

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

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Web Page Chairman Club Historian Quartermaster Public Information Officer Field Day Committee Swap Committee	John McDonough WB8RCR Stan Rowe K6VWE Lee Hodges KC8ITI Pat Mullet KC8RTW John Tallman KB8PGW (Ch) Pat Mullet KC8RTW Pat Russell W8PMR Chuck Cribley WA8LQD Keith Johnson KB8SOE Pat Mullet KC8RTW	(989) 631-0178 (989) 837-7252 (989) 486-3771 (989) 828-6657 (989) 859-0364 (989) 828-6657 (989) 832-2924 (989) 488-9409 (989) 488-4337 (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 2, 2016, 6:00 PM Law Enforcement Center, 2727 Rodd St. Next CLUB Meeting — Thursday June 2, 2016, 7:30 PM Salvation Army Bldg., 330 Waldo Ave. Talk-in 147.000+

> > June 2016

# Static Discharge

John Wolters, W8QN

I am sorry to say I missed the May meeting due to a sudden family emergency but I hope you enjoyed Dennis Klipa's presentation. I know it will be useful in the future balloon tracking exercise. At the June meeting we will have a panel cover Mobile HF: Antennas, Radios, Setup, Problems and Fun Activities. If you have ever thought of using HF in your car, hopefully we can shed some light on the subject and/or answer some questions. The Dow Run and Dayton will have passed by the June meeting but the Swap and Field Day are yet to come. We are in the busy time of the year for the Club, so hope to see you at the June meeting. And last but not least, congratulations to Stan Rowe (K6VWE) for achieving the DXCC Honor Roll. I think I have 4 or 5 confirmed or at least I have a couple of QSL cards.

John Wolters, W8QN



AMATEUR

RADIO

## MARC Minutes

The meeting was called to order by Keith KB8SOE at 7:10 pm. with 32 members and guests present. A sign-in sheet was passed around and introductions were made.

Please bring any corrections or additions to the secretary, Linda KC8MUD.

• Training— Dennis N8ERF —

MARC MEETINGS

Keith Johnson, KB8SOE, 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 Keith at (989) 488-4337, or via e-mail: kb8soe@arrl.net.

COMMUNI CATIONS 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) "Why and How 'Fox Hunting' Training" was taught by Dennis so that the club members could participate in a Fox Hunting field exercise. As trained Fox Hunters we can now help track and find the weather balloon and its package after they have been released by the high school club. The primary launch dates are May 21<sup>st</sup> and June 4<sup>th</sup>. In case of inclement weather the backup dates are June 11<sup>th</sup> and June 17<sup>th</sup>.

• Dow Run—Keith KB8SOE if you can help out during the Dow Run please let John W8QN know via <u>e-mail</u>.

• Swap—Pat W8PMR— Saturday, June 18<sup>th</sup>. Some tables and possibly two commercial vendors have been contacted or have contacted Pat. Registration for the VE Sessions start at 10:00 and exams begin at 10:30 am. There are interesting seminars planned. Please let Pat know if you have a particular job you would like to do or help with. We always need help with set up on Friday night and clean up after the Swap.

• A motion on the floor to allocate \$400.00 for food for the Swap and Field Day made by Art

Linda Hodges, KC8MUD

K0ACP and seconded by Lou N8LOU. Motion passed.

• Treasurer's Report Larry N8CGP— Thank-you to all who have renewed your dues.

• Proclamation—Pat KC8RTW — Reported on press releases, and a proclamation for Field Day written and voted on by the City of Midland.

• Field Day—John KB8PGW — June 25<sup>th</sup> and 26<sup>th</sup>. The club members voted to have this year's Field Day at Homer Township Park. More details to come.

• Presentation— John W8RCR — John gave a presentation including pictures on the State Level EOC Facilities. Very impressive buildings and equipment.

Net Controls: May 12<sup>th</sup> Steve WA8Y May 19<sup>th</sup> John W8QN May 26<sup>th</sup> Dennis N8ERF

A motion to adjourn made by Larry N8CGP and seconded by Cindy WD8BDM.

Meeting ended at 9:00 pm.

Respectfully submitted, Linda KC8MUD

## My Two Cents

This is not the column I had planned writing this month.

I remember hearing WW9E's call on the Midland repeater late in the spring of 2005. Major Pat McPherson and his wife Carmella had just been transferred to take command of Midland's Salvation Army Community Center, and he'd just finished installing his vhf radio in his new home off Eastman Road. I was one of his first contacts. A jovial fellow, he soon joined MARC, and his presence at the meetings was enjoyable, to say the least—the room seemed to

Pat Mullet, KC8RTW

grow bigger when he entered, a large smile on his face. When differences with the Midland School District caused MARC to search for an alternative to meeting at the School Administration Building, Pat invited us to meet at the Salvation Army Building. When scheduling conflicts and rent increases at the Midland Fairgrounds forced us to move the Hamfest, he offered us the Salvation Army Gym.

The interaction wasn't all oneway. Due to his presence, MARC and its ARES contingent started

Amateur Radio is a Contact Sport! working with SATERN, the Salvation Army's amateur radio branch. Pat secured a used RV and MARC provided the radios to turn it into the SATERN Communication Vehicle for the Eastern Michigan Division. Together, SATERN and the Midland ARC used it for Field Davs, numerous demonstrations and events as well as drills and search and rescue missions.

Sadly, the McPherson's tenure in Midland was a short one, and they were transferred to Flint in 2008. They remained members in good standing of MARC for a time, and every so often WW9E's call would grace our repeater when

Pat was on his travels or he and Carmella would come up and visit.

In 2009, Pat retired from the Salvation Army, though he remained the Director of SATERN as a volunteer until a replacement was named to succeed him in 2011.

Many of his friends in the Midland area knew Pat had suffered with health problems for years, but he was enjoying his retirement. For my part, I was stunned when I received the email yesterday announcing that he'd become a Silent Key. Goodbye, my friend. You will be missed.

73, Pat, KC8RTW

#### ARES<sup>®</sup>/RACES John Wolters, W8QN

I want to thank Chuck Cribley (WA8LQD) for conducting a refresher training session on Amateur Radio Operators' involvement in the National Incident Command System. I got several good comments about the presentation. For those that could not make it we may have a makeup session. Thanks Chuck for suggesting it.

For the June meeting I want to do a checkpoint on where we are with FLDigi and what the limitations are for others joining in. There also are some questions about settings and operations to cover.

# Future Club Meetings

The following is a list of the future presentations that will be made at club meetings. We reserve the right to change, substitute, or change the date as the case requires.

June—Panel discussion of Mobile HF Radio. Radios. Antennas, Power, Setup and Fun. Salvation Army Building, 7:30 pm.

July—Use of HF on a Cruise

# 2016 MS Walk Wrap-up

I'd like to thank the following hams who came out to work at the MS Walk on Saturday 4/30 at Midland High School: W8QN, WD8BPT, N8ERF, KC8ITI, KC8HTH, N8EB, KC8YVF, N8XPS, K6VWE, N8WTQ, W8PMR, N8OSL, KD8DW, NO8U, NX8A, WA8Y, KD8QXL, KA9WCS, and KC8MUD. I hope I didn't forget anyone.

Ship, Salvation Army Building, 7:30 pm.

August—SDR Receiver Discussion and Demo, Larry Macklin, Salvation Army Building, 7:30 pm. September-WSPR Demon-

stration, Will Halphen, Salvation Army Building, 7:30 pm.

