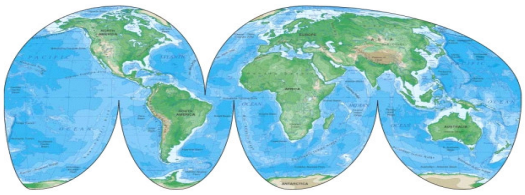
MOUNT VERNON AMATEUR RADIO CLUB

C  Q

March 2007 Newsletter

MEETINGS SECOND MONDAY OF THE MONTH AT THE RED CROSS ANNEX BUILDING,
300 N MULBERRY ST, MT. VERNON, OHIO
REPEATER FREQUENCIES: 146.790 (-) K8EEN /R 444.750 (+) KC8YED /R 53.790 (-) WA8YRS/R
SUNDAY NIGHT ARES NET AT 8:00 P.M ON THE K8EEN REPEATER OPEN TO ALL

IMPORTANT INFORMATION ON SKYWARN SPOTTER TRAINING
(Note change of March Meeting Site and Start Time of Training)

The Mount Vernon Amateur Radio Club and the College Twp Fire Department will be co-sponsoring SkyWarm Weather Spotter Training 6:30pm Monday March 12, 2007 at the College Twp Firehouse on Brooklyn Ave, in Gambier, OH

This is scheduled at the same time of our regular March meeting. Instead of meeting at the Red Cross March 12, Fire Chief, Bob Hooper, has agreed to let meet at the firehouse immediately following the meeting.

Skywarn training is good for up to 3 years but any of us can benefit from a refressher course and there will be signifacant changes in how the National Weather Service will be making warnings in the future. I encourage all Ham Radio operators to attend. I am hoping we can attract mores hams than fire fighters.

73

EMike McCardel
President, MVARC

"CELLULAR TELEPHONE" BILLS POSE POTENTIAL PROBLEMS FOR HAM RADIO OPERATION

(From the ARRL Letter, February 16, 2007)

Bills aimed at thwarting "driving while cellular" and "driving while distracted" behavior have been introduced in several states, and most are worded broadly enough to potentially proscribe some Amateur Radio mobile operation. ARRL Regulatory Information Specialist Dan Henderson, N1ND <reginfo@arrl.org>, so far has catalogued 11 active pieces of legislation. Bills introduced in Montana and New Mexico have been sidelined for now, but related measures -- more than one in some states -- remain alive in Georgia, New Jersey, Oregon, Texas, Vermont, Washington and Wyoming. Henderson reports that ARRL Field Organization volunteers and members called the League's attention to the various pieces of pending legislation, none of which specifically exempt Amateur Radio mobile operation.

"In most cases we try to work to have language exempting Amateur Radio inserted into the bill, rather than narrowing by definition the behavior or activity the bill seeks to address," Henderson explains. "It is a far easier approach and removes ambiguity down the road."

Henderson says that, if requested, the League will advise radio amateurs preparing to testify about a bill before a state legislative committee. "We offer some suggestions

regarding what to cover and how to approach their testimony," he said. "We also will speak with legislators or their aides to try and clarify questions or help them craft language that help accomplish our goal of specifically exempting Amateur Radio operation from these measures." Most of the measures include exceptions for emergency communication and law enforcement agencies.

In Georgia, House Bill 5 (HB 5) would assess those anyone found to be "driving while distracted" while using a wireless communication device one driver's license infraction point. The bill defines "device" to cover not only cellular or mobile telephones -- whether or not they're hands-free, but any "wireless communication device, personal digital assistant, radio or citizens band radio." HB 5 thus appears to include such routine activities as changing the station on your car radio.

In Montana, House Bill 233 (HB 233) would restrict drivers from "the use of electronic communication devices, or any other activity that causes the driver to become inattentive." This bill was tabled in committee on January 30, following a hearing a few days earlier.

In New Jersey, Assembly Bill 1966 (A 1966), would broaden the scope of that state's existing law prohibiting the use of a hand-held wireless telephone while driving. It would expand the law to cover "distracted driving" by prohibiting a motor vehicle operator from engaging in "any activity unrelated to the actual operation of a motor vehicle in a manner that interferes with the safe operation of the vehicle."

In New Mexico, House Bill 241 (HB 241) would prohibit a driver from using "a mobile communication device while operating a motor vehicle." The measure has been tabled.

