



# The Wave Bender

December 2012



## PRESIDENT'S QST



Well here it is the end of our third year and we are 57 members. Who would have thought we could have been this successful? All I can say is that we are doing something right.

I really have to say that it would never have happened without all the help from the members. This is your club and only you can make it succeed or to fail.

Next year will be my last year as President. We all need to think about who can keep the club moving forward. This is the year that the whole board except for two trustees is up for election. What office are you willing to take? If anyone wants to know what a position entails, see me.

January is our Winter Party instead of the regular meeting. Let Maureen know if *Continued page 3*

## COUNTER . . . WHAT?

During the course of our lives we hear about a lot of "counters"...counter top, counter weight, counter point (for those debaters in our midst), counterclockwise, and on it goes. When we arrive in the world of Amateur Radio there is one more "counter" that appears on the scene...this is counterpoise. In recent conversations with some of our newer colleagues this word seems cloaked in mystery. In short, what in the world is a counterpoise? The following is an Elmer-in-training's attempt to make it more easily understood.

The simplest definition I have found for the term counterpoise is: "a conductor or system of conductors used as an earth or ground substitute in antenna systems". You may also have heard the term described as: The "missing" part of the antenna. Although engineering purists cringe at this fact, the terms radials and counterpoise have been morphed to mean the same thing...the RF ground.

Let's address one fact to begin. Every antenna radiator (element that radiates the RF signal) needs a complementary RF ground to operate efficiently. The engineering discussions about how to "do" this are numerous and quite good for curing insomnia.

Regardless of how we now refer to it the need for this added RF ground component is generally confined to vertical antennas and takes two forms. One is a buried set of radials (wires); the other is a raised (as in above ground) set of conductors (this is the original definition of counterpoise). A very visible example of a true counterpoise is the wire "square" at the bottom of a GAP Titan DX antenna. Why is that? A center-fed dipole has the RF ground present in the leg of the antenna tied to the shield of the coaxial cable feed line. The same is true for the radiator of a beam antenna. The vertical antenna has no such "default" RF ground leg.

There are a number of configurations that can be considered for the radial / counterpoise system. How you choose to develop and install *Continued page 7*



**Officer's Meeting:** December 16, 7:00 P.M.  
At the Avnet's (330-549-3051)  
**Regular Meeting:** Dec. 18, 7:00 P.M. Davidson's,  
3636 Canfield Rd. in Cornersburgh

**Speaker:** Steve Fabry KC8SOY

**Topic:** Killowatt Unit

### 2012 Officers:

**President:** Al Avnet, AB8AA ab8aa@arrl.net  
**VP:** Robert Webster, KD8OXJ rwebster@mail.com  
**Secretary:** Jane Avnet, K8JAA k8jaa@arrl.net  
**Treasurer:** Maureen Stein, KD8NXS mfstein@zoominternet.net  
**Trustees:** Steve Fabry, KC8SOY kc8soy@yahoo.com  
Ted Filmer, KD8IJE efilmer@aol.com  
Roy Haren, KD8IJF harens@juno.com  
**Social:** Maureen Stein, KD8NXS mfstein@zoominternet.net  
**Publicity:** Robert Webster, KD8OXJ rwebster@mail.com  
**Badges::** John Fabry, KC8SPF jonnyjukebox@sbcglobal.net

<http://www.wrarc.net/>



## 2013 Dues are Due!

## DENNIS'S GREAT IDEA!

FROM WES - VIA EMAIL



At the November Meeting Dennis asked for a couple minutes to talk to us about a very important subject. He challenged us to close our eyes for 30-seconds “. . . Don't worry, I'm not going to sneak over and sample some of your food, or put arsenic in your drinks. I'm going to conduct a little exper-

iment. Don't fall asleep while your eyes are closed, like I've seen some people do.” After thirty seconds, he asked us to open our eyes and asked, “. . . what were you able to see? NOTHING! This is the world of Mike Austin, 24/7/365.

“A year ago this month, WRARC started a fund to purchase a special radio for the visually impaired, to make Mike able to join in the fun that every Ham with a General class Licence or better is able to enjoy. We needed to raise \$3000 to purchase this radio, coax, antenna, and whatever else is needed to get Mike on the air with his General License.

