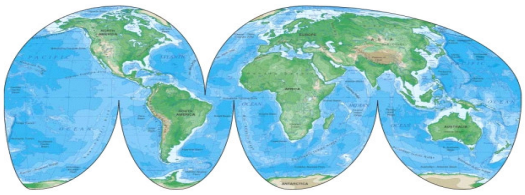
MOUNT VERNON AMATEUR RADIO CLUB

C  Q

October 2006 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

THOUGHTS FROM THE EDITOR

(As if you didn't hear from him enough!)

This month is shaping up to be a very informative Newsletter. We finish off the two part series by Emily Clarke, W0EEC, of the "Oscar Beacon" on improving Satellite reception. We have another article in the series of Ham History edited by Barry Butz, N8PPF. I again present some information on antennas just in time for the Winter DX and Contest season. Mike McCardel, KC8YLD, is back with his column "ComPlOnents"

A very special series makes it debut in our Newsletter. I believe than many experienced Technician Class hams have already absorbed much information just by enjoying Ham Radio on a day to day basis. What is needed is a push in the right direction to take the next step up to the General Class License. A seven part General Class Study Guide will appear on the final two pages of the Newsletter. The study guide is compliments of Earl Paazig, N8KBR. Please see addition information at the beginning of the series.

Looking for something to do with your video camera? You might consider contributing to a growing, amount of ham radio footage. Media professionals W6AQ, W6RCL, and WA6ITF have started an organization called The Ham Radio Video Corps. The goal is to produce footage that can be used for documentary projects. You need not be a professional camera operator! For more information and training on what and how to shoot suitable videos, subscribe to the mailing list at http://yahoogroups.com The address of the group's mailing list is thehrvc@yahoogroups.com or contact Bill WA6ITF at newsline@ix.netcom.com.

CQP Strategy for Little Pistol Stations, an article by Rob K6RB, isavailable at

http://www.cqp.org/pdf/cqp_strategy_k6rb.pdf This is intended to help those that may be new to contesting.

Want to see how the Big Gun Contesters do it? You can copy these contest audio files to a hard drive or portable music player and practice pileups during the morning commute! See how many call letters and exchanges you can get correctly.

http://k5zd.contesting.com/live/wwph05/audio_wwph05.html

http://www.sral.fi/kilpailut/harjoitukset

These web pages were taken from the "Contesters Rate Sheet" published weekly by the ARRL, edited by Ward Silver, N0AX.

Bob, N8PCE, reports that one of our long time club members and fellow ham George Ferri, W8VXO, has Alzheimer's and has not been able to participate in club activities. He does look forward to reading the Newsletter, which keeps him up to date on local happenings.

A few years back George donated some Collins Radio equipment to the club. This equipment was sold at the Mansfield Hamfest and the money put in the clubs Repeater Fund. He was also instrumental in the club obtaining a 30 foot tower for use during Field Day.

Anyone wanting to wish him well can send a card to:

George Ferri, W8VXO, 533 Highland Hills Dr., Howard, Ohio 43028-9400

HAM HISTORY

By Barry Butz, N8PPF

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

As was mentioned in previous columns, much early research involved the relationship between magnetism and electricity. Another of the pioneers of the field was Hans Christian Oersted (1777-1851).

Born to a pharmacist in Rudkoebing in central Denmark, Oersted became a professor of physics at the University of Copenhagen in 1806. Like many contemporary investigators, he sought to identify the links that were widely expected to exist between electricity and magnetism. In 1812, his View of Chemical Laws announced his belief in the relationship, based partly on a philosophical conviction, in the inherent interconvertibility of all forces, but also on the observation that if electricity could generate heat and light, it could perhaps do the same for magnetism. With the probable exception of the Italian lawyer Gian Domenico Romagnosi, who only published his results in his local newspaper, no experimenter had hitherto succeeded in getting the new-found power of the voltaic pile to make an electrical current deflect a compass needle.

However, in 1819-20 Oersted discovered the fundamental connection during a classroom experiment: the needle was unexpectedly deflected at right angles to the plane of the current. Moreover, Oersted inferred that the current tended to generate magnetic forces that acted 'rotationally' in a circle around the axis of the wire, a phenomenon that neither he nor fellow physicists could explain at first. Nevertheless, this breakthrough was widely heralded throughout European scientific communities and opened up a whole new field soon known as 'electromagnetism'. In Denmark Oersted is especially remembered for founding the Danish Society for the Promotion of Natural Science in 1824, and for first isolating metallic aluminum a year later.

In 1932, the international scientific community acknowledged Oersted's foundational work in electromagnetism by adopting the term "oersted" as the unit of magnetic field intensity.

The Satellite Beacon

A monthly article presented by the Project OSCAR Amateur Radio Club

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This Month's Topic –
Improving Satellite Reception Part 2
By Emily Clarke, W0EEC – VP of Project OSCAR

Last month we discussed receivers, antennas and coax. This month topic is dedicated completely to the subject of pre-amplifiers or preamps.

