ill for some time, but was able to attend the Great Lakes Division Convention this past October, where he was presented with the George S. Wilson III, W4OYI Lifetime Achievement Award. The criteria

says in part "The Wilson recipient is an all-around Amateur whose lifetime activities, attitudes, and achievements might serve as an example to others. Emphasis is placed on service to others rather than self, diversity of Amateur Radio interests and Activities, evidence of continuing self-challenge via Amateur Radio, and outstanding contributions to Amateur

Radio." Jim was a Life Member of ARRL.

Jim served as Director of the Great Lakes Division from 2002 until 2014. During that time, he chaired the Legislative Action Committee starting in 2007, and served on the CEO Selection Criteria Committee in 2013 & 2014.

He served as a Public Information Officer starting in 1996, was

Explore the World with Amateur Radio!

an Official Observer, an Official Emergency Station, an Official Relay Station, and was also a Volunteer Examiner.

Jim was active in Disaster Communications, and worked closely with the Red Cross in Cincinnati. A long-time member of the Queen City Emergency Net, he was Communications Manager for the club in 1968, and then served as President in 1976. He

was also active in many other clubs in the Cincinnati area.

During the 1960s and 1970s, for most of ten years, he wrote a weekly column for the local newspaper, the *Cincinnati Enquirer*, titled "Ham Call." Week after week, he found stories about ham radio that would interest the public at large. Just recently, *QST* re-published an article he co-authored for that magazine back in

1976, about the ham response to the Beverly Hills Supper Club Fire in Northern Kentucky.

At this time, no information about funeral arrangements is available.

Dale R Williams, WA8EFK
ARRL Great Lakes Division Director
wa8efk@arrl.org

Technical Topics and Information

(ARRL Contest Update—Dec. 13, 2017) A new device called a "[Walabot](#)" works with (some brands of) smart phones to depict what is inside the walls of your home. This 'high resolution stud finder' claims differentiation for different types of studding, pipes, and electrical, and even touts detection of animals that might be present within wall voids. (Tim, K3HX)

Researchers recently fabricated [Memristors in array configurations to demonstrate vector matrix multiplication](#) in the analog domain, which has application in the areas of signal and image processing and machine learning. The authors of the paper achieved high yields in their construction of the memristor arrays, and then

used their devices for signal processing tasks such as the Discrete Fourier Transform, image compression, and signal filtering. By keeping signals in the analog domain, digital conversion delays and processing latencies can be avoided in some applications. The authors estimated a readout time of less than 10nS for their devices, implying a capacity of 1.64 tera-ops per second.

Check out this application for those inexpensive DVB-T USB dongles: [Reception of Russian Meteor-M2 Weather Satellite transmissions in real-time](#), using the SDR# DSP application along with a QPSK Demodulator plugin. The rather complete article even includes an antenna recommendation.

GnuRadioCon is a yearly conference focused around the uses of [GNU Radio](#). The 2017 conference was held in September in San Diego, and [videos](#) from some of the presentations are now appearing on YouTube. Subjects of the talks included adaptive digital predistortion, synchronizing multiple RTL-SDRs for beam forming for GPS, and whether in the age of SDR, "[Does the Radio Even Matter?](#)"

According to *Elektor Magazine*, [sodium-ion rechargeable batteries may be on the horizon](#) in the popular 18650 size. The article describes the battery chemistry as providing longer life, and more charge/discharge cycles than Li-ion. (Elektor)


More Technical Topics and Information

(ARRL Contest Update—Jan 10, 2018) Larry, K8UT, read the item in the *Contest Update* earlier this year regarding keystroke latency, and shared his observation: "The movement from serial to UDP communication must have many hams wondering if there is some inherent benefit/detriment to either connection. I conducted a similar latency experiment earlier this year while developing a band decoder and SO2R switch that receives commands via UDP

packets. I wanted to compare the elapsed time between clicking a mouse in the program and closing an external relay on a Raspberry Pi connected by DE9 serial ports, USB serial ports, or UDP packets. A lobotomized mouse exposed its left-click button to the test computer, which closed the button and then measured click-to-close times between software initiation and contact activation. Although hardly a controlled scientific experiment - there is a long list of hardware and software differences

that could contribute errors in my findings - I was happy to discover that UDP activation occurred faster than either of the other two methods."

KB1LQC, Brenton, and KB1LQD, Bryce also collectively known as "The Salmi Brothers," are the founders of [FaradayRF](#) and designers of their premiere product, an open source digital radio which uses the 900 MHz band. Their goal is to enable experimentation using Amateur Radio but at a higher level than

RF. Assume you have a data connection, the network you're connected to has a radio physical layer, and you can send and receive data. Some of the services you need might be temporarily over the horizon, or blocked by a mountain. It's not about the network plumbing anymore, it's about what you can do with the network. They're glad to share their opinions, and are [weighing in how millenials will be changing amateur radio](#). Ham Radio 360 featured them [in a recent episode](#), and they've even been mentioned in [a recent AMSAT bulletin](#) for k they did on the [AO-91 PT \(Maximum Power Point Tracker\) controller](#).

Ball lightning is thought to be a type of plasma, but is difficult to study since the conditions of formation are associated with lightning and thunderstorms. [Researchers may have made progress in being able to reproduce the phenomenon](#) in the form of a plasma ring that is stable in open air. What's more, the researchers noted that their experiment also generated RF at particular frequencies.

[A Pragmatic Introduction to Signal Processing](#), by Tom O'Haver, Professor Emeritus, Department of Chemistry and Biochemistry, University of Maryland at College Park, is available for just a click. The

emphasis is on how real-world time-series information can be manipulated, and examples are illustrated using various tools such as MatLab, Octave, and Microsoft Excel. Professor O'Haver invites feedback through his website and Facebook group.

Some people have built their own tubes, but how many have built their own integrated circuits? No, not using discrete components, but by laying out their own masks, using vapor deposition, and etching their own wafers. Probably not many, but [this 17-year old high school student does](#) and he started by reconditioning old equipment he found on auction sites.

MARC Vital Statistics						
Memberships Expiring in January						
AC8QF			KA8EZT			
Memberships Expiring in February						
K8WSR			W8PMR			
Memberships Expiring in March						
N8LBF		N8WTQ			W8QN	
Members in Good Standing						
AC8QF	KA8EZT	KC8ITI	KD8ULT	N8KRL	W8WOJ	WD8BPT
K2VMH	KA9WCS	KC8MUD	KE8DON	N8LBF	W8ZSX	WD8ODG
K6VWE	KB8AWE	KC8RTW	KE8EOX	N8WTQ	W8ZSX	WN8QGV
K8AVJ	KB8PGW	KD8HID	KE8GEM	NX8A	WA8LQD	
K8RI	KB8SOE	KD8MMH	N8CGP	W8DOD	WA8Y	
K8VB	KB8UIH	KD8QAM	N8ERF	W8PMR	WB8FYR	
K8VFO	KC0CJC	KD8QXK	N8FUZ	W8QN	WB8RCR	
K8WSR	KC8IHB	KD8QXL	N8JBW	W8RBF	WB8WNF	
Current Active Club Membership 51						
Birthdays Celebrated in January/February						
K8AVJ 1/7			KD8HID 1/29			
W8PMR 1/20			KC8ITI 2/2			
N8KRL 1/24			KE8EOW 2/4			
W8ZSX 1/28			K0ACP 2/7			
Anniversaries Celebrated in January/February						
KA8EZT and Linda 1/2			KC8TQS and Julia 2/14			
Information is from data received 10/13/2017						
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