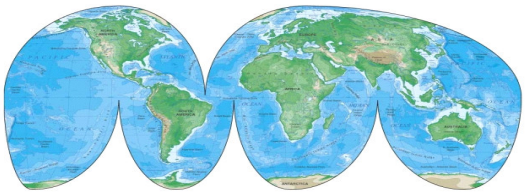
MOUNT VERNON AMATEUR RADIO CLUB

C  Q

November 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

A Message From the Editor

October was a very busy month for me. Most of it, ham radio wise, was involved in preparing for the Technician Class course . One thing I wanted to do was revise my Morse Code CD course. I spent a lot of time doing so, but I am still not totally satisfied with the results. This was revision three of my course. I plan on working on revision four this Winter. By the way, I like the last two CD's. CD three has simulated Morse Code tests at 5 words per minute, much like the ones that are given at the real testing session CD four has more of the same style tests, only at 6 words per minute. If you can copy CD four, you should be good to go. I plan on redoing CD's one and two. These are the two CD's that teach the characters. If you want a copy of the revised CD set, let me know.

For the months of November and December, I plan on emailing notices to non club members announcing that the current Newsletter may be downloaded from the MVARC web site. I am doing this in an attempt to bolster our membership. Most local hams probable do not know that we lowered our dues from $20 a year to $12 a year for regular membership. Maybe a few would like to rejoin the club. Emailing costs the club nothing and we have everything to gain. I am also planning a limited number of extra Newsletters to be mailed to local hams that do not have email addresses. These will be to past members.

This will only be done for November and December and then it will be business as usual.

Club Christmas Dinner Set

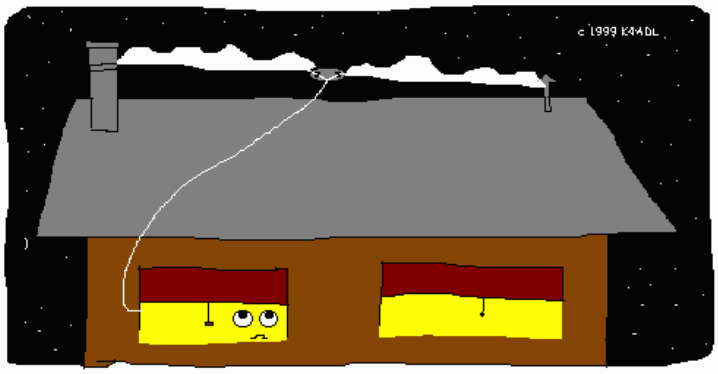
The annual Mt. Vernon Amateur Radio Club Christmas dinner is set for Sunday, December 10, 2006 at Ryan's Steak House on Coshocton Road in Mt. Vernon. Dinner starts at 6 PM. After paying for your meal, ask to be seated with the Amateur Radio Club. There will be a short meeting afterwards and this dinner takes the place of our regular December meeting.

FOR WEB SURFERS

NAOMI, the **North American Overlay Mapper** has been re-issued as a fully Windows-compatible program. Starting with the latest version v1.2, NAOMI is now available for download completely free of charge. Get a FULLY WORKING copy of NAOMI on your computer for as long as you wish to keep it. Among numerous other features, the program contains 47 full-screen (1020 x 650 pixel) maps at 1:2,000,000 scale. 2 full screen overview maps and a comprehensive multi-page Help System and Information Guide. It's available online at http://www.mapability.com/ei8ic

The videos made at WRTC-1996 and WRTC-2000 are now available for downloading. There are three different ways to get to the videos: Go to http://video.google.com and search for "WRTC". Go directly to WRTC 1996: http://tinyurl.com/k8las (177 MB). Go directly to WRTC 2000: http://tinyurl.com/jp7nd (207 MB). Caution: as you can see, these are large files. Do not attempt this if you are on dial up!

Here is another interesting site: http://local.live.com for photographic views of earth-bound stuff from space. Just enter an address at the top of the page, then click on "Birds eye", next to "Aerial". (It might not have a bird's-eye view available.) Click N E S W for different views. Zoom in with a scroll wheel, if you have one.



WILBUR ASSUMED HIS MAGNET-WIRE DIPOLE WAS INVISIBLE TO THE HOMEOWNERS' ASSOCIATION, BUT THE FIRST SNOWSTORM OF THE SEASON PROVED HIM WRONG.

HAM HISTORY

By Barry Butz, N8PPF
Credit for this article goes to: International Electrotechnical Commission (IEC)
http://www.iec.ch/100years/techline/

My favorite electrical unit is the Coulomb. This is because when I understood that unit, I then understood the ampere, and then it all fell into place. To give you a reminder, a coulomb is a large quantity of electrons: 6240000000000000000 approximately. You can see why a simpler unit was needed. Anyway, a current flow of one coulomb per second equals one ampere.

