



W8KEA

MARC



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	Dorie French N8WTQ	(989) 835-5562
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	(319) 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) 374-0032
Public Information Officer	Pat Mullet KC8RTW	(989) 828-6657
Field Day Committee	Mark Rodgers, KC8GRQ/Ch	(517) 672-1060
	Ryan Lughermo KB8RCR	(989) 710-7008
	Bill French, AB8JF	(989) 835-5562
	Dorie French, N8WTQ	(989) 835-5562
	Cindy Hall, KD8JQX	(989) 496-7566
	Jack Hall, KD8JQY	(989) 496-7566
	Steve Linley, WA8Y	(989) 687-7681
	Pat Mullet KC8RTW	(989) 828-6657
Swap Committee	Keith Johnson KB8SOE / Ch	(989) 488-4337
	Pat Mullet KC8RTW	(989) 828-6657

LIFE MEMBERS

Larry K8SQB (SK), Don W8WOJ, Lee KC8ITI, Dennis N8ERF, Larry N8CGP, Denny WD8BPT

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 March 7, 2013, 6:00 PM

Next CLUB Meeting — Thursday March 7, 2013, 7:30 PM

Salvation Army Building 330 Waldo Rd.

Talk-in 147.000+

March 2013

Static Discharge

Kevin Martin, KD8QAM

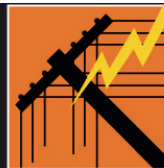
With all the snow suddenly appearing, it has made for a boring month. I haven't been on the air much, but I have been able to fix a few projects on the bench.

I would like to thank Steve WA8Y for sharing with the club his plaques for placing in the Michigan QSO Party.

See you all at the next club meeting.

Kevin KD8QAM

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



MARC Minutes

Dorie French, N8WTQ

The meeting was called to order at 7:45 by KD8QAM with 18 people present.

- The minutes of the last meeting were approved with no corrections or additions.

- The Treasurer's report was made by W8QN. He also said paperwork has gone out to two organizations for grant money for the Midland High School

ARC. Others were contacted and three were willing to talk about money.

- EC/RO report was made by W8QN. He said there would not be a Skywarn® training this year in Midland. The National Weather Service is cutting back on funding. There will be training in Saginaw and Bay City this year and in Midland next year. He said three wide-band radios were given to us by the County. Also, there is a weather situation tonight.

- The general class is going now with 4 students.

- KB8UIH will need help for the MS Walk on April 7th from 8:30-noon, Dow Run on May 18th from 7 -11:30 a.m. and the qualifier marathon on May 19th from

7 a.m. to 3 p.m. for part or all of that time.

- Net controls:

Feb. 14 KD8QAM

Feb. 21 W8QN

Feb. 28 KC8ITI

- The presentation was on HSMM (High Speed Multimedia Mesh) network by KCBGRQ. He said the equipment is relatively inexpensive and operates on 2.4 GHz and 45.8 GHz bands

- A motion to adjourn was made by N8CGP and seconded by KOACP. Motion passed.

Respectfully submitted,

Dorie French

MARC 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.html?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 Keith, KB8SOE, at kb8soe@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)

My Two Cents

An early morning phone call interrupted my usual weekend routine yesterday, Feb 16th. The Midland County Search and Rescue was deploying to Isabella County to aid in the search for a missing man. More to the point, they'd set up the SATERN communications van at the Shepherd Fire barn, three blocks from my QTH, and the team wanted to know if I could lend a hand with the net control duties.

Once I signed in, I was briefed on the subject of the search, and then got busy getting up to speed on MCSAR's logging program and server system. I have to admit I fumbled around a bit as I learned the system's nuances, but I managed to keep my mistakes to a minimum.

The scale of the search was nowhere near last year's search for the young Chamberlain boy, but it was the first activation of the newly formed Isabella County Radio Registry outside the weekly nets. I may be a little biased, but for a first activation, I thought our team did well.

It won't be long before more of our weekends will be tied up in ham-related activities. We're coming up on the club's busy public service season. We start out towards the end of April with the MS Walk, and then May brings both the Dow Run and the Great Lakes Bay Marathon on the same weekend. With the Dayton

Pat Mullet, KC8RTW

Hamvention also that weekend, available personnel will be at a premium.

June brings the annual Hamfest, and Keith, KB8SOE needs a number of volunteers to help plan, set up, run and tear down the event.