Pre-amplifiers are generally the most important addition to any satellite receive subsystem. HF operators will swear "preamps only amplify noise" but they usually refer to preamps built into the rig itself and not preamps mounted at the antenna. Satellite operators always refer to preamps that are mounted on the antenna mast or boom, and are literally as close to the antenna as feasible.

The primary role of a mast-mounted preamp in a satellite station is to overcome coaxial cable losses and improve the strength of the signal. For example, if you have a 100 foot length of 9913 cable between the 70cm antenna and radio, the loss from the cable will be almost 3db (plus probably .5db for each of the connectors.) This means more than ½ of the signal received at the antenna will be lost by the time it reaches the radio. Considering some smaller satellites are transmitting as little as 10mw, 3db of cable loss is not trivial. By inserting a preamp it will boost the signal to overcome the loss. While preamps can increase noise, especially in urban environments, most mast-mounted preamps will help particularly if you have smaller beam antennas.

Pre-amplifiers are generally designed for a specific amateur band and optimized to receive signals only in that band. This means if you are planning on working both 2M and 70cm you will need two separate preamps. If you think about it this makes sense for two reasons. By limiting itself to a specific band it will reject out of band signals that could saturate the amplifier. It is important to select a preamp optimized for the satellite portion of the band you are using. Also, since you generally have two antennas, one for each band switching a preamp from one antenna to the other would be cumbersome.

There are a number of other factors to consider when choosing a preamp. The first is how to power the preamp, now located far from the shack. Preamps are powered by DC voltage and in many cases, DC power can be provided through the coax from either the radio or by using a bias-T to inject DC into the coax. In some cases you will be required to run DC power up to the

preamp separately.

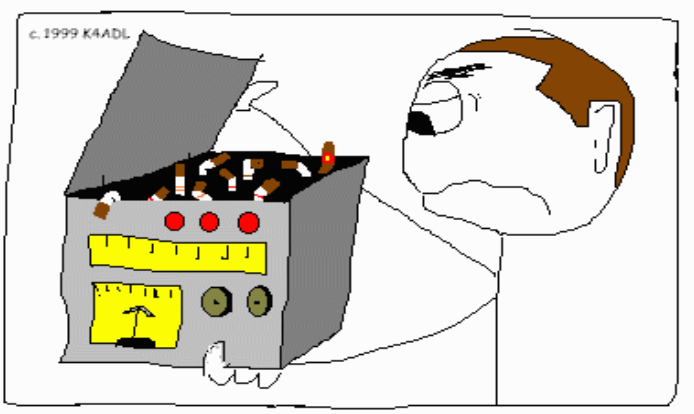
When unpowered the preamp will generally bypass its internal electronics and switch the coax directly to the antenna. It is only when the preamp is powered up that a relay engages and switches the receive signal through the amplifier. If the preamp's delicate circuitry is not bypassed during transmission it will damage the components that are not designed to handle transmitted power. But be careful – some preamps are sold for "RX ONLY".

Some rigs will turn off power a few milliseconds before keying up it's transmitter to allow the preamp to be bypassed. This is a safety feature that allows you to transmit through the preamp while protecting the circuitry. This is also called the Push-To-Talk or PTT method. In other designs the preamp will sense RF coming from the radio and will automatically bypass itself when the power reaches a certain point (also called the VOX method). When selecting a preamp it is important to know which method your preamp uses and make sure it is matched to your rig.

The next factor in selecting a preamp is noise figure. This is the contribution of the device itself to thermal noise in the system. This is typically less than .8db for devices with GaAsFet amplifiers, but some lower cost preamps that use MMIC devices can be as much as 3.5db. I was appalled at Dayton to find that one kit vendor was selling a "Low Noise Preamp" that had a noise figure of 5.5db! That's a tremendous amount of noise for the satellite signal to overcome. Although you are overcoming 4.5db loss in your 9913, you are replacing it with 5.5db of noise! So when selecting a preamp you should consider one that has a lower noise figure. A good GaAsFet preamp will cost a bit more, but the differences are highly noticeable.

The last factor in selecting a preamp is gain. Many preamps will have 20db or more of gain, so this is not a big problem since even in the worse case (100 feet of RG-58) loss would be about 11db. However, if you have very good coax, you may want to use a preamp with a lower noise figure and lower gain. A feature in some preamps is adjustable gain, so matching gain to coaxial loss is a good strategy. I prefer to have my preamp adjusted so that the background noise level is at S-0. That way when I see an S-9 signal, I know it is S-9 over the noise level.

To my knowledge Icom is the only radio manufacturer who offers preamps that are built specifically for their radios. Most people will use an after-market preamp. Here is a list of other preamps and vendors.
Kuhne Electronic GmbH - http://www.kuhne-electronic.de/ - low noise preamps
SSB Electronics – http://www.ssbusa.com: SSB ultra low noise and distributor for Kuhne preamps
Down East Microwave (DEMI) – Low noise preamp kits (note – generally receive only.)
WiMo - http://www.wimo.com/: distributes SSB and MicroSet preamps



WHY HAMS PREFER TO BUY USED GEAR FROM NON-SMOKERS.