“Divide \$3000 by 12 works out to \$250 a month. In April 2012 when I joined, there was \$929.57 in the fund. In May, \$1074.23. No change in June. July it was up to \$1500.28. August, September, and October it remained at \$1500.28. As of this month, November sits at \$1556.71. If this amount is broken down, it comes to \$129.73 a month. How many of you spend this and more a month on your favorite Hobby?

“In June, on Field Day, we made Mike our first honorary member. I got the privilege of meeting Mike when he sat down with Robert and me, to get the feel of Amateur Radio. Everyone at Field Day had the opportunity to work with him, and I think he is a neat guy with a disability he's had to live with his entire life. This is not our fault, but we can help to make it a little better world for him, if we just dig a little deeper to make that fund grow to what is needed.

“I would love to be the one to take this radio to him, and say 'Merry Christmas, Mike, here is your new radio.' I'm going to put my money where my mouth is and add my \$100 check to the fund tonight. Now all we need is another \$1343.29 to make this possible. If 27 people will donate \$50 each, we will the goal we set. You do the math, wouldn't you like to see Mike have a Merry Christmas this year? The rest is up to all of you!”

**Our January Meeting will be at Al a Cart Catering. This is s our Annual meeting and installation of our new officer. We hope you all plan to join us. Guests Welcome!**

Communication is so important during emergencies. That is why the list of priorities the FCC and the FEMA have devised looks just a bit odd to broadcasters. The emphasis seems to be dealing with loss of cell service. And the last place to get information? Check out here

<http://www.fcc.gov/encyclopedia/consumer-tips-how-communicate-during-natural-disaster-emergency/>. At least they got radio in there!

### FCC/FEMA Tips for Communicating During an Emergency

1. Limit non-emergency phone calls. This will minimize network congestion, free up "space" on the network for emergency communications and conserve battery power if you are using a wireless phone;
2. Keep all phone calls brief. If you need to use a phone, try to use it only to convey vital information to emergency personnel and/or family;
3. For non-emergency calls, try text messaging, also known as short messaging service (SMS) when using your wireless phone. In many cases text messages will go through when your call may not. It will also help free up more "space" for emergency communications on the telephone network;
4. If possible, try a variety of communications services if you are unsuccessful in getting through with one. For example, if you are unsuccessful in getting through on your wireless phone, try a messaging capability like text messaging or email. Alternatively, try a landline phone if one is available. This will help spread the communications demand over multiple networks and should reduce overall congestion;
5. Wait 10 seconds before redialing a call. On many wireless handsets, to re-dial a number, you simply push "send" after you've ended a call to redial the previous number. If you do this too quickly, the data from the handset to the cell sites do not have enough time to clear before you've resent the same data. This contributes to a clogged network;
6. If in your vehicle, try to place calls while your vehicle is stationary;
7. If you have Call Forwarding on your home number, forward your home number to your wireless number, particularly in the event of an evacuation. That way you will get incoming calls from your landline phone;
8. If you do not have electric power in your home, consider using your car to charge cell phones or listen to news alerts on the car radio. But be careful – don't try to reach your car if it is not safe to do so, and remain vigilant about carbon monoxide emissions from your car if it is a closed space, such as a garage;
9. Tune-in to broadcast and radio news for important news alerts.

**ALMOST TO ANOTHER MILESTONE!**

A big thank you goes out to everyone who has donated to the Mike Austin fund from the beginning last year to the present. We had a wonderful outpouring of generosity at the November general meeting. A total of \$272.00 was raised that evening for Mike. What a nice "shot in the arm" it was! Thanks to all who donated and to Dennis KD8SNA for reminding us all about what Mike's world is like on a daily basis. We are now just under the \$2,000 mark which will be 2/3 of the way to the goal when we reach it. I am sure that it will be very soon.

Once again, the holidays are a wonderful time to think of Mike and to "gift" him one more time. It's also a good time to spread the word to other hams we know as well as anyone else, person or business, who might be able to help. Donations to the fund can be made directly at any Farmers National Bank branch. All one need do is to instruct the teller that the money goes to the Western Reserve Amateur Radio Club's Michael Austin Savings account. Deposits can be made either by checks or cash. Donations can also be given to me and I can make the deposit at the bank. As always, we are happy to hear any suggestions for fund-raising activities. Again, thanks to all and I know that Mike is very appreciative as well. Happy holiday season to everyone.

*Maureen KD8NXS*

**PRE'S QST - CONTINUED FROM PAGE 1**

you are coming.

If anyone has pictures from our meetings or events please get them to me. The workshops will start in January. More information coming in the January Newsletter.