Then there are the operating events. The Michigan QSO party is April 20th, and the club is planning to activate Midland County. I'll be activating Isabella County from my QTH. In addition, of course, there's Field Day, which runs the weekend of June 22nd and 23rd.

All these events need volunteers, people to coordinate, operate and prepare. If you can, please lend a hand. You'll find information on some of these events and contact information elsewhere in this newsletter. Barring that, you can always contact one of the club officers, and they'll be happy to point you in the right direction.

Getting back to Field Day, several years back, the club purchased a Field Day logging program that ties multiple computers together over a network, generating aggregate logs and statistics as well as a map that shows the sections worked by the club. It also streamlines the process of generating the club's entry after the event. We've used it before, but last year didn't have the expertise to set up the network. If anyone would like to step forward to facilitate this project,

please contact either myself or Kevin,
KD8QAM.

I think that about covers this month.

Hope to hear you on the air.

73, Pat, KC8RTW

ARES®/RACES John Wolters, W8QN

In the Snowy February meeting, we covered methods to connect your computer to your radio for *FLDigi*, -circuits, kits, and appliances to provide the connection and *FLDigi's* initial setup. The PDF document used in the discussion is available on the club website under the tab "Technical Articles", "FLDigi setup". <http://www.w8kea.org/club-articles/110-FLDigi>.

In the March meeting we will talk more about *FLDigi*, discuss if there is a need for a construction date to help with the construction of interface circuits, and the best time for an on air practice date and time.

We will be testing the use of *FLDigi* on both HF and VHF so if you build a circuit you might be prepared for both.

Hope to see you at the March 7th meeting at 6 pm at the Salvation Army Building.

Dow Run

This year's Dow Run is Saturday May 18th, 6:30 am until noon. I will be passing a signup sheet in the March meeting. If you cannot make the meeting and would like to help, Please contact me

either by e-mail via W8QN@arrl.net or 989-832-9122. We can use everyone that wants to help. If you have your license but do not have a VHF radio, we have radios that we can loan out for the event. Remember, you get a snazzy t-shirt for your efforts.

High School Radio Club Progress

In January, the Midland Amateur Radio Club voted to sponsor a radio club at Midland High School due to the pending shut down of Central Middle School. Once approved, Dennis Klipa, N8ERF, issued a challenge to all amateurs to donate funds to help build a first class station and teaching area. He will match any donation up to a total of \$5,000. I wish to report that as of February 17, 2013 we have received \$3,450. If you want to add to the total please either hand me your donation at any club meeting or send it to the Midland Amateur Radio Club, P.O. Box 1049, Midland, MI 48641. Remember that your donations are tax deductible and no amount is too small.

John Wolters – W8QN

Amateur License Session Offered

The Midland Amateur Radio Club will be conducting an Amateur Radio License Testing Session on Saturday, March 23rd, 2013 at the Salvation Army Building, 330 Waldo Rd., Midland, Michigan. Registration will begin at 8:30 am, with testing shortly thereafter. Walk-ins are welcome.

Candidates will need to bring two pieces of identification, pencils, and photocopies of any current licenses. Calculators are allowed. The test fee is \$15.00. Checks should be made out to ARRL/VEC.

The team will be administering tests for all classes of license —Technician, General and

Extra. Those interested in earning their licenses or upgrading should note that learning Morse code is no longer a requirement.

Contact Dennis Klipa, N8ERF, at (989) 636-7704 for more information. You may email Dennis at n8erf@arrl.net.

Midland High School ARC

Plans for the Midland High School Amateur Radio Club continue to move forward. The Fund Raising Campaign has raised \$3250 from private donations. With the matching grant, the total for

Private Donations has reached \$6500 or 65% of our \$10,000 goal. For those of you who have donated to the Fund, my heartfelt thank you. For those of you who are still considering making a donation, I

Upcoming Events

4/20-21	Mi QSO Party
4/27	MS Walk
5/18	Dow Run
5/19	GLB Marathon
6/22-23	Field Day

Michigan Hamfests

3/16	Marshall
3/30	Lowell
4/20	Highland
5/4	Cadillac
6/1	Hudsonville
6/2	Chelsea
6/15	Midland*
6/16	Monroe
7/27	Lansing
8/3	Escanaba
10/5	Petoskey
10/6	Madison Heights
10/19	Muskegon
10/20	Kalamazoo

* Denotes date based on 2012 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.

urge you to consider making a generous contribution.