REPEATERS AND STUFF

By Don Russell, WA8YRS

Remember last month when I mentioned NVIS antennas? NVIS antennas radiates a pattern almost straight up. The idea behind this is that most of the radiated signal will come back down in the relatively small area, radio wise, of about 300 miles. The advantage is that the signal is going to be very strong in this 300 mile range and very weak beyond this. Same is true for receive. One should receive signals very well out to 300 miles, but beyond that, the signals will be weak. This is very good for regional traffic nets on 75 meters and 40 meters. Not so good for working long distance (DX). That being said, some DX will be workable because signals can and do hop many times before arriving at its destination.

While reading up on NVIS antennas, I found out that the typical ham antenna set up for 75 and 40 meters may already be a version of an NVIS antenna. Take a dipole for example. The signal "take off" angle of a dipole depends on how high off the ground the dipole is. Anything below half a wavelength is a high radiator. As you approach half a wavelength and higher, the signal starts to radiate at a lower angle. Under these conditions a dipole becomes a very good DX antenna.

Now, consider that for an antenna to be half a wavelength high on 75 meters, one needs to get the antenna up 135 feet! A 40 meter antenna would need to be 60 feet high! Want to get on 160 meters? Well, now we are talking 270 feet! Since most dipoles are hung much, much lower on these bands, they tend to radiate at high angles. They are more NVIS antennas than DX

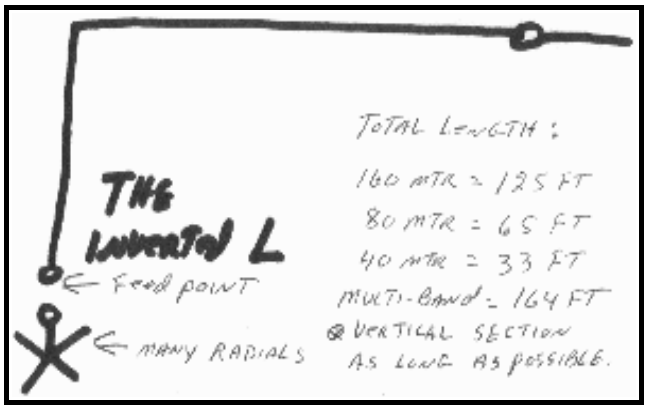
antennas. Sure, they work their share of long distance stations only because of the double hop theory presented earlier.

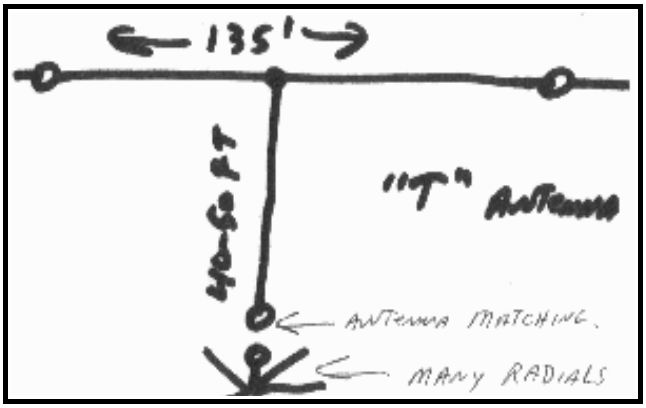
So, if one cannot get a dipole up 60 to 270 feet, how does one put up an effective DX antenna? The answer to this question is to use a Vertical antenna. Verticals that are properly installed radiate well at low angles. That is, somewhere between 24 and 34 degrees. A good "take off" angle for working DX. The standard Vertical antenna is a one quarter wavelength long. That would be 125 feet on 160 meters, 65 feet on 75 meters and 32 feet on 40 meters. Okay, 65 to 125 feet is still a bit of a challenge, but a 40 meter antenna at 35 feet is very doable. Fortunately for us, the 160 meter or the 75 meter antenna can be shortened considerably and still be an efficient, effective antenna.

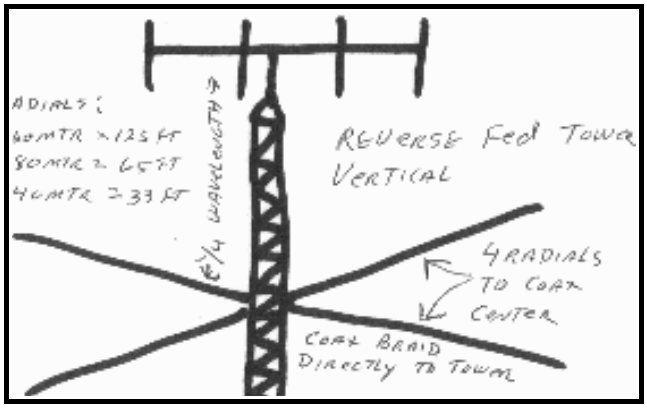
There are several methods to do this. First is the old fashioned way. Add inductance (a loading coil) to the antenna. This coil could be placed at the bottom or in the middle. Of the two, the bottom coil is less efficient. Another method that has become popular is called linear loading. This is where you fold a wire back along the antenna, several inches from the orignal wire, and connected to the top of the wire. Like an upside-down "U". There is also top loading, in which one would have several wires or elements at the very top of the Vertical running parallel to the ground (perpendicular to the Vertical part of the Antenna) like the letter "T". Get it? I believe that the most efficient way to shorten a Vertical antenna is with top loading.