Charles-Augustin de Coulomb (1736-1806) was born in southwest France, but raised and educated in Paris, Coulomb graduated in November 1761 as an engineer. As a lieutenant in the Corps du Génie, he was involved for two decades in structural design, fortifications and soil mechanics at a range of military locations in France and its overseas colony Martinique in the West Indies. Although Coulomb's health suffered, the insights he gained into applying sophisticated mathematics to practical problems proved invaluable, for example using the calculus of variations in architecture in his first memoir of 1773. While posted to Cherbourg he wrote a memoir on the magnetic compass that examined how torsion suspensions could be used to measure extremely small forces. This jointly won the Grand Prix of the Académie des Sciences in 1777 and was later the theoretical basis of the apparatus he devised for measuring electrostatic forces. His 1781 paper on the theory of machine friction was hailed as so important that Coulomb was allowed to settle permanently in Paris and devote himself to physics.

Coulomb's first major research project was to follow suggestions by Joseph Priestley, Benjamin Franklin's English associate, that there was a law governing electrical repulsions. Coulomb naturally devised a sensitive torsion apparatus to measure the electrical forces involved. Between 1785 and 1791 he used his advanced theoretical and practical skills to map the forms of attraction and repulsion in both magnetism and electrostatics. Following the precedent set by Newton's law of gravity a century earlier, he showed that these forces were proportional to the product of the strength of the electrical charge or magnetic poles and the inverse square of the distance between them.

In recognition of this extraordinarily difficult and important work, Coulomb's name is given to the SI unit of electrical charge.

Repeaters and Stuff
By Don Russell, WA8YRS

The 2-meter Repeater is doing a fine job. No problems have been reported other than the continuing case of the Mt. Gilead Repeater users bleeding over onto our input channel. This only happens when one of their base stations runs a bit too much power. Not much we can do about it except continue to encourage the offending stations to turn their power down a bit. Since changing our Sunday night net to 8:00 pm, the inference has been minimal.

Several of you have noticed the repeater being quite these days. Seems like many area repeaters are having the same problem. Maybe it was the summer months and everyone is just to busy with family and friends. Perhaps things will get a bit more active as winter sets in. All I can say is if members want a more active repeater, everyone has to do their part and get on the air a bit. Many hams using the repeater a little bit through the day is a lot better than two or three hams dominating activity. Remember, this is our hobby and participation by all makes it a lot more fun.

The 6-meter repeater is still operational. Barry,N8PPF, is back from vacation so we will be getting busy with a few improvements. With the approaching winter, I suspect Barry and I will be looking for things to do. Still, the repeater gives a good account of itself, and like the 2-meter repeater, could use a bit more activity. It will come eventually.

The 440 repeater is still in limbo. It has been off the air for most of the year. Eventually, we want to get this repeater going. If we can improve coverage with a better site, the repeater would most likely be used more. We really do need to get the repeater up and running so that we don't loose our assigned frequency.

The new Technician Class course has begun. We only have two students, but they seem very interested in Ham Radio and apparently want to obtain at least their

General Class license. So the plan is to finish up the Tech Course by Early December. There will be an exam session in Mt. Vernon on December 9, 2006 at the Red Cross Training Center. Then we will continue on with Morse Code and General Class Theory, wrapping up this course before the Mansfield Hamfest in February. The students can be tested in Mansfield during the Hamfest, or we can have another test session here in Mt. Vernon (especially if the class runs longer than expected).

So, heads up to all Technician Class club members looking to upgrade. If you are really serious about upgrading, this General Class Course starting in December will be your best chance learn Morse Code and brush up on the Theory that you will need to learn.

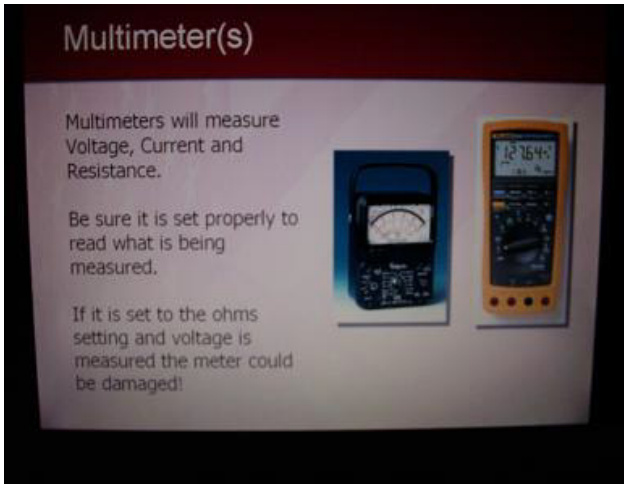
I am really disappointed that we have only two students in our present class. Is ham radio really dying? I think not. The interest is there. I believe people now days are just too tied up with their obligations to take anything else on. I know several co-workers that have told me for years that they would like to get into ham radio but just don't have the time right now. I feel for them. I work a required 48 hour work week, and generally work one day off for a total of 54 hours a week. That leaves little time in the evening for anything but family and yard work during the summer. On the weekends, I get to finish up on stuff that I didn't do during the week, and a little bit of fun time. I can't imagine anyone wanting to add any more to their busy schedule.