**October**—Satellite Communications Basics

Special thanks to all for coming out earlier than they needed to due to my foul up of the start time for the event. I took the registration time as the walk start time and had everyone there earlier than they needed to be.

Obstacles to communications were overcome in the school as the shadows could not hear the repeat-

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5/16	Dow Run
6/4-5	Museum Ships Event
6/27-28	Field Day
7/18-19	Tall Ships Weekend
8/27	Dirty Dog Run
8/27	Dirty Dog Run

Hudsonville
Chelsea
Newberry
Midland
Monroe
Shelby Township
Lowell
Lansing
Escanaba
Port Huron
Shelby Township
Adrian
Alpena
Muskegon
Kalamazoo
Madison Heights

Area Nets SVARA: Mn, 147.24 MHz, 2100 ET Isabella Co EOC 146.72 Mhz, 1900 ET Canadian Lks, Wed, 146.8, 2100 ET Edmore, Th, 146.8, 2000 ET MARC: Th, 147.00 MHz, 2100 ET District 3 ARPSC: Su, 145.31 MHz, 1830 ET Mi VHF Trffc Net; MWF, 145.15 MHz, 0900 ET TMMTN: Mon-Sat, 147.30 MHz, 2130 ET MACS: Sun-Sat, 3953 kHz 1100 ET MIARPSC; Su, 3932 kHz, 17:00 ET UPN: Sun-Sat, 3920 KHz, 17:00 ET MITN: Sun-Sat, 3952 kHz, 1800 ET QMN: Sun-Fri, 3563 kHz, 1830 & 2200 ET WSSBN, 3932 kHz, 1900 ET UP-ARES: Fr, 3932 kHz, 1930 ET GLETN: Sun-Sat, 3932 kHz, 2030 ET SEMTN: Sun-Sat, 145.33, 2215 ET MIDTN - 1900 local Tu, Th, Sat 3.583 +waterfall, Oivia 8/500

MARC MERCH	HANDI SE	
T-Shirt	S- XL	\$10
Long-Sleeve Tee	2X - 3X S- XL	\$12 \$12
Crew Sweatshirt	2X - 3X S- XL	\$15 \$18
Hoodie	2X - 3X S- XL	\$20 \$24
Zipper Hoodie Winter Coat	2X - 3X S- 3X S- XL	\$26 \$30 \$42
Spring Jacket	2X - 3X S- XL 2X - 3X	\$45 \$32 \$35
Hat		\$10

All garments are royal blue with white print and embroidered name and number.

Please call Bill Lee at B&C Sportswear with questions @ (989) 839-4537.

ers very well.

Al, KA9WCS was pressed to make runs with his vehicle for his assigned staff member.

Dennis, WD8BPT said that

folks he had in the SAG vehicle commented positively about our organized communications overheard on his radio.

Thank you, Chris Rose KB8UIH

# Dow Run Volunteers Still Needed

The Dow Run is Saturday May 21<sup>st</sup>. First race starts at 7 am sharp so everyone needs to be on their assigned location by 6:45 am.

I will be in the parking lot on Collins between Rodd and George starting at 6 am to hand out Tshirts and assignments. (Also the start of all the races) Please come by and get your assignment and then head on to your location.

If you haven't already signed up and you want to help, please let me know if you can. Regardless, come down the morning of the 21<sup>st</sup> and I will have an assignment for you. If you want to help but don't have a radio we can supply one. Please contact me ahead of time.

Thanks to all and hope to see you the morning of May 21<sup>st</sup>.

John Wolters w8qn@arrl.net

# 42<sup>nd</sup> Midland Hamfest, June 18<sup>th</sup> Pat Russell, W8PMR

The 42<sup>nd</sup> Annual Midland Hamfest will be held at the Salvation Army Family Center (330 Waldo Rd, Midland, Mi) on June 18<sup>th</sup>, 2016. 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.

There are seminars in the classrooms starting at 11:00 am.

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

We need help setting up on Friday, June 17<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!

# SATERN Founder Pat McPherson, WW9E, SK



Salvation Army Team Emergency Radio Network (SATERN) Founder and past National Director Pat McPherson, WW9E.

(ARRLWeb—05/14/2016) [UPDATED 2016-05-15 1949 UTC]

Salvation Army Team Emergency Radio Network (SATERN) Founder and past National Director Major Patrick E. "Pat" McPherson, WW9E, of Coloma, Michigan, died on May 14 at Lakeland Medical Center in St Joseph, Michigan, where he'd been admitted on May 10 with breathing difficulties. After serving as SATERN Director for more than 23 years, McPherson, an ARRL member, stepped down 5 years ago. He founded the disaster response and relief arm in June 1988. SATERN became an official Salvation Army program in 1998, and McPherson was formally appointed as its national director.

Now an international organization, SATERN is dedicated to providing emergency communication and other assistance following disasters and emergencies and has responded to natural disasters, fires, and air crashes. After the 11. 2001 September attacks. SATERN volunteers were on duty in New York, Washington, and Pennsylvania. SATERN volunteers work in cooperation with organizations, including other ARES, in responding to emergencies and disasters. The SATERN Net meets weekdays on 14.265 MHz at 1500 UTC.

McPherson served the Salvation Army as the Heartland Division Disaster Coordinator (Central Illinois and Eastern

It's Not Your Grandfather's Amateur Radio! Iowa) for 2 years, and as the Disaster Services Director for The Salvation Army Metropolitan Division (Chicago and 11 surrounding counties) for 15 years.

"During my tenure in the Metropolitan Division, we were able to build a state-of-the-art disaster center, complete with a 60,000 square foot warehouse, docks, EOC, emergency conference area, training area, and communications, including amateur, commercial radio, satellite TV, and a sophisticated phone system," McPherson recounted on his QRZ.com profile.

He had served earlier in nondisaster-related roles for The Salvation Army in Kankakee, Pekin, and Springfield, Illinois; Oskosh, Wisconsin; Marquette, Midland, and Flint, Michigan, and Dubuque, Iowa.

McPherson said he got into Amateur Radio as a way to stay in touch with family and friends throughout his various transfers around the Midwest. His wife, Carmella, is KB9YSQ, and his brother Larry is KA0QEO. He was also active in ARES, RACES, and SKYWARN. He was especially fond of operating CW. "It represents to me a challenge through the unknown, accomplished because I was motivated to become an Amateur Radio operator," he said in his profile. "With retirement, I can now focus on the SATERN program, run CW from the field, and enjoy all of the friends made through the years via Amateur Radio."

At the time of his death, McPherson was to be presented with The Salvation Army Certificate in Recognition of Exceptional Service — a national-level award acknowledging outstanding, distinguished and significant achievement in or for The Salvation Army. It will be awarded posthumously.

Funeral arrangements are pending. — Thanks to Bill Feist, WB8BZH, for some information

# Dale's Tales for May, 2016

(ARRLWeb—5/1/2016) Greetings everyone, welcome to "Dale's Tales" for May, 2016.

May is here and soon we'll be enjoying the Dayton HamVention<sup>®</sup>. ARRL will host the ARRL EXPO again this year and we will include about 20 exhibit booths. We will also include booths from our friends at the Radio Society of Great Britain, the Deutscher Amateur Radio Club, Japan Amateur Radio League, and the Quatar Amateur Radio Society. The League is also presenting a number of forums this year. On Friday, we will host "The ARRL Laboratory- Behind the Scenes", and "Amateur Radio and the Law". Saturday will include "ARRL National Parks on the Air" and the "ARRL Member Forum". Sunday's forums are "Maximizing your AR-RL Field Day Effort" and the "Amateur Radio Disaster and Emergency Communications Panel".