By the time you read this, we, W8QN and N8ERF, will have met, on February 21st, with the Midland County Youth Action Council to talk about our Grant Application with them. We should know the result of that application by the end of February. We should know about the result of the Dow Corning Grant submission by the end of March. A few other grant submissions are in progress by N8ERF.

We, WD8BPT, W8QN and N8ERF will meet with the Midland Public Schools Engineer Department on

February 22nd to discuss specifics for the tower installation project. W8QN has agreed to be the project manager for that portion of the project. Denny, WD8BPT has been quite busy getting pricing on the tower installation and engineering costs. He has also gotten tentative agreement with a local contractor to donate the actual installation of the base for the tower. Lee, KC8ITI, has been busy specifying and getting pricing for equipment that we will include in an ARRL grant that is being prepared. The ARRL Grant will provide equipment to schools directly. Andy Fawcett will submit this grant. We will be starting the

curriculum development at the end of February. This should be a lot of fun and a challenge. There are so many things that we can do with the kids. The challenge will be to find the right mix of things that will be educational as well as fun and interesting for the students so they will keep coming back.

Speaking of Andy, he has been busy working through the Tech License manual and, I suspect, he has started on the General License manual by now, in preparation for the March 23rd VE Exam Session.

Volunteers Needed for Great Lakes Bay Marathon

Hard on the heels of the Dow Run on Saturday, May 18th is the Great Lakes Bay Marathon for May 19th. Last year's route went through three counties, but this year it is predominately in Midland County. Area hams will be providing communications support for the event—Yeah, I know its Dayton weekend. Last year it drew prominent international runners, so this could be a chance for amateur radio to shine. Therefore, I am asking for support from whoever may be available to assist this event.

I want APRS trackers if possible.

Last year the Michigan State Police provided lead and tail vehicles for the two different runs, the full and half marathons. We attempted to put trackers in lead and tail of the larger run. We got one to work properly. From that experience, we know what did and didn't work. Depending on what is available this year, we will plan again to track the race in real time.

The Start/Stop line is at Dow Diamond in Midland; there is major urban renewal going on right across the street from the stadium—look out for it. The projected course is east then south of

Midland toward Bay County, then South toward Saginaw County, circling back to the West, then returning North and East to the stadium.

The time frame for the event is 6:30 AM through 2:00 PM, so any time is open for your involvement, for all day or half day.

Thank you in advance for your consideration in assisting with this event.

Chris, KB8UIH
home phone 989 832 7179
email kb8uih at charter dot net

2013 Field Day Packet Now Available



(ARRLWeb—02/02/2013) It's that time of year again—time to start gearing up for ARRL Field Day, June 22-23, 2013! ARRL's flagship operating event—always held the fourth full weekend in June—brings together new and experienced hams for 24 hours of operating fun.

Field Day packets are now available for download and include the complete rules, as well as other reference items such as forms, ARRL Section abbreviation list, entry submission instructions, a Frequently Asked Questions section, guidelines for getting bonus points, instructions for get-on-the-air stations and a kit for publicizing your

event with the local press. New for 2013: Stations operating as Class A or B may begin setting up at 0000 UTC on Friday (which will be Thursday 8 PM EDT, 7 PM CDT, 6 PM MDT and 5 PM PDT). The groups may start and stop their set-up, resuming the set-up later, but may spend only a maximum of 24 hours cumulative time for setting up their sites.

An informational flier with basic "What Is Field Day?" has also been included in this year's Field Day packet. Amateur Radio clubs and individuals are encouraged to reproduce this flyer as a handout. Find it and more on the ARRL's Field Day web page.

It's Not Your Grandfather's Amateur Radio!

4

BSA to Offer Amateur Radio Operator Rating Strip

(ARRLWeb 01/18/2013) The Boy Scouts of America (BSA) has approved an Amateur Radio Operator rating strip for Scouts and Scouters to wear on their uniforms. According to BSA Communication Services Director Jim Wilson, K5ND, the strip recognizes the Scout or Scouter's availability as an Amateur Radio operator for communication services for events and activities, as well as emergencies. All registered youth members and adult leaders who also hold a valid FCC-issued Amateur Radio license of any class are eligible to wear the rating strip.

"Last year, the BSA Awards and Insignia Committee introduced the Morse Code Interpreter Strip upon the recommendation of the BSA's National Radio Scouting Committee," Wilson told the ARRL. "We are always looking for ways to promote Amateur Radio, both within Scouting and to the world. The National Radio Scouting Committee thought this new Amateur Radio rating strip was a wonderful way to do exactly that, as it readily identifies to everyone that the wearer is a licensed radio amateur, prepared to be useful and to help others."