It did not help that the Mt. Vernon News failed to put in Mike's (KC8YLD) article announcing the Technician Class course. This is the first time that has happened. It did get me thinking of other ways to get the news out. Next time, I am going to place a classified add in the paper announcing the class. If I have enough people inquire, then a class will be organized. If only one or two people call, then they will be tutored individually. If no one calls, then there will be no need to start up a class.

Our club meetings have been low in attendance the past several months, if not all year long. After talking to a few co-workers that belong to other clubs, I find that we are not in a unique situation. Participation in all types of clubs are down. Most likely for the same reason as mentioned above.

So, what can we do to boost attendance? We spent a bit of time talking about this at the October meeting. One idea that came up was to have one of the meetings each quarter at a restaurant. Ryan's seems to be a popular choice for our December meeting, but it does not have to be there every time. We could spread it around. So meet at a restaurant each Quarter, which would be March, June, Sept, and December. On other meeting nights we could serve donuts and coffee/soda. An ARRL survey of club members claim that club members attend meetings to socialize and talk about ham radio. Programs were low on the list of why one would come to a meeting. None the less, scheduling an interesting program a few times a year would be good. Perhaps we could also have a "Flea Market" meeting. Members can bring stuff they have for sale. These are just a few ideas thrown around. Except for the last one. That is something I just now thought of. Come to the November meeting and voice your opinion on this topic.

One really nice thing we have been doing with this years Tech class is using a Power Point presentation. We have found that this work works very nicely as long as you have a projector to use. Not so good if everyone has to crowd around a laptop computer. If I end up having some ham classes on a one on one situation, how would I do the Power Point presentation at home? I have no projector at the moment and thought maybe I could pick up a used one. That would be the expensive solution. Then I had the thought of hooking my laptop to the 27 inch TV in the ham shack. This sounded like it might work, and be reasonably priced. So I checked the internet for ways of doing this.

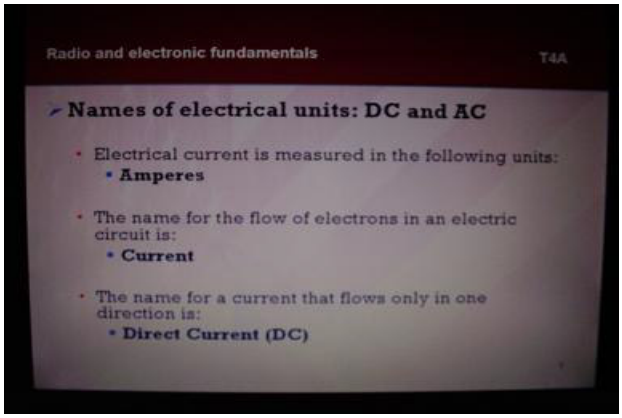


Power Point image capture

Connecting the computer to the TV is actually pretty simple, as I found out. If the computer has an S-Video line out, and your TV has an S-Video line in, then all one needs is a S-Video cable from Radio Shack. My computer has the S-Video line out, but the TV does not have a line in. The solution appears to be an RF Modulator that has an S-Video line in. This RF Modulator converts the Video signal from the computer to transmitted RF on channel 3 or 4. Just like a VCR or a computer game console does. Prices for one of these RF Modulators run from under $20 to a bit over $100.

My thought was, would one be able to read the display on anything but a High Definition TV? Power Point characters are actually much larger than a typical word processing page, so my answer was a probable yes. However, before spending my hard earned dollars, I needed to check this out. So, I loaded the Power Point presentation up on my laptop, grabbed my digital camera, and snapped a couple of screen shots. My

camera has a TV output, so I hooked my camera to the TV and looked at the screen display pictures. Everything looked great! See the pictures for yourself in the two examples. They actually looked much better on the TV at their original size. Since you have to figure a digital picture should be of lower quality compared to direct signal to a TV set, an RF Modulator should work just fine. So, I will be looking to pick one up an do some further testing.



Power Point image capture

Late breaking News: We now have four students in our Tech Class. All four have let it be known that they would like to obtain their General Class license.

That is enough space for this month. Lets all meet at the November meeting and talk ham radio.