As the Great Lakes Division is the hosting division, I will have the opportunity to moderate the ARRL Member Forum and have booked the League's "Heavy Hitters" as guest speakers. We will hear commentary from ARRL President Rick Roderick K5UR, ARRL CEO Tom

Gallagher NY2RF, 1st VP Greg Widin KØGW, 2nd VP Brian Mileshosky N5ZGT and our International VP Jay Bellows KØQB. These people are on top of the latest happenings in our hobby and this is the perfect setting for everyone's introduction to the League's new leadership team. We will also include a member Question and Answer Session. Last year's Forum was a full house, and with our new team in place this year, this is an ideal opportunity to introduce and discuss new ideas and plans. Every one of our guest speakers will also be spending time at the ARRL EXPO. Do take to opportunity to stop at the EXPO's Meet-and-Greet area to say hello.

We plan to have many of our Headquarters staff on hand as well. They will be present at the EXPO Booths to discuss your ideas and concerns and help you with your special interests. Here is the EXPO booth line-up: ARRL Development/Foundation, Education and Technology, ARRL Lab, Radiosport/DXCC, National Parks on the Air, Public Service, ARRL VEC, ARRL Store, ARRL Logbook of the World, NTS, Advertising, RFinder, ARRL News, Amateur Radio Parity Act, Scouting, Discover the HF Experience, US Bank and Liberty Mutual Insurance, Field Organization /Ohio Section, Youth Rally, and IARU. Remember the dates, May 20 - 22.

AMATEUR RADIO PARITY ACT: Our Legislative Action Team is continuing its efforts to achieve passage of these bills in the House and Senate. You can find the latest information at http://www.arrl.org/amateur-radio-parity-act.

Thanks to so many of the Great lakes Division hams who have sent letters supporting the legislation. If you have not done so, you can find a sample on the listed web page. Please be sure to route your letters through ARRL Headquarters: AR-RL, Attn: Amateur Radio Parity Act grassroots campaign, 225 Main St., Newington, CT 06111. Our Legislative Action Team will hand deliver the letters, thus avoiding delays caused by the postal inspection system in DC.

73, See you on the bands. Dale Williams WA8EFK Director ARRL Great Lakes Division wa8efk@arrl.org

Explore the World with Amateur Radio!

FEMA Daily Operations Briefings, Other News, Alerts, Available by E-Mail

(ARES E-Letter—April 20, 2016) Thanks to a tip from ARRL Emergency Preparedness Manager Mike Corey, KI1U, I signed up last year to receive FEMA daily operations briefings by e-mail. These briefings contain a quick summary of national weather forecasts, U.S. fire weather outlooks, and hazards outlooks for three-day periods (examples: much above normal temperatures, heavy rain or snow, severe weather). A Space Weather report covers geomagnetic storms, solar radiation storms, sun spot activity, and a world map and graphs of impacts on HF communications and radio blackouts.

A table on disaster requests

and declarations is furnished in the report. For example, in the current briefing, there are three declaration requests being processed: one for flooding in Louisiana, another for severe drought in the Marshall Islands, and one for severe storms and flooding in Illinois. Another map of the U.S. shows which FEMA field offices are open. Two tables on FEMA readiness - one on deployable assets/teams, and the other on national/regional teams - round out the report.

The briefing is, well, brief a lot of valuable information is presented mostly graphically, rendering the report easy and quick to scan and read. I can get through it in just a minute or two. I recommend to ARES, RACES and other program members to sign up for this daily FEMA mailing for national, regional and local situational awareness.

### **Other FEMA Mailings**

I've signed up for other FEMA mailings, too. I receive updates to emergency and major disaster declarations, CERT program updates, and a host of other topics. There is a wealth of information that would be of interest to ARES leadership and registrants. Readers can learn more and sign up for e-mailings <u>here</u>. Check it out! – Rick Palm, K1CE

# Technical Topics and Information

(ARRL Contest Update—April 20, 2016) Tom, WA9YI, sent in a link to the story of <u>Iowa State Uni-</u> versity's research into "metaskin" that can absorb RADAR energy. "Not sure what RF applications there might be, but then we never are until we fiddle with it for awhile, right? Wrap the neighbor's grow-light operation in it to block RFI? Next best thing to a tin-foil hat?"

◆ How soon before we see an "SSB Skimmer?" <u>Google</u>, <u>IBM's</u> <u>Watson</u>, and other providers have real-time speech-to-text (STT) services available right now. Will someone build an application utilizing STT in time for, say, Sweepstakes?

• The European Space Agency used a 3D printer to fabricate a 14.5 GHz satellite antenna. After printing the part, it was coated with copper to give it its electrical properties. This might provide some ideas for methods to "print" other signal-chain items for UHF+ frequencies, for example interdigital filters.

◆ A researcher has figured out a way to do <u>full-duplex radio us-</u> <u>ing just silicon</u>. Claiming that it subverts Lorentz Reciprocity, the <u>CMOS circulator</u> has potential for making higher data rates faster and cheaper. (Ward, NOAX)

♦ When putting up wire antennas, ropes and knots are important. This <u>video can help you learn</u> <u>a few new ones</u>. (Ward, NOAX)

**Technical Web Site of the Week** - <u>http://k6tu.net/?q=TerrainProfiles</u>

You've heard about terrain analyses, and you know you should probably do them to better understand your shack's location -<u>Stu's website</u> can step you though everything you need to do to get going with N6BV's High Frequency Terrain Analysis (HFTA) program. K6TU's website will even assist with the tedious part, the generation of the terrain profiles for your station location, by automatically pulling data from the National Elevation Dataset, or the Shuttle Radar Topography Mission database based on your latitude and longitude. Furthermore, he's built a script to automate the running of HFTA over a 360-degree sweep at your QTH, to generate antenna model files.

## More Technical Topics and Information

(ARRL Contest Update—May 4, 2016) Jim, AD1C, has written an ADIF File splitter, to 'burst' a single file into multiple files based on transmitted QTH. Each of these sub-files can be signed and uploaded to LoTW using a different station location. He's tested it with N1MM and Write-Log - see his <u>website</u> for more information and support for other loggers.

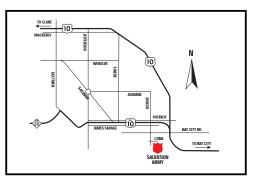
♦ Many <u>amateur radio projects</u> are incorporating <u>Arduino-com-</u> patible computing elements, and Michigan Hamfest Weekend June 18, Midland / June 19, Monroe

Midland Amateur Radio Club



AMP, IT

June 18, 2016 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 Chuck Cribley. WA8LQD at 1989) 488-9409 email: chuck.cribley@live.com or Pat Russell. W8PMR at 1989) 832-2924 email: russell\_p@chartermi.net

# Field Day 2016



# The Midland Amateur Radio Club will be operating in the field from Homer Township Park 2:00pm Sat., June 22 'til noon, Sun, June 23.

Set-up will be in the pavilion area.

Field day is most popular on-the-air operating event in Amateur Radio. Watch as Local Hams participate in an emergency communications exercise in a contest setting. Come watch the fun. You can even make a few contacts yourself under the watchful eyes of an experienced Ham! All are Invited!

For more information, contact John Tallman at (989) 859-0364

these gems are available in many different variations and sizes. A new <u>AA-battery sized Arduino</u> <u>board</u> has just been developed. This could be a nice way to add additional functionality into an existing piece of equipment.

