The Mt. Vernon Amateur Radio Club
December, 2014 Newsletter

Meetings are held the 2nd Monday of each Month at 7:00 PM at the Knox County Chapter of the American Red Cross, 300 N. Mulberry Street, Mt. Vernon, Ohio

Local Ham Community

K8EEN Repeater: 146.790 Mhz (-600 Khz With PL of 71.9 Hz)
KD8EVR Repeater: 442.100 Mhz (+5Mhz With PL of 71.9 Hz)

Sunday Night ARES Net at 9:00 P.M. on The K8EEN Repeater
Wednesday Night Social Net at 9:00 P.M. on the KD8EVR Repeater

Ham Radio Rocks

Don't Forget the Club Christmas Dinner!

The Clubs annual Christmas Dinner and December Club meeting is upon us. According to club President Jim Jennessee, KD8UT, we are looking forward to a great turnout.

If you have not turned in your reservation form for this event please contact Jim and see if there is still room for more. See the Club side bar for Jim's number and email.

Reservation forms can be found in last months Newsletter. Additionally, all members received a reservation by mail last month.

- Date: Sunday, December 7, 2014
- Time: 6PM
- Place: Parkside Restaurant & Tavern,
  108 Mt. Vernon Ave.
  Mt. Vernon, Ohio
  phone: 740-397-9031

- This dinner takes the place of our regular club meeting. All year ending business will be handled during the dinner.

Please take this opportunity to pay your 2015 club dues.

See you all there.

The next meeting of the Mt. Vernon Amateur Radio Club will be Sunday December 7, 2014 at the Parkside Restaurant & Tavern 108 Mt. Vernon Ave., Mt. Vernon, Ohio. This is the clubs annual Christmas Dinner. See article on page 1 for more information.

Please remember to check into the long running Sunday Night ARES net at 9:00 P.M. on the K8EEN 2-meter Repeater.

Every Wednesday at 5:00 PM, MVARC club members meet at Wendy's, 522 South Main Street, Mt. Vernon, Ohio. Dinner Coordinator Dick Huggins, N8RDH, reports good turnouts for this event. Come share dinner with friends, or make new friends, by attending one or all of these events.

Retired club members meet each Friday at 10:00 AM for a breakfast at Hardy's, 998 Coshocton Ave., Mt. Vernon, Ohio. Come enjoy some good Ham Radio Fellowship and conversations. Oh, you don't have to be retired to join us. Contact Emery Bennett W8TW or David Byrd KD8RST for more information.

Join MVARC club members every second Saturday of the month for breakfast. Breakfast Coordinator Arlin Bradford, KD8EVR, reports good turnouts for this event.

*****The next Breakfast will be Saturday, December 13th at 9:00 AM at Allison's Finer Diner, 11587 Upper Gilchrist Road, Mt. Vernon, Ohio*****

Election of Officers for 2015

Election of officers for the year 2015 will commence during the Christmas Dinner / December Club meeting. If you do not plan to attend the dinner, please find a ballot at the end of this Newsletter. Mail it back to our Club Mail Box.:

MVARC
P.O. Box 372
Mt. Vernon, Ohio 43050

If you are attending the Christmas Dinner, you can simply bring your ballot with you. There will be extra ballots at the dinner.

On the ballot are:

President:	Frank Counts, KC8EVS
V. President:	Tom Evans KD8HSA
Secretary:	Jim Williams, N8IBR
Treasurer:	Tony Spiegel, KC8UR

Directors (Vote for 2)

Emery Bennett, W8TW
David Bird, KD8RST

All candidates are running unopposed. You may write in your alternate choice if desired.

Just What is Arduino Micro Controllers?

This question was answered quite effectively by Gary Sanders, N8EMR during the November club meeting.

Gary Sanders, N8EMR

Microcontroller technology has exploded in popularity among ham radio operators. The new generation of single-board microcontrollers is easier than ever to use, bringing together hardware and software for projects radio amateurs can easily dive into.

Gary demonstrated many uses for Arduino micro controller and even pointed out that you can buy these rather cheaply at Amazon.com. Even Radio Shack carries a line of these (I checked and the Mt. Vernon store has them in stock).