From The ARRL Letter October 13,2006

(This news may not have reached our club members without internet access,-- WA8YRS)

FCC RELEASES LONG-AWAITED "OMNIBUS" AMATEUR RADIO REPORT AND ORDER

Ending a protracted waiting period, the FCC's Report and Order (R&O) in the so-called "omnibus" Amateur Radio proceeding, WT Docket 04-140, was adopted October 4 and released October 10. In it, the FCC adopted nearly all of the changes it had put forth in its 2004 Notice of Proposed Rulemaking (NPRM) in the proceeding. The R&O the FCC released this week does NOT include action on the Commission's proposal to eliminate the Morse code requirement. A Report and Order in that proceeding, WT Docket 05-235, is pending. ARRL President Joel Harrison, W5ZN, expressed the League's gratitude to the FCC for acting this week in the wide-ranging proceeding.

"On behalf of the ARRL and the Commission's licensees in the Amateur Radio Service I want to express appreciation for your release yesterday of the Report and Order in WT Docket 04-140 (FCC 06-149) amending Part 97 of the Commission's Rules," Harrison wrote October 11. "The Commission's action in clearing this pending proceeding will assist the Amateur Radio Service in meeting its objectives, particularly with regard to providing emergency and public service communications."

The new rules are expected to become effective later this year. Among the highlights in the October 10 Report and Order, the FCC:

* "refarmed" the current Novice/Tech Plus bands to expand certain phone subbands;

* agreed to allow Novice and Tech Plus licensees to operate CW in the General class CW subbands on 80, 40, 15 and 10 meters.

* implemented rules to discourage multiple vanity call sign filings on the same day from the same applicant;

* permitted auxiliary stations to transmit on portions of the 2 meter band;

* permitted amateur licensees to designate a specific Amateur Radio club to receive their call sign in memoriam;

* eliminated certain restrictions governing the manufacture, marketing and sale of external RF power amplifiers intended for Amateur Radio use;

* clarified that "amateur stations may, at all times and on all frequencies authorized to the control operator, make transmissions necessary to meet essential communication needs and to facilitate relief actions";

* deleted the requirement to publicly announce Amateur Radio examination locations and times, and

* deleted the frequency bands and segments specified for Radio Amateur Civil Emergency Service (RACES) stations.

In response to an ARRL Petition for Rule Making, the Commission agreed to "refarm" the HF segments currently authorized to Novice and Technician Plus licensees. The reallocation will expand the phone subbands for General, Advanced and Amateur Extra licensees, although not all commenters agreed with the idea.

"We are persuaded, however, by ARRL's contention that increasing the amount of spectrum for voice communications will reduce interference among stations using voice communications," the FCC said in its R&O,

"thereby benefiting all licensees." The FCC said authorizing more phone spectrum would "more closely reflect licensees' operating preferences" and mean more efficient spectrum use.

On 75 meters, the FCC went well beyond the modest expansion the ARRL had proposed and the FCC had tentatively adopted in its 2004 NPRM. Generals will be able to operate on phone from 3800 to 4000 kHz, Advanced class licensees from 3700 to 4000, and Amateur Extras from 3600 to 4000 kHz -- greatly reducing the amount of 80-meter spectrum available for RTTY and data (the only segment where automatically controlled digital stations may operate on80 meters is 3620 to 3635 kHz).

The FCC said the amateur community wanted as much phone spectrum as possible. "Indeed, a number of commenters argue that the NPRM proposal to increase the amount of spectrum permitted for voice communications would still not meet the demand for voice communication spectrum in the HF bands, particularly in the 80 m ter band," the FCC said.

On 40 meters, Advanced and Extra Class licensees will be able to operate phone from 7125 to 7300 kHz, and Generals from 7175 to 7300 kHz. On 15 meters, General class operators may operate phone from 21,275 to 21,450 kHz.

The FCC affirmed its intention to permit Novice and Tech Plus (or Technician with Element 1 credit) licensees to operate CW in the current General exclusive-CW allocations on 80, 40 and 15 meters and CW/data on 10 meters, where the FCC provided an additional 100 kHz for Novice/Tech Plus licensees. Novice/Tech Plus licensees still may run no more than 200 W PEP, but the Commission has done away with Novice band power limitations for higher-class licensees.

The FCC revised its vanity call sign rules to discourage the filing of multiple applications for the same call sign on the same day, and many commenters supported this concept. As implemented in §97.19(d)(1), if the FCC receives more than one application requesting a vanity call sign from a single applicant on the same receipt day, it will process only the first application entered into the Universal Licensing System. "Subsequent vanity call sign applications from that applicant with the same receipt date will not be accepted," the rule concludes.

"We are persuaded that we should adopt rule amendments to discourage multiple vanity call sign applications," the FCC said in the R&O, "and we believe that a one-application-per-day-per-applicant rule, as requested by ARRL and others, will eliminate multiple applications requesting the same assignable call sign on the same day." The FCC concedes that its one application-per-day rule "will not prevent an individual from requesting multiple vanity call signs per se," because an applicant may request up to 25 call signs at a time.

When the FCC receives multiple valid applications from several individuals requesting the same vanity call sign as a first choice on the same day, it uses a lottery system to decide which application to process first.