• By using an EEG to analyze brain activity while presented with a standardized sets of images, <u>humans can be differentiated from one another with 100% accuracy</u>. As it's not yet available commercially, we still have to remember to type "OPON" for the foreseeable future.

◆ Computers keep getting

faster and faster, and smaller and smaller, but there's a theoretical limit to how fast a computer can ever be, based on E=mc2, and the Heisenberg uncertainty principle. This is <u>Bremermann's limit</u>. Could an effective DSP module to completely remove grow light noise ever be implemented in hardware weighing less than a 3AG fuse? Knowing the complexity of the algorithm, and the mass of the fuse, Bremermann's can provide a backof-the-envelope check for infeasibility.

• The characteristics of the "impossible" EM Drive, also

known as the 'resonant cavity thruster,' which uses microwaves to seemingly accelerate a spacecraft, have been linked to the already observed "fly-by anomaly" in this Technology Review article.

◆ Here are three sisters who <u>'contest' by writing computer</u> <u>code</u>. And they win.

◆ An <u>accidental discovery at</u> the University of California at <u>Irvine</u> involving conductive nanowires with special coatings may end up dramatically increasing the number of battery charge/discharge cycles.

Memberships Expiring in May NONE   Memberships Expiring in June   KB8UIH N8NGT WA8KJR WB8FYR   N8KRL NX8A WA8Y WD80DG   Memberships Expiring in July NONE Memberships Expiring in July   NONE Memberships Expiring in July NONE   AC8QF KB8TB1 KD0/HX KE8CTH N8LOU W8ZSX   AC8QF KB8UH KD0/HX KE8CTH N8NGT WA8Y   K0ACP KC8CTG KD8MMH N8CGP N8WTQ WA8Y   K0ACP KC8TT KD8MKB NBDHF NX8A WB8FYR   K8V KC8TTI KD8QAM N8EFF WPMR WB8RCR   K8VFO KC8MUD KD8QAK N8JBW W8QN WB8WNF   KA9WCS KC8TTS KD8ULA N8KRL W80J WD8DF   KB8FGW KC8TQS KD8WLT N8LBF W8ZSX WD80DG   Current Active Club Membership 48 Birthdays Celebrated in May/June KC8YRQ 5/11 KC8MUD 5/19 KSRI 6/16 WD80DG 6/30   KD8MRC 5/12 KD8AXR 5/25 KD8WKS 6/21 KD8MMH 6/30 KD8MMH 6/30   KD8MRC 5/12 WBAXR 5/25 KD8WWS 6/21 KD8MMH 6/30	MARC Vital Statistics						
Memberships Expiring in JuneKB8UIH N8KRLN8NGT NX8AWA8KJR WA8YWB8FYR 			Memberships E	xpiring in May			
KB8UIH N8KRLN8NGT NX8AWA8KJR WA8YWB8FYR WD80DGMemberships Expiring in July NONENONEOCONEMembers in Good StandingAC8QFKB87B1KD0/HXKEECTHN8LOUW82SXAC8RTKB8UIHKD0/HXKEECTHN8LOUW82SXAC8RTKB8UIHKD8IWBKE8DOPN8NGTWA8KJRK0ACPKC8CTGKD8MMHN8CGPN8WTQWA8YK8RIKC8ITIKD8QAMN8ERFW8PMRWB8RVRK8VPOKC8MUDKD8QXKN8IBWW8QNWB8WRK8VFOKC8MUDKD8QXKN8IBFW8ZSXWD80DGCurrent Active Club Membership 48EEEEEirthdays Celebrated in May/JuneKC8KOC 5/5KD8MQZ 5/18W8LSS 6/2N8POX 6/25KD8QAM 5/5KD8MQZ 5/18N8LOU 6/8KC8URV 6/28KC8KOC 5/1KS8VEC 5/20KB8VSS 6/21KD8MHH 6/30KD8FIS 5/12KSCE 5/20KB8VSS 6/21KD8MHH 6/30KD8RAC 5/12WD8AXR 5/25KD8IWG 6/23KD8MHH 6/30KD8MC 5/12WD8AXR 5/25KD8IWG 6/23K8EV And ColsKD8OLC and Lori 5/14KB8VSU and Barbara 6/13NSUP and KC8VAH 6/21K8CCE and Clarice 6/28KD8QQP and Kate 5/16WA8LQD and Kathy 6/16WA8A and Kristina 6/24AA8EJ and Beverly 6/28KD8GP and N8KRL 6/5N8POX and Kris 6/17K8VF 0 and Mayuni 6/27K8VF 0 and Mayuni 6/27			NO	NE			
N8KRLNX8AWA8YWD80DGMemberships Expiring in JulyNONENONENEMBERS IN GOOD StandingAC8QFKB8TBIKD0JHXKE8CTHN8LOUW8ZSXAC8QFKB8UIHKD0HXKE8CTHN8LOUW8ZSXAC8RTKB8UIHKD8IWBKE8DOPN8WTWA8KJRK0ACPKC8CTGKD8MMHN8CGPN8WTWA8KJRK0ACPKC8TTGKD8QAMN8ERFW8PMRWB8RVFK8VBKC8HUDKD8QXKN8BWW8QNWB8WFK8VFOKC8MUDKD8QXKN8LBFW8WJWD8DFTK8VFOKC8TQSKD8ULAN8KRLW8WJWD8DFTK89FONKC8TQSKD8ULAN8LBFW8ZSXWD80DGK08FSFSKD8MQZ 5/18W8LSS 6/2N8POX 6/25KC8URV 6/28KC8KOC 5/5KD8MQZ 5/18N8LOU 6/8KC8URV 6/28KC8URV 6/28KC8KOC 5/1KS0KULA 5/18N8LOU 6/8KC8URV 6/28KC8URV 6/28KD8QAM 5/5KD8ULA 5/18N8LOU 6/8KC8URV 6/20KD8HHH 6/30KD8AG 5/12WD8ASDX 5/27K8HF 6/24K08MHH 6/30KD8HHH 6/30KD8OLC and Lori 5/14KB8VSU and Barbara 6/13N8UP and KC8VH 6/21K8CC and Clarice 6/28KD8QQA and Kate 5/16W88QA and Kristina 6/24AA8EJ and Barcerly 6/26K08HD and Marcia 6/28KD8QC and Lori 5/14KB8VSU and Karis 6/17K8VF 0 and Mayumi 6/27K8VF 0 and Mayumi 6/27N8CFE and C			Memberships I	Expiring in June			