A very popular shortened Vertical antenna is called the Inverted L antenna. It looks like an upside-down "L". The idea is to have as much of the antenna as possible in the Vertical position, with the remaining antenna running horizontal to the ground.. Usually the Inverted L antenna is made with number 12 or 14 wire and it is 1/4 wavelength long at the operating frequency. The 160 meter Inverted L would be 125 feet in total length. A 75 meter Inverted L antenna would be approximately 65 feet long. Let's take a 75 meter Inverted L as an example. One can use a tree limb as the peak of the antenna. Say the tree limb is about 40 feet up. Then you could place the Vertical part of the antenna up 40 feet and the Horizontal part about 25 feet so that the total length of the antenna is 65 feet or so. Make it a bit longer so it can be pruned to low SWR. The horizontal part can go over to another tree limb, or anywhere else convenient. It should be as horizontal as possible, but one does what needs to do be done. I once installed of these antennas where the peak was 30 feet and the end of the wire was about 7 feet off the ground. It worked.

With an Inverted L antenna, you will get a mixture of Vertical and Horizontal radiation of your signal. The antenna works well as a general all around antenna because of this.







While an Inverted L works nicely as a single band antenna, A big plus is that it will work very well as a multiband antenna. When used as a multiband antenna for 160 thru 6 meters, usually the length is cut to around 164 feet. The average installation is 40 or 50 feet of vertical wire and the rest horizontal. Use an antenna tuner at the bottom of the antenna. One of the auto tune antenna tuners would work well in this service, otherwise you will have to go outside and retune the antenna when changing bands. An alternative is to run ladder line into the shack and to a manual antenna tuner. I know one ham who uses a short piece of coax from the antenna to the antenna tuner and works 160 through 6 meters. This may work if one uses low loss coax of the 9913 vintage or better (hardline would be perfect), and keep the run as short as possible. A thirty foot run may be too much. twenty feet may or may not be okay. Even though 164 feet is optimal, if there is not enough room, don't sweat it. Put as much wire up as you can and give it a try using a

tuner. The 164 feet is recommended only because it makes the antenna easier to tune with an antenna tuner. Most antenna tuners will do an acceptable job with shorter wires. This is Ham Radio. The more things tried, the more things learned.

On the down side. As with any vertical, there needs to be a counterpoise system installed. That means radials, buried or not. Eight radials a quarter wavelength long in my mind would be a minimum for good results. I would prefer at least 20 or 30 myself. Keep in mind quarter wave radials will be 65 feet long on the 75 meter band. Twice that on 160 meters and half that on 40 meters. The good news is that if you bury the radials no one will know they are there except you. At the expense of a lot of work of course!

Also worth mentioning is the "T" antenna described a bit earlier. This antenna would be no harder to install than a dipole, as long as there were two supports available. If installing a "T" antenna for 75 meters, the horizontal part should be about 130 feet long. Then right in the the middle of the horizontal wire is where the vertical wire would be attached. Get the horizontal wire as high as possible so that the vertical part of the antenna would be as long as possible. One band systems can be prunned to resonance. Multiband systems can be configured the same way as the Inverted L antenna by using a tuner. Run the radials and this antenna is ready to go.

There is one more Vertical antenna worth mentioning, if one has a tower. The popular way to turn a tower into a Vertical antenna is to attach a wire at the top and run it down to ground level keeping this wire 12 to 20 inches from the tower. Then you use a matching network between the bottom end of the tower and the ground/radials to "load" the tower. The theory is that any tower of any length can be loaded and act as an antenna as long as the matching network is able to match the antenna to the radio. Meaning of course, arriving at a low SWR value. You will still need to run radials to make this system work.

A growing trend is to use a reverse fed system, introduced by N4KG in the June, 1984 QST. With this system, you approximate at what point the tower is resonant at the frequency desired. Then you attach several Quarter wave radials at this point on the tower. Here is the twist: Instead of attaching the radials to the tower, one uses an insulator and attaches the wires to the center braid of your transmission line (coax). The outside braid of the coax goes directly to the tower at the same point. If the SWR is not low enough, go up or down the tower a bit to find the low SWR spot. You can use one to four radials. I think two radials would work okay. One may work, but be sure to run it in the direction the signal is to favor as the signal will be stronger the way the radial is running. Attach the ends of these radials to a tree or post out of the way. At least seven feet high as a safety measure. In this system you do not need to run the radials on the ground. If you have antennas on top of the tower, so much the better. They will act as top loading for the tower. A forty foot tower would be made to work on 75 meters without much of a problem, if the tower is top loaded with triband beam or something as large. If all you have is a 2 meter vertical on the tower, I would suggest running a wire at the top of the tower over to a tree or something. At least 40 feet of wire.