If you have any questions for our Elmer's and do not want anyone to know who you are, all you have to do is send an e-mail to: ask@wrarc.net your e-mail address will not be forwarded.

"The important thing is to never stop learning something new"

*73, AB8AA*

**Amateur Radio is a Hobby, Emergency Communications is a Commitment!**

**<http://www.wrarc.net/>**

**CONTACT WRARC ELMERS WITH YOUR QUESTIONS - [ASK@WRARC.NET](mailto:ASK@WRARC.NET)**



Avnet, Allan AB8AA	Antennas, radio setup, mobile, grounding, classes, anything	ab8aa@arrl.net
Beatty, Dave KC8WY	anything	kc8wy@zoominternet.net
Fabry, Steve KC8SOY	Yaesu FT8900, FT8800, Mobile	kc8soy@yahoo.com
Haren, Roy KD8IJF	???	harens@juno.com
Webster, Robert KD8OXJ	erecting antennas	rswebster@mail.com
Williams, Russ KD8LDY	Electrician, tele-data, Amateur Extra	russellwhoknew69@aol.com

**WRARC Communications Team Net  
Friday Nites 8:00P.M.  
145.270, PL -110.9  
Net Control will be rotated**

**Join us for the WRARC  
Friday night Net 9:00 P.M.  
145.270, PL -110.9**

**This is our weekly net, with  
all interested members  
taking a turn at Net Control  
Contact Steve, KC8SOY  
to take a turn 330-774-6346**

**Upcoming Net Control Operators**

**Dec. 7 Darrin N8DMC  
Dec.14 Robert KC8OXJ  
Dec.21 Jane K8JAA  
Dec.28 OPEN**

**2013  
Jan. 4 AI AB8AA  
Jan.11 Russ NR8W  
Jan.18 Roy KD8IJF  
Jan.25 Joe KD8RCC**



**Ask The Elmer Net  
Right after the Friday Night Net  
KC8SOY Moderator**

**W8SGT is facilitating an HF net  
every Tuesday - 1800 (6:00 PM)  
The net is run from the  
State of Ohio EOC on the  
Ohio ARES Admin  
frequency 3875 KHz LSB.  
All are welcome to check in!**

**COLUMBIANA COUNTY DIGITAL NET  
Wednesdays 8:30 pm - 9:30 pm  
145.510 MHZ SIMPLEX**

**NBEMS/FLDIGI is being used with training on  
the message handling capabilities of  
FLDIGI/FLMSG. Start with BPSK-125 and other  
modes may be used for testing**

**First Wednesday of the Month  
RACES/Skywarn Training Net  
is held on the W8QLY repeater  
146.745 (-) at 8:30P.M.**

**SPOT THE STATION**



Did you know you can see the International Space Station from your house? As the third brightest object in the sky, after the sun and moon, the space station is easy to see if you know where and when to look for it.

NASA's Spot the Station service sends you an email or text message a few hours before the space station passes over your house. The space station looks like a fast-moving plane in the sky, though one with people living and working aboard it more than 200 miles above the ground. It is best viewed on clear nights. For more information on the International Space Station and its mission, visit the space station mission pages.

Spot the Station is available worldwide to anyone with an email account or SMS-enabled phone. Several times a week, Mission Control at NASA's Johnson Space Center in Houston, TX, determines sighting opportunities for 4,600 locations worldwide. If your specific city or town isn't listed, pick one that is fairly close to you. The space station is visible for a long distance around each of the listed locations.

This service will only notify you of "good" sighting opportunities - that is, sightings that are high enough in the sky (40 degrees or more) and last long enough to give you the best view of the orbiting laboratory. This will be anywhere from once or twice a week to once or twice a month, depending on the space station's orbit. Don't worry if there are big gaps in between sightings! A complete list of all possible space station sightings is available from Johnson Space Center.

**From: NASA**

=====  
Goto: <http://spotthestation.nasa.gov/index.cfm>

**KB8UUZ <kb8uuz@gmail.com>**  
**Editor of the Radiogram**  
**PCARS newsletter**  
**via email**

**Longevity Calculator**

Very accurate. Answer the Questions Honestly! Watch your age in the upper right corner!

Kinda fun to watch your age as it goes up and down as you answer the questions. How long will you live? This is a calculator that estimates your life expectancy. It was developed by Northwestern Mutual Life.