Wilson, who heads up the National Radio Scouting Committee, said that the Amateur Radio Operator rating strip is similar to the Amateur Radio Operator badge offered as a proficiency badge by Scouts Australia, as well as the badge recently introduced by Scouting Netherlands. It follows in the footsteps of the Scout Radioman personal interest badge for Senior Scouts and Explorer Scouts that was offered by the Boy Scouts of America in the 1940s. The strip is worn on the right sleeve.

FCC Denies Missouri Ham's Petition Regarding CC&Rs

(ARRL Letter—1/31/2013) On January 28, the FCC denied a *Petition for Reconsideration (PFR)* filed by James E. Whedbee, N0ECN, of Gladstone, Missouri. Whedbee filed the *PFR* in May 2012 in response to the FCC denying his *Petition for Declaratory Ruling (PDR)* filed in April 2012 that urged the FCC to address covenants, conditions and restrictions (CC&Rs).

In his *PDR*, Whedbee argued that

CC&Rs restrict Amateur Radio facilities in violation of Section 310(d) of the Communications Act of 1934, as amended. He also asserted that there is a "controversy of CCR enforcement against Amateur Radio operators," and "requested a declaratory ruling terminating the controversy by holding that such CC&Rs are unenforceable."

The FCC concluded that the Mobility Division "properly acted" on Whedbee's *PFR*: "Given the opportunity

for public comment already afforded by the *Public Notice* and the opening of GN Docket No. 12-91, and in light of the pendency (and later release) of the Commission's report to Congress and the statutory purpose of that report, your *Petition* was moot, premature, repetitive and frivolous." Read the FCC's letter to Whidbee at http://transition.fcc.gov/Daily_Releases/Daily_Business/2013/db0125/DA-13-101A1.pdf.

2012 Marks All-Time High for Amateur Radio Licenses

(ARRLWeb—01/15/2013) As 2012 came to a close, ARRL VEC Manager Maria Somma, AB1FM, had a good reason to cheer: The number of radio amateurs in the US reached an all-time high of almost 710,000. "2012 was definitely a banner year for the number of Amateur Radio operators here in the US," she said. "It is amazing to see these new numbers and to know that Amateur Radio is experiencing such a healthy trend."

In looking at new and upgraded licenses, as well as licensees per ARRL Division (see the charts below), Somma also crunched the numbers looking for growth within each license class — and all of Amateur Radio — over the last 40 years. "This is an all-time high for Technician, General and Amateur Extra class licensees," she said. "When looking at the three current license classes, the number of Technicians, Generals and Amateur Extras peaked in December at 345,369, 163,370 and 130,736, respectively."

Somma explained that the total number of US amateurs in the FCC database also continues to grow each year:

"As of December 31, 2012, the number of licensees reached an all-time high of 709,575; year-end totals were 702,056 for 2011 and 696,041 for 2010. The number of licensees increased at an average rate of 21 per day, while the number of US licensees has increased by 7 percent since 2008!" More than 3000 new licenses were issued in 2012 than in 2011, while upgraded license activity remained steady in 2012.

In the past 40 years, the number of Amateur Radio operators in the US has grown at a remarkable rate:

- December 1971: 285,000
- December 1981: 433,000
- December 1991: 494,000
- December 2001: 683,000
- December 2012: 709,500

Source: 1971, 1981, 1991: print editions of Radio Amateur Callbook. 2001, 2012: www.ah0a.org/FCC/Graphs.html.

Please note: While the number of licensees has grown considerably over the years, we realize that these numbers include some who are no longer active in Amateur Radio. A recent survey of ARRL members, however, indicates that more than 80 percent of those responding are

active.

ARRL VEC Program Statistics

The ARRL VEC is by far the largest of the 14 Volunteer Examiner Coordinator (VEC) groups in the country, coordinating approximately 70 percent of all Amateur Radio exams. "When looking at the statistics over the last year, the ARRL VEC sponsored exam sessions and exam elements taken were up in 2012, which is a good sign for Amateur Radio overall," Somma said. "Compared with 2011, ARRL VEC exam sessions in 2012 were up by 8 percent. A total of 6831 exam sessions were administered in 2012, compared to 6352 in 2011. Exam elements were slightly up from 41,096 last year, to 42,473 this year. The total number of accredited ARRL Volunteer Examiners (VEs) has reached an all-time high of 36,682. The ARRL VEC has been busy meeting the needs of the Amateur Radio community by helping people become radio amateurs or upgrade their existing licenses. 2012 was a very good year for Amateur Radio — I can't wait to see what 2013 brings!

