



W8KEA



MARCA

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

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	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 — Thursday April 3, 2014, 6:00 PM  
Law Enforcement Center, 2727 Rodd St.  
Next CLUB Meeting — Thursday April 3, 2014, 7:30 PM  
Law Enforcement Center, 2727 Rodd St.  
Talk-in 147.000+

April 2014

Static Discharge

Kevin Martin, KD8QAM

We start off this month saying goodbye to a good friend Bill French, AB8JF (SK). He was very active in our club. Every time you ran into he was always carrying a big smile and had something nice to talk about. We will all miss his guidance and help with the club and anything else you could ask him.

Kevin KD8QAM

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



## MARC Minutes

Dorie French, N8WTQ

The meeting was called to order at 7:40 by KD8QAM with 26 members and guests present.

- The treasurer's report was given by W8QN.

- The EC/RO report was given by W8QN also. He reported a quiet month. The National Weather Service said it will be a cool spring. When it begins to thaw,

### MARC MEETINGS

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

### COMMUNICATIONS

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

### EXAMINATION SCHEDULE

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

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

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

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

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

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

### SUBMISSIONS FOR NEWSLETTER

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

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

If you prefer to download the MARC newsletter from our web site, or have trouble with delivery via USPS, contact 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 (cherryrediroc@sbcglobal.net)

we may have flooding. He also said Midland County donated some equipment to the club. At the ARES®/RACES meeting they discussed packet radio.

- Chris KB8UIH is looking for volunteers to help with the MS Walk to be held on April 26 from 10:30 to 1:30. It will start and end at Central Middle School. He is also looking for volunteers to help with the Great Lakes Bay Marathon on May 18. It will be from 6:30 a.m. to 3 p.m. He said you can volunteer for all or part of the day. For more information or to sign up, contact Chris.

- John W8QN will be asking for volunteers for the Dow Run held on May 17 from 7 to 11:30 a.m. He will have a sign-up sheet next meeting.

- The April meeting will be at the LEC at 7 p.m. for Skywarn® training. A short meeting will follow it.

- Dennis N8ERF reported the high school has all the cables and antennas up

and operating. Students have been contacting people all over the world. Three already have their licenses. They decided on the style antenna they want to make. They want to train so they can make a video of their club.

### Net Control:

Mar 13	John, W8QN
Mar 20	John, KD8HID
Mar 27	Chris, KB8UIH

- There was no presentation.

A motion to adjourn was made by Cindy KD8JQY and seconded by John WB8RCR.

Meeting adjourned at 8 p.m.

Respectfully submitted,

Dorie French

N8TQW

MARC Secretary

## My Two Cents

Pat Mullet, KC8RTW

I've been spending most of my time on the radio lately either playing in State QSO contests or working the ARRL Centennial W1AW portable stations. It's a lot of fun, but trying to fill in the squares on a 5 Band WAS list points out the difficulties in relying on a single wire antenna—it simply can't be all things for all occasions. I really need to get my vertical re-sited and a radial field installed.

Still, you can have fun with just one antenna. The other night I was trying to chase W1AW/8 in Ohio on 10 meters and caught the grey line to Italy. I had a nice, if short conversation with IZ0VXL, Fred, in Anzio. If you're a student of history, like me, you'll recognize the significance of the place name.

Electronic logging makes it easy to get near-instant gratification from our hobby. My log program talks with the *QRZ.com* callsign database. As soon as I typed Fred's call into my log, I had his name and location posted for me, and was able to call him by name. He had a similar set up, as he knew my name before I told him, as well. After the QSO, I uploaded the contact to both *Logbook of the World* and *eQSL*, and had the contact

confirmed the next morning on *eQSL*. It may not be quite the thrill of getting a physical QSL card in the mail, but it is often faster.

Another nice thing about e-logging is being able to correct logging errors, add broken contacts and the ability to reconstruct missing logs. When double-checking my *eQSL* inbox after talking to Fred, I found confirmation on an error on a callsign I had suspected I'd misheard. I also found a Welsh callsign I'd neglected to enter.

