



The WAVE BENDER



November/December 2010

PRESIDENT'S DECEMBER QST



Wow the first year is almost done. The Club has done a lot of events and, I hope everyone had a lot of fun working them. The General class is almost finished. We have a 3-year Trustee. We will be taking signups for the January Winter party. This will be our first social event for 2011. We are planning to have at least one more social event in 2011. This is the time for everyone to get together,

get to know everybody and just have fun.

We need to start planning next year. There is Field Day, JOTA, Tour of the Valley, Hartzel Run and now the Diabetes walk. So far everyone we have worked for has been happy with the way we handled the events.

The board will be looking for some new events for the coming year. Could be a T-Hunt, a Geocach event or an operating event, or even using radios. (What an idea) The more that you are involved in events the more fun you will have. If you have an idea about a fun event bring it up to a board member or at the meeting. If you know of an interesting speaker, let us know about it.

I will be starting a new column called "Things you need or would like to know" Stay tuned. Dues are due for next year by the end of January.

Tell all of your Ham friends about WRARC and all the good fun things that we are doing. 'Till next month.

73, Allan, AB8AA



Officer's Meeting: Dec. 19, 7:00 P.M.
At the Avnet's, 2050 E. South Range Rd. New Springfield (330-549-3051)

Regular Meeting: December 21, 7:00 P.M.
Davidson's in Cornersburgh

Program: Steve KC8SOY speaking about cross band poto-repeat - Intrigued? Me too!

REPORT FROM -

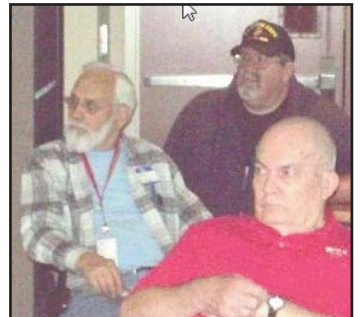
The 2010 Ohio Section & ARES Conference

October 16

On Saturday morning October 16, Russ KD8LDY and I drove to Columbus to attend our first ARRL Ohio Section Convention. We arrived early enough to help set up the tables for the coffee and doughnuts. At 8:00 A.M. people started coming in and talking about the day's upcoming events.

The convention opened Pledge of Allegiance.

at 9:00 A.M., with the Everybody introduced themselves. We heard from Section Manager Frank Piper KI8GW, Tom Sly W8LCD among others. Tom LCD, gave an excellent presentation about Ham Radio Clubs, which was very well received by all.



The highlight of the convention for us, was



when the awards for best newsletters were given out. There were three finalists in the running. Our newsletter, the Wave Bender, took second place. I had the privilege to accept the award on behalf of our own Jane Avnet, K8JAA, writer and editor of the Wave Bender - Way to go Jane!

Ray Haren KD8IJF-VP

The above graphics were 'borrowed' from the Ohio Section Website - my thanks to Scott Yonally N8SY who does a terrific job on it. - ed

STEP OUT YOUNGSTOWN



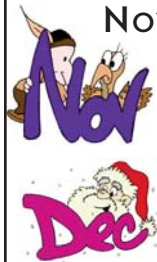
On Sunday morning October 17, WRARC provided communications for the Step Out Youngstown, walk for diabetes. I want to thank the volunteers who came out to help make the walk a success. A special thanks to Maureen Stein, KD8NXS, who did an excellent job at net control, and to Kevin Stein, KD8NXR, who did a fine job as scribe. Thanks to you both. Also, thanks to Steve Fabry KC8SOY for assisting me making sure everything ran smoothly, and to our other volunteers: Russ Williams, KD8LDY; Gary Hudach, KD8OMB; Doug Denver, N8VUR, EMS - Job well done! Thanks to all of you we got the job again for next year!

Ray Haren KD8IJF-VP

Roy presented Jane the Award at the October Board Meeting. Health issues kept Jane from attending the Conference.