As a personal side, my XYL, Darlene, mentioned to me that Kenyon College actually has a course in using Arduino Micro Controllers. The classes have become very popular with the kids coming up with all sorts of ways to use them. My wife does the ordering for these directly from Arduino.

Gary described several uses for Arduino micro controllers and even presented a few projects that he was working on.

Those interested in getting more involved with Arduino should visit their website at:

http://www.arduino.cc/

This looked like an interesting site. It has several projects that would be of interest to the amateur radio operator, including a transceiver.

http://playground.arduino.cc/Projects/Ideas

All in all, a very interesting presentation. Thanks Gary.

MINUTES FROM THE MVARC NOVEMBER 10TH, 2014 MEETING

Meeting called to order by KD8UT at 7:05 PM. Introductions were made.

October Treasurer's report read. Motion to approve-Moved AC8PT, 2nd KD8PSK. Approved.

October Secretary's report read. Motion to approve-Moved N8PPF, 2nd KD8PSK. Approved.

OLD BUSINESS

W8PEN Repeater report, all appears okay.

Nomination committee report-KD8UT and KC8BB reported at present, only 2 members had agreed to run for office. KC8UR-Treasurer, and N8IBR-Secretary agreed to run for a second term at those positions. After additional discussion, the following members were nominated for the balance of available offices.

President-KC8EVS, Vice-President-KD8HSA, Board of Directors-KD8RST and W8TW. If anyone else would like to nominate someone, or run for an office themselves, they need to contact KC8BB before the December 7th dinner meeting.

KD8UT reported that the ENCOMM vehicle had been returned to the City. And that he would be receiving the returned club equipment shortly.

KD8UT reminded members that the annual Christmas Meeting-Dinner would be held, 6 PM., Sunday December 7th, at the Parkside Restaurant. At present, there are 22 people signed up to attend the Dinner. We need a total of 30 to secure the room.

N8IBR reported that the ARRL listing for Field Day results were out, and that our K8EEN club entry had placed 25th nationally, 4th in the 8th region (Michigan, Ohio, and West Virginia), and 3rd in the State of Ohio, in the 4A Class of entries. Well done to those who participated.

NEW BUSINESS

W8PEN reported that the next Technician Class license course would be starting Thursday, January 15th, 2015 at 6 PM. The training course will last 7 weeks, with a tentative testing date scheduled for Saturday, February 28th, 2015.

W8PEN ask the club to approve a $40.00 fee to cover the cost for the supplied study materials. Moved-AC8PT, 2nd-N8PPF. Approved.

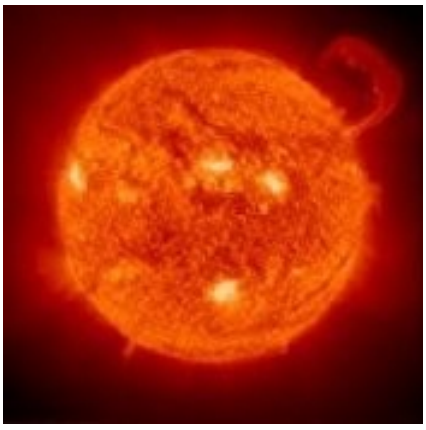
Motion to Adjourn-N8PPF, 2nd-KD8PSK. Approved.

18 People present. 15 members, 3 guest.

N8PPF won the $8.00 50/50 drawing.

The meeting floor was then turned over to guest speaker N8EMR, Gary Sanders, who presented an excellent program on the use of the ARDUINO micro controllers. If you missed this presentation, and would like to find information on it, one suggested website was- http://arduino.cc.

Respectfully submitted'
N8IBR Secretary MVARC



The Mt. Vernon Amateur Radio Club

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Radio Activity

By Don Russell, W8PEN

Ever since Scott Field's, K8AEC, presented his article on digital mode JT65 for the HF bands, I have been looking into setting up a digital station myself. While JT65 has its merits for Dxing, I usually prefer rag chewing over DXing. At least for now. Therefore I decided that one of the other digital modes, like PSK31, would suit me better.