I have actually tried this Reverse Fed antenna with two radials. My tower is 55 feet tall with a triband beam at the top. I was able to use this method of feed on 160 and 75 meters. I worked a lot of stations with it, so I can say it worked Not real sure what the radiation pattern of the antenna was though. A 55 foot tower is a bit short for 160 meters. This reverse fed antenna system is easy enough to install if one already has a tower. The work saved not having to install ground radials is key to this system. I may re-visit this method as I prepare my station for the contesting season. Never hurts to have one more antenna option.

That is it for this month. See you at the meeting.

ComPIOnents – October 2006

By Mike McCardel, KC8YLD

Newsletter takes 2nd Place

The Mount Vernon Amateur Radio Club's newsletter "CQ" recently won second place in the Ohio Section Newsletter Contest. Edited by Don Russell, WA8YRS, its second place score of 84 was the second highest in the 15 year history of the contest. Don was issued a framed certificate, which, in Don's absence, was presented to Knox County PIO Mike McCardel, KC8YLD at the recent Ohio Section Conference.

With a record score of 85, first place went to "The Buckeye Burr" of the Buckeye Belles. Edited by Susie Scott, N8CGM while third place honors went to "Q-Match" of the Warren Amateur Radio Association edited by Emily Wells, KC8RAL. In all there were 39 entries this year.

In response to the phone notification by Section Manager, Joe Phillips, K8QOE, Russell said, "I always believed we put out a good newsletter, but I had no idea." The annual contest, started by then Section Public Information Coordinator Joe Phillips, is in its fifteenth year. It was started to improve the quality of club newsletters. A team of non-hams, from the publishing,

advertising and graphic arts professions, judges the newsletters. Judging is based on design, content, and

service to its target organization. Scoring is weighted toward content and service to the target group.

Congratulations Don for putting together such a fine newsletter! We are all very proud of it.

MVARC Club Meeting Monday October 9, 7pm at Red Cross

The next meeting of the Mount Vernon Amateur Radio Club will be 7pm Monday October 9 at the American Red Cross of Knox County Training Facility. On the agenda will be appointment of the Officer Nomination Committee, Discussion of setting up an amateur radio station at the Red Cross EOC, Upcoming Tech class and License Exams, background checks by Red Cross and Don getting to show off his newsletter award.

Red Cross receives FCC License Grant

The American Red Cross of Knox County (Ohio) received their grant for license call sign WQFQ702 under the FCC's IG Service (Industrial/Business Pool, Conventional) Granted September 11, 2006 their license is good for 10 years. They will have a fixed repeater on the County Commissioners' tower at 17640 Coshocton Rd. They will also be allowed up to 3 On Scene/mobile relay stations under the 6.1 meter rule (antenna/tower up to 20 feet) and will be allowed up to 48 mobile units. Their operating frequencies will be 452.050 and 457.050. More information can be found by doing a call sign search at the FCC ULS site,

http://wireless2.fcc.gov/UlsApp/UlsSearch/searchLicense.jsp.

They have contracted with Vasu Communications for their equipment. Along with establishing an in house communication system ARC of Knox County is also asking for assistance from the Mount Vernon Amateur Radio Club (MVARC) in establishing an amateur radio station at the Red Cross offices in Mulberry. The amateur station will be used for support and backup in instances where their system isn't practical and as a base for other amateur operations during emergency and club operations. Dave Gore of ARC of Knox County has been very happy with the spirit of cooperation between ARC of Knox County and MVARC. It is his desire to formally enter into a memorandum of Understanding (MOU) with either MVARC or Knox County Ares as an addendum to the national MOU between ARRL and The American Red Cross. I personally believe this is a great idea, and one that will serve us well.

Tech Class Training Planned

Don Russell, WA8YRS and Mike McCardel, KC8YLD will be conducting a training class for prospective technicians. We will also consider working one on one or in study groups for anyone interested in upgrading to their General Class license

.

Classes will begin Thursday Oct 19 and continue each Thursday thereafter through Dec 7. Classes will begin at 7pm with a half hour of CW training and conclude approximately 9:30pm. Morse Code training CD's, Technician Class Study Guides, and General Class Study Guides will be made available free of charge.

On December 9 at 9am the Knox County VE's will conduct an FCC/ARRL sanctioned all elements testing session open to all.

If you know anyone interested in the class have them contact Don at 740-397-0249 or via email wa8yrs@arrl.net. If you know anyone interested in taking the exams have them contact Mike at 740-599-6614 or via email kc8yld@arrl.net

No winner in August contest

In the August newsletter, in an article titled "How easy is it to become a ham?" I asked the question "Can you pass this test?" and listed the 10 criteria needed to successfully complete the qualification. I then challenge all readers to submit what the test would qualify you for and when was it effective. Unfortunately, no one ventured a guess, so I get to keep the oval HAM sticker. However, I ask that you revisit the article and as you read through it, know that, in 1935, the successful completion of the 10 criteria would qualify you for a BOY SCOUT MERIT BADGE.