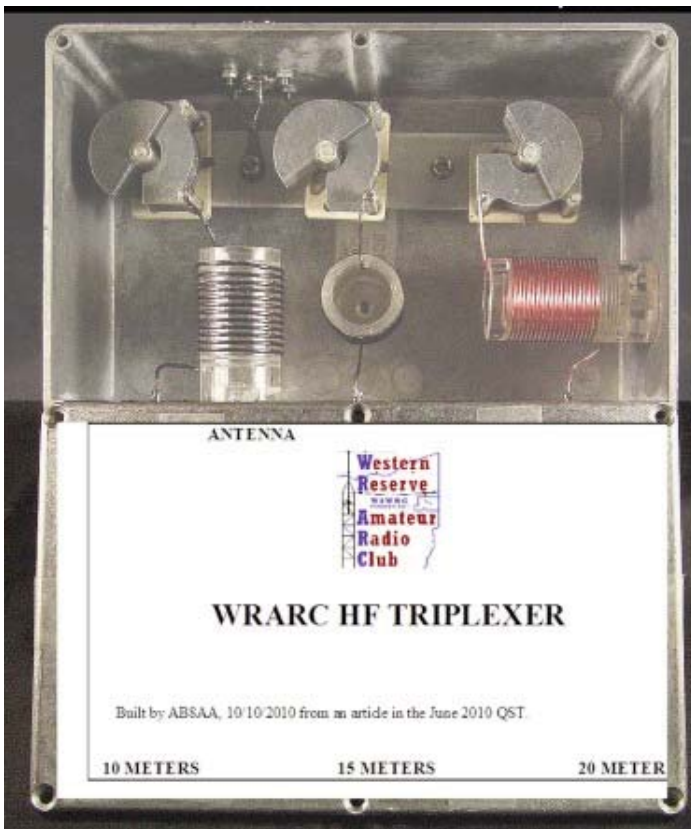
NOVEMBER/DECEMBER BIRTHDAYS



KD8CGW	Sue Neff	11/ 2
KD8IJE	Ted Filmer	11/25
KC8PD	Jim Aylward	12/ 1
KB8QDZ	Jim. Jickess	12/18

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

**WRARC TRIPLEXER PROJECT
PART 3**



This completes this part of the project. Here is the final Triplexer ready to be used.

73 Allan, AB8AA

<http://www.qsl.net/w8wrc/>

OSSBN

Due to propagation changes, the OSSBN has rescheduled thier evening sessions to 6:00PM Local Time, effective immediately. The net frequency remains the same (3972.5 kHz).

The morning and afternoon sessions will still be held at 10:30AM and 4:15PM, respectively. This net runs 365 days per year (and 366 days per leap year). If any further time/frequency changes are required, a notice will be issued ASAP.

Ron West, N8OD, Net Manager of the Ohio SingleSideband Net (OSSBN)



Join us for a night of good food and comradery
1st Annual
January 16 Winter Party
A la Cart in Canfield
\$14 per person
For reservations contact Ted
330-533-3942

Don't miss the Friday night WRARC Net
9:00 P.M. on 145.270, PL -110.9
This is a directed net, with all interested members taking a turn at Net Control

First Wednesday of the Month the Mahoning County ARES/RACES/Skywarn training net is held on the W8QLYrepeater 146.745 (-) at 8:30P.M.



CHANGES WITHIN THE OHIO SECTION

The Ohio Section has a new Affiliated Club Coordinator. E. Mike McCardel, KC8YLD of Danville, replaces long-time ACC Joanne Solak, KJ3O. Joanne resigned the position in October due to personal reasons.

The Ohio Section has a new Technical Coordinator. Jim Yoder of Tiffin replaces out-going TC Tom Holmes, NZ8M. Tom resigned the position in Late September.

Jim will be overseeing all the Technical Specialists in the Ohio Section, whose services are available for all Amateur Radio operators in the Ohio Section.

The Ohio Section now has a new Assistant Section Manager (ASM) for the Central Ohio Region. Fritz Tender, WD8E takes over for outgoing ASM Steve Katz, N8WL. Steve resigned his role in October.