Memberships Expiring in July     NONE     Members in Good Standing     AC8QF   KB8TBI   KD0JHX   KE8CTH   N8LOU   W8ZSX     AC8RT   KB8UIH   KD8IWB   KE8DOP   N8NGT   WA8KJR     K0ACP   KC8CTG   KD8MMH   N8CGP   N8WTQ   WA8Y     K8RI   KCSITH   KD8MRB   N8DHF   NX8A   WB8FYR     K8VB   KCSITH   KD8QAK   N8ERF   W8W0J   WB8RCR     K8VFO   KC8MUD   KD8QXK   N8LBF   W8W0J   WD8BPT     K8VFO   KC8TQS   KD8ULA   N8KRL   W8W0J   WD80DG     Current Active Club Membership 48   VE   W8ZSX   WD80DG   WB8OCS     KC8KOC 5/5   KD8MQZ 5/18   W8LSS 6/2   N8POX 6/25   KD8ULA 5/18   W8LOU 6/8   KC8URV 6/28   KC8URV 6/28   KC8URV 6/28   KC8URV 6/28   KC8URV 6/28   KC8URV 6/28   KC8URV 6/21   KD8WAS 6/21   KD8WAS 6/21   KD8WAS 6/21   KD8WAS 6/21   KD8WAS 6/25   KD8WAS 6/21   KD8WAS 6/25   KD8WAS 6/25   KD8WAS 6/25   KD8WAS 6/25   KD8WAS 6/25	KB8UIH		N8NGT	WA8KJR		WB8FYR	
NONEMembers in Good StandingAC8QFKB8TBIKD0JHXKE8CTHN8LOUW8ZSXAC8RTKB8UHHKD0JHXKE8DOPN8NGTWA8KJRK0ACPKC8CTGKD8MMBN8DPFNX8AW8FYRK8RIKC8IHBKD8MRBN8DHFNX8AW8FYRK8VBKC8ITIKD8QAMN8ERFW8PMRWB8RCRK8VFOKC8MUDKD8QXKN8JBWW8QNWB8WNFK49WCSKC8TQSKD8ULAN8KRLW8OJWD8DFTKB8PGWKC8TQSKD8ULAN8KRLW80JWD80DGCurrent Active Club Membership 48EEU800GKC8TQSKC8KOC 5/5KD8MQZ 5/18W8LSS 6/2N8POX 6/25KD8QAM 5/5KD8MQZ 5/18N8LOU 6/8KC8URV 6/28KC8YHQ 5/11KC8KUD 5/19KR8I 6/16WD8ODG 6/30KD8FSI 5/12K8CCE 5/20KB8VSS 6/21KD8MMH 6/30KD8MRC 5/12WD8AXR 5/25KD8HVG 6/23KB8RAO 5/18WD8SDX 5/27K8HP 6/24Anniversaries Celebrated in May/JuneKD8OLC and Lori 5/14KB8VSU and Barbara 6/13N8UPP and KC8AVI 6/21K8CE and Clarice 6/28KD8QWQ and Kate 5/16WA8LQD and Kathy 6/16WB8WNF and Becky 6/22KD8HID and Marcia 6/28KD8QCP and N8KRL 6/5N8POX and Krist 6/17K8VFO and Mayuni 6/27AA8EJ and Beverly 6/28KD8GPa and N8KRL 6/5N8POX and Krist 6/17K8VFO and Mayuni 6/27AA8EJ and Beverly 6/28KD8GPa and N8KRL 6/5<	N8KRL		NX8A	WA8Y		WD8ODG	
Members in Good StandingAC8QFKB8TB1KD0JHXKE8CTHN8LOUW8ZSXAC8RTKB8UIHKD3IWBKE8DOPN8NGTWA8KJRK0ACPKC8CTGKD8MMHN8CGPN8WTQWA8YK8RIKC8IHBKD8MRBN8DHFNX8AWB8FYRK8VBKC8ITIKD8QAMN8ERFW8PMRWB8RCRK8VFOKC8MUDKD8QXKN8JBWW8QNWB8WNFKA9WCSKC8TQSKD8ULAN8KRLW8WOJWD8DPTKB8PGWKC8TQSKD8ULTN8LBFW8ZSXWD8ODGCurrent Active Club Membership 48KC8KOC 5/5KD8MQZ 5/18W8LSS 6/2N8POX 6/25KD8QAM 5/5KD8ULA 5/18N8LOU 6/8KC8URV 6/28KC8YHQ 5/11KC8MUD 5/19K8RI 6/16WD8ODG 6/30KD8RAC 5/12WD8AXR 5/25KD8IWG 6/23KD8MMH 6/30KD8MRC 5/12WD8AXR 5/25KD8IWG 6/23KD8MM 6/30KD8OLC and Lori 5/14KB8VSU and Barbara 6/13N8UPP and KC8AVI 6/21K8CE and Clarice 6/28KB8QQW and Kate 5/16WA8LQD and Kathy 6/16WB8WNF and Becky 6/22KD8HID and Marcia 6/28KB8CP and NsKRL 6/5NSPOX and Kris 6/17K8VFO and Mayumi 6/27N8CF and Cheryl 6/12W8LSS and WD8AXR 6/19KB8PGV and Connie 6/27Information is from data received 4/17/2016K8PGVand Connie 6/27			Memberships E	Expiring in July			
AC8QFKB8TBIKD0JHXKE8CTHN8LOUW8ZSXAC8RTKB8UIHKD9IWBKE8DOPN8NGTWA8KJRK0ACPKC8CTGKD8MMHN8CGPN8WTQWA8YK8RIKC8ITBKD8MRBN8DHFNX8AWB8FYRK8VBKC8ITIKD8QAMN8EEFW8PMRWB8RCRK8VFOKC8MUDKD8QXKN8JBWW8QNWB8WNFKA9WCSKC8TQSKD8ULAN8KRLW8WOJWD8DPTKB8PGWKC8TQSKD8ULTN8LBFW8ZSXWD8ODGCurrent Active Club Membership 48KC8KOC 5/5KD8MQZ 5/18W8LSS 6/2N8POX 6/25KC8KOC 5/5KD8MQZ 5/18W8LSS 6/2N8POX 6/25KD8QAM 5/5KD8ULA 5/18N8LOU 6/8KC8URV 6/28KC8YHQ 5/11KC8MDD 5/19K8RI 6/16WD8ODG 6/30KD8FSI 5/12K8CCE 5/20KB8VSS 6/21KD8MMH 6/30KD8MRC 5/12WD8AXR 5/25KD8IWG 6/23KD8MMH 6/30KD8OLC and Lori 5/14KB8VSU and Barbara 6/13N8UPP and KC8AVI 6/21K8CCE and Clarice 6/28KB8QWQ and Kate 5/16WA8LQD and Kathy 6/16WB8WNF and Becky 6/22KD8HID and Marcia 6/28KD8OLC and Lori 5/17N8FT and Mary 6/16NX8A and Kristina 6/24AA8EJ and Beverly 6/28KD8QL and Julie 5/17N8FT and Mary 6/16NX8A and Kristina 6/24AA8EJ and Beverly 6/28KD8QP and N8KRL 6/5N8POX and Kris 6/17K8VFO and Mayumi 6/27N8KFE and Cheryl 6/12M8LS3 and WD8AXR 6/19 </td <td></td> <td></td> <td>NO</td> <td>NE</td> <td></td> <td></td>			NO	NE			