Three related bills now are in play in Oregon: House Bill 2482 (HB 2482) and Senate Bill 293 (SB 293) contain essentially the same language, making it an offense to operate a motor vehicle "while using a mobile communication device" without a hands-free accessory. Senate Bill 246 (SB 246) establishes such behavior as an offense, punishable by a fine of up to $180 and providing more serious consequences if property damage, injury or death result -- up to and including license suspension and prison terms.

In Texas, Senate Bill 154 (SB 154) would prohibit a motor vehicle operator from using a "wireless communication device" while under way, unless equipped for hands-free operation.

In Vermont, two measures are in play. House Bill 31 (HB 31) would make it a violation to use a "cellular telephone" while in motion on the highway, except in the event of an emergency. Enforcement would be secondary; ie, police would have to first stop a driver for a suspected violation of another traffic offense. A more-restrictive bill, HB 126, addresses "distracted driving," and cites "any activity involving the use of one or both of the driver's hands if the activity is not necessary for the operation of the vehicle or any of its installed accessories." The billwould include activities ranging from smoking, eating or drinking to "performing personal grooming," "interacting with pets or unsecured cargo" and "using personal communications technologies." Hands-free cell phone operation would be permissible, however.

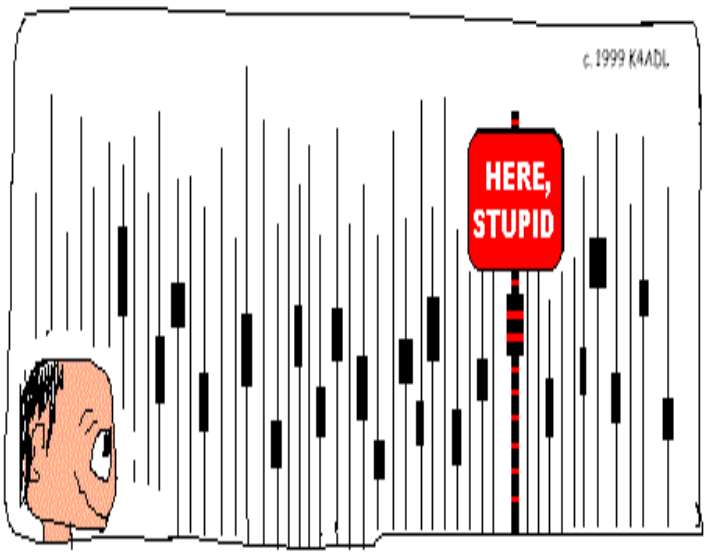
In Washington, House Bill 1214 (HB 1214) would outlaw such activities as "reading, manually writing or sending a message on an electronic wireless communications device." The measure does not include an exception for hands-free devices.

In Wyoming, two nearly identical measures are alive. The more general legislation, House Bill 152 (HB 152) addresses using "a cellular or satellite telephone while operating a motor vehicle" without a hands-free device. House Bill 284 (HB 284) contains essentially identical language but specifies drivers operating under an "intermediate permit." Both incorporate an exemption for Citizens Band, but not for Amateur Radio operation.

Henderson advises ARRL members to contact their Section Manager

<http://www.arrl.org/FandES/field/org/smlist.html>

to learn about any initiatives under way to address the ham radio implications of a particular state bill.



OWING TO HIS EXCELLENT BUT SOMEWHAT SELF-EFFACING SIGNMAKING SKILLS, LEONARD QUICKLY LOCATES HIS VEHICLE AT THE DAYTON HAMFEST.

YOU KNOW YOU ARE LIVING IN 2007 when...

1. You accidentally enter your PIN on the microwave.
2. You haven't played solitaire with real cards in years.
3. You have a list of 15 phone numbers to reach your family of three.
4. You e-mail the person who works at the desk next to you.
5. Your reason for not staying in touch with friends and family is that they don't have e-mail addresses.
6. You pull up in your own driveway and use your cell phone to see if anyone is home to help you carry in The groceries.
7. Every commercial on television has a web site at the bottom of the screen.
8. Leaving the house without your cell phone, which you didn't even have the first 20 or 30 (or 60) years of your life, is now a cause for panic and you turn around to go and get it.
10. You get up in the morning and go online before getting your coffee.
11. You start tilting your head sideways to smile. :)
12. You're reading this and nodding and laughing.
13. Even worse, you know exactly to whom you are going to forward this message.
14. You are too busy to notice there was no #9 on this list.
15. You actually scrolled back up to check that there wasn't a #9 on this list.

AND NOW U R LAUGHING at yourself!