Red Cross to require Background Checks for Employees and Volunteers

We heard the rumors a couple months ago and they have been subject to much talk at every ARRL and ARES meeting I've been to over the last couple months. The American Red Cross is indeed requiring their employees and volunteers to have background checks.

The question most discussed is what constitutes a Red Cross Volunteer. Are Amateur Radio Operators called in to assist with communications Red Cross Volunteers? The answer seems to be maybe, maybe not.

Regardless, the bottom line is that the Red Cross is responsible for who has access to Red Cross facilities, shelters and field units. Does that mean an individual cannot participate in support of the Red Cross in the event of an emergency or drill. No, but it does mean any individual who has not had a background check by the Red Cross will not be allowed to work at a shelter or other direct care locations. If you haven't submitted to a background check you may well be permitted to participate from home or from a remote location.

I believe this is just the beginning and that other NGO (Non-Government Organizations) will be following suit. The concern is real and is a direct sign of the times.

The next question is who will do the background checks and more importantly who will foot the cost? In conversation with David Gore, Director of the American Red Cross of Knox County, he stated that the National Red Cross has contracted with the a third party company to do their background checks for them and that the national organization will be paying the tab through mid-October. After that the local chapter is responsible for the cost. Dave is asking that any Amateur radio operator who may have a desire in supporting communications in the future should act know and submit to the Red Cross background check within the next two weeks. The process is easy and I registered online in about 2 minutes. Here are the steps:

1. You MUST use Internet Explorer
2. Go to http://www.mybackgroundcheck.com/ArcVts/
3. Click on button the that reads "Request background Check"
4. Click on Ohio on the Map
5. Click on link "ARC of Knox County" (6th from top)
6. Read all Disclaimers and Accept
7. Click HERE to get started
8. Choose Volunteer Candidate
9. Fill in the Personal Information. Information you will be asked to provide is:
   - First Middle and last name
   - Your Address City State and Zip
   - Social Security or Tax Identification Number
   - Date of birth, Phone, Mother's maiden name,
   - email address, Drivers License number, State of issuance, Issue Date and Expiration Date
10. Submit request

Once submitted, results will be returned to the American Red Cross Chapter. Also, you will receive a free background check certification mailed to the address you used in your request.

It is my belief that this certificate along with being on file with the Red Cross may be accepted by other agencies in the future, or may be used in the field to verify you have complied with this requirement.

Submitting to this check may not be for everyone. That said, be aware that you just might be turned away with out it. If you have any questions about the Red Cross background check, please refer them the ARC of Knox County Chapter, 300 N. Mulberry, Mount Vernon, OH 43050, or telephone 740-397-6300

MVARC

Mt. Vernon Amateur Radio Club
Minutes for the August 14, 2006 Meeting.

Attendees:

Ruben Clark	KB2SAI
Jeff Butz	N8SMT
Don Russell	WA8YRS
Mike McCardel	KC8YLD
Don Bunner	KB8QPO
Bob Bruff	N8PCE
Robert McBride, Sr.	N8QPM
Larry Helzer	AA8WP

President Clark called the meeting to order at 7:17 P.M.

The minutes from the July 11th meeting were read and a motion to accept them was made by Bob Bruff, N8PCE and seconded by Larry Helzer, AA8WP. The motion was approved.

Repeater report

Steve Dick, KC8YED, has not returned the 440 repeater. He has found another problem with it and is working on it. The 2-meter repeater is working fine. There have been some sensitivity problems a couple of times with it but only during storms. It might be a loose connector. The 6-meter repeater could be more sensitive. They will investigate when Barry, N8PPF gets back.

Treasurers Report

Nothing in and nothing out so the balance is the same as last month except for $24 for two new dues that was delivered to him tonight.

Emergency Coordinator Report

Bob McBride, N8QPM gave a report on the tornado and that it was a good thing that we didn't rely on the national weather service to issue a tornado warning before we brought the net up.

Public Information Report

Public Information Officer Mike McCardel, KC8YLD went to the District 6 meeting they talked about redistricting but no decision has been made. They also talked about forming Amateur Radio Teams that will require a background check in order to participate because of Homeland Security.

The motion to adjourn was made by Jeff Butz, N8SMT and seconded by Don Russell, WA8YRS. The motion carried and the meeting was adjourned at 7:58 P.M.

MVARC

Mt. Vernon Amateur Radio Club
Minutes for the September 11, 2006 Meeting.

Attendees:

Ruben Clark	KB2SAI
Jeff Butz	N8SMT
Dick Huggins	WD8QHY
Don Russell	WA8YRS
Mike McCardel	KC8YLD
Robert McBride, Sr.	N8QPM
Larry Helzer	AA8WP

President Clark called the meeting to order at 7:20 P.M.