The R&O also affirms changes to Part 2 and Part 97 rules the FCC had proposed regarding the manufacture, marketing and sale of external RF power amplifiers. Current FCC rules prohibit commercial manufacturers from marketing RF power amplifiers capable of transmitting on the 12 and 10 meter bands. The rules were put in place as a way to prevent use of such amplifiers by CBers.
"We agree with ARRL that the requirements imposed on Amateur Radio operators by the current rule are unnecessary because, under the present rules, 'the equipment, once authorized, can be modified to transmit on all amateur service frequency allocations,' and that revising the rule 'will enhance use of the 12 and 10 meter amateur bands,'" the FCC said.

To prevent the use of Amateur Radio amplifiers by CBers, the FCC says manufacturers of Amateur Radio amplifiers must design their products to avoid operation between 26 MHz and 28 MHz. They also must certify that amplifiers are not easily modifiable to operate between 26 MHz and 28 Mhz prior to a grant of equipment certification.

The various rule changes become effective 30 days after their publication in the Federal Register

<http://www.gpoaccess.gov/fr/index.html>.

A copy of the R&O appears on the FCC Web site

<http://hraunfoss.fcc.gov/edocs_public/attachmatch/FCC-06-149A1.pdf>.

ARRL has posted a list of Frequently Asked Questions (FAQs) regarding the R&O

<http://www.arrl.org/announce/regulatory/wt04-140/faq.html>.

A downloadable chart shows the band changes

<http://www.arrl.org/announce/regulatory/wt04-140/Hambands3_color.pdf>.

The Satellite Beacon
A monthly article presented by the Project OSCAR Amateur Radio Club

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This Month's Topic – What is the right OSCAR Antenna?

By Bill Greene, VE7WFG – Project OSCAR Team Member
(Photos for this article can be seen at http://projectoscar.net/gallery/December-2004)

When speaking of satellites and antennas, the first thing most people think about is a dish antenna. People used to think about big ugly TV dishes (or BUDS) that operated around 3 to 4 gigahertz in the late seventies and early eighties, and now see many smaller off set dishes that operate at 10 Ghz used by services like Dish Network in the US and Bell Expressvu in Canada. Well what about all these dishes? Are they any good for Amateur satellite use?

The simple answer is yes. Depending on the dish it can be used for both receive and transmit antennas for OSCAR operation. Like any other type amateur set up there are two main considerations. First is what type of antenna do I need to receive and what type of antenna do I need to transmit with. Satellites communication is unique for the most part simply because your contact is in orbit which means you are trying to hit a moving target. This is not like anything HF users are accustomed to.

What works well for HF is just about any type of antenna with a low takeoff angle. This allows the signal to bounce off the ionosphere at the horizon, giving you the greatest distance. This works well for satellites in many situations too, as it can pick up signals from satellites as they rise above the horizon. But this also means the antenna may not work that well when the satellite passes directly overhead.

The solution for this is to have a rotator that will move the antenna both in azimuth and elevation. This way you can point the antenna in the direction (azimuth) of the satellite (ie, from zero to 360 degrees based on where it is in relationship to your shack.) The elevation rotator is used to point the antenna up (i.e. tilting from zero to 90 degrees) so that as the satellite becomes higher you can point the antenna higher.

This may sound very complex, but you do not have to have fancy arrays of high gain antennas and Az/El rotators to make contacts on amateur satellites. I have a colleague who uses a small fixed array of Yagi's tilted up 30 degrees that is relatively inexpensive and works very well. In this case you can use an azimuth rotator alone, or none at all. Ok what about portable operation????

The most popular antenna for portable operation is called the Arrow Antenna. It is a great antenna for portable use and again is well respected in the Satellite world because it is easy to use and make piles of contacts. Another colleague and friend of mine, 10 year old Advanced Amateur Aruni Perrea VE4WMK of Winnipeg makes many contacts including the ISS using an Arrow Antenna when she is not winning CW contests sending CW with her feet ! Arunie and her dad Kamura VE4WKP work together as a team.

In conclusion, you can make many contacts without having to take out a second mortgage on you home or invest in towers and all the toys. Big arrays help but they are not necessary to make contacts. Use your imagination and check with Amateurs on the bulletin boards as they will set you in the right direction. You can also homebrew many types of antennas (which will be the subject of an upcoming edition of the Beacon.) Before long you will be making satellite contacts! But be careful if you do start in Satellite communications it is exciting and very addictive.

Best of 73 de VE7WFG

Bill Greene
Project Oscar Team Member
Amsat Area Coordinator , British Columbia Canada

From the ARRL letter, October 27, 2006

HF, DIGITAL TV OPERATION FROM SPACE ON THE ARISS HORIZON

Plans to deploy an HF transceiver and a digital TV system in space were among the highlights of the Amateur Radio on the International Space Station (ARISS) 2006 International Delegates Meeting October 9-10 near San Francisco. The session also marked ARISS's 10th anniversary. In November 1996, delegates from eight countries met in Houston, Texas, to lay the foundation for the joint educational outreach program and map plans to establish a permanent ham radio presence in space. ARISS International Chairman Frank Bauer, KA3HDO, called the establishment of ARISS "unprecedented, especially for a volunteer effort."

