



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

President	Kevin Martin KD8QAM	(989) 513-0100
Vice President	Mark Rodgers KC8GRQ	(517) 672-1060
Secretary	Linda Hodges KC8MUD	(989) 486-3771
Treasurer	John Wolters W8QN	(989) 832-9122
W8KEA Station Trustee	Larry Macklin N8CGP	(989) 631-7748
Midland County EC/RO	John Wolters W8QN	(989) 832-9122
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
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	Kevin Martin KD8QAM/ch	(989) 513-0100
	Pat Mullet KC8RTW	(989) 828-6657
Swap Committee	Mark Rodgers KC8GRQ/Ch	(517) 672-1060
	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 — No April Meeting!
Law Enforcement Center, 2727 Rodd St.
Next CLUB Meeting — Thursday April 2, 2015, 7:30 PM
Salvation Army Building, 330 Waldo.
Talk-in 147.000+

April 2015

Static Discharge

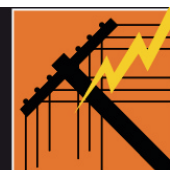
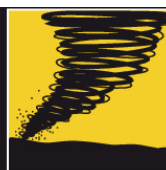
Kevin Martin, KD8QAM

It's nice to see the grass again after this long winter. It gives me a chance to drive around with the windows down and look at antennas before the trees get some leaves. We are starting to wrap-up a few antennas and looking at trying a few new designs.

There should be a lot of opportunities to volunteer over the next few months, with the Midland Hamfest, Great Lakes Bay Marathon, MS Walk, and Field Day. If you would like to help, please get a hold of someone.

73, Kevin, KD8QAM

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



MARC Minutes

Linda Hodges, KC8MUD

Kevin KD8QAM brought the meeting to order at 7:30 P.M with 32 members present. Introductions were made and an attendance sheet was passed around.

The meeting minutes are published in the newsletter. If you have any additions or corrections please bring them to the attention of the secretary.

MARC MEETINGS

Mark Rodgers KC8GRQ, is in charge of special events and topics for the MARC monthly meetings. If you have any agenda items, or topics for the meetings, please contact Mark at (517 672-1060), or via e-mail: kc8grq@yahoo.com

COMMUNICATIONS

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

EXAMINATION SCHEDULE

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

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

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

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

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

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

SUBMISSIONS FOR NEWSLETTER

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

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

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

MEDIA HITS!

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

Presentations:

- Lee KC8ITI- Lee presented a complete tutorial on the basics of soldering.

- Steve WA8Y- Brought in a SDR show and tell.

- John WB8RCR- Told about the 'Build Your Own PIC' event coming up. A sign-up sheet was sent around for those who would like to participate.

- Dennis N8ERF- Brought in the board that the high-school club students are building during their club meetings.

Old Business and announcements:

- John W8QN – John reminded us of the DOW Run/Walk on Saturday, May 16th and the cross-country run on Sunday May 17th. Operators are needed for both events, please mark your calendars and let John know if you can help.

- Chris KB8UIH- Chris is looking for help on April 25th for

the MS Walk. He needs at least 15 or 20 operators for this fun and important morning event. If you can help please let Chris know.

- Kevin KD8QAM- Short discussion about Field Day.

- EC/RO John-W8QN- Told about some upcoming events and about the updated Midland County Facilities.

- Mike KD8MMH- The Saginaw club is sponsoring a VE Testing Session on March 28th at the Red Cross Building. The session starts at 9:00 A.M.

NET Controls:

Lee KC8ITI March 12th

Dave N8LBF March 19th

John W8QN March 26th

A motion to adjourn made by Larry N8CGP and seconded by Dennis N8ERF. The meeting ended at 9:00 P.M.

Respectfully Submitted,
Linda KC8MUD

Executive Meeting Minutes

The following are the Minutes of the Midland ARC Executive Committee Meeting held February 19, 2015:

The meeting started at 7:40 P.M. with five in attendance.