73, Frank Piper KI8GW
Ohio Section Manager

ARLD048 DX NEWS

MADAGASCAR, 5R. Eric, 5R8IC is QRV from Sainte-Marie Island, IOTA AF-090, until December 18. He is active holiday style using CW, RTTY and PSK63. QSL to home call.

CHILE, CE. Members of the Radio Club de Copiapo are QRV as XR33M until the end of December to celebrate the thirty-three rescued miners. Activity is on 80 to 15 meters using SSB. This includes an entry in the upcoming ARRL 10-Meter contest. QSL via CE3BBC.

SAN ANDRES AND PROVIDENCIA, HK0. After his Colombia activity, Gerd, DL7VOG will be QRV as HK0GU/1 San Andres, IOTA NA-033, from November 22 to December 2. Activity will be on the HF bands using CW and RTTY. This includes an entry in the upcoming CQ WW CW contest. QSL to home call.

ANTARCTICA. Alex, RD1AV is QRV as RI1ANC from Vostok Base until the end of 2011. Activity is on the HF bands, mainly on the lower bands, using CW, SSB and digital modes. In mid-December, he'll be active as RI1ANC/A from Molodezhnaya Base. QSL via RN1ON.

INDIA, VU. Special event station AU2JCB will be QRV from November 20 to December 5 in remembrance of the Indian physicist and radio pioneer Jagadish Chandra Bose. Activity will be on 40 to 10 meters using SSB. QSL direct via VU2DSI.

HAMVENTION

Dayton Hamvention®: Nominations Sought for 2011 Dayton Hamvention Awards

The Dayton Hamvention® is accepting nominations for its 2011 awards. Do you know an outstanding amateur in your club, community or from on-the-air contacts? Does this person excel in some phase of Amateur Radio? Do you feel this person deserves worldwide recognition? Is there an Amateur Radio club that you know of that has an outstanding record of public service? All radio amateurs and Amateur Radio clubs are eligible. The deadline for nominations is January 15, 2011. The winners will be recognized at the 2011 Hamvention, May 20-22.



WRARC BAND PASS PROJECT
PART 1

This part of the project is the companion Band Pass Filters. They are built into a 2-1/8 X 3 X 5-1/4 (HWD) boxes. There are 2 SO-239's mounted in each end of the boxes. There is a 4-7/16 X 2-3/4 Pref board mounted to the bottom. This will hold the four coils and the capacitors.



Here are three of the four coils for the BP filters



73 Allan, AB8AA

+ FCC NEWS: FCC ISSUES REPORT AND ORDER ON VANITY AND CLUB STATION CALL SIGNS

In November 2009, the FCC issued a Notice of Proposed Rule Making (NPRM) -- WT Docket No. 09-209 -- seeking to amend the Commission's Amateur Radio Service rules to clarify and codify existing procedures governing the vanity call sign system. The NPRM also sought to revise certain rules applicable to club stations. The ARRL submitted its comments to the FCC on March 26. On Monday, November 8, 2010, the FCC issued a Report and Order with its decisions. These new rules will take effect 60 days after publication in the Federal Register.

**Did Bell invent fiber optics?
The idea of using light in telephone communications is not new. Reportedly in 1880, Alexander Graham Bell invented a phone that used sunlight in place of wires.**

THE DOCTOR IS IN: PACEMAKERS AND RF



Schley Cox, W4AMW, of Owensboro, Kentucky, told the Doctor that he's headed to see the cardiologist next week about a pacemaker. He's already started researching their use around RF and says he is happy to go all low power (QRP), if that's what's called for. Schley mentioned that he might also be able to operate his rig remotely -- perhaps 20 feet away, but he needs to know how to measure stray RF in the shack itself.