Changing gears, now that both Field Day and the Midland Swap are looming on the horizon, MARC's starting to get planning for both events underway, and I'd like to toss out a couple of suggestions. First, when John, WB8RCR and I attended the Michigan Section Staff meeting earlier this month, the subject of card checkers came up, especially the fact that most of them seem to be downstate and are getting to the point they don't travel much. Having a checker at the Hamfest could be a great draw, and while it might be difficult to get a DXCC checker, as a Special Service Club we have the ability to nominate a person to ARRL HQ for the position of Awards

Manager. If approved, the Awards Manager would be able to check cards for everything except DXCC. It would be good first step on the road to actually getting a DXCC checker appointment for the mid-Michigan area.

Secondly, last month's *QST* magazine had an interesting article concerning 3D printing. One of the big pushes in Ama-

teur Radio public relations lately has been to try to tap into the burgeoning "maker" movement. If anyone in the club has any "ins" with the maker crowd, I think arranging for a 3D printing demo at the Hamfest would be a terrific idea.

Well, that's about enough for this month. Hope to catch you on the air.

73, Pat, KC8RTW

## Michigan Ham Promoting Civilian Conservation Corps Special Event

(ARRLWeb—03/07/2014) Michigan radio amateur Dirk Esterline, KG8JK, is promoting participation in a Civilian Conservation Corps (CCC) Special Event this summer to honor the contributions of the Depression-era government-sponsored work program, and he hopes to make it an annual event. The CCC came into being in the spring of 1933, during the first term of President Franklin Roosevelt, as one of several economic relief programs during the Great Depression of the 1930s. CCC camps often were established in woodland areas, because the CCC was specifically tasked with environmental conservation.

"We want to honor the contribution that 'The Boys' of the Corps made to our coun-

try and to our natural environment," said Esterline. "As radio played a big part in how the camps communicated with each other, we would encourage you to activate the actual location of one of the camps." The special event will take place the weekend of August 9-10.

If an actual CCC site is not available, he pointed out, many state and local parks have buildings constructed by the CCC that would make suitable sites.

"Our goal is to make contacts between as many of the camps as possible and to contact as many Amateur Radio operators as possible," Esterline said. He encourages anyone interested in participating to contact him at [ccc@qsl.net](mailto:ccc@qsl.net).

## VP Database

With any luck, spring is here to stay, while I am a HUGE fan of old man winter, I think he may have overstayed his welcome this year! Still we have been graced with some good conditions of recent, talks of the second peak were absolutely spot on! Now if it would only stay awhile. I was able to do some W1AW/'s following the traveling QSO party, in addition to the five I had in February, I've also added Delaware, New York, Oklahoma, Minnesota, Texas, Georgia, California, Wisconsin, Florida, Michigan, Kansas, Washington, Idaho, Kentucky, Ohio, and Arizona. So far, I've only missed Hawaii, and I've got to wait till December to get an

## Art Peters, KOACP

other crack at them... May I suggest that you try this if you get a chance?

From a program perspective, in April, John Wolters, W8QN, will be arranging weather spotter training from NOAA, and I suggest that everyone make an effort to attend. Coming up in May and June, we will be turning our sights to preparing for our Field Day outing. Pat, KC8RTW is on the docket in August with a presentation on Computer Logging & Rig integration. We still have a couple of openings for July and September for anyone wishing to step up.