Technical Topics and Information

(ARRL Contest Update—Jan 30, 2013) Chad WE9V is re-computerizing his station and passes along these tips about a couple of useful tips for station builders:

- Using USB to VGA/DVI adapters can add up to 6 monitors per PC at a cost of less than \$50 each.

- For newer computers with no PCI slots, PCI-Express to Serial boards are available at \$20 or less.

- Combination PCI-Express boards with serial and parallel ports are available for \$25-\$35. Note that compatibility with software that manipulates individual bit or control lines is by no means certain.

- One area of scientific measurement of interest to hams is ambient electromagnetic noise measurement. The recent article, "Revision of the Methodology for Processing Radio Noise Measurements in the Medium-Wave Band" by Landa, et al. in IEEE Antennas and Propagation Magazine for Dec 2012 covers noise measurement below 2 MHz for radio service planning, antennas, processing techniques. The article also lists many references on noise measurement that may be of interest in their own right.

- Frank W3LPL notes that "Inexpensive RG-6 with a copper clad steel (CCS) center conductor is much more widely available than solid copper, especially with desirable options such as a tough polyethylene (PE) jacket and flooded construction. CCS looks like a reasonable choice except for very long cable runs on 160 and 80 meters. A copper clad center conductor may be a problem if a device (e.g. a preamp or relay) is remotely powered through the coaxial cable. When purchasing CCS RG-6, it's very important to immediately test its loss characteristics. It appears that some unscrupulous suppliers are selling fac-

tory rejected RG-6 or selling RG-6 from unreliable manufacturers. We should be careful to purchase from trusted suppliers, [for example] on ebay they will be suppliers with 100% positive feedback. It's easy to use an MFJ-259 [antenna analyzer] to quickly check cable loss, using its cable loss mode. [The test is] more accurate if you build or purchase a simple 50:75 ohm broadband matching transformer."

Frank measured the dc resistance of the solid copper and copper clad steel center conductors of RG-6 coax. "I also measured the quad-shield DC resistance and both cables measured the same.

- Solid copper: 0.6 ohms per 100 feet

- Copper clad steel: 1.9 ohms per 100 feet

- Quad shield: 0.3 ohms per 100 feet

"It appears that copper clad steel RG-6 is a good choice for remote powered preamps and relays except for very long cable runs."

Frank goes on to remind us, "When using a remotely powered device it's extremely important to prevent even the slightest moisture entry. RG-6 compression connectors are NOT waterproofed at the threaded end of the connector, additional waterproofing is absolutely essential. The Thomas & Betts NS500 Nut Seal costs only a few cents and it very effectively waterproofs the connector threads. The inside of the connector should be stuffed with STUF Di-Electric Filler to prevent moisture accumulation from condensation. The finished connection should first be wrapped with electrical tape, then a final layer of waterproofing should be applied."

- A recent *Instructables* project describes an 8-outlet relay box controlled by an Arduino microprocessor. This

could form the basis of all sorts of customizable shack automation projects. Another *Instructables* project would be particularly good for family members - it shows how to use simple electrical testers around the home. Knowing how to use a voltmeter to check whether a circuit is live could save a life!

- Here in the Midwest and other places, the dry winter months are the static months. While there are certainly commercial products to reduce static, Don AE5K reports, "I have always had very good luck with a mixture of Downy fabric softener and water [at about a] 1:10 ratio in a plastic spray bottle. A little goes a long way and it is cheap and smells nice."

- Larry N6NC added a couple of selectable antenna connections to his MN-2700 tuner by removing the direct-wire terminals and the insulating plate on which they were mounted. The internal connections ran directly to the antenna select switch. An aluminum plate with SO-239 connectors replaced the insulating plate and by carefully locating the SO-239s, the internal wiring could be reused without modification. This also makes it easy to return the tuner to its original configuration for resale. All tuners are slightly different but the same general process can be used to add selectable antennas on many tuners.