"You all should be proud of what you've accomplished in the last 10 years," Bauer told this year's ARISS gathering. The ARISS goal in 1996, he noted, was "to

consolidate all those ham radio voices into one voice." By making it possible for youngsters around the world to speak with the ISS crew via ham radio, he said, the program now touches some 15,000 students each year.

At this year's gathering, ARISS delegates discussed expanding the complement of ham radio hardware and the operational capability of the two Amateur Radio stations on the ISS. On the near horizon are plans to launch and install a Yaesu FT-817ND transceiver on the ISS to permit operation on some HF bands from the ARISS Phase 2 station. That setup now features a modified Kenwood TM-D700E for VHF and UHF work, including school contacts, digipeating and slow-scan television (SSTV). An HF antenna already is in place on the space station. The FT-817ND runs up to 5 W and covers VHF and UHF too.

ARISS also wants an ISS crew to install an Ericsson 70 cm FM transceiver, already onboard. It would go in the ISS Zvezda Service Module -- the crew's living quarters and site of the ARISS Phase 2 station. An Ericsson 2 meter FM transceiver has been in use since 2000 at the ARISS Phase 1 station in the Zarya Functional Cargo Block or FGB.

A bit farther down the road, ARISS envisions installing a digital Amateur Radio TV (DATV) system aboard the ISS Columbus module. A contribution of the European Space Agency, the Columbus module is awaiting launch at Kennedy Space Center. Delegate Graham Shirville, G3VZV, speaking on behalf of ARISS-Europe, outlined plans for a mode L/S transponder aboard Columbus as well as a DATV downlink on S1 band (2.4 GHz). ARISS-Europe hopes to fabricate the necessary antennas by year's end.

NASA ISS Expedition 12 Commander Bill McArthur, KC5ACR -- a guest at the ARISS International Delegates Meeting and keynote speaker for the AMSAT Space Symposium and Annual Meeting banquet a few days earlier -- said the ISS crew members "very quickly get used to living on camera." He said the impact of ARISS school events on the crew's schedule has been fairly minimal. Bauer concurred. "Where we're developing hardware, we need to make it simple," he said. "Crews can't afford lengthy setup times."

The SSTV system already aboard the ISS also came in for some discussion following a presentation by its development coordinator, Miles Mann, WF1F. After some successful initial testing, the SSTV has been off the air, ARISS-Russia delegate Sergei Samburov, RV3DR, explained. "We had had some challenging issues with the SSTV," he said. "We will be working to resolve these soon."

The possibility of having the ISS crew launch university-built CubeSats from the space station during space walks was another discussion topic. ARISS delegates will explore opportunities to work with schools constructing CubeSat projects with an eye toward enhancing the educational value of these tiny spacecraft and to entice the younger generation to consider Amateur Radio.

As ARISS International Secretary-Treasurer and ARRL ARISS Liaison Rosalie White, K1STO, reminded the gathering: "The ARISS Team has always stressed that ARISS equals education."

From the ARRL Letter, November 4, 2006

LEAGUE SEEKS FCC'S WRC-07 SUPPORT FOR 150-KHZ 60-METER AMATEUR ALLOCATION

The ARRL wants the FCC to throw its support behind a Draft Proposal seeking to have World Radiocommunication Conference 2007 (WRC-07) delegates consider a worldwide, secondary Amateur Radio allocation from 5260 kHz to 5410 kHz. The ARRL included the request in comments

<http://www.arrl.org/announce/regulatory/WRC07/WRC-07-Comments-10-27-06.pdf>

it filed October 27 in IB Docket 04-286, "Recommendations approved by the Advisory Committee for the 2007 World Radiocommunication Conference." WRC-07 Agenda Item 1.13 will review allocations to all services between 4 and 10 MHz. The League told the FCC that a contiguous band of frequencies in the range of 5 MHz is an important goal of the amateur community -- domestically and internationally.

"There are times when the propagation at 5 MHz bridges a significant gap between the Maximum Usable Frequency (MUF) when the MUF is below 7 MHz, but the Lowest Usable Frequency (LUF) is above the next lower Amateur Radio allocation at around 3.8 MHz," the League said, citing the Draft Proposal. "For reliable communications, an Amateur allocation in the vicinity of 5 Mhz is the solution."

Originating with ARRL, the Draft Proposal from Informal Working Group 4 (IWG-4) follows up on disaster relief-related changes to Article 25 of the international Radio Regulations made at WRC-03.