It's interesting that there are only 13 questions. Yet, they can predict how long you're likely to live. <http://media.nmfn.com/tnetwork/lifespan>

**Via Email -**

**AFTER THE HOLIDAYS ANNUAL BANQUET/MEETING**

Our party is scheduled for Sunday, Jan. 13, 2013, at 3:00 P.M.. at A La Cart Catering in Canfield. It is not too late to sign up to attend. You can always call me at 330-757-4963 to be added to the list. If you should get the voice mail, you can leave a message on it. I will get it. Please leave your name, call sign, number in your party, and a phone number where I can reach you if I need to. The cost is \$16.00 per person and all payments must be into me prior to Jan. 6, the date that I need to give the final number to A La Cart. Payments can be given to me at the December general meeting or mailed to me at:

Maureen Stein  
3088 Southwind Trail  
Poland, Ohio 44514

Cash payments or checks are just fine. If paying by check, please make it out to Western Reserve Amateur Radio Club.

This is always a fun get-together and it is for the whole family and/or any guests you would like to have in your group. It is not just an event for the club members in our households. I hope to see you all there. Happy Holidays.

**Maureen KD8NXS**

**COMMUNICATION UNIT NEWS**

The Communications Unit has been doing net control training. We will continue to have a net every Friday evening at 8:00 PM on 145.270, Liz's repeater. Our nets will have some limited training.

Anyone that wants to join the Unit please contact me. We will start our first monthly meeting in January. They will be held in the morning for about 2+ hours. The first one will be about digital with FLDIGI. If you have a laptop please bring it. If not bring a thumb drive so you can download the software.

Pictures from the Ohio Ares State Emergency Communications Conference held November third in Reynoldsburg, Oh.  
[http://arrl-ohio.org/SEC/AOC-Nov\\_2012/index.php](http://arrl-ohio.org/SEC/AOC-Nov_2012/index.php)  
Check out the neat go-kits, and you might see a friend or two.



**Some Interesting Sites:**

**Ham Radio Now <http://arvideonews.com/hrn/>**

**A new DIY-Hacker-Ham Website**

**Diane Bruce, VA3DB, happily reports "We are up and running."**

**<http://hamradio-builder.hamhacker.org/>**

**PUBLIC SERVICE: THE 14TH ANNUAL SKYWARN  
RECOGNITION DAY SET FOR DECEMBER 1**

The 14th Annual SKYWARN Recognition Day (SRD) Special Event took place Saturday, December 1, 2012. SRD is co-sponsored by the ARRL and the National Weather Service (NWS) as a way to recognize the commitment made by Amateur Radio operators in helping to keep their communities safe. According to SRD Coordinator David Floyd, N5DBZ, Amateur Radio operators can visit their local participating NWS office, working as a team to contact other hams across the world throughout the 24-hour event on 80, 40, 20, 15, 10, 6 and 2 meters, as well as 70 centimeters.

**LOGBOOK OF THE WORLD IS FIXED!**



ARRL's Logbook of The World: Bug Fix Is in Place  
ARRL Chief Executive Officer David Sumner, K1ZZ, reports on a bug fix for Logbook of The World.

The fix for the Logbook of The World (LoTW) bug was implemented at 2103 UTC on November 28. Full credit goes to ARRL Information Technology Manager Michael Keane, K1MK, for figuring out what was happening and how to correct it.

There are two ways of uploading logs: via the LoTW website and by e-mail. LoTW users should note that e-mailed logs were not affected by the bug, so no e-mailed logs will need to be resubmitted.

At the time the fix was implemented, LoTW processing was running almost exactly three days behind. If a user's most recent upload was made before 2100 UTC on November 25 and it has not yet been processed the file should be resubmitted. There should be no need to resubmit logs uploaded since 2100 UTC on November 25, which would include all CQWW CW DX Contest logs submitted after the end of the contest.

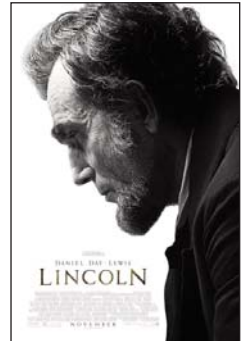
There is, however, a very slight chance that logs uploaded after this date might have been overwritten. If you find that your logs that were uploaded after November 25 are not appearing in your LoTW account, please wait until after December 3 to upload them again.

Thanks to everyone who has been patient while we grappled with this bug. The issue of slow processing speed is also being addressed, but it requires a hardware upgrade that will take several weeks to implement. Your continued patience and understanding will be appreciated.