Kevin KD8QAM

Lee KC8ITI

Linda KC8MUD

Larry N8CGP

Mark KC8GRQ

Agenda;

1. Field Day

2. Swap

3. President's contest

4. Data Base and newsletter discussion

5. Repeater status

6. Club member's jobs discussion

7. Card checker questions and discussion.

A motion to adjourned the meeting at 8:30 PM. Made by Larry N8CGP

Seconded by Mark KC8GRQ

My Two Cents

Was it really two weeks ago that we were all huddled together, wrapped in multiple layers of clothing and shivering in single digit temperatures? Now we've had a couple of weeks of brilliant skies and spring-like temps?

Pat Mullet, KC8RTW

Heck, today is supposed to hit the low sixties and it isn't even officially Spring yet. All this inevitably leads us to a severe case of "cabin fever." Luckily, there are several ways to treat this seasonal malady.

Even though the common wisdom among hams is that the colder the weather antenna work is done in, the better the results, with the snow rapidly receding, but the ground still frozen, it's a good period for antenna inspections and low impact repairs. Check and see if any elements or wires are drooping, are there branches preventing rotation? Best to check it out now before the leaves bud.

There's nothing better for cabin fever than a nice drive, so how about planning a weekend visit to one of the spring hamfests? There's a list of upcoming hamfests each month here in the MARC newsletter, as well as an up-to-the-minute listing on the AR-

RL website.

Finally, don't forget that the public service season for the Midland club is about to start. Chris, KB8UIH, is looking for volunteers for the MS Walk coming up April 25th. You can find the information elsewhere in this month's newsletter. Other public service events will be posted in the Upcoming Events sidebar, as well as being announced in individual articles. All are good opportunities to get out and enjoy the fresh air.

So, get out, stretch your legs and take in a bit of fresh air, and also take some time to get on the air.

73, Pat, KC8RTW

ARES®/RACES John Wolters, W8QN

An ARES®/Races meeting was held in March where we discussed the new layout of the EOC conference room, handed out new RACES cards, and talked about future meetings and activities.

Because the April meeting will occur during the Midland Public Schools Spring Break, I will not be able to attend. As a result – **There will not be an ARES®/RACES meeting in APRIL.**

We will continue in May. Please bring your laptop computer if possible so we can restart practice with *FLDIGI*.

W8QN

Dow Run

The Annual Dow Run will occur on Saturday May 16th. Commitment is from approximately 7 am in the morning until noon. I am looking for volunteers to help with safety communications on the course. No prior experience is necessary and if you are concerned about what to do we can partner you with another ham.

To volunteer or additional information please contact John Wolters – W8QN at 989-832-9122 or w8qn@arrl.net.

Michigan QSO Party

The Michigan QSO Party occurs on Saturday April 18th from noon to midnight.

It is a quick, fun contest where you are the target for all other amateurs inside and outside of Michigan. Contact information is your call, county, and sequence number.

Please remember to include your affiliation with Midland Amateur Radio Club in your log when you submit it. It helps in total point count for the radio club competition.

For more information you can check the website <http://www.miqp.org/Rules.htm> or contact w8qn@arrl.net.

Skywarn® Training

Because of the National Weather Service policy to do Skywarn® training every other year in a county, this year Midland County will not have training. If you desire to attend a training session or know someone that wants to attend, attached below is a list of the locations in District 3 that Skywarn® training will occur.

Upcoming Events

4/18	Mi QSO Party
4/25	MS Walk
5/16	Dow Run
5/17	GLB Marathon
6/27-28	Field Day
7/9-12	Lupton

Michigan Hamfests

5/2	Cadillac
5/9	Chassell
6/6	Hudsonville
6/7	Chelsea
6/20	Midland*
6/21	Monroe
8/1	Escanaba
10/17	Muskegon
10/18	Kalamazoo
12/6	Mount Clemens