I have done digital before so this is not be unfamiliar territory for me. I do have two sound card interfaces sitting on the shelf. However, I was thinking of trying a few new things. I like to experiment. Scott's setup is unique in that he does not use a sound card interface. He uses a USB audio dongle and two audio cables. To further explain, an audio dongle is simply a USB sound card that plugs into the USB port of a computer. Then you have your audio out and microphone input. I personally am not a fan of directly wiring the sound card output to the microphone input of the radio, but it seems to work for Scott. I prefer to have a bit of isolation in the audio to help keep hum and RF out of the audio. While Scott's system works well for him, if one has RF in the shack, it may not work so well.

My thought was: How to set up a digital station without using the typical sound card interface? The answer is simple and there are several ways to do it. One universal requirement is that your rig must be equipped with VOX. For our non ham readers, VOX stands for **V**oice **O**perated **X**mtr (transmitter).

So here a a few ways to go digital without buying or building a sound card interface. I have tried each of these and was successful in operating digital with all of them.

Acoustical Microphone Input

What the heck is acoustical microphone input? Well, it is the easiest and cheapest way to get on digital. This does not mean it is the best way. In fact there are some precautions that need to be taken when going digital in this way.

If you have a good headphone set, meaning one that will fit snugly around your ears, you can simple rubber band your rigs microphone to the cushioned part of the earphones.

Think about it. Digital is simply tones coming out of the earphone or line out on your computer. There is nothing special about it as long as you do not pick up any external noise. This is why I say use earphones that fit snugly. To keep out the noise. The picture above shows my setup. The Kenwood Microphone fits nicely into the earphones. I have heard of others simply holding the microphone up to the computer speaker. I think that would be a very poor way of doing this.

Okay, I was wondering just how good of a signal this technique would put out. So I set up a second digital station with my other rig and laptop. Here is my test set up:

1. Kenwood TS-590S as the main digital station using the headphone / microphone setup shown in the picture. Using a laptop running Windows XP. To decode signals (receive) I ran an audio cable directly from the headphone jack of the radio to the microphone input on the computer.
2. Yaesu FT-847 as the test receiver. Using my Win7 laptop to decode my signals. A very short wire was my antenna.
3. Software used on both systems was Fldigi

Tune up was pretty simple. To get a good quality signal, I suggest the following steps:

1. Couple the headphone and microphone as shown in the picture.
2. Using a dummy load instead of your station antenna, tune your radio for normal 100 watt SSB transmission. Just like you were going to make a QSO on SSB. Now set up your microphone /headphone as pictured..
3. Now turn your microphone gain and your VOX gain down to ZERO. VOX delay should be set to less than half a second.
4. Hit the transmit button or the tune button on your digital software. You should hear a tone coming out of the headphones.
5. Using your push to talk button on the microphone (or the transmit button on the radio front panel), increase the microphone gain until you have a reading of about 20

watts on your radios meter or your antenna tuner watt meter. You may have to increase or decrease the headphone volume at the computer to accomplish this.

6. Check your ALC meter. It should read zero or deflect just slightly. Release the push to talk button.
7. Turn on the VOX. Increase the VOX gain until the radio reliably goes to transmit when sending the digital tones.
8. You are now ready to transmit digital with a clean signal. Switch from your dummy load to your station antenna and have fun.

A few test CQ's on digital while observing my receive set up showed me that my signal was very clean. On the waterfall it looked just like any other PSK31 signal. The IMD calculation showed an IMD of -27. IMD is an indication of how clean your signal is. From what I have read, an IMD of -20 to -32 indicates a very clean signal. An IMD of -10 to -15 would not be good.

With these results I determined that I was ready to try making a contact with this system. That turned out to be the easiest part of the whole experiment.

On 10 meters with 20 watts, I easily worked lots of DX. In three days of operating, I worked ten different countries. Even talked to someone using the exact same set up I wa using. He sounded good.

Precautions to take:

1. When using this setup make positive that external noise in the room will not trip your VOX.
2. Turn off TV and Radios, including your HT. And don't talk. Anything but tones coming from your microphone would be considered illegal transmissions.
3. Be sure you are not overdriving your transmitter. Your ALC should be registering nothing!

This set up worked surprisingly well and was deemed to be a success. I Actually used this system longer than intended. My next step was to try a cable with an isolation transformer to eliminate any hum or RF.

Stay tuned next month. I will demonstrate my next idea for setting up a digital station without the need of a sound card interface.