<http://www.wrarc.net/>

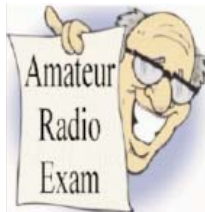
**HAM RADIO IN HOLLYWOOD: MORSE CODE PLAYS  
ROLE IN NEW SPIELBERG MOVIE**

Producer Steven Spielberg has used Amateur Radio or Morse code in three of his last four movies: Super 8 (2011), The Adventures of Tin Tin (2011) and Lincoln (2012). Members of the Morse Telegraph Club -- an association of retired railroad and commercial telegraphers, historians, radio amateurs and others with an interest in the history and traditions of telegraphy and the telegraph industry -- played an integral part in the production of Lincoln.



"Nine of the 16 telegraph stations depicted in the War Department were fully operational," explained Morse Telegraph Club International President James Wade, WB8SIW. "These instruments could be operated in any combination through the use of a specialized computer program and custom-built terminal units for the process. When necessary, a hand key could be inserted in the individual telegraph loops so messages could be improvised." Read more here -

<http://www.arrl.org/news/morse-code-plays-role-in-new-spielberg-movie>



**Testing for all license classes  
December 19 - 6:30PM  
ITT Tech  
1030 North Meridian Road,  
Youngstown  
Contact Al to reserve a spot  
330.549.3051 or  
ab8aa@arrl.net**

**NONSENSE FROM THE INTERNET**

**Did you know that a large group  
of baboons is called a congress?**



**That explains a lot now, doesn't it!**

## CONGRATULATIONS!

Congratulations to the ten graduates of our first EC001 class. All members of the class passed with flying colors.

Those in the class were: **Sam W8SDD, Harry KD8PQK, Dennis KD8SNA, Robert KD8OXJ, Dave KD8NZF, Nancy KD8QNY, Joe KD8RCC, Stan KB3WPD, Maureen KD8NXS and Kevin KD8NXR.**

Al AB8AA taught the class. Good job everyone. The test was held Saturday, November 10 with Jane K8JAA assisting.

## NEWS FROM MATT

Please join me in welcoming the new technicians to amateur radio. I encourage everyone to send a radiogram congratulating them and welcoming them.

KD8TLS - TECH  
KD8TLT - TECH  
KD8TLU - TECH  
KD8TLV - TECH  
KD8TLW - TECH  
KD8TLX - TECH



Congratulations to those who upgraded! I encourage you to participate in the Ohio HF Net Tuesday nights at 6PM on 3875 KHz. The net switches to 7240 KHz about 6:20PM.

Don't forget about the Ohio Single Side Band Net. Check out [www.ossbn.org](http://www.ossbn.org) for details. Also just a reminder about the Ohio ARES/OES HF Digital Net. Check out <http://www.ohiohfdiginet.com/> for details.

KD8TFH - GENERAL  
KD8RCZ - GENERAL  
N8FXU - GENERAL  
KC8EJS - AMATEUR EXTRA

Ladies and gentlemen, this show how important license exams are. New technicians are the lifeblood to our program. Therefore, we will continue to have license exams at the Great Lakes Emergency Communications Conference (GLECC) and the All Ohio ARES Conference (AOAC).

## MORE FROM MATT

In case you have not heard, the ARRL Field Instructor requirements have changed. Please review them at <http://www.arrl.org/requirements-for-field-instructors>.

The training page has recently been updated on the Ohio Section website. Please review at <http://www.arrl-ohio.org/SEC/training.html>.

An ARES blog has been created on the Ohio Section website as well. What's the blog for? Here are a few suggestions. Need help with a public serv-

ice event? You have an EC-001 class coming up? You have an ARES meeting or training coming up? Have a suggestion or comment? Just want to say hi from your county? Write it on the blog at <http://www.arrl-ohio.org/SEC/blog/index.php>.

The Ohio Section ARES Leadership Meeting is scheduled for 10AM on Saturday, March 16th at the State of Ohio Emergency Operations Center in Columbus. This meeting is for District Emergency Coordinators, Assistant District Emergency Coordinators, Emergency Coordinators, Assistant Emergency Coordinators, and Official Emergency Stations. Stay tuned for more details as they become available.