* Denotes date based on 2014 event

Area Nets

SVARA; Mn, 147.24 MHz, 2100 ET
 Gladwin; Tu, 147.18 MHz, 2000 ET
 BAARC; Tu, 145.31 MHz, 2100 ET
 Isabella Co EOC 146.72 Mhz, 1900 ET
 Canadian Lks, Wed, 146.8, 2100 ET
 Edmore, Th, 146.8, 2000 ET
 MARC; Th, 147.00 MHz, 2100 ET
 District 3 ARPSC; Su, 145.31 MHz, 1830 ET
 Mi VHF Trffc Net; MWF, 145.15 MHz, 0900 ET
 TMMTN; Mon-Sat, 147.30 MHz, 2130 ET
 MACS; Sun-Sat, 3953 kHz 1100 ET
 MIARPSC; Su, 3932 kHz, 17:00 ET
 UPN; Sun-Sat, 3920 KHz, 17:00 ET
 MITN; Sun-Sat, 3952 kHz, 1800 ET
 QMN; Sun-Fri, 3563 kHz, 1830 & 2200 ET
 WSSBN, 3932 kHz, 1900 ET
 UP-ARES; Fr, 3932 kHz, 1930 ET
 GLETN; Sun-Sat, 3932 kHz, 2030 ET
 SEMTN; Sun-Sat, 145.33, 2215 ET
 MIDTN - 1900 local Tu, Th, Sat 3.583
 +waterfall, Oivia 8/500

MARC MERCHANDISE

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

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

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

District Skywarn® Training Classes for 2015

Saginaw: TUE. March 10, at 6:30- 8PM Be there ½ hour early.

Covenant Cooper Campus, 700 Cooper Ave. Repeater 147.240/103.5 PL

Flint: TUE. March 24 at 7:00- 8:30 PM

SAT. April 18 at 10:00 – 1200 Noon Genesee County Building, 1101 Beach St. Repeater 147.260/100 PL Parking Entrance on W. Seventh St.

West Branch: TUE. March 17 at 6:30 PM Repeater 146.940/103.5PL

Ogemaw County EOC, 205 South 8th Streets

East Tawas FRI. March 23 at 6:30 PM

East Tawas Fire Department, 122 Main Street

Standish: SAT March 24 at 6:30 PM Repeater 146.940/103.5PL

Standish Sterling Central High School, 2401 Grove Street Road

Gladwin: WED. March 25 at 7:00 PM

Gladwin County Court House (Commissioners Room) Repeater 147.180/173.8 PL

401 West Cedar Ave.

Caro: THU. April 2 at 7:00 – 8:30 PM Repeater 146.660/100PL

Tuscola County Medical Care Facility Business Annex, 1285 Cleaver Rd. (M-24)

Lapeer: THU April 16 at 7:00- 9PM Repeater 146.620/100PL

Location to be determined (Must Pre Register).

Bay City: WED. April 29 at 5:30- 7:00 PM Repeater 145.310/131.8PL

Jack and Alice Wirt County Public Library, 500 Center Ave.

2015 MS Walk

Chris Rose, KB8UIH

Hello all,

The annual MS Walk will be Saturday April 25, 2015. As in years past, the event will be at the Central Middle School, 305 E Reardon St., running from 11:0 am through roughly 1:00 pm. MARC will once again be serving a worthy cause. This is a low-impact event and a great

opportunity to get your feet wet in public service operations and to get used to working on a directed net.

When you get to the school, please check in and sign-in with the MS official(s). Let them know you are there and then check in with me on site.

I would like 15 operators.

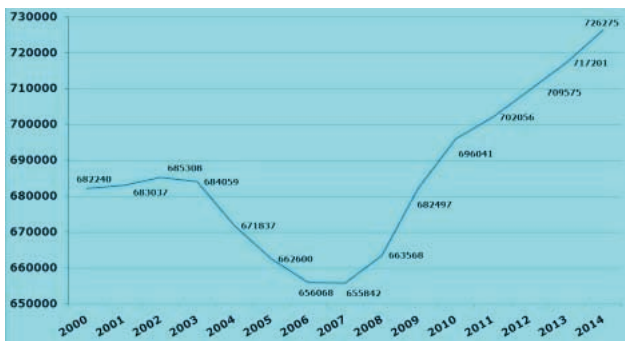
Midland club repeater will be used (147.00+).

I will pass along more info as I get it.