See you all in May, till then, 73 de KOACP

## MHS ARC Report

The Midland High School Amateur Radio Club has another fun filled month. With the completion of the VHF/UHF Antenna cable installation, complete a few of the students have taken on the task of mapping out how many repeaters we

can work and plotting it on a map of Michigan. It will be interesting to see what our range is. Several of the students continue to make HF contacts. With 10 meters and 15 meters being open late in the evening, it has been quite an adven-

### Upcoming Events

4/20	Mi QSO Party
4/27	MS Walk
5/18	Dow Run
5/19	GLB Marathon
6/7-8	Museum Ship Weekend
6/22-23	Field Day
7/11-14	Lupton

### Michigan Hamfests

4/20	Milford
5/4	Cadillac
6/1	Hudsonville
6/2	Chelsea
6/8	Newberry
6/15	Midland*
6/16	Monroe
7/27	Lansing
8/3	Escanaba
9/7	Wyoming
9/15	Adrian
9/21	Utica

\* Denotes date based on 2013 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.

ture. One student, who goes by Bilbo, made his first HF contact on 10 meters. It was Japan. I asked him, rhetorically, "Do you know how many years it took me to work Japan!?" We now have over 50 contacts in the log!

We have finalized the design of our first QSL card. Our thanks go to Pat, KC8RTW, for his creative artwork, turning the student design into a beautiful QSL card. Pat is currently working on a second design for us as well! We will soon have some cards printed up and sent out to our contacts.

The Theramin construction project is nearing completion. Devin and Marie have built a very nice case to house the electronics. The students are very anxious to get the unit working. At the last meeting we stayed 45 minutes past the normal meeting time in order to complete the final wiring. I had warned them that construction projects as complex as this rarely work the first time you fire them up. And sure enough, it didn't work on first try. The good news is that none of the smoke escaped! I could tell they were disappointed but hopefully not disheartened. After a quick look at the manual, I spotted one major problem, but decided not to tell them. This coming week we will start the process of trouble shooting. This will be a great learning opportunity for them. Early on in the program, we had told the students that this is the only school activity where mistakes are encouraged and celebrated, because we often learn more from doing something wrong than if we do something right! Let the learning continue.

The big activity for the month was a field trip to MCTV (Midland Community TV), which was arranged by Dennis Caney, WD8BPT. Our host at MCTV was Billy Bethune. The kids learned about the history and purpose of



MCTV. They learned about the equipment that is being used, about editing the raw footage, about lighting, the control booth and about running cameras. Then the fun began. Billy had prepared a show for the kids to film, called *What's on Your Mind*. Three of the kids were assigned to the three studio cameras, one student was a moderator and one student was a guest. Three other students were assigned roles in the studio control booth. Then they ran the show twice, switching roles and positions for the second run of the program, which was an interview format. The experience was a hoot. We could not stop laughing in the control booth. Denny was able to get us copies of the recording and we played it at the next meeting. It was still very funny. After talking about the experience the kids decided they wanted to become trained operators so they can make a video about the amateur radio club! Zach will be leading that effort.

With the hope of warmer weather we are turning our attention to fox hunting. We have kits on hand to make 5

tape measure antennas and 5 Handi-Finder direction finding units. We also have two automatic fox units on hand, one of them is a MicroFox from Byonics and the other is based on an Arduino that drives an HT, the code for which came from Mark, KC8GRQ. I think this is going to become another fun activity for the group.

Finally, we would like to welcome Art Peters, K0ACP, to our team. Art has decided to join us on Wednesday evenings to help us mentor the students. Art will be involved in all aspects of the club but will have primary responsibility for developing a contesting experience. Art had been involved in a similar program that he had initiated in his former life in Iowa. It is great to have him on board.

Best Regards,  
Dennis, N8ERF, Chair, MHS  
ARC Advisory Board.

On behalf of the Advisory Board:  
W8QN, KC8ITI, WD8BPT and  
KD8ULJ

## Skywarn® Class to be Held April 3

Mid-Michigan residents are still coping with record cold temperatures, bitter cold and more snow than they've had to deal with in decades, but spring is

just around the corner.

We hope.