"The amateur services provide emergency communications on a local, national and international basis as an adjunct to normal communications, and in many cases provide the first information about disasters and serve as the only communications link when communications infrastructures are destroyed," the IWG-4 Draft Proposal background information notes.

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 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:

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

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President: Ruben Clark, KB2SAI
Vice President: Don Russell, WA8YRS
Secretary: Jeff Butz, N8SMT
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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 columns yourself at: http://www.projectoscar.net/beacon.php.

GENERAL STUDY GUIDE

PART 2

FROM EARL PAAZIG, N8KBR

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SUBELEMENT G2 -- OPERATING PROCEDURES [6 Exam Questions -- 6 Groups]

Phone operating procedures

- Lower sideband is commonly used on 3925-kHz (75/80 meters) and 40-meters for phone operation.
- Upper sideband is commonly used for:
- 10-meter phone operation.
- 15-Meter phone operation.
- 17-Meter phone operation.
- 20-meter phone operation.
- Most amateur stations use lower sideband on the 160-, 75- and 40-meter bands because current amateur practice is to use lower sideband on these frequency bands.
- Single sideband (SSB) mode of voice communication is most commonly used on the High Frequency Amateur bands.
- Single sideband mode of voice transmission used is more frequently than Amplitude Modulation (AM) on the HF amateur bands because of the following:
- Single sideband transmissions use less spectrum space
- Single sideband transmissions are more power efficient
- No carrier is transmitted with a single sideband transmission
- (All of these choices are correct)
- Lower sideband transmission is called lower sideband because the lower sideband is the only sideband transmitted, since the upper sideband is suppressed.
- With upper sideband transmission only the upper sideband is transmitted, since the lower sideband is suppressed.

Operating courtesy

- If you are the net control station of a daily HF net and the frequency on which you normally meet is in use just before the net begins you should conduct the net on a clear frequency 3 to 5-kHz away from the regular net frequency.
- If a net is about to begin on a frequency which you and another station are using, you should as a courtesy to the net, move to a different frequency.
- If propagation changes during your contact and you notice increasing interference from other activity on the same frequency, you should move your contact to another frequency.
- When selecting a CW transmitting frequency, the minimum frequency separation from a contact in progress you should allow to minimize interference is 150 to 500 Hz.
- When selecting a single-sideband phone transmitting frequency to minimize interference, you should allow approximately 3 kHz (between suppressed carriers) as the minimum frequency separation from a contact in progress.
- When selecting a RTTY transmitting frequency, 250 to 500 Hz is the minimum frequency separation from a contact in progress you should allow (center to center) to minimize interference.
- A band plan is a voluntary guideline beyond the divisions established by the FCC for using different operating modes within an amateur band.
- A "Band Plan" is another name for a voluntary guideline that guides amateur activities and extends beyond the divisions established by the FCC for using different operating modes within an amateur band.
- When choosing a frequency for Slow-Scan TV (SSTV) operation, to comply with good amateur practice you should:
- Review FCC Part 97 Rules regarding permitted frequencies and emissions
- Follow generally accepted gentlemen's agreement band plans
- Before transmitting, listen to the frequency to be used to avoid interfering with an ongoing communication
- *(All of these choices)*
- When choosing a frequency for Radioteletype (RTTY) operation, to comply with good amateur practice you should:
- Review FCC Part 97 Rules regarding permitted frequencies and emissions
- Follow generally accepted gentlemen's agreement band plans
- Before transmitting, first listen to the frequency to be used to avoid interfering with an ongoing communication
- *(All of these choices)*
- When choosing a frequency for HF Packet operation, to comply with good amateur practice you should:
- Review FCC Part 97 Rules regarding permitted frequencies and emissions
- Follow generally accepted gentlemen's agreement band plans
- Before transmitting, first listen on the frequency to be used to avoid interfering with an ongoing communication
- *(All of these choices)*
- A considerate way to avoid harmful interference when using phone is to ask if the frequency is in use, and say your call sign.
- A considerate way to avoid harmful interference when using Morse code or CW is to send "QRL? de" followed by your call sign and listen for a response.

Emergencies, including drills and emergency communications

- Any means of radio communication may be used by an amateur station in distress to attract attention, make known its condition and location, and obtain assistance.
- During a disaster in the US, an amateur station may make transmissions necessary to meet essential communication needs and assist relief operations when normal communication systems are overloaded, damaged or disrupted.
- If a disaster disrupts normal communications in your area, the FCC may declare a temporary state of communication emergency.
- If a disaster disrupts normal communications in an area the FCC may include in any notice of a temporary state of communication emergency any special conditions and special rules to be observed by stations during the emergency.
- During an emergency, there are no limitations during an emergency. This includes no power output limitations that must be observed by a station in distress.
- During a disaster in the US, any frequency may be used to obtain assistance.
- If you are communicating with another amateur station and hear a station in distress break in, the first thing you should do is acknowledge the station in distress and determine its location and what assistance may be needed.
- Stations in the Radio Amateur Civil Emergency Service (RACES) participate in training tests and drills to provide orderly and efficient operations for the civil defense organization they serve in the event of an emergency.
- You are not ever prohibited from helping any station in distress.
- When FCC declares a temporary state of communication emergency, you must abide by the limitations or conditions set forth in the FCC notice.
- During a disaster in the US, any emission modes may be used to obtain assistance.
- A person who sends a distress transmission should give to stations who answer the location and nature of the distress.