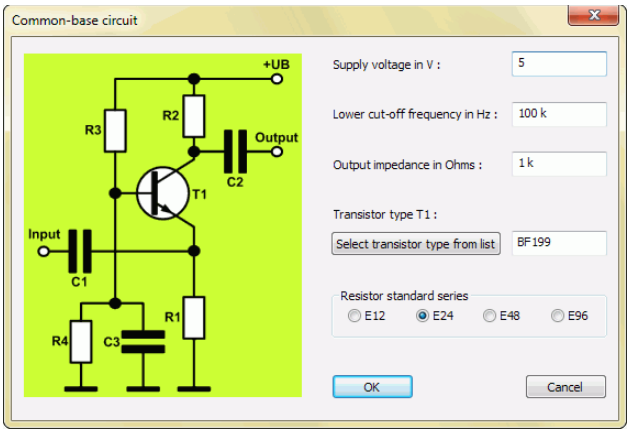
Free Stuff!

By Dan Romanchik, KB6NU

I'm a sucker for free stuff. Below, you'll find links to a free transistor amplifier design program, a free printed circuit board design program, and a free tutorial on antennas. All of these look to be worth a look.

TransistorAmp 1.1

This is free software for designing bipolar transistor amplifiers. I found the link to this software (http://en.transistoramp.de/) on the AMRAD mailing list. Phil, M1GWZ, who posted the link, says, "A transistor circuit that I'm developing needed a 5x voltage gain stage.



I could have thrown in a single op amp with split power rails and all that DIL8 real estate, but a single transistor stage would suffice. Trouble is, I'm an EE by inclination, not training, and all those calculations - working out those capacitor reactance values - well, I don't do them often enough for them to be easy. And I want voltage gain, not current. And then I found Transistor Amp 1.1."

"It's a nice piece of software," says Phil, "It installs easily and did the job for me quickly and easily. Oh, and when I built the circuit for real - voltage gain of 5x!"

Altium CircuitMaker

CircuitMaker (http://www.circuitmaker.com) is a free printed circuit board design tool for hobbyists, people like you and me. Maxfield Parrish of EETimes says, "one key aspect of CircuitMaker is its intuitive and easy-to-use interface -- all of the important "stuff" is presented in an easily accessible manner in a ribbon at the top of the display. Another major consideration is that Altium has decided to make CircuitMaker all about "Community," so users can easily share ideas and designs, comment on designs and offer suggestions for improvement, and generally help each other along the way."

Free antenna tutorial

For a limited time, Rohde & Schwartz and the IEEE Communications Society are offering a free tutorial on Antenna Basics

http://www.comsoc.org/form/tutorial-registration-antenna-basics

This tutorial explains the basic functionality of an antenna, starting with Hertz's antenna model. It also includes a short introduction to the fundamentals of wave propagation, the important general characteristics of an antenna and parameters, such as antenna gain, radiation pattern, bandwidth or VSWR. A more detailed explanation of the functionality of some selected antenna types (e.g. dipole or monopole) is also given.

Maik Reckeweg, Product Manager Antennas, Rohde & Schwarz GmbH, Munich, Germany, who is responsible for all the company's monitoring, measurement and communications antennas is the tutorial's.

The video is kind of dry, but I think Reckeweg does a pretty good job of discussing antenna basics. The video is also accompanied by a white paper that delves into these topics a little more completely. Overall, there's a bit more math than in most amateur radio discussions of antennas, but this makes the discussion a little more comprehensive.

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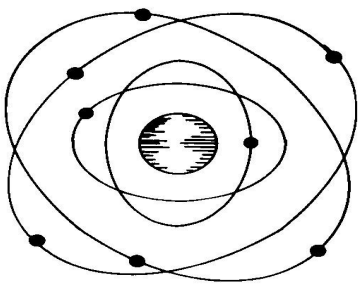
When not scouring the Internet for free stuff, you'll find KB6NU working on updates to his "No Nonsense" study guides, working CW on 40m, or blogging about amateur radio at www.kb6nu.com.



AFFILIATED CLUBS COORDINATOR REPORT

From the Ohio Section Journal, November 2014

By: John Myers, KD8MQ - ACC
kd8mq@arrl.net

Hi everyone,

Winter is just about upon us. I know, the calendar says different, but we've already seen snowflakes here in NE Ohio. I'm not in the Snow Belt, but we can almost see it from here.