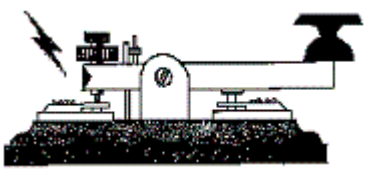
Public Information Report

Public Information Officer Mike McCardel, KC8YLD reminded everyone the Ohio State ARRL Section Meeting will be held at the AOC this Saturday from 9 A.M. to 3 P.M.

Repeater report

Don Russell, WA8YRS, reported that Steve Dick, KC8YED, might be able to mount the 440 repeater on the County Sheriff's Tower. Steve is working this out. The 2-meter repeater is working fine. The 6-meter repeater could be more sensitive. They will investigate when Barry, N8PPF gets back. He mentioned that he and Mike McCardel, KC8YLD, are talking about another HAM training class and to see the newsletter when it comes out for more details.

The meeting was adjourned at 7:45 P.M.



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 Schedule: $12 regular, $10 for second member in the same family, for over 65 years of age, and for those living outside Knox County.

Mail Dues to: **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)___ EMail_____

Extra Donation (Optional)_____

Members are entitled to a free MVARC E-Mail address.

Would you like one? No_____Yes_____

If yes please enter password_____

The Mt. Vernon Amateur Radio Newsletter, CQ, is published monthly by the Mt. Vernon Amateur Radio Club.

Editor: Don Russell, WA8YRS

President: Ruben Clark, KB2SAI
Vice President: Don Russell, WA8YRS
Secretary: Jeff Butz, N8SMT
Treasurer: Bob Bruff, N8PCE

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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

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

GENERAL STUDY GUIDE
PART 1
FROM EARL PAAZIG, N8KBR
http://studyguide.eqth.org/

Want to pass the General Exam? This study guide, compliments of Earl Paazig, N8KBR, can help. Basically, it is a summary of the General Class Question Pool turned into statements. The material is taken directly from Earl's own "Amateur Radio General Class Study Guide", only reformatted to fit the Newsletter. There will be seven parts to this guide. If you are in a hurry, visit Earl's web page at http://studyguide.eqth.org/ and download the full version of the Study Guide. While there, check out Earl's other items, including a Technician Class Study Guide and Power Point presentations for the Tech Exam. If you do not have internet access, let me know and I will print out a copy of the Tech or General Class Study guide for you and bring it to the meeting.

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 G1 -- COMMISSION'S RULES [6 Exam Questions -- 6 Groups] General control operator frequency privileges

Frequency privileges for a General Class control operator (ITU Region 2):

Band Frequencies
- 160-meter 1800 - 2000-kHz
- 75/80-meter 3525 - 3750-kHz and 3850 - 4000-kHz
- 40-meter 7025 - 7150-kHz and 7225 - 7300-kHz
- 30-meter 10100 - 10150-kHz
- 20-meter 14025 - 14150-kHz and 14225 - 14350-kHz
- 17-meter 18068 - 18168-kHz
- 15-meter 21025 - 21200-kHz and 21300 - 21450-kHz
- 12-meter 24890 - 24990-kHz
- 10-meter 28000 - 29700-kHz
- 10-meter 28300 - 29700-kHz Phone emissions

Antenna structure limitations
- Provided it is not at or near a public-use airport, 200 feet is the maximum height above ground an antenna structure may rise without requiring its owner to notify the FAA and register with the FCC.

Good engineering and good amateur practice
- If the FCC Rules DO NOT specifically cover a situation, you must operate your amateur station in accordance with good engineering and good amateur practice

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Beacon operation
- Beacon Stations transmit only one-way communications. All transmissions must use audio frequency shift keying (AFSK) is NOT an FCC requirement regarding beacon stations.

Restricted operation
- Under limited circumstances, music may be transmitted by an amateur station when it is an incidental part of a space shuttle retransmission.
- In two-way communication, an amateur station may never transmit a message in a secret code in order to obscure the meaning of the communication.
- Abbreviations or procedural signals in the amateur service may be used if they do not obscure the meaning of a message.

Retransmitting radio signals
- Retransmission of space shuttle communications is NOT prohibited by the FCC Rules.
- Turn down the volume of background audio to prevent your station from retransmitting music or signals from a non-amateur station.

Transmitter power standards; Certification of external RF-power-amplifiers; Standards for certification of external RF-power amplifiers; HF data emission standards
- The maximum transmitting power an amateur station may use is the minimum power necessary to carry out the desired communications with a maximum of:

Frequency Power

- 1825 kHz 1500 watts PEP output.
- *3690 kHz 200 watts PEP output*
- 7080 kHz 1500 watts PEP output
- 7255 kHz 1500 watts PEP output.
- *10.140 MHz 200 watts PEP output*
- 14.300 MHz 1500 watts PEP output.
- 21.305 MHz 1500 watts PEP output.
- 24.950 MHz 1500 watts PEP output
- The maximum transmitting power a station with a General Class control operator may use is the minimum power necessary to carry out the desired communications with a maximum of:

Frequency Power
- 28.150 MHz 1500 watts PEP output.
- 28.400 MHz 1500 watts PEP output.
- When a station is transmitting on the 60-meter band, it is NOT a requirement for antenna height to not exceed 50 feet above mean sea level (AMSL).