(From EmComm Monthly February 2007)

HAM HISTORY

By Barry Butz, N8PPF

Credit for this article goes to: International Electrotechnical Commission (IEC)
http://www.iec.ch/100years/techline/

Nikola Tesla (1856-1940) is known for his contributions on alternating current, the induction motor and fluorescent lighting.

Tesla was born in the Croatian region of the Austro-Hungarian Empire, his father a priest and his mother, Djuka Mandić, an inventor of household appliances. Tesla studied in Austria and at the University of Prague, planning at first to specialize in physics and mathematics. But his growing fascination with electricity led him to a career in electrical engineering, taking a job with a telephone company in Budapest in 1881. Later that year, as he walked with a friend through the city park, he was inspired with the solution of how to create the rotating magnetic field needed for an alternating current induction motor. He built a prototype and ran it successfully in France in 1883. But to gain support to develop his invention, Tesla traveled to New York in 1884, where he lived for the rest of his life.

Initially Tesla worked for Thomas Edison who turned out not to share his passion for alternating current generation. So instead Tesla devoted himself to developing his highly original polyphase technology, which he presented in 1888 to the American Institution of Electrical Engineers (now the IEEE) in a paper entitled 'A New System of Alternating Current Motors and Transformers'. America's principal proponent of alternating current technology, George Westinghouse, was so impressed with Tesla's practical demonstration that he soon bought all forty of his U.S. patents. The partnership between Tesla and Westinghouse flourished and such remarkable feats as installing the first hydroelectric power plant at Niagara Falls in 1895 marked a clear victory for a.c. technology. Thereafter the polyphase alternating current system and its associated induction motor spread across the world, displacing Edison's direct current system.

As a mark of his great fertility at invention, Tesla registered more than 700 patents worldwide, relating to his innovations in radio communications and energy transmission. These include not just the ubiquitous fluorescent light, but also the 'Tesla coil' of 1891, now widely used in electronic equipment. The first radio transmitters used by the US navy were also of Tesla's design.

In honor of his contributions to electromagnetism, Tesla's name was given to the International Unit of magnetic flux density, one tesla being equal to one weber per square meter.

Repeaters and Stuff

By Don Russell, WA8YRS

The Small break from the winter blues has come and gone. Too bad there are not more Hamfests in January and February. I am talking of course, about the Mansfield Hamfest and Computer Show. The next scheduled Hamfest in Ohio is the Toledo Hamfest, which is March 18, 2007.

While I did find a few things I was looking for, and actually bought an old Drake TR-33 2 meter transceiver for just $10.00 (it didn't work, but I am still hopeful on getting it going), I was not really satisfied with the hamfest. I understand that Computers are part of ham radio and needs to be included. It is called the Hamfest and Computer show. I also understand all the antique

Shortwave and broadcast radios in the flea market. It is part of our radio heritage. My main objection is to all the CB radios and CB linear amplifiers that were trying to be peddled. If I wanted

Arlin Bradford, KD8EVR

to look at this "junk", I would go to a CB swap show, or whatever they call them. I noticed this multitude of CB equipment at the Findley Hamfest last year, so this is nothing new. I don't think much of it sold, but to me it was an eyesore.

I was also disappointed that there were not more HF radios on the flea market. In fact, there were few VHF mobile radios on the tables too. Not sure way this is. Seems with the rule changes and the dropping of Morse Code, this would be a good market to be in. Maybe things will improve for next year.

In spite of the above, I did enjoy the event. I was able to pick up all but one item that I had on my shopping list. This was mostly new stuff, which I figured would be there. The one item I could not find, I can run to our local candy store (Universal) and pick it up sometime.

Our General Class upgrade course has been completed. It is now up to our two students to make the final push to get ready for exams March 3, 2007 at the Red Cross. I do not believe we will

Barry Butz, N8PPF and Terry Baker

Do this again, however. That is, have the Tech Class followed immediately by a General Class. That makes for a long stretch to be studying and teaching ham radio. We may, however, have the Tech Class, followed by the General Class a few months later, if there is enough interest.

I encourage all our local Technician Class hams to download the General Class Question Pool and read through it. You may find that you already know most of the answers to the questions and with just a little bit of brushing up, would be ready for the General Class test.

Marcus, one of our younger local ham at 10 years old, informed me he had some friends interested in getting their ham license. With this in mind, we may be starting another Technician Class course rather soon. The most likely site for this course will be somewhere in Johnstown, Ohio. In preparation for this possible course, I am looking for a few more Instructors to help share the workload a bit. If you would like to help, give me a call. No experience necessary.