Technical Web Site of the Week -

The direction and strength of the Earth's magnetic field is important data for determining ionospheric stability. You can build your own magnetometer and hook it up to a computer for about \$100. As correspondent Dave K1WHS observes, "It sure is obvious when a magnetic storm occurs!" Dave uses one for predicting auroras and chasing DX contacts on 144 MHz. <<http://www.directivesystems.com/PDF/MAGTALK.PDF>>

More Technical Topics and Information

(ARRL Contest Update—Feb 13, 2013) Alan W2AEW has put three new videos on YouTube explaining some often hard-to-understand concepts about voltage and current in capacitors and inductors, series and parallel resonance,

and self-resonance. Tektronix has a new *How to Use An Oscilloscope* video including a free 60-page publication to go with the video. An 1970s military training film, *Introduction to RL Circuits* is also easy to understand - and has terrific

intro music, to boot. You just can't have enough good ways to teach technical topics! (Thanks, Don W7WLL)

- Alerted by Julius N2WN, this *Slashdot* article about the bladeRF SDR project caught my eye...or, rather, ear. I

hope my readers are catching up on what Software Defined Radio technology is all about because it's displacing analog receiver technology very, very quickly. <<http://tech.slash-dot.org/story/13/02/02/2156253/group-kickstarting-a-high-bandwidth-software-defined-radio-sdr-peripheral>>

- Amplifier builders and fixers take note - Harbach Electronics is dropping the Peter Dahl line of high-performance power transformers as of Feb 14th. While the product line may yet be picked up by another manufacturer, check with *Electronic Products Design* for plate and filament transformers built to the Dahl specifications. (Thanks, Ed KB5GT and Gary K4AVC)

- Shack On a Belt may be giving way to Shack In a Pocket! Remote station control, like everything else, is going portable in a big way. Rick K6VVA who operates via remote control from California and the U.S. Virgin Islands, found

this neat new app for the Android operating system. Dan YO3GGX is developing his software to run on tablets and smartphones, including an SDR mode. <<http://www.youtube.com/watch?v=b3LWF4xa6nE>>

Magazine Mailbag - here are some recent technical articles that piqued the interests of your editor. Individual issues of the print magazines may be available from the library or members of your club.

Circuit Cellar, Feb 2013 - *QR Coding for Engineers*, by Jeff Bachiochi, explains those "square bar codes"

Scientific American, Feb 2013 - *The Battery-Powered Bullet*, by Gregory Mone, discusses the challenge of high-speed EVs

Electronic Design, 10 Jan 2013 - *Wired Communications Hold Their Own and A Ubiquitous Wireless World Unfolds*, by Louis Frenzel W5LEF, good surveys of current wired and wireless

network technology

Popular Science, February 2013 - *Rewire Your File-Transfer Routine* shows how to make a crossover network cable

Nuts and Volts, February 2013 - *The Wide Range Pulse Generator* by Gailbreath and Peterson, a good addition to your test bench

Elektor, Jan-Feb 2013 - *Toroid Cutting* by Thijs Becker and *Aviation Band Antenna* by Gert Baars, an interesting way to make a J-pole

IEEE Spectrum, February 2013 - *Phreaking Out Ma Bell* by Phil Lapsley about the history of the "blue box"

Technical Web Site of the Week - Jim K9YC has just published this detailed article comparing several popular switchable band-pass filter sets. Look around on Jim's site for his tutorial on ferrites, as well! <<http://audiosystems-group.com/BandpassFilterSurvey.pdf>>

MARC Vital Statistics

Memberships Expiring in February

AA8EJ
KD8MQX

KD8OLC
W8NON

Memberships Expiring in March

AB8JF
N8WTQ
K6VWE

K8VB
KB8SOE
KD8HID

Memberships Expiring in April

KB8PGW
N8LBF

WB8FYR
WD8ODG

Current Active Club Membership 52

Birthdays Celebrated in February/March

KC8ITI 2/2
AA8EJ 2/3
W8JBD 2/4
K0ACP 2/7
KB8LQM 2/8
KD8EJK 2/14
W8NON 2/14

KB8MCI 2/15
KD8TCH 3/4
KB8VSU 3/9
NQ8T 3/15
KC8RTU 3/16
KC8RTW 3/17
K8VB 3/19

KC8FDM 3/26
WD8OEU 3/27
W8QN 3/31

Anniversaries Celebrated in February/March

KC8TQS and Julia 02/14
K8RRB and ??? 3/4
KC8ITI and KC8MUD 3/6
WD8BPT and Melody 3/13

Information is from data received 12/25/2012

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