Thank you,

Chris Rose
989-832-7179
989-948-9153 cell

US Amateur Radio Numbers Reach an All-Time High



US Amateur Radio numbers from 2000 through 2014. The FCC dropped the Morse code requirement in 2007. [Graph based on statistics compiled by Joe Speroni, AH0A]

(ARRLWeb—03/04/2015)

Amateur Radio growth in the US continues to soar. At the end of 2014, the total number of radio

amateurs in the FCC's Universal Licensing System (ULS) database reached an all-time high of 726,275. The trend has continued in the first 2 months of 2015, which saw the ham population rise to slightly more than 727,000. The figures exclude expired licenses that are within

the 2-year grace period, and club station licenses. Outside of a little dithering last fall, growth in the Amateur Radio Service in 2014

was steady, according to figures compiled by Joe Speroni, AH0A, on his FCC Amateur Radio Statistics web pages. Over the past decade the number of Amateur Radio licenses in the ULS database grew by some 8.1 percent. But 2014 also was a banner year for the ARRL Volunteer Examiner Coordinator (VEC).

"For the first time in the ARRL VEC program's history, we have conducted more than 7000 Amateur Radio exam sessions in a year, an important milestone," said ARRL VEC Manager Maria Somma, AB1FM. "A total of 7216 ARRL-sponsored exam sessions

It's Not Your Grandfather's Amateur Radio!

were administered in 2014, compared to 6823 in 2013.”

Somma said the number of new licensees spiked to more than 33,000 in 2014, up by about 15 percent from the previous year. Successful license upgrades rose last year by an unprecedented 13 percent over a year earlier.

At the end of 2014, there were 136,405 Amateur Extra, 169,524 General, and 357,236 Technician class licensees — all record numbers, Somma pointed out. While the number of Amateur Extra licensees grew in each month of 2014, the number of Technicians and Generals — and of licensees overall — faltered a bit last July and September. Last year’s overall upward trend quickly recovered, however, during the final quarter of 2014. The General population also dipped briefly in May 2014, before rebounding.

Somma believes the July and September dips may have been a result of applicants’ adjusting to the new Technician question pool

that went into effect last July 1. “We always expect an adjustment period when a new question pool is introduced to the public, as VEs, teachers, and candidates must prepare new study and exam materials,” she said, calling the dips “a normal part of the question pool cycle.”

Technician licensees comprise a little less than one-half of the US Amateur Radio population. As of December 31, some 51,000 Advanced and 12,000 Novice licensees remained in the FCC database. The FCC no longer issues Advanced and Novice licenses, and their numbers continue to decline.

Once again, California far and away was home to the largest number of licensees among the 50 states, with 102,806 at the end of February. Texas was a distant second, with 51,022, Florida came in third, with 40,743, Washington was fourth, with 30,511, and Ohio was fifth at 28,256. With the exception of Ohio, the licensing

trend in these states has been through the roof. In Ohio, ham radio numbers have begun to flag after holding steady for about the past 4 years.

The state with the fewest number of Amateur Radio licensees in 2014 was North Dakota, with 1477, but in an overall upward trajectory since around 2009. Others with small ham populations include Delaware (1715 and growing), Rhode Island (1926 and drooping), Wyoming (1868 and headed up), and Vermont (2101 and slipping after a bump in 2013 and 2014). The numbers may go a long way toward explaining why these are rare multipliers in the ARRL November Sweepstakes and other events.

Club station licenses in the US number 11,501, according to Speroni’s web pages. — Thanks to Joe Speroni, AH0A; FCC ULS licensing statistics

Amateur Radio Parity Act of 2015 Introduced in Congress

(ARRLWeb—03/05/2015)

“The Amateur Radio Parity Act of 2015” — H.R.1301 — has been introduced in the US House of Representatives. The measure would direct the FCC to extend its rules relating to reasonable accommodation of Amateur Service communications to private land use restrictions. US Rep Adam Kinzinger (R-IL) introduced the bill March 4 with 12 original co-sponsors from both sides of the aisle — seven Republicans and five Democrats. Kinzinger also sponsored “The Amateur Radio Parity Act of 2014, which died at the end of the 113th Congress. H.R. 1301 is an essentially identical piece of legislation.