I'd like to thank the folks at the Cambridge ARC for their warm welcome last month. I had fun addressing their group. It was a beautiful Saturday for a drive, as well.

As this is being written, the ARRL SS Phone is almost upon us. I've one more antenna to put up, and I can call myself ready. How about you? Are ready for winter? How about for the coming year? How about your club?

This is the time of year when a lot of clubs prepare for the winter operating season, as well as the coming year. They hold elections, have Christmas Parties & awards banquets, and line up club programs & activities for the coming year. Especially at election time, I'd like to remind you to update your club report info with the league. This way we have the most current info for those who want to contact your club leadership. This includes prospective members (or prospective Hams for that matter). It also makes things a lot easier on your Affiliated Club Coordinator. The updates are done easily from the ARRL website. If you have any questions concerning the process, please feel free to contact me. Also, don't forget those club websites. Get your new contact info out there in cyberspace. It can be frustrating to drop an e-mail to someone based on info on a club website, only to be left wondering whether your e-mail made it to its recipient, or is languishing in some cyber dead-letter office.

It's also time to make plans for club programs and activities for the coming year. Some clubs, such as the Delaware-Lehigh ARC in PA set up their program schedule a year ahead, while others go month by month. I'm in charge of programs for our local club, and try not to go more than about 6 months out. I feel that this gives a little more flexibility if a new program opportunity arises. Speaking of new opportunities, Skype is becoming more popular for club programs lately. Earlier this year, Bob Heil, K9EID spoke at the meeting of the Portage County ARS. Then, Just a couple weeks ago, Ward Silver, N0AX presented a program to a meeting of Mahoning County ARES. All via Skype! The West park Radio ops

will be hosting Bob Heil via Skype on November 21st.

The more I visit clubs in the Ohio Section, the more amazed I am at the talent we have right here. I'm learning a lot from reading your newsletters, and meeting you in person.

The Massillon ARC is starting an Elmer Program, where they'll meet one Saturday morning a month, and do an in-depth program of interest to all, but especially to new Hams. The program begins in January with a presentation on grounding, by James, KD8VT. We'll be watching to see how this goes. Wade, WD8MIU is in charge of the program.

The Highland ARA is raffling two handhelds, with the winning tickets to be drawn at their Christmas Party.

Portage County ARS recently hosted E. Mike McCardel, KC8YLD, who presented a program on Satellites. E. Mike is a former Ohio Affiliated Club Coordinator, and is currently VP of educational relations at AMSAT©.

My home club, the Alliance ARC just held their annual Homebrew Night, and also raised $100 for the local fire department's toy drive.

Don't forget to add me to your newsletter mailing list. I know there's a lot more newsletters out there than what I'm seeing. BTW, it's that time again; the Field Day results are in the latest issue of QST, as well as on the league's website. How did your club do? Are you planning for next year already? I don't blame you. Another club oriented operating event; the Ohio State Parks On The Air Contest has posted the 2014 results online at ospota.org.

Well, that's about it for this month. Here's wishing everyone a Happy Thanksgiving. See you on the bands. 73 DE John, KD8MQ

Till next time, 73 DE KD8MQ

FROM THE EDUCATIONAL OUTREACH - SCOUTING ASM

By: Scott Hixon, KC8ITN - ASM - Educational Outreach- Scouting,
kc8itn@arrl.net

From the Ohio Section Journal, November 2014

With the winter season quickly approaching, you would think that scout camping would be on hiatus until warmer weather comes back next spring. Nothing could be farther from the truth!

Most Boy Scout troops camp out all year long, in all types of weather. For scouts, it doesn't matter if it warm, rainy, cold or snowy. The fact that they are outside using their scout skills and having fun in the process is what it's about.

As a scout leader, one of the things we try to instill in the minds of our scouts in the scout motto: "Be Prepared". Nearly 100 years ago, a young British Boy Scout asked Sir Robert Baden-Powell, the founder of Scouting, what exactly it was he should be prepared for. Baden-Powell's famous answer was, "Why, for any old thing, of course!" A lot of hams try to "Be Prepared", especially if they are involved with emergency communications. And if you're prepared for it, cold weather operating at a scout campout or Winter Klondike can be a whole lot of fun! And if you are involved in your local ARES group, it's a good way to practice operating in "not-so-perfect" weather conditions.