Unfortunately, the warm breezes and rising temperatures bring their own

dangers, and Mid-Michigan isn't immune to severe thunderstorms and tornadoes. To help those in and around the Midland County area learn to cope with

# It's Not Your Grandfather's Amateur Radio!

the wild weather and learn the conditions that can generate it, the National Weather Service will be conducting Storm Spotter Training April 3<sup>rd</sup>, at 7:00pm at the Midland Law Enforcement Center, 2727 Rodd St. There will be no charge for the

class which will run approximately two hours, and is jointly sponsored by the Midland County Office of Emergency Management and the Midland Amateur Radio Club. Though meant to train Skywarn® volunteers for Midland County

and the surrounding area, the class is open to anyone. Preregistration is not required.

For more information, contact John Wolters at 832-9122.

## Field Day is June 28-29, 2014



It's never too early to think about Field Day. The 2014 Field Day packet is available for download at ARRL.org, and shirts caps and pins featuring the 2014 Field Day logo may be pre-ordered from the ARRL Store.

ARRL Field Day is the most popular on-the-air event. It takes place each year in the US and Canada on the fourth weekend in June, when thousands of radio amateurs gather with their clubs, in

groups, with friends, or by themselves to operate "in the field" to simulate an emergency communication situation.

In 2013, the ARRL received more than 2500 Field Day entries, representing participation by more than 36,000 radio amateurs who completed in excess of 1.2 million individual contacts on CW, phone, and digital modes.

## Michigan Section News March 2014

Greetings to the Hams of Michigan:

Here we are again in the middle of March and we are still waiting for warmer weather. We have seen a couple of hints that more moderate temps and even a little bit of grass showing here and there might indicate that spring may be coming, but it appears that winter is not yet done with us.

In anticipation of what promises to be an unusual spring with the tremendous amount of ice cover on the great lakes, our thoughts need to turn to the convective weather season. Now is the time to get your spotter training refreshed and to check your jump kits for fresh batteries and to make sure all is in order for what may be a tumultuous season. One weather extreme seems to foster another extreme and it is our job to be prepared.

### PRB-1 Update

All is currently quiet on the PRB-1 front as we are waiting on Michigan Senator Nofs office to set up a meeting between the various factions that will be working with us to find a reasonable

compromise solution to the issue of PRB-1. Please watch for more information as soon as it develops.

### Digital Presentation Team

As a reminder, we now have a team of Michigan hams who have worked together to provide information and instruction concerning digital HF soundcard mode operation. This group has prepared a common presentation and has volunteered to be available for presentations at club meetings, hamfests or other gatherings where hams have an interest in learning how to get on the air via HF digital.

HF Digital is rapidly becoming the de facto standard for EmComm record communications and we need to be capable of providing it.

The booking for meetings and workshops has already begun and as dates, places and times firm up, they will be published here. Feel free to contact one of the team members closest to you to discuss setting up a presentation for your group.

The team members are: John Clem-

ents, KC9ON Gaylord, MI [kc9on@arrl.net](mailto:kc9on@arrl.net); Stephen Smith, WA8LMF, Haslett, MI [wa8lmf@aol.com](mailto:wa8lmf@aol.com); Joe Miller, KJ8O, Troy, MI [kj8o@arrl.net](mailto:kj8o@arrl.net); Brian Johnston, W8TFI, Warren, MI [w8tfi@arrl.net](mailto:w8tfi@arrl.net); John Mathieson, AC8JW, Kalamazoo, MI [ac8jw@arrl.net](mailto:ac8jw@arrl.net).

Please understand that these gentlemen are volunteers who operate on their personal funds for travel. There is a chance that their availability may not mesh with your needs. Our team will do their best to provide your group with quality information on a reasonable schedule.

### ARRL Centennial QSO Party

Michigan recently completed the first leg of our on the air activity as W1AW/8 with a resounding QSO total of 27,138! Not the largest total so far, but far from the least.

The hams of Michigan, true to our traditions, rose to the occasion and did very well to represent our section. Special appreciation goes to Randy, AA8R who coordinated the event and thanks to the nearly 50 operators who made it hap-

# Explore the World with Amateur Radio!

pen.