Since this course will mainly concern children around Marcus's age, I would like to have a bit more "hands on" activities. Demonstrations on electronic principles, building their very own 2-meter ground plane or dipole antenna or even yagi beam, etc. If we make it fun and interesting enough, the kids will learn a great deal from the course.

Last month I mentioned Morse Code decoder software designed around a computers sound card. The idea is to have one of these decoders sitting at the CW station on Field Day. In this way, people without knowledge of Morse Code will at least be able to get a peak at what is being sent.
I have tried several Morse Code decoders. Unfortunately, the human ear is much better at decoding Morse Code than even the best program. Signals have to be fairly strong, and the sending pretty good for a software decoder to work very well. I still think it is worth the effort to incorporate this decoder into the Field Day CW station though. It will not decode all the signals. Certainly not the very weak ones. But it will decode enough of them to make the effort worth while. Who knows. Maybe I will convert some of you Anti-CW hams out there.

Here are a few CW programs that I have been trying. Most are shareware, being that you may try the programs, but they are limited until you pay a registration fee.

http://www.dxsoft.com/en/products/cwget/

http://www.qsl.net/hamscope/HamScope.html

http://www.polar-electric.com/

That is it for this month. Looking forward to seeing everyone at the March meeting.

Treasurer's Report
February 2007

Income:
Dues: $12
Donations for MV public library: $25
50-50: $12

Expenses:
None

Balance on 2-24-07: $2036.88

Designated Funds
Library book donation: $102.50
Year 2005 Repeater Fund: $629.94
Field Day Fund: $54.00

Barry N8PPF

ARRL Membership Benefits

By Joe Phillips,k8QOE
Ohio Section Manager

Editors Note: I have been preaching for some time how important membership in the ARRL is. Whether you agree with everything the ARRL does or not (I don't), you should join simply because this organization is the backbone of our hobby. The ARRL is Ham Radio.

This is an email that Joe, KB8QOE, ARRL Ohio Section Manager. If you are not a member of the ARRL, read this and see what you are missing. If you are a member, reading anyway to make sure you are not missing anything. (Don, WA8YRS)

From time to time it is a good idea to review some simple benefits of your ARRL membership. If you are not signed up or participating in the following, you are missing certain advantages of the ARRL which other members enjoy.

- If you run a hamfest in Ohio -whether or not it is ARRL approved - register it with the League so it will be listed on the Hamfest Listing on the ARRL web site. It is free advertising where you can give contact information for your hamfest. Just write hamfests@arrl.org > and write your hamfest information. Best time to do this? The day after your event to publicize it for next year.

- Ham Radio clubs should register their records, club officers, club activities, annual events, etc., - AND UPDATE THIS LISTING EVERY YEAR - Visit www.arrl.org/field/club/clubsearch and find your club's old listing. This preserves your club's history as the League archives this information. This should be a permanent part of a club's secretary job description.

- And when you complete the above, send this updated information to Ohio Affiliated Clubs Coordinator, Joanne Solak, KJ3O, at <kj3o@arrl.net> so Joanne will also have your current information. Make sure all E-mail addresses listed ARE CURRENT.

- The Section Manager and/or the Great Lakes Division Director issues messages such as the one you are reading. So I know you know about this but other members may not. Help make all members aware that Section and Division bulletins can be directed to their computer on a regular basis. Next time you are at a meeting or other ham gathering, remind members to visit <www.arrl.org/members-only> and sign up for bulletins.

- As a member you can sign up for an E-mail forwarding service. With a forwarding service, you get a permanent <your call@arrl.net> E-mail address which continues no matter how many times you change Internet service providers (ISP). See <www.arrl.org/arrlnet> to sign up. It will be the last time you change your E-mail address.

- The Leagues runs a web site news bureau where the editor makes daily entries of news and items of interest to hams. Visit <www.arrl.org> often to read the latest. Every Friday, the ARRL Letter is published with a compilation of the news in the past week. Visit <www.arrl.org/arrlletter> to subscribe.

- A wide range of other ARRL membership benefits can be seen on page 14 of any recent issue of QST (the major membership benefit) or by visiting <www.arrl.org/benefits>

- If you have any questions about the Ohio Section write to me (contact information on page 16 of any current issue of QST) and/or visit the Ohio Section Web Site - <www.iarc.ws/ohio>. Do so often.