AC8QFKB8TBIKD0JHXKE8CTHN8LOUW8ZSXAC8RTKB8UIHKD9IWBKE8DOPN8NGTWA8KJRK0ACPKC8CTGKD8MMHN8CGPN8WTQWA8YK8RIKC8ITBKD8MRBN8DHFNX8AWB8FYRK8VBKC8ITIKD8QAMN8EEFW8PMRWB8RCRK8VFOKC8MUDKD8QXKN8JBWW8QNWB8WNFKA9WCSKC8TQSKD8ULAN8KRLW8WOJWD8DPTKB8PGWKC8TQSKD8ULTN8LBFW8ZSXWD8ODGCurrent Active Club Membership 48KC8KOC 5/5KD8MQZ 5/18W8LSS 6/2N8POX 6/25KC8KOC 5/5KD8MQZ 5/18W8LSS 6/2N8POX 6/25KD8QAM 5/5KD8ULA 5/18N8LOU 6/8KC8URV 6/28KC8YHQ 5/11KC8MDD 5/19K8RI 6/16WD8ODG 6/30KD8FSI 5/12K8CCE 5/20KB8VSS 6/21KD8MMH 6/30KD8MRC 5/12WD8AXR 5/25KD8IWG 6/23KD8MMH 6/30KD8OLC and Lori 5/14KB8VSU and Barbara 6/13N8UPP and KC8AVI 6/21K8CCE and Clarice 6/28KB8QWQ and Kate 5/16WA8LQD and Kathy 6/16WB8WNF and Becky 6/22KD8HID and Marcia 6/28KD8OLC and Lori 5/17N8FT and Mary 6/16NX8A and Kristina 6/24AA8EJ and Beverly 6/28KD8QL and Julie 5/17N8FT and Mary 6/16NX8A and Kristina 6/24AA8EJ and Beverly 6/28KD8QP and N8KRL 6/5N8POX and Kris 6/17K8VFO and Mayumi 6/27N8KFE and Cheryl 6/12M8LS3 and WD8AXR 6/19 </td <td></td> <td></td> <td>Members in (</td> <td>Good Standing</td> <td></td> <td></td>			Members in (	Good Standing			
AC8RTKB8UIHKD8IWBKE8DOPN8NGTWA8KJRK0ACPKC8CTGKD8MMHN8CGPN8WTQWA8YK8RIKC8TTGKD8MRBN8DHFNX8AWB8FYRK8VBKC28TTIKD8QAMN8ERFW8PMRWB8RCRK8VFOKC8MUDKD8QXKN8JBWW8QNWB8WNFKA9WCSKC8RTWKD8ULAN8KRLW8WOJWD8BPTKB8PGWKC8TQSKD8ULAN8KRLW8UOJWD8DDGCurrent Active Club Membership 48Eithdays Celebrated in May/JuneKC8KOC 5/5KD8MQZ 5/18W8LSS 6/2N8POX 6/25KD8QAM 5/5KD8ULA 5/18N8LOU 6/8KC8URV 6/28KC8YHQ 5/11KC8MUD 5/19K8RI 6/16WD80DG 6/30KD8MRC 5/12WD8AXR 5/25KD8IWG 6/23KD8MMH 6/30KD8MRC 5/12WD8XDX 5/27KBHP 6/24KD8MMH 6/30KD8MRC 5/18WD8SDX 5/27K8HP 6/24Kaniversaries Celebrated in May/JuneKD8OLC and Lori 5/14KB8VSU and Barbara 6/13N8UPP and KC8AVI 6/21K8CCE and Clarice 6/28KB8QQW and Kate 5/16WA8LQD and Kathy 6/16WB8WNF and Becky 6/22KD8HID and Marcia 6/28KD8EUR and Julie 5/17N8STF and Mary 6/16N88A and Kristina 6/24AA8EJ and Beverly 6/28KD8EUR and Lile 5/17N8STF and Mary 6/16N88WNF and Becky 6/22KD8HID and Marcia 6/28KD8EUR and Lof 5/14WBLSS and WD8AXR 6/19KB8PGV and Connie 6/27N8KFE and Cheryl 6/12W8LSS and WD8AXR 6/19	AC8QF	KB8TBI		e	N8LOU	W8ZSX	
K8RIKC8IHBKD8MRBN8DHFNX8AWB8FYRK8VBKC8ITIKD8QAMN8ERFW8PMRWB8RCRK8VFOKC8MUDKD8QXKN8IBWW8QNWB8WNFKA9WCSKC8RTWKD8ULAN8KRLW8WOJWD8BPTKB8PGWKC8TQSKD8ULTN8LBFW8ZSXWD8ODGCurrent Active Club Membership 48Eirthdays Celebrated in May/JuneKC8KOC 5/5KD8MQZ 5/18W8LSS 6/2N8POX 6/25KD8QAM 5/5KD8ULA 5/18N8LOU 6/8KC8URV 6/28KC8YHQ 5/11KC8MUD 5/19K8RI 6/16WD8ODG 6/30KD8SRA 5/12K8CCE 5/20KB8VSS 6/21KD8MMH 6/30KD8MRC 5/12WD8AXR 5/25KD8IWG 6/23KB8NSD 5/27KD8OLC and Lori 5/14KB8VSU and Barbara 6/13N8UPP and KC8AVI 6/21K8CCE and Clarice 6/28KD8QUR and Xate 5/16WA8LQD and Kathy 6/16WB8WNF and Becky 6/22KD8HID and Marcia 6/28KD8CGP and N8KRL 6/5N8POX and Kris 6/17K8VFO and Mayuni 6/27N8KFE and Cheryl 6/12W8LSS and WD8AXR 6/19N8KFE and Cheryl 6/12W8LSS and WD8AXR 6/19KB8PGV and Connie 6/27Information is from data received 4/17/2016KB8PGV and Connie 6/27	-						
K8RIKC8IHBKD8MRBN8DHFNX8AWB8FYRK8VBKC8ITIKD8QAMN8ERFW8PMRWB8RCRK8VFOKC8MUDKD8QXKN8JBWW8QNWB8WNFKA9WCSKC8RTWKD8ULAN8KRLW8WOJWD8BPTKB8PGWKC8TQSKD8ULTN8LBFW8ZSXWD8ODGCurrent Active Club Membership 48Birthdays Celebrated in May/JuneKC8KOC 5/5KD8MQZ 5/18W8LSS 6/2N8POX 6/25KD8QAM 5/5KD8ULA 5/18N8LOU 6/8KC8URV 6/28KC8YHQ 5/11KC8MUD 5/19K8RI 6/16WD8ODG 6/30KD8SRA 5/12K8CCE 5/20KB8VSS 6/21KD8MMH 6/30KD8MRC 5/12WD8AXR 5/25KD8IWG 6/23KB8RAO 5/18KD8OLC and Lori 5/14KB8VSU and Barbara 6/13N8UPP and KC8AVI 6/21K8CCE and Clarice 6/28KD8QWQ and Kate 5/16WA8LQD and Kathy 6/16WB8WNF and Becky 6/22KD8HID and Marcia 6/28KD8CP and N8KRL 6/5N8POX and Kris 6/17K8VFO and Mayuni 6/27N8KFE and Cheryl 6/12W8LSS and WD8AXR 6/19N8KFE and Cheryl 6/12W8LSS and WD8AXR 6/19KB8PGV and Connie 6/27Information is from data received 4/17/2016KB8PGV and Connie 6/27	K0ACP	KC8CTG	KD8MMH	N8CGP	N8WTQ	WA8Y	
K8VFOKC8MUDKD8QXKN8JBWW8QNWB8WNFKA9WCSKC8RTWKD8ULAN8KRLW8WOJWD8BPTKB8PGWKC8TQSKD8ULTN8LBFW8ZSXWD8ODGCurrent Active Club Membership 48Birthdays Celebrated in May/JuneKC8KOC 5/5KD8MQZ 5/18W8LSS 6/2N8POX 6/25KD8QAM 5/5KD8ULA 5/18N8LOU 6/8KC8URV 6/28KC8YHQ 5/11KC8MUD 5/19K8RI 6/16WD8ODG 6/30KD8FSI 5/12K8CCE 5/20KB8VSS 6/21KD8MMH 6/30KD8MRC 5/12WD8AXR 5/25KD8IWG 6/23KD8MMH 6/30KD8MC 5/18WD8SDX 5/27K8HP 6/24Anniversaries Celebrated in May/JuneKD8OLC and Lori 5/14KB8VSU and Barbara 6/13N8UPP and KC8AVI 6/21K8CCE and Clarice 6/28KD8QWQ and Kate 5/16WA8LQD and Kathy 6/16WB8WNF and Becky 6/22KD8HID and Marcia 6/28KD8QCF and Julie 5/17N8STF and Mary 6/16NX8A and Kristina 6/24AA8EJ and Beverly 6/28N8CGP and N8KRL 6/5N8POX and Kris 6/17K8VFO and Mayumi 6/27A8EJ and Beverly 6/28N8KFE and Cheryl 6/12W8LSS and WD8AXR 6/19KB8PGV and Connie 6/27Information is from data received 4/17/2016	K8RI	KC8IHB	KD8MRB	N8DHF	NX8A	WB8FYR	