“The introduction of H.R. 1301 with so many original co-sponsors, so early in this session

of Congress, is very encouraging,” said ARRL President Kay Craigie, N3KN. “Several additional members of Congress already have agreed to be co-sponsors. This bill has momentum, but introduction is only the first step. Many of the next steps will be taken as ARRL members contact their US Representatives urging co-sponsorship and thanking them as they sign on to the bill.”

If Congress approves the legislation, and it is signed by the president, H.R. 1301 would require the FCC to amend its Part 97 Amateur Service rules to apply the three-part test of the PRB-1 federal pre-emption policy to include homeowners’ association regulations and deed restrictions, often referred to as “covenants,

conditions, and restrictions” (CC&Rs). At present, PRB-1 only applies to state and local zoning laws and ordinances. The FCC has been reluctant to extend the same legal protections to include such private land-use agreements without direction from Congress.

H.R. 1301 has been referred to the House Energy and Commerce Committee. Rep Greg Walden, W7EQI (R-OR), chairs that panel’s Communications and Technology Subcommittee, which will consider the measure. The League had worked with Walden on the 2014 bill during the 113th Congress.

Among H.R. 1301 initial co-sponsors is Rep Joe Courtney (D-CT), who attended the ARRL National Centennial Convention last summer to speak with League of-

Explore the World with Amateur Radio!

ficials and those attending the event about the earlier bill.

Craigie encouraged ARRL members to urge their US House members to sign on to the bill as a co-sponsor. The ARRL has an H.R. 1301 resources page on its website. If the House member is

already a co-sponsor, call the member's local office or send an e-mail via the member's official website to express their thanks. She called on League members to encourage other hams to do the same, and to be sure to refer to the bill by its number, H.R. 1301.

"Remember what those pile-ups on the W1AW portable stations sounded like last year?" Craigie said. "Let's be that avid in calling for even greater support in Congress for this essential legislation."

Technical Topics and Information

(ARRL Contest Update—Feb. 25, 2015) This new [magnetic-sensitive foil](#), when applied to the skin, could give people a sense of "magnetoception". Maybe you could literally keep in touch with your ham radio friends? As contributor Dennis N6KI suggests, "Just think of all the possibilities!"

♦ The best way to secure a tower's grounding wire to its ground rod is by welding and the easiest way to make that weld is Erico's CADWELD Exothermic Welding process. Among the line of Erico products now carried by [DX Engineering](#), the "one-shots" make copper-to-copper or copper-to-steel electrical connections without the need for outside heat or power sources. The result is a permanent bond that won't loosen or corrode over time, which is

important for lightning protection.

♦ Jeff ACØC recently upgraded his FTdx5000 radio and [documented](#) a very significant improvement in occupied transmit bandwidth - a major improvement over previous versions and another good step in the direction of cleaner transmit signals. Talk to your Yaesu dealer about installing the upgrade firmware package. (Thanks also, Jim K9YC)

♦ If you are rebuilding old radios and are looking for the right capacitors and other components, [Hayseed Hamfest](#) offers kits of components to save you a lot of shopping. You can then use the new-found spare time to make your own [artisanal vacuum tubes!](#) (Thanks, Kelly VE4XT and Tim K3HX)

♦ Owen VK2OMD (ex-VK1OD) published a lot of

excellent technical material on a variety of topics but the site was off-line for a time. I'm pleased to report that Owen is back [online!](#)

♦ While grappling hooks are usually associated with movie-style prison breaks, rock-climbing, and various forms of pilferage, this [High-Performance Grappling Hook](#) from the *Instructables* project archives might have a home in your ham radio tower tool tote!

Technical Web Site of the Week - Carl K9LA has a new post on his website, a review of [one-way propagation](#). Carl has also created a history of his [propagation columns](#) for the now-discontinued *WorldRadio* and *CQ Plus*. (From ARRL Propagation Bulletin ARLP008)

More Technical Topics and Information

(ARRL Contest Update—March 11, 2015) A new 50 - 1000 MHz SDR transceiver has been announced by Bruce N6BP and Chris KD2BMH as described in a recent [Slashdot article](#). As Bruce explains, "This radio is unique in that it uses your smartphone for the GUI, uses apps to provide communication modes, contains an on-board FLASH-based gate-array and a uLinux system. We intend to go for FSF "Respects Your Freedom" certification for the device." Third-generation PC boards are in fabrication to serve as developer boards and later as full-featured transceivers that meet FCC certification re-

quirements.