That's it. Thanks for staying awake throughout this message.

Joe, K8QOE

CALANDER OF EVENTS FOR MVARC CLUB MEMBERS

- March 11, 2007 (Sunday): ARES Net at 8:00p.m. Net Control will be Mike McCardel, KC8YLD
- March 12, 2007 (Monday): MVARC meeting. **The Mount Vernon Amateur Radio Club and the College Twp Fire Department will be co-sponsoring SkyWarm Weather Spotter Training 6:30pm Monday March 12, 2007 at the College Twp Firehouse on Brooklyn Ave, in Gambier, OH. The MVARC meeting will be held following the training.**
- March 14, 2007 (Wednesday): Pizza Buffet at Pizza Hut, 5:00p.m.
- March 18, 2007 (Sunday): ARES Net at 8:00p.m. Net Control will be Don Russell, WA8YRS.
- March 21, 2007 (Wednesday): Pizza Buffet at Pizza Hut, 5:00p.m.
- March 25, 2007 (Sunday): ARES Net at 8:00p.m. Net Control will be Bob McBride, N8QPM
- March 28, 2007 (Wednesday): Pizza Buffet at Pizza Hut, 5:00p.m.
- April 1, 2007 (Sunday): ARES Net at 8:00p.m. Net Control will be Ruben Clark, KB2SAI.
- April 4, 2007 (Wednesday): Pizza Buffet at Pizza Hut, 5:00p.m.
- April 9, 2007 (Monday): MVARC meeting 7:00p.m. at the American Red Cross Training Center.
- April 14 (Sunday): ARES Net at 8:00p.m. Net Control will be Mike McCardel, KC8YLD
- April 18, 2007 (Wednesday): Pizza Buffet at Pizza Hut, 5:00p.m.
- April 16, 2007 (Sunday): ARES Net at 8:00p.m. Net Control will be Don Russell, WA8YRS.

RADIO AMATEURS SPRINKLED AMONG FUTURE SPACE STATION CREWS

From the ARRL Letter, February 16, 2007

NASA and its International Space Station partners have announced the expected ISS crew complements for the next two years, and the list includes several Amateur Radio licensees. The crew members comprise three ISS expeditions and represent four space agencies.

"We now have a ham-licensed US crew member -- including back-up crew members -- who will be onboard the ISS through Expedition 18," said Rosalie White, K1STO, who's secretary-treasurer of the Amateur Radio on the International Space Station (ARISS) program <http://www.rac.ca/ariss>.

Assignments include the first long-duration station flight for a Japan Aerospace Exploration Agency, JAXA, astronaut and the second long-duration station flight for a European Space Agency, ESA, astronaut. "The JAXA and ESA astronauts will work on the installation and checkout of the Japanese Experiment Module Kibo and European Columbus laboratories on the space station," NASA said this week.

NASA astronaut and ISS Expedition 5 crew member Peggy Whitson, KC5ZTD -- an ARISS veteran -- will command Expedition 16, set to begin this fall. Flight engineers for that mission include cosmonaut Yuri Malenchenko, RK3DUP -- who was ISS Expedition 7 commander -- ESA astronaut Leopold Eyharts, KE5FNO -- a Mir veteran -- and NASA astronaut Garrett Reisman, KE5HAE. They will join NASA astronaut Daniel Tani, KD5DXE, aboard the station.

Eyharts will fly to the station on space shuttle mission STS-122, which is expected to deliver the Columbus lab module this fall. He'll remain aboard to oversee activation and checkout of the laboratory while Tani takes the shuttle home. Reisman will replace Eyharts and remain on the station for about six months.
Cosmonaut Sergei Volkov, arriving in the spring of 2008, will command Expedition 17. Flight engineers include cosmonaut Oleg Kononenko, RN3DX, and NASA astronaut Sandra Magnus, KE5FYE.

NASA astronaut and ISS Expedition 9 veteran Mike Fincke, KE5AIT, will command Expedition 18. Flight engineers include cosmonaut and veteran station crew member Salizhan Sharipov, JAXA astronaut Koichi Wakata, KC5ZTA, and NASA astronaut Gregory Chamitoff, KD5PKZ.