Here's what the Doctor had to say:

I haven't received actual reports of any pacemaker problems and that seems to go along with the info on the ARRL Web site. Note that there are no power levels (or field strength) limits noted there, nor have I found any on manufacturers' Web sites. Thus knowing the actual field strength level in the station may not help. If it were me, I would start by talking to my physician. She won't be able to give you power limits, but perhaps could indicate symptoms to watch for while on the air so you could take appropriate action quickly if called for.

I would start with a careful RF safety evaluation, as required by the FCC anyway. While the FCC guidelines were not based on pacemaker interference, they should result in a reasonably safe environment. If your station is properly set up -- without common mode feed line current, for example -- most radiation should surround the antenna and there should not be much RF within the shack.

Calibrated RF field strength meters are available, but are quite expensive. Relative measurement is pretty easy -- look at any recent ARRL Handbook. If you had a simple field strength meter running at all times in the station (I'm thinking the diode and microampmeter type that doesn't require power), you could see if anything changed, and diagnose and repair as needed.

Thanks Doctor! Do you have a question or a problem? Send your questions via e-mail or to "The Doctor," ARRL, 225 Main St, Newington, CT 06111. Look for "The Doctor Is IN" every month in QST.



CONGRATULATIONS & THANK YOU

A lot of exciting things happened the last few months to our members. Associate member Robert Webster is now KD8OXJ and a full member. Congratulations Robert. He passed not only his Tech, but his General at our test session October 20.

Besides our contact VE AB8AA; KC8WY, KB8QDZ, K8JAA and AB8OP were VEs at that test session. Thanks for your help. We had four people testing, two from our Tech class. Three new Generals and one new Tech. Edward Soltis KA8SEI passed his General at that session, filled out an

application to join WRARC.

I want to thank Roy and Russ for going down to Columbus to receive the award the Wave Bender received in the Ohio Section newsletter competition this year. I couldn't go down to accept the award, so they volunteered to go down and receive it for me. Section Manager, Frank Piper KI8GW, had called me earlier in that week to ask me to be sure to attend the conference. All he told me was the Wave Bender was in the running for one of the top three positions. WOW! Second place out of forty entries - what an honor!



GRANT INFO

When most people think of the ARRL Foundation, they think of scholarships. Scholarships are just part of the Foundation's activities. It also administers several funds from which grants are available for amateurs and Amateur Radio organizations. For information on the Amateur Radio grants administered by the ARRL Foundation go to www.arrl.org/amateur-radio-grants.

New Grant Opportunity to promote CW! The CW Operators' Club, a new organization of more than 700 members, is offering grants exclusively for the promotion and education of Morse code. The CW Operators' Fund will provide funds for Morse code keys and other items needed to teach Morse code to new hams including oscillators, keys, CDs and audio tapes and other printed materials.

Proposals must be submitted using the ARRL Foundation Grant Application on-line form and will be accepted only from Schools, Amateur Radio clubs and youth organizations (including scouts) within the United States. Grant applications will accepted only in February or August each year.

Grants to Amateur Radio Organizations The ARRL Foundation generally awards initial funding to organizations for new amateur radio related projects. The funding awards range from \$1,000 to \$3,000, with most awards approximately \$2000. The Foundation rarely awards follow up grants.

The focus of the grant program is to support Amateur Radio organizations with programs to educate, license and support Amateur Radio activities with emphasis on youth-based activities.

The ARRL Foundation does not fund state/county or city-based emergency communications equipment vans or facilities. The ARRL Foundation does not fund on-going operations or expenses. It is rare for the Foundation to award a grant for more than one year or to renew a prior grant.

ARRL Foundation grants may be General Fund Grants, or may qualify under one of the following Special Programs: **Victor C. Clark Youth Incentive Fund, and CW Operators** *Continued page 5*

GRANT INFO - CONTINUED FROM PAGE 4

Educational Fund.

The review process for grant proposals takes 8 to 10 weeks. Proposals are sent to a four-member Grants Committee that makes a recommendation to the full Foundation Board. A majority vote of the full Board is required for grant approval. The Grants Committee may have questions or seek clarifications from applicants. Responses to such inquiries are required in writing (*via email*) before the review process is finalized and the proposal is submitted for Board vote.