A Winter Klondike is a Boy Scout Camporee that is held during the winter time. Scouts compete in competitions ranging from knot tying and fire building, to first aid and scout knowledge to name a few. I recently read an article about a Boy Scout troop in Florida that is hosting a camporee for their district. One of the things they are including in the competition is amateur radio. They will be sending a Morse code message and another scout will have to copy the message in the quickest time possible.

Going to camporees and summer camps over the years, I have had the pleasure of meeting other scouts that were licensed ham operators. Once they realize that I am a ham, they are quick to introduce themselves (and their call signs) to me. They are always excited to tell me about some of the contacts they have made and the fun they've had in our wonderful hobby. At the Ohio Valley Fall Camporee earlier this month, there were three ham scouts there that covered all three license classes. KD8QLS, K5ETH, and KD8VNK (Extra, General and Technician, respectively). With scouts like this being in the scouting program, it really helps to show the other scouts that amateur radio is not just an "old person's hobby".

I encourage you to look into getting involved with the scouting program. If it's taking amateur radio to a scout campout, becoming a "Radio Merit Badge" counselor, or putting on a radio demonstration at a scout meeting, the rewards will be paid back ten-fold! Boy Scout and Cub Scout leaders are always looking for people that are willing to come to a meeting and talk to the boys.

If you would like to help, but not sure how to get started, feel free to contact me and I will help you get started any way I can! My email address is: kc8itn@arrl.net.

By the way, there is another event coming up that is a lot of fun. It's not scout related but I want to share it with you. January 4th, 2015, is "Kid's Day"!! This is an event where kids can get on the air and talk to other kids. It is held from 1800 UTC to 2359 UTC Sunday January 4th. The exchange is simple: favorite color! This helps break the ice (and mic fright!) then they can talk about anything they want! My kids use to participate in Kid's Day years ago before they were licensed and now my oldest son, KD8QLS, pays it forward by participating as a licensed ham. Additional information about Kid's Day can be found in the December 2014 issue of QST (pg. 88) or at:

www.arrl.org/kids-day.

Until next time: Take care, stay safe, and make a difference is someone's life!

73, Scott, KC8ITN

How do Weather Spotters communicate?

When Disaster Strikes, how will you communicate?

Ham Radio

"Whether you want to be an effective weather spotter, useful during disasters, or just prepared, you really need a ham license."

HAM RADIO CLASSES NOW FORMING FOR THE TECHICIAN CLASS LICENSE

Date: Begins Thursday, January 15, 2015 and runs every Thursday through Feb. 26, 2015 from 7:00PM to 9:00PM. Exams will be held Saturday February 28.

Location: The Knox County American Red Cross, 300 North Mulberry Street, Mt. Vernon, Ohio. We are using the Training Center, which is the building in back of the Headquarters.

Cost: The course and course material are FREE. Exam fee is $15.00 due at the time of the exam. Option to buy your first radio for around $50!

Pre-Register for an early copy of the study guide.
Walk ins are welcome.

Sponsored by the Mt. Vernon Amateur Radio Club. Free one year membership after taking this course and passing the exam.

Hams use Voice, Morse Code, and Digital modes to talk to the world. If you have fun with CB radio, Family Radio, or GMRS, you have to see what you can do with Amateur Radio!

Contact: Don Russell, W8PEN, w8pen@arrl.net 740-397-0249, 740-326-0476
Mike McCardel, KC8YLD, kc8yld@arrl.net 740-599-6614
Jim Jennessee, KD8UT, kd8ut@arrl.net 740-397-0725

Visit our Web Page: http://www.mvarc.net/
Or our national club: http://www.arrl.org/

MVARC 2014 Election Ballot

Office	Nomine es		7-Dec -2014
President			
	Frank Counts		
Write in			
V. President			
	Tom Evans		
Write in			
Secretary			
	Jim Williams		
Write in			
Treasurer			
	Tony Spiegel		
Write in			
Directors			
	Emery Bennett		
	David Byrd		
Write In			