Under the current system of ISS crew rotations, there are at least three crew members aboard during any given expedition, with one crew member's duty tour bridging two expeditions. All ISS crew members spend approximately six months aboard the orbiting outpost. -- NASA/ARISS

ComPIOnents March 2007
By Mike McCardel, KC8YLD

Skywarn Spotter Training March 12 – 6:30pm
College Twp Firehouse, 102 Brooklyn Gambier, OH

This year the Skywarn Weather Spotter training is being co-sponsored by MVARC and the College Twp Fire Department. The training will be presented by the National Weather Service, of Cleveland, Ohio. The training location will be at the College Twp. Firehouse in Gambier, OH at 6:30pm Monday March 12. Since this time coincides with our regularly scheduled March meeting, in lieu of meeting at the Red Cross, Fire Chief Bob Hooper has agreed to allow us to meeting at the College Twp

Firehouse immediately after the training. Let's show strong support from the Knox County Amateur Radio community with a strong turnout to this essential event.

- **Bob McBride, N*QPM Resigns EC Post**

Knox County ARRL Emergency Coordinator announce his resignation from EC appointment during February's club meeting. Bob has been our EC for the past 15 years. He has cited his lack of availability due to working outside the county as his reason for resigning. Bob has named Ruben Clark KB2SAI to assume his EC duties.

Bob has done a creditable job as EC. The crowning jewel of his era as EC was his commitment to weather preparedness and response. He built an exceptionally strong relationship with the National Weather Service and has organized Skywarn Spotter Training for the past 15 years for Knox County. Bob, in his resignation, also stated that he has been asked to continue to serve as an Assistant EC and to be a consultant to our new EC. I know this was an especially difficult decision on Bob's part, but he made his decision on what he felt was in the best interest for emergency response in our county. We thank Bob for his service and want him to know how much we appreciate his effort.

- **Nine take License Exams**

As the result of the efforts of our local VE Team, nine people were able to obtain or upgrade their Amateur Radio license. The VE Team consist of team ARRL Liaison Mike McCardel KC8YLD, Don Russell WA8YRS, Zach McCardel KC8YLE, Jack Koelbl N8JQZ, David Phillips W8DEP, Earl Paazig N8KBR and Harold Rush AB8BI. Don Russell had to recuse himself from assisting with this session as his brother Charles Russell WA8ONN upgraded to his Amateur Extra ticket. In addition to Russell others taking the exams included new hams Charles Berger of St. Louisville, John E. Triplett, Jr. of Marietta, David E. Jones of Newark, Jerry DiAngelis of Utica, William Smith of Columbus who all passed their Element 2 exam to obtain their Technician ticket and James S Huggins of Marietta who passed both his Element 2 and 3 exams to start his Ham life as a general. Upgrades to General Class operating priviledges, were earned by MVARC member, Steve Seymour KC8IKF of Fredericktown, Roger Grant KC8PBD of Columbus. Congratulations to all the those who took and passed their exams and to all the VE for their time and effort.

Wednesday Night at Pizza Hut

Wednesday night is Pizza Hut night for the Mt. Vernon Amateur Radio Club. Come socialize with other Club members and have "all you can eat" pizza every Wednesday night. What a great combination. Cost for the Pizza Buffet and a drink is around $9.00. Gathering time is 5:00 p.m.

Contact Dick Huggins, WD8QHY, or Steve Dick, KC8YED, on the Mt. Vernon Repeater for more information.

A special thank you to Frederic Osterman N8EKU, his fine wife Barbara KC8VWI and their wonderful staff at Universal Radio who donated over $200 in books, T-shirts, mug, and equipment to our membership only give-away night. I plan on bringing a thank you card for all members to sign at our next meeting.

The main prizes were gift certificates which were purchased by MVARC and then Fred threw in the extra prizes to round out our top 5 prizes and most of our door prizes. Other door prizes were donated by the estate of Dave Rankin K4AWO, and anonymous donates from club members. Door prizes were drawn for those in attendance, while the top five prizes members needed not be present. Top Prize winners were Marty Morgan KD8FBA winner of the $50 gift certificate, John Nogaj WD8EVQ and Barry Butz N8PPF winners of the $25 gift certificates, Zach McCardel KC8YLE winner of the ARRL 2006 Handbook and 'Doc' Helzer AA8WP winner of the Loop Antenna Book.

All in all the February Give-Away meeting was very fun and something I hope we can continue in the future.