Training. Let's talk about the ARRL ARES Manual. This free online manual has seven chapters. This can be found at <http://www.arrl.org/ares-manual>. Please click on the link provided and review. I will be referring to this manual in the upcoming weeks for training. I will be starting with chapter 1 in next week's Ohio SEC Notes & Stuff.

Have a good weekend everyone.  
Matt

*Matthew Welch W8DEC*

*Ohio Section Emergency Coordinator*

*ARRL - The National Association for Amateur Radio™*

*w8dec@arrl.net*

## Preparedness Leads to Readiness

## FROM THE EDITOR'S DESK

My, what interesting things we find when we read our mail! I get newsletters from all over the Ohio Section plus a couple from out of state. We Hams write some very good stuff, present company . . . Well you know what I mean.

From the Q-fiver, (Susie N8CGM/ Ye Ed), Mick KD8IOQ said "You should probably mark your 2013 calendars for June 22-23 to see if we can do it again." (OH-KY-IN came in first place in Ohio in the 3A category this year. Congrats!) "But I keep forgetting that December 21st is the end of the world." reminding their readers to get ready for Field Day 2013. It's not too early to start thinking about that fun weekend, Steve and Roy are heading ours up again this year. They will be looking for help from all of us.

WCARC's newsletter, the Intermod, (Dick Bruno N6ISY/ editor), reprinted an article, this month, I wrote in 1997 about the Harbor Heritage Run in Newport Harbor. Public Service and EmComm were my reasons for becoming a Ham. The article read in part ". . . The 2K started at 8:00 A.M. and the 5K at 8:30. Participating in this year's 2K was the woman on crutches we were monitoring last year. A friend was with her throughout the race. She finished in an hour and five minutes. It was remarkable to watch her. Both races were finished before 9:30 A.M. . . ." Remembering this brave lady brings tears to my eyes. She was very *Continued page 7*

## EDITOR - CONTINUED FROM PAGE 6

disabled, couldn't walk without those crutches! This was one of the reasons we were out doing Public Service Events every weekend. It also taught us how to work on a closed net and function as a team.

The ARRL Reflector has had an interesting ongoing conversation on what makes a good Ham. Contesting? EmComm? Public Service? Teaching? Elmering? Repairing? There are so many ways to be a Ham.

December CQ wondered if we were becoming a Throw-Away Society (PG. 30) WA2NDM said in his article ". . . Keep in mind that when you attempt to repair something you run the risk of actually learning something. . . . Many times you also can actually improve the 'defective' item you are attempting to repair . . ." CQ also informed us, December 13, the day the Radio Act of 1912 took effect. (Pg13) Thank you to our 27th President William Howard Taft (R.OH).

From the Section Manager's (I finally cleaned up my) desk . . . I'll keep this sweet and simple. A Blessed Thanksgiving to You and Your Families! May the Holiday bring you joy, and some time in front of the rig working DX!!! 73! Frank Piper KI8GW ARRL Ohio Section Manager ki8gw@arrl.org Via Email.

The year 2012 is rapidly coming to an end. I thank the Lord for the good things that have happened to so many of you and your families, and to me and my family. At the same time, I pause to think of those of us who are no longer with us or who are suffering medical, financial and other forms of difficulty. With these thoughts in mind, I wish each of you a very Happy Hanukkah or Merry Christmas. - Jim Weaver, K8JE

The WRARC Board wants to wish each and everyone a joyous holiday season. No matter how you choose to celebrate, may you be surrounded by those who bring you happiness and comfort. 2012 was a great year for WRARC and 2013 shows even greater promise. We hope to see you at the December meeting and to hear you on the nets and the Repeater!



## COUNTER ? - CONTINUED FROM PAGE 1

the RF grounding system depends on the space you have available, whether the antenna is a single or multiband unit, and the characteristics of the soil itself. Al Christman (KL3C) performed research that showed four to eight elevated radials, of appropriate lengths, could deliver performance equivalent to 120 1/4 long wire radials. This is especially true for the "low" bands.