KA9WCS KB8PGWKC8RTW KC8TQSKD8ULA KD8ULTN8KRL N8LBFW8WOJ W8ZSXWD8DPT WB0DGCurrent Active Club Membership 48Birthdays Celebrated in May/JuneKC8KOC 5/5KD8MQZ 5/18W8LSS 6/2N8POX 6/25KD8QAM 5/5KD8ULA 5/18N8LOU 6/8KC8URV 6/28KC8YHQ 5/11KC8MUD 5/19K8RI 6/16WD80DG 6/30KD8FSI 5/12K8CCE 5/20KB8VSS 6/21KD8MMH 6/30KD8MRC 5/12WD8AXR 5/25KD8IWG 6/23KB8RAO 5/18KD80LC and Lori 5/14KB8VSU and Barbara 6/13N8UPP and KC8AVI 6/21K8CCE and Clarice 6/28KD8QUQ and Kate 5/16WA8LQD and Kathy 6/16WB8WNF and Becky 6/22KD8HID and Marcia 6/28KD8EUR and Julie 5/17N8STF and Mary 6/16NX8A and Kristina 6/24AA8EJ and Beverly 6/28N8CGP and N8KRL 6/5N8POX and Kris 6/17K8VFO and Mayumi 6/27AA8EJ and Beverly 6/28N8CGP and N8KRL 6/5N8POX and Kris 6/17K8VFO and Mayumi 6/27AA8EJ and Beverly 6/28N8CGP and N8KRL 6/5N8POX and Kris 6/17K8VFO and Connie 6/27AA8EJ and Beverly 6/28N8CGP and N8KRL 6/5N8POX and Kris 6/17K8VFO and Mayumi 6/27AA8EJ and Beverly 6/28N8CGP and N8KRL 6/5N8POX and Kris 6/17K8VFO and Connie 6/27Information is from data received 4/17/2016	K8VB	KC8ITI	KD8QAM	N8ERF	W8PMR	WB8RCR	
KB8PGWKC8TQSKD8ULTN8LBFW8ZSXWD80DGCurrent Active Club Membership 48Birthdays Celebrated in May/JuneN8LOU 6/8KC8URV 6/25KC8KOC 5/5KD8MQZ 5/18W8LSS 6/2N8POX 6/25KC8KOC 5/5KD8MQZ 5/18N8LOU 6/8KC8URV 6/28KC8YHQ 5/11KC8MUD 5/19K8RI 6/16WD80DG 6/30KD8FSI 5/12K8CCE 5/20KB8VSS 6/21KD8MMH 6/30KD8MRC 5/12WD8AXR 5/25KD8IWG 6/23KD8IWG 6/23KB8RAO 5/18WD8SDX 5/27K8HP 6/24K8CCE and Clarice 6/28KD80LC and Lori 5/14KB8VSU and Barbara 6/13N8UPP and KC8AVI 6/21K8CCE and Clarice 6/28KD80LC and Lori 5/15WA8LQD and Kathy 6/16WB8WNF and Becky 6/22KD8HID and Marcia 6/28KD80LC and Julie 5/17N8STF and Mary 6/16NX8A and Kristina 6/24AA8EJ and Beverly 6/28KD8EUR and Julie 5/17N8STF and Mary 6/16NX8A and Kristina 6/24AA8EJ and Beverly 6/28N8CGP and N8KRL 6/5N8POX and Kris 6/17K8VFO and Mayumi 6/27KD8HID and Marcia 6/28N8CGP and N8KRL 6/5N8POX and Kris 6/17K8VFO and Mayumi 6/27Information is from data received 4/17/2016	K8VFO	KC8MUD	KD8QXK	N8JBW	W8QN	WB8WNF	
Current Active Club Membership 48Birthdays Celebrated in May/JuneKC8KOC 5/5KD8MQZ 5/18W8LSS 6/2N8POX 6/25KD8QAM 5/5KD8ULA 5/18N8LOU 6/8KC8URV 6/28KC8YHQ 5/11KC8MUD 5/19K8RI 6/16WD80DG 6/30KD8FSI 5/12K8CCE 5/20KB8VSS 6/21KD8MMH 6/30KD8MRC 5/12WD8AXR 5/25KD8IWG 6/23KD8MMH 6/30KD8NAC 5/18WD8SDX 5/27K8HP 6/24Anniversaries Celebrated in May/JuneKD80LC and Lori 5/14KB8VSU and Barbara 6/13N8UPP and KC8AVI 6/21K8CCE and Clarice 6/28KD80LC and Lori 5/16WA8LQD and Kathy 6/16WB8WNF and Becky 6/22KD8HID and Marcia 6/28KD8EUR and Julie 5/17N8STF and Mary 6/16NX8A and Kristina 6/24AA8EJ and Beverly 6/28N8CGP and N8KRL 6/5N8POX and Kris 6/17K8VFO and Mayumi 6/27AA8EJ and Beverly 6/28N8FFE and Cheryl 6/12W8LSS and WD8AXR 6/19KB8PGV and Connie 6/27Information is from data received 4/17/2016	KA9WCS	KC8RTW	KD8ULA	N8KRL	W8WOJ	WD8BPT	
Birthdays Celebrated in May/JuneKC8KOC 5/5KD8MQZ 5/18W8LSS 6/2N8POX 6/25KD8QAM 5/5KD8ULA 5/18N8LOU 6/8KC8URV 6/28KC8YHQ 5/11KC8MUD 5/19K8RI 6/16WD8ODG 6/30KD8FSI 5/12K8CCE 5/20KB8VSS 6/21KD8MMH 6/30KD8MRC 5/12WD8AXR 5/25KD8IWG 6/23KD8MMH 6/30KD8MRC 5/12WD8SDX 5/27K8HP 6/24KD8NDS 5/27K8HP 6/24KD8OLC and Lori 5/14KB8VSU and Barbara 6/13N8UPP and KC8AVI 6/21K8CCE and Clarice 6/28KD8QWQ and Kate 5/16WA8LQD and Kathy 6/16WB8WNF and Becky 6/22KD8HID and Marcia 6/28KD8EUR and Julie 5/17N8STF and Mary 6/16NX8A and Kristina 6/24AA8EJ and Beverly 6/28N8CGP and N8KRL 6/5N8POX and Kris 6/17K8VFO and Mayumi 6/27A8EJ and Beverly 6/28Information is from data received 4/17/2016K17/2016K8PGVK17/2016	KB8PGW	KC8TQS	KD8ULT	N8LBF	W8ZSX	WD8ODG	
KC8KOC 5/5KD8MQZ 5/18W8LSS 6/2N8POX 6/25KD8QAM 5/5KD8ULA 5/18N8LOU 6/8KC8URV 6/28KC8YHQ 5/11KC8MUD 5/19K8RI 6/16WD8ODG 6/30KD8FSI 5/12K8CCE 5/20KB8VSS 6/21KD8MMH 6/30KD8MRC 5/12WD8AXR 5/25KD8IWG 6/23KD8MMH 6/30KD8OLC and Lori 5/14KB8VSU and Barbara 6/13N8UPP and KC8AVI 6/21K8CCE and Clarice 6/28KD8QWQ and Kate 5/16WA8LQD and Kathy 6/16WB8WNF and Becky 6/22KD8HID and Marcia 6/28KD8EUR and Julie 5/17N8STF and Mary 6/16NX8A and Kristina 6/24AA8EJ and Beverly 6/28N8CGP and N8KRL 6/5N8POX and Kris 6/17K8VFO and Mayumi 6/27AA8EJ and Beverly 6/28N8KFE and Cheryl 6/12W8LSS and WD8AXR 6/19KB8PGV and Connie 6/27Information is from data received 4/17/2016	Current Active	Club Membership 4	18				