Mt. Vernon ARC Officers

President: Mike McCardel, KC8YLD	**kc8yld@arrl.net**	**Phone: 740-599-6614**
Vice President: Don Russell, WA8YRS	**Wa8yrs@arrl.net**	**Phone: 740-397-0249**
Secretary: Jeff Butz, N8SM	**Jaylynn@copper.net**	**Phone: 740-965-9368**
Treasurer: Barry Butz, N8PPF	**n8ppf@mvarc.net**	**Phone: 740-397-7540**

Newsletter Credits
Editor: Don Russell, WA8YRS

Clip Art and Cartoons thanks to http://wm8c1.50megs.com/radio_clip_art.htm, http://www.qsl.net/k4adl/, http://pages.prodigy.net/kg0zz/clipart/ham_art3.htm, http://www.arrl.org/,

The ARRL letter is a weekly e-mail publication by the ARRL. You may read the entire ARRL letter by visiting the ARRL Web page at http://www.arrl.org/. **Other News** from: http://ky4ky.com/fyi.htm.

The ARES E-Letter is an e-mail digest of news and information of interest to active members of the ARRL Amateur Radio Emergency Service (ARES). Past issues of The ARES E-Letter are available at http://www.arrl.org/ares-el/. Issues are posted to this page after publication.

Project OSCAR is a monthly column written for Newsletter Editors. Columns will appear as space permits. You may download all the columns yourself at: http://www.projectoscar.net/beacon.php

Members are encouraged to send articles pertaining to ham radio, with an emphasis on local activities, equipment reviews, and

Membership Form

Club dues run from Jan. 1 until Dec. 31 and are collected during the last quarter of the year. You can mail in the dues to the address below or bring them to a meeting. Dues are prorated for new members at the time of application. Visit our Web Page at www.mvarc.net

Dues Schedule: $12 regular

$10 for second member in the same family, for those over 65 yrs. of age, and for those living outside Knox County

Mt. Vernon Amateur Radio Club, P.O. Box 372, Mt. Vernon, OH 43050

Name_____Call-Sign_____

Street_____

City_____State_____Zip Code_____

Phone Number_____License Class_____

ARRL Member (Y/N)_____E-Mail_____

Extra Donation (Optional)_____

Members are entitled to a free MVARC E-Mail address. Would you like one? No_____Yes_____

If yes please enter password_____

Other Comments:

GENERAL STUDY GUIDE
PART 6
FROM EARL PAAZIG, N8KBR
http://studyguide.eqth.org/

Read through this material a couple of times, then visit one of the many on-line web pages that allow you to take a General Class practice test. Here are a few: http://www.aa9pw.com/radio/ , http://www.eham.net/exams/ , http://www.qrz.com/ham/ Take a practice test every month and see how your score improves

SUBELEMENT G9 -- ANTENNAS AND FEED-LINES [4 Exam Questions -- 4 Groups]

Yagi antennas - physical dimensions

- When designing a Yagi antenna, SWR bandwidth can be increased by using larger diameter elements.
- The driven element of a Yagi antenna for 14.0 MHz is approximately 33 feet long.
- The director element of a Yagi antenna for 21.1 MHz is approximately 21 feet long.
- The reflector element of a Yagi antenna for 28.1 MHz is approximately 17.5 feet long.
- Regarding a three-element Yagi antenna the director is normally the shortest parasitic element.
- A good way to get maximum performance from a Yagi antenna is to optimize the lengths and spacing of the elements.
- The polarization of the antenna elements is NOT a Yagi antenna design variable that should be considered to optimize the forward gain, front-to-rear ratio and SWR bandwidth.
- One effect of increasing the boom length and adding directors to a Yagi antenna is Gain increases.

Impedance matching

Radiation patterns

- A Yagi antenna is often used for radio communications on the 20-meter band because it helps reduce interference from other stations off to the side or behind.
- In reference to a Yagi antenna, "antenna front-to-back ratio" means the power radiated in the major radiation lobe compared to the power radiated in exactly the opposite direction.

Directivity and major lobes

- The "main lobe" of a Yagi antenna radiation pattern is the direction of maximum radiated field strength from the antenna.

Loop antennas - physical dimensions

- Each side of a cubical-quad antenna driven element for 21.4 MHz is approximately 11.7 feet long.
- Each side of a cubical-quad antenna driven element for 14.3 MHz is approximately 17.6 feet long.
- Each side of a cubical-quad antenna reflector element for 29.6 MHz is approximately 8.7 feet long.
- Each leg of a symmetrical delta-loop antenna driven element for 28.7 Mhz is approximately 11.7 feet long.
- Each leg of a symmetrical delta-loop antenna driven element for 24.9 Mhz is approximately 13.45 feet long.
- Each leg of a symmetrical delta-loop antenna reflector element for 14.1 MHz is approximately 24.35 feet long.