- Whatever frequency has the best chance of communicating the distress message should be used to send a distress call.

Amateur auxiliary to the FCC's Compliance and Information Bureau

- The Amateur Auxiliary as compared to the FCC's Compliance and Information Bureau are amateur volunteers who are formally enlisted to monitor the airwaves for rules violations.
- The objectives of the Amateur Auxiliary to the FCC's Compliance and Information Bureau are to encourage amateur self-regulation and compliance with the rules.
- Direction-finding "Fox Hunts" are important to the Amateur Auxiliary because Fox Hunts provide an opportunity to practice direction finding skills.

Antenna orientation to minimize interference

- An azimuthal projection map is a map projection centered on a particular location, used to determine the shortest path between points on the surface of the earth equator with each orbit.
- The most useful type of map to use when orienting a directional HF antenna toward a distant station is an Azimuthal projection map.
- A directional antenna pointed in the long-path direction to another station is generally oriented 180 degrees from its short-path heading.
- A unidirectional HF antenna would best be used to focus your signal to minimize interference.

HF operations, including logging practices

- If a visiting amateur transmits from your station on 14.325 MHz, it is NOT true that you must keep in your station log the call sign of the visiting amateur together with the time and date of transmissions.
- Even though the FCC doesn't require it, you should keep a log:
- To help with your reply, if FCC requests information on who was control operator of your station for a given date and time
- Logs provide information (callsigns, dates & times of contacts) used for many operating contests and awards
- Logs are necessary to accurately verify contacts made weeks, months or years earlier, especially when completing QSL cards
- *(All of these choices)*
- Information that is normally contained in a station log:
- Date and time of contact
- Band and/or frequency of the contact
- Call sign of station contacted and the RST signal report given
- *(All of these choices)*
- A good reason to keep a log of your station's activities is that it can aid you in resolving interference complaints.
- As required by FCC rules, if you are using other than a dipole antenna, you must keep a record of the gain of your antenna when operating in the 60-meter band.

Third-party communications

- Messages of a technical nature or personal remarks of relative unimportance may be transmitted to an amateur station in a foreign country.

ITU Regions

- The initials "ITU" stand for International Telecommunications Union.
- The International Telecommunications Union (ITU) is responsible for international regulation of the radio spectrum.
- Europe and Africa are in International Telecommunication Union (ITU) Region 1.
- The continental United States is in International Telecommunication Union (ITU) Region 2.
- Australia is in International Telecommunication Union (ITU) Region 3.

VOX operation

- VOX operation mode allows "Hands Free' operation.
- The following user adjustable controls are usually associated with VOX circuitry:
- Anti-VOX
- VOX Delay
- VOX Sensitivity
- (All of these choices are correct)
- The purpose of the VOX sensitivity control is to set the audio level at which the transmitter activates.
- VOX is the circuit called that causes a transmitter to automatically transmit when an operator speaks into its microphone.
- The best reason to use a headset with an attached microphone and VOX control, when using a mobile station is for safer, hands-free operation.
- The anti-VOX circuit prevents received audio from keying the transmitter.

CW operating procedures, including procedural signals, Q signals and common abbreviations

- The prosing, AR - end of message, is sent using CW to indicate the end of a formal message.
- The phrase, "End of message" would indicate the completion of the transmitting of a formal message when using phone.

Full break-in

- Full break-in telegraphy (QSK) is where incoming signals are received between transmitted key pulses.

RTTY operating procedures, including procedural signals and common abbreviations and operating procedures for other digital modes, such as HFpacket, AMTOR, PacTOR, G-TOR, Clover and PSK31

- The 3580 - 3620-kHz segment of the 80-meter band is where most data transmissions take place. The 14.070 - 14.095 MHz segment of the 20-meter band is where most RTTY transmissions take place.
- It is NOT correct that the two major AMTOR operating modes are SELCAL and LISTEN.
- The most common frequency shift for RTTY emissions is 170 Hz in the amateur HF bands.
- The string of letters R and Y (sent as "RYRYRYRY...") are occasionally used at the beginning of RTTY or other data transmissions to allow time to 'tune in' a station prior to the actual message being sent.
- The abbreviation "RTTY" stands for Radioteletype.
- The character sequence, "NNNN", is sent using RTTY or other data modes to indicate the end of a formal message.
- The number of data bits sent varies in a single PSK31 character.
- The Header part of a data packet contains the routing and handling information.