This fall the K8CC group will be at the helm, working out of their excellent contest station in Ypsilanti.

Complete information concerning the ARRL Centennial Celebration is available on the ARRL website at [www.arrl.org](http://www.arrl.org).

### **ARRL National Centennial Convention**

The 2014 ARRL National Convention will be held in Hartford, CT, the home of the ARRL on July 17 – 19, 2014. Tell your boss that you need that week off work and make your plans now! Hotels are taking reservations now and they will be going fast.

Complete information is available on the ARRL website.

### **Michigan QSO Party**

The annual Michigan QSO Party is scheduled for April 19, 2014 and runs from noon to midnight local time. Clubs and individual hams alike, make your plans now to get on the air and enjoy this great event.

Work as much or as little as you like, but get on the air! Don't forget to send in your contest log, no matter how many or how few contacts are made. This is a great activity to use as a stepping stone to some of the bigger contests and will certainly whet your contest appetite. For more information, here is a link to the rules for the 2014 event: <http://www.miqp.org/Rules.htm>.

### **Note to Hamfest Coordinators and Committees:**

Making arrangements for a QSL Card Checker to attend your swap makes attendance more valuable to your attendees. Michigan has 5 certified card

checkers (80 meters and up) who may be able to attend your swap to provide that service for the hams of your area. You can obtain a list of MI card checkers here: <http://www.arrl.org/dxcc-card-checker-search>.

Contact the one closest to your swap and see if they are willing and available. Be sure to let me know when you have a checker scheduled so that I can help publicize it for you. This column is published on or about the 15<sup>th</sup> of each month, so be sure to give me time in which to work.

The Kalamazoo Hamfest (October, 2014) has already made arrangements for a card checker to be present at their swap. Thanks, folks!

73 until next month,  
Larry Camp, WB8R  
ARRL Michigan Section Manager  
[wb8r@arrl.org](mailto:wb8r@arrl.org)

## **Technical Topics and Information**

(ARRL Contest Update for February 26, 2014) Safety was a topic of discussion on the [Amps reflector](#) recently, leading to some good advice from Jim W8ZR. "Be sure to wear safety glasses if you are working on an RF deck and the HV fuse is visible and uncovered. If it blows, tiny pieces of glass fly everywhere. It's probably a good idea to slip a loose-fitting piece of fiberglass spaghetti over the fuse to catch the pieces." Vic K2VCO recounted some personal "adventures" and suggested this simple rule for working around high voltages: "Clean up, put the tools away, make sure you have plenty of space and time to work — first. And do it in the morning!"

• In the endless quest for flat surfaces onto which stuff may be put, *Instructables* contributed this useful and sturdy [shelving design](#) that uses industri-

al pipe and fittings.

• Tim K3HX found a website called [Tubebooks](#) with links to lots of books on vacuum tube technology. Solid-state may be coming on strong but there are a lot of tubes still generating lots of watts on the ham bands!

• Recent tips on putting in and pulling out ground rods sure got everyone's attention! Glenn WØGJ asks, "Ever drive a wobbling ground rod with a sledge hammer? (I) miss about 80% of the time!" Your editor couldn't agree more. Even though I prefer to use a fence post driver to get the rod started (talk about good exercise!) the hammer has to be used for the final foot or so. And the tired-er I get, the more likely this is to produce a Looney Tunes-like "boooIIN-NNGGGGgggzzzzwobbidawobbida-wobbida..." Glenn has just the ticket for

keeping that rod steady - a [simple steadying jig](#). At least that way, you'll know it's you missing and not the rod moving!

• Frank KRIZAN found this interesting [Macworld article](#) on tools for computer repair. He found the magnetizer-demagnetizer and variable temperature heat gun of particular interest but the article mentions enough different tools that there is something for every shop.

**Technical Web Site of the Week** - Ground radials are plenty important and there is a lot of literature on them but it's sprinkled all over the web, it seems. Ross KB8NTY has done us all a big favor by collecting links to them in a single place - his own [website](#). Thanks, Ross!