Impedance matching

Radiation patterns

- A two-element quad antenna compares favorably with a three-element Yagi.
- As compared to dipole antenna directional radiation characteristics, the cubical-quad antenna has more directivity in both horizontal and vertical planes.
- Moving the feed point of a multielement quad antenna from a side parallel to the ground to a side perpendicular to the ground will change the antenna polarization from horizontal to vertical.
- In reference to a cubical-quad antenna, the term "antenna front-to-back ratio" means the power radiated in the major radiation lobe compared to the power radiated in exactly the opposite direction.

Directivity and major lobes

- The "main lobe" of a cubical-quad antenna radiation pattern is the direction of maximum radiated field strength from the antenna.

Random wire antennas - physical dimensions

- An end-fed random-wire antenna is a type of multiband transmitting antenna that does NOT require a feed-line.
- One advantage of using a random-wire antenna is that it is a multiband antenna.
- One disadvantage of a random-wire antenna is that you may experience RF feedback in your station.

Impedance matching

Radiation patterns

- The low-angle radiation pattern of an ideal half-wavelength dipole HF antenna installed a half-wavelength high, parallel to the earth is a figure-eight at right angles to the antenna.
- For a horizontal dipole HF antenna, if the antenna is less than one-half wavelength high, the horizontal (azimuthal) radiation pattern is almost omnidirectional.
- If the horizontal radiation pattern of an antenna shows a major lobe at 0 degrees and a minor lobe at 180 degrees, most of the signal would be radiated towards 0 degrees and a smaller amount would be radiated towards 180 degrees.

Directivity and major lobes

- If a slightly shorter parasitic element is placed 0.1 wavelength away and parallel to an HF dipole antenna mounted above ground, the antenna's radiation pattern major lobe will develop in the horizontal plane, toward the parasitic element.
- If a slightly longer parasitic element is placed 0.1 wavelength away

and parallel to an HF dipole antenna mounted above ground, the antenna's radiation pattern major lobe will develop in the horizontal plane, away from the parasitic element, toward the dipole.

Feed point impedance of ½-wavelength dipole and 1/4-wavelength vertical antennas

- An advantage of downward sloping radials on a ground-plane antenna is it brings the feed-point impedance closer to 50 ohms.
- The feed-point impedance of a ground-plane antenna increases when its radials are changed from horizontal to downward-sloping.
- The radial wires of a ground-mounted vertical antenna system should be placed on the surface or buried a few inches below the ground.

Popular antenna feed-lines - characteristic impedance and impedance matching

- The distance between the centers of the conductors and the radius of the conductors is factor that can help determine the characteristic impedance of a parallel-conductor antenna feed-line.
- The typical characteristic impedance of coaxial cables used for antenna feed-lines at amateur stations 50 and 75 ohms.
- The characteristic impedance of flat-ribbon TV-type twin-lead is 300 ohms.
- A difference between feed line impedance and antenna feed-point impedance is the typical cause of power being reflected back down an antenna feed-line.
- The antenna feed-point impedance must be matched to the characteristic impedance of the feed-line to prevent standing waves of voltage and current on an antenna feed-line.
- You would use an inductively coupled matching network with a dipole antenna fed with parallel-conductor feed line to match the unbalanced transmitter output to the balanced parallel-conductor feed line.
- If a 160-meter signal and a 2-meter signal pass through the same coaxial cable, the attenuation will be greater at 2 meters.
- RF feed line losses are usually expressed in dB/100 ft.
- The physical aspects, diameter of the conductors and the distance between their centers, of an air-insulated parallel-conductor transmission line determine its characteristic impedance.

SWR calculations

- A standing-wave-ratio of 4:1 will result from the connection of a 50-ohm feed line to a resonant antenna having a 200-ohm feed-point impedance.
- A standing-wave-ratio of 5:1 will result from the connection of a 50-ohm feed line to a resonant antenna having a 10-ohm feed-point impedance.
- A standing-wave-ratio of 1:1 will result from the connection of a 50-ohm feed line to a resonant antenna having a 50-ohm feed-point impedance.
- If you feed a vertical antenna that has a 25-ohm feed-point impedance with 50-ohm coaxial cable the SWR would be 2:1.
- If you feed a folded dipole antenna that has a 300-ohm feed-point impedance with 50-ohm coaxial cable the SWR would be 6:1.