Proposals should be sent electronically using the grant application form with a detailed budget spreadsheet and may be accompanied by brief supporting documents that are needed to clarify elements of the proposal.

There is no formal proposal submission period and proposals are reviewed as they are received during the year. Using the forms provided on the ARRL website, applicants should download the forms and submit a proposal electronically to the Foundation Secretary Mary M. Hobart, K1MMH at mhobart@arrrl.org

Successful grantees are required to provide the ARRL Foundation with progress reports and final reports on completion of the project, detailing the results and impact of the project, and a final financial report. The ARRL Foundation should receive copies of any press releases or coverage, including photographs that may be used for publication.

Questions about the grant-making process and contributions to the ARRL Foundation may be directed to Mary Hobart, K1MMH, ARRL Foundation Secretary by email at foundation@arrrl.org or by phone at 860-594-0397.



DEVELOP A PLAN FOR IMPROVED GROUNDING

John Huntley, engineering manager for the Cumulus stations in Rockford, Ill., took advantage of the warm weather to update his station ground system.

Ground rods — or, more properly, “grounding terminals” — provide an electrical earthing terminal for towers, building electrical feeds and studio ground references. There is a minimum standard for a building electrical grounding point, which can be found in the National Electric Code. Supplemental electrodes are allowed and always helpful. *O f t e n*, effectiveness is stated simply by the resistance of the connection to ground; the closer the resistance to zero ohms, the better.

Grounding rods are the most common terminal and come in various sizes and types. Common lengths include 8- and 10-foot; common diameters are 1/2-, 5/8- and 3/4-inch.

Rods are available in brass (costly), stainless steel (also expensive), copper-clad steel and tinned steel. The latter two found at many hardware stores. Copper-clad steel is most common; steel for strength, copper for corrosion prevention.

A number of companies make these rods. Two are Erico and Harger. John buys his rods, copper-clad 5/8-inch by 8 feet, from Grainger or local hardware stores.

Grab your driver - Longer rods screw together or use compression fittings. John was able to get down an impressive 24 feet to hit the water table.

Driving the rods by hand will give you quite a workout using a fence post driver. These are readily available at local hardware stores. They are heavy enough to drive the rod.. It is slipped over the ground rod and the two handles are grasped with a downward motion. The weight of the driver, combined with the force exerted, drives the rod into the ground.

When the post driver is against the ground, John changes over to a hand sledge. Be cautious here because of the risk of “mushrooming.” He has never damaged the end of a rod using a post driver, he has mushroomed many using a hand sledge. Buy several drive caps that slip over the end of the rod to prevent damage. When you’re done setting the rod, your drive cap will be mushroomed but the end of the rod will not. You can also find driver bits that will fit larger rotary hammer tools.

If you’ve forgotten drive caps, make sure that you have a good rough file to abrade the mushrooming of the end of the rod. If you are using a ring clamp to connect a wire to the ground rod, you will need to file the rod end close to the original diameter. The same is true if you are cad welding to the end of the rod.

Set the rods 8 to 10 feet from the base of the tower. Three rods in a triangle is a start. We are talking about providing a path for lightning current into the ground. A rule of thumb is that they should be no closer than twice their length. One reason for the triangular pattern is to keep the tower base pier or slab from being the only path to ground for a lightning strike. Also install grounding leads from your guy wires at the anchor points. This added ground will divert any discharge to the ground rod rather than through the anchor pier itself.

Use a flat copper strap to connect to the ground rod; John recommends 1-1/2 inches width at minimum. A strap has a large ratio of surface area to volume; the greater the surface area, the better. If not a strap, select #4 or #6 bare copper stranded (seven-strand) wire.

John specifies copper for a simple reason: Aluminum quickly develops a copper oxide outer layer, and the effective resistance rapidly increases. Save yourself the headache and use copper for grounding leads.

Continued next Month