Here are a few references for additional discussions related to RF grounds:

- The ARRL Antenna Book, 21st Edition, Chapters 2 and 6 - L.B. Cebik (W4RNL), <http://www.antennex.com/shack/Dec06/cps.html>

- Charles Rauch (W8JI), [http://www.w8ji.com/counterpoise\\_systems.htm](http://www.w8ji.com/counterpoise_systems.htm)

-73- Robert (KD8OXJ)

Pictures:

<http://www.google.com/search?q=counterpoise&hl=en&tbo=u&tbm=isch&source=univ&sa=X&ei=O7W8UOfUNJTp0QG56YDwDw&sqi=2&ved=0CEYQsAQ&biw=1280&bih=896>

## FCC SEEKS COMMENTS ON PROPOSED RULES CHANGES

- 160M expansion and adding 135.7-137.8 kHz band involved - "FCC Seeks to Assign Entire Amateur Portion of 160 Meter Band to Primary Status to Amateur Radio Service, Proposes New LF Amateur Band at 135.7-137.8 kHz TAGS: 160 Meter Band, amateur, amateur operations, amateur radio service, amateur radio stations, amateur service, fixed service, frequency band, harmful interference, kHz band, maritime mobile service, nprm, Radio Service allocation, radiolocation service, secondary basis, spectrum 11/21/2012

"On Tuesday, November 20, the FCC released a Notice of Proposed Rulemaking (ET Docket No. 12-338) that proposes to amend Parts 1, 2, 74, 78, 87, 90 and 97 of the Commission's rules. Part 97 governs the Amateur Radio Service. These changes will implement allocation decisions from the 2007 World Radiocommunication Conference (WRC-07) that concern those portions of the radio frequency spectrum between 108 MHz and 20.2 GHz and make certain updates to the rules in this frequency range.

"Most of the NPRM does not concern the Amateur Radio Service, but the FCC is requesting comments on the three parts that do: changing the allocation to the amateur portion of the 160 meter band, allocating a new Amateur Service band at 135.7-137.8 kHz and cleaning up the rules for the 10.0-10.5 GHz band. Comments on these proposed rules changes will be accepted until 60 days after the NPRM is published in the Federal Register (this can take up to six weeks after release of the NPRM). Reply comments will be accepted until 90 days after publication in the Federal Register.



*Jim Weaver, K8JE  
Director, Great Lakes Division  
5065 Bethany Rd.  
Mason, OH 45040*

*Tel. 513-459-1661; e-mail K8JE@arrl.org  
ARRL: The reason Amateur Radio Is  
Members: The reason ARRL is*

# December 2012



**Happy Holidays and a Happy New Year!**

			<p>Articles from members for the Wave Bender are encouraged. They must be received by the editor three days before the end of the month. Please send your articles to: <a href="mailto:k8jaa@arrl.net">k8jaa@arrl.net</a>, and put WRARC on the subject line of your email. You may also send your articles to the editor at: Jane Avnet 2050 E. South Range Rd. New Springfield, OH 44443</p>		<p><b>WRARC Net 9:00PM 145.270</b></p>	<p><b>1</b>  Happy Birthday  KD8STJ  Happy Birthday  KC8PD</p>
<p><b>2</b></p>	<p><b>3</b></p>	<p><b>4</b></p>	<p><b>5</b> <b>RACES Net 8:30 P.M. 146.745</b></p>	<p><b>6</b></p>	<p><b>7</b> <b>WRARC Net 9:00PM 145.270</b></p>	<p><b>8</b> <b>Hanukkah Begins</b>    Happy Birthday  KD8WPD</p>
<p><b>9</b></p>	<p><b>10</b></p>	<p><b>11</b> <b>Eat'n Park Boardman 8:30 A.M. Ham Community Breakfast</b></p>	<p><b>12</b></p>	<p><b>13</b>  Happy Birthday  HAMS</p>	<p><b>14</b> <b>WRARC Net 9:00PM 145.270</b></p>	<p><b>15</b></p>
<p><b>16</b> <b>WRARC Board Meeting 7:00P.M</b></p>	<p><b>17</b></p>	<p><b>18</b> <b>WRARC Meeting 7:00P.M</b>  Happy Birthday  KB8QDZ</p>	<p><b>19</b>  Amateur Radio Exam  @ ITT Tech</p>	<p><b>20</b></p>	<p><b>21</b> <b>WRARC Net 9:00PM 145.270 6:12 AM Winter begins</b></p>	<p><b>22</b></p>
<p><b>23</b>  Happy Birthday  KA8TZX</p>	<p><b>24</b>  New Years Eve 31</p>	<p><b>25</b> <b>Merry Christmas</b>  </p>	<p><b>26</b></p>	<p><b>27</b>   WaveBender Articles Due</p>	<p><b>28</b> <b>WRARC Net 9:00PM 145.270</b></p>	<p><b>29</b></p>