Examination element preparation
- Examination elements that you may prepare when you hold a General class operator license are Elements 1 and 2 only.
- The minimum examination elements an applicant must pass for a Technician Class operator license is Element 2 only.
- Elements 1 and 2 are the minimum examination elements an applicant must pass for a Technician Class operator license with Morse code credit to operate on the HF bands.

Examination administration
- The license examinations you may administer when you are an accredited VE holding a General Class operator license is the Technician and Morse code.

- The requirements for administering a Technician Class operator examination are that three VEC-accredited General Class or higher VEs must be present.
- You may participate as an administering VE for a Technician Class operator license examination once you have been granted your FCC General class or higher license and received your VEC accreditation.
- Once you have been granted your FCC General Class or higher operator license and received your VEC accreditation you may participate as a VE in administering a Morse code examination.

Temporary station identification
- If you are a Technician Class operator with a CSCE for General Class operator privileges, you must give your call sign, followed by the slant mark "/", followed by the identifier "AG" to identify your station when transmitting on 14.035 MHz.
- If you are a Technician Class operator with a CSCE for General Class operator privileges, you must give your call sign, followed by any suitable word that denotes the slant mark and the identifier "AG" to identify your station when transmitting phone emissions on 14.325 MHz.
- If you are a Technician Class operator with a CSCE for General Class operator privileges, whenever you operate using your new frequency privileges you must add the special identifier "AG" after your call sign.
- If you are a Technician Class operator with a CSCE for General Class operator privileges, you must include the special identifier "AG" after your call sign on all the following band segments:
- Whenever you operate from 18068 - 18168-kHz
- Whenever you operate from 14025 - 14150-kHz and 14225 - 14350-kHz
- Whenever you operate from 10100 - 10150-kHz
- (All of these choices are correct)
- If you are a Technician licensee with Morse code credit and hold a CSCE for Element 3, one way you could identify your station when transmitting phone emissions on a General class amateur frequency is to give your call sign followed by the words "temporary AG".

Local control
- As a General Class control operator at the station of a Technician Class operator, you must identify the station while transmitting on 7250 kHz with the Technician Class operator's station call sign, followed by the slant bar "/" (or any suitable word) and your own call sign.
- Only if the 10-meter control operator holds at least a General class license may a 10-meter repeater retransmit the 2-meter signal from a station having a Technician Class control operator.

Repeater and harmful interference definitions
- A Repeater station is an amateur station that simultaneously retransmits the signals of other stations on a different channel.
- Harmful interference is a form of interference that seriously degrades, obstructs or repeatedly interrupts a radio communication service.
- Should a repeater cause harmful interference to another repeater when a frequency coordinator has recommended the operation of one station only, the licensee of the uncoordinated repeater is responsible for resolving the interference.
- Where the FCC rules say that the amateur service is a secondary user and another service is a primary user this means that amateur stations are allowed to use the frequency band only if they do not cause harmful interference to primary users.
- The action you must take while using the 30-meter band when a station assigned to the band's primary service causes interference is change frequencies; you may be causing harmful interference to the other station, in violation of FCC rules.
- Amateur radio stations have no protection from harmful interference caused by primary service users while operating in the 60-meter band.
- Amateur radio stations must not cause harmful interference to stations operating in other radio services while operating in the 60-meter band.

Third party communications
- Messages of a technical nature or remarks of a personal character for a third party may be transmitted by an amateur station to a foreign country.
- While you are using a language other than English in making a contact, what language you must use English when identifying your station.
- Use local or remote station control at an amateur radio station while it is transmitting third party messages.

Certification of external RF-power-amplifiers; Standards for certification of external RF-power amplifiers
- External RF power amplifiers designed to operate below 144 MHz may require FCC certification.
- Without a grant of FCC certification, you may build or modify one (1) external RF amplifier of a given design capable of operation below 144 MHz in one calendar year.
- Where FCC certification of an external RF amplifier is required, the amplifier must not be capable of reaching its designed output power when driven with less than 50 watts.
- The capability of being switched by the operator to all amateur service frequencies below 24 MHz would NOT disqualify an external RF power amplifier from a FCC certification grant.
- In order to receive a FCC grant of certification an external RF amplifier exhibit must not be capable of operation on any frequency between 24 MHz and 35 MHz.
- The maximum power gain that a 10-meter RF amplifier can have to receive FCC certification is 6 dB.

HF data emission standards
- The maximum symbol rate permitted for RTTY emissions transmitted on frequency bands below 10 meters is 30 bauds.
- The maximum symbol rate permitted for packet emission on the 2-meter band is 19.6 kilobauds.
- The maximum symbol rate permitted for RTTY or data emission on the 10-meter band is 1200 bauds.
- The maximum symbol rate permitted for RTTY or data emission on the 6- and 2-meter bands is 19.6 kilobauds.
- The maximum authorized bandwidth for RTTY, data or multiplexed emissions using an unspecified digital code transmitted on the 6- and 2-meter bands is 20 kHz.