KD8QAM 5/5KD8ULA 5/18N8LOU 6/8KC8URV 6/28KC8YHQ 5/11KC8MUD 5/19K8RI 6/16WD8ODG 6/30KD8FSI 5/12K8CCE 5/20KB8VSS 6/21KD8MMH 6/30KD8MRC 5/12WD8AXR 5/25KD8IWG 6/23KD8MMH 6/30KB8RAO 5/18WD8SDX 5/27K8HP 6/24Anniversaries Celebrated in May/JuneKD8OLC and Lori 5/14KB8VSU and Barbara 6/13N8UPP and KC8AVI 6/21K8CCE and Clarice 6/28KB8QWQ and Kate 5/16WA8LQD and Kathy 6/16WB8WNF and Becky 6/22KD8HID and Marcia 6/28KD8EUR and Julie 5/17N8STF and Mary 6/16NX8A and Kristina 6/24AA8EJ and Beverly 6/28N8CGP and N8KRL 6/5N8POX and Kris 6/17K8VFO and Mayumi 6/27AA8EJ and Beverly 6/28N8KFE and Cheryl 6/12W8LSS and WD8AXR 6/19KB8PGV and Connie 6/27Information is from data received 4/17/2016			Birthdays Celebra	ated in May/June			
KC8YHQ 5/11KC8MUD 5/19K8RI 6/16WD80DG 6/30KD8FSI 5/12K8CCE 5/20KB8VSS 6/21KD8MMH 6/30KD8MRC 5/12WD8AXR 5/25KD8IWG 6/23KD8MMH 6/30KB8RAO 5/18WD8SDX 5/27K8HP 6/24KB8VS0Anniversaries Celebrated in May/JuneKD80LC and Lori 5/14KB8VSU and Barbara 6/13N8UPP and KC8AVI 6/21K8CCE and Clarice 6/28KB8QWQ and Kate 5/16WA8LQD and Kathy 6/16WB8WNF and Becky 6/22KD8HID and Marcia 6/28KD8EUR and Julie 5/17N8STF and Mary 6/16NX8A and Kristina 6/24AA8EJ and Beverly 6/28N8CGP and N8KRL 6/5N8POX and Kris 6/17K8VFO and Mayumi 6/27A8EJ and Beverly 6/28N8KFE and Cheryl 6/12W8LSS and WD8AXR 6/19KB8PGV and Connie 6/27Information is from data received 4/17/2016	KC8KOC 5/5	Κ	D8MQZ 5/18	W8LSS 6/2		N8POX 6/25	
KD8FSI 5/12K8CCE 5/20KB8VSS 6/21KD8MMH 6/30KD8MRC 5/12WD8AXR 5/25KD8IWG 6/23KB8RAO 5/18WD8SDX 5/27K8HP 6/24Anniversaries Celebrated in May/JuneKD8OLC and Lori 5/14KB8VSU and Barbara 6/13N8UPP and KC8AVI 6/21K8CCE and Clarice 6/28KB8QWQ and Kate 5/16WA8LQD and Kathy 6/16WB8WNF and Becky 6/22KD8HID and Marcia 6/28KD8EUR and Julie 5/17N8STF and Mary 6/16NX8A and Kristina 6/24AA8EJ and Beverly 6/28N8CGP and N8KRL 6/5N8POX and Kris 6/17K8VFO and Mayumi 6/27A8EJ and Beverly 6/28Information is from data received 4/17/2016K17/2016K18K18	KD8QAM 5/5			N8LOU 6/8		KC8URV 6/28	
KD8MRC 5/12 KB8RAO 5/18WD8AXR 5/25 WD8SDX 5/27KD8IWG 6/23 K8HP 6/24Anniversaries Celebrated in May/JuneKD8OLC and Lori 5/14KB8VSU and Barbara 6/13N8UPP and KC8AVI 6/21K8CCE and Clarice 6/28KB8QWQ and Kate 5/16WA8LQD and Kathy 6/16WB8WNF and Becky 6/22KD8HID and Marcia 6/28KD8EUR and Julie 5/17N8STF and Mary 6/16NX8A and Kristina 6/24AA8EJ and Beverly 6/28N8CGP and N8KRL 6/5N8POX and Kris 6/17K8VFO and Mayumi 6/27A8EJ and Beverly 6/28N8KFE and Cheryl 6/12W8LSS and WD8AXR 6/19KB8PGV and Connie 6/27Information is from data received 4/17/2016	KC8YHQ 5/11	K				WD8ODG 6/30	
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Anniversaries Celebrated in May/JuneKD8OLC and Lori 5/14KB8VSU and Barbara 6/13N8UPP and KC8AVI 6/21K8CCE and Clarice 6/28KB8QWQ and Kate 5/16WA8LQD and Kathy 6/16WB8WNF and Becky 6/22KD8HID and Marcia 6/28KD8EUR and Julie 5/17N8STF and Mary 6/16NX8A and Kristina 6/24AA8EJ and Beverly 6/28N8CGP and N8KRL 6/5N8POX and Kris 6/17K8VFO and Mayumi 6/27A8EJ and Beverly 6/28N8KFE and Cheryl 6/12W8LSS and WD8AXR 6/19KB8PGV and Connie 6/27Information is from data received 4/17/2016	KD8MRC 5/12	KD8MRC 5/12 WD8AXR 5/25					
KD8OLC and Lori 5/14KB8VSU and Barbara 6/13N8UPP and KC8AVI 6/21K8CCE and Clarice 6/28KB8QWQ and Kate 5/16WA8LQD and Kathy 6/16WB8WNF and Becky 6/22KD8HID and Marcia 6/28KD8EUR and Julie 5/17N8STF and Mary 6/16NX8A and Kristina 6/24AA8EJ and Beverly 6/28N8CGP and N8KRL 6/5N8POX and Kris 6/17K8VFO and Mayumi 6/27KB8PGV and Connie 6/27Information is from data received 4/17/2016KB8PGV and Connie 6/27KB8PGV and Connie 6/27	KB8RAO 5/18	KB8RAO 5/18     WD8SDX 5/27     K8HP 6/24					
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Information is from data received 4/17/2016							
	N8KFE and Cheryl 6/12W8LSS and WD8AXR 6/19KB8PGV and Connie 6/27						
Any corrections or questions contact Larry, N8CGP	Information is from data received 4/17/2016						
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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: Pape	er 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