## **More Technical Topics and Information**

(ARRL Contest Update for March 12, 2014) Dave K1TTT has released the 30<sup>th</sup> anniversary edition of his 700-page+ [book](#) on building a superstation, including lots of pictures of towers and antennas as well as other stuff. The e-book

version is free, but you have to pay for printing and shipping for the paperback version.

• Jay WXØB has published an [app note](#) on the *Array Solutions* website that shows how to tune up a 160 meter ver-

tical that carries lots of AM broadcast RF on the antenna.

• Cleaning off the outside of aluminum antenna elements usually just requires a non-scratch abrasive pad and some elbow grease. But what about the

inside of the tubing? You know - where the serious gunk resides? This *Instructables* project shows how to make a [spindle](#) that can hold sandpaper in a drill to do the job in a trice! And another that keeps those many screwdriver bits handy in a "[Bit Ball](#)."

- If flat surfaces are in short supply at your house, another *Instructables* project just for you is this [Electronics Lab in a Box](#) and a "[flip-board](#)" tool storage idea. As long as you're on the *Instructable* website, why not contribute your own how-to and show the ham radio flag a little bit? After all, *Hints and Kinks* have been part of ham radio for a long time!

- The tiny surface-mount parts have even tinier markings. What value are they? Color codes won't help you out here but assuming you can use a magnifier to read the code, this [online calculator](#) will translate that into a component value for you. (Thanks, Dan NB1C)

- Dave N6AN does the component calculator one better with this simple rule for capacitors: "pF is the sound capacitors make when they burn up. uF is the sound made by whoever has to replace them and mF if there are many of them." Aren't you glad to know this?

- If you are amazed at the price-performance ratio of oscilloscopes these days, you're not alone! For those of you considering a new 'scope, *Circuit Cellar* offers this [four-part article](#) on *Evaluating Oscilloscopes*. While you're there, check out Steve Lubbers' "piling system" in his [Design Dungeon](#). I'm sure it will look familiar to many readers!

- Here's an interesting new part - this [Mini-Circuits low-noise amplifier](#) (LNA) is specified for use from 500 MHz to 5 GHz, with 21.5 dB gain and a noise figure around 1.3 dB. That sounds like a good ham project just waiting for a designer!

- Lots of action in the WiFi world

lately - you may have heard of new high-speed extensions to the existing high-speed version, 802.11n. This *Microwaves and RF* [article](#) spells out the details about the coming 6 Gbps and 60 Gbps protocols.

- Mike VE3GFN reports that Kenwood has posted a firmware update for the TS590S transceiver. This corrects several bugs associated with using SPLIT, whereby the VFO B setting might not be the actual frequency upon which you are transmitting! Oops. There are lots of details about the popular transceiver on G3NRW's "[Kenwood TS590 Resource Page](#)."

**Technical Web Site of the Week** - [Wireless charging](#) sounds like another potential source of QRM. You can keep track of this technology by referring the [Qi Inductive Power Standard](#). The operating frequency is stated to be below 200 kHz, by the way.

MARC Vital Statistics		
Memberships Expiring in March		
N8WTQ K6VWE K8VB		
Memberships Expiring in April		
KB8UIH		
Memberships Expiring in May		
KB8SOE	KD8UCW	WD8ODG
KC8MUD	N8LBF	
KD8HID	WB8FYR	
Current Active Club Membership 36		
Birthdays Celebrated in March/April		
KC8RTW 3/17		KC8IHB 4/19
KD8QXL 3/18		KD8OLC 4/20
K8VB 3/19		WA8LQD 4/27
W8QN 3/31		KA8Ezt 4/28
KC8TQS 4/9		N8JBW 4/30
KB8TBI 4/14		
Anniversaries Celebrated in March/April		
KC8ITI and KC8MUD 3/6 WD8BPT and Melody 3/13		
Information is from data received 3/6/2014		
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