♦ Discussions of ground radial systems almost inevitably wind up circling around to the classic 1937 paper, ["Ground Systems as a Factor in Antenna Efficiency,"](#) written by Brown, Lewis, and Epstein of RCA in support of broadcast operation. In case you ever wondered where the "120 radials" standard came from...this is it. The full paper is available online as a PDF for your reference library. (Thanks, Jeremy G3XDK)

♦ A couple of neat projects found their way to us this past couple of weeks. The first is a [voltage indicator circuit](#) from *EDN's* "Design Ideas" column

that changes the color of LED indicators at a voltage threshold. And I'm sure we all have an old PC hanging around that we haven't recycled - why not [breathe a little life into it](#) as shown in this *Instructables* project?

♦ Boom mikes and noise-canceling headphones are always a hot topic in early March for some reason. Probably also in late October! You can purchase the very nice A20 noise-canceling boomset from Bose. The Bose QC15 noise-cancelling 'phones have a mike jack input for mikes like this noise-canceling mike from [Headset Buddy](#) or [AntLion Audio](#). [Doug K1DG](#) and [Don JH5GHM](#)

have published online projects showing how to add a boom mike to the QC15, as well. (Thanks, Dave K3ZJ, Peter PC2A, Frank W3LPL)

♦ The column "RF Circuit Design References" by Peter Delos in the February edition of [High Frequency Electronics](#) is a gold mine of pointers to RF know-how, including a nice mention of the *ARRL Handbook*. (Thanks, Jim W3KMN)

♦ Another excellent free reference was recently released by Texas Instruments - [The Analog Engineer's Pocket Reference](#). Although a little large for a shirt

pocket, it's still jam-packed with good information.

♦ [FAR Circuits](#) sells strips of PC material pads for use with IC sockets in Manhattan-style construction. They are very handy and save a lot of work when you are trying to prototype a circuit using this method. While you're browsing the site, take note of the many projects from *QST*, the *ARRL Handbook*, and other ham publications which are supported by circuit boards from Fred and his team. (Thanks, Howard K2UD)

♦ What if you could wear electronic sensors on your skin? Would a "selfie" soon refer to a

special type of SDR - the Self-Deployed Radio? Dennis N6KI sent us this interesting article about [new bio-sensors](#) that would certainly be involved!

Technical Web Site of the Week - Like most seriously technical subjects, the discussion on Net Neutrality is somewhat skewed in the popular press. While it sounds simple, nothing involving the Internet's fundamental operation is as easy as it might seem, as detailed in this [IEEE Spectrum story](#) on the technical challenges involved.

Swap & Shop

For Sale—I purchased a few extra Lithium Primary Coin Batteries BR-2032/F2N 3V 190mAh. These are the memory batteries

used in the the Radio Shack HTX-202 and HTX-404 handhelds. These batteries have solder tabs on them. Price is \$2.00 each. If

you need one of these contact Lee - KC8ITI

MARC Vital Statistics

Memberships Expiring in March

K8VB
W8NON

Memberships Expiring in April

K6VWE
KB8PGW

KD8WZG
N8WTQ

Memberships Expiring in May

KB8SOE
KC8MUD

N8LBF
WA8LQD

Current Active Club Membership 39

Birthdays Celebrated in March/April

KC8RTW 3/17
KD8QXL 3/18
K8VB 3/19
W8QN 3/31
KB8TBI 4/14
KC8IHB 4/19

KD8OLC 4/20
WA8LQD 4/27
KA8Ezt 4/28
N8JBW 4/30

Anniversaries Celebrated in March/April

KC8ITI and KC8MUD 3/6
WD8BPT and Melody 3/13

Information is from data received 1/15/2015

Any corrections or questions contact John, W8QN

Amateur Radio. . . We Do That!



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

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

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

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

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

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

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