



Potomac Valley Radio Club March 2007

Visit us on the web at <http://www.pvrc.org>
And <http://www.pvrcnc.org>

**Thanks to all of our members for the great PVRC turnout
in February's contests. See you in the March 'tests!**

Don't Miss N3HBX's Presentation

***"The Earth's Ionosphere - Why It Does What It Does"
at Capitol College on Monday, March 12***

FROM THE PRESIDENT -- Jim, WX3B

Welcome to the home stretch of the traditional contest season!

Before you know it, "See you in Dayton" will be all that's left of the this year's main season. That's right – ARRL DX CW is history, ARRL DX SSB is now upon us, then WPX SSB....Dayton....WPX CW....and before you know it, Field Day 2007 will arrive.

I had an unusual time to reflect upon my good fortune as I spent ARRL DX CW with my family in the Philadelphia, PA area. As much fun as contesting is, there are times when family priorities conflict and we are all reminded that ham radio is a hobby.

I would like to acknowledge our new PVRC reflector manager Rich, NN3W and thank him for stepping up to the plate to support it. In addition, Howie, N4AF deserves thanks for the many years he has been the master – and of course he continues to maintain other lists for PVRC, as well as our web site.

We have a very special guest speaker for the March Central meeting, which will be held at Capitol College on Monday, March 12 at the Capitol College. John Evans, N3HBX, who many of you know as builder of two impressive stations in this area, will be talking about the Ionosphere, revealing some little known facts on why it behaves the way it does. Mark, KD4D, has been posting more details on John's talk on the PVRC reflector.

As many of you know, Mark, KD4D managed the NCCC SO2R DVD distribution task, with Kyle, WA4PGM, making 20 copies, which were promptly "sold out". Mark is waiting for a second production run (this time from Joe, NE3H) for those wanting a copy. Thanks to all Mark, Kyle and Joe -- and the NCCC -- for providing this excellent introduction on SO2R contesting.

I hope some of you have had a chance to make contacts with the recently upgraded new hams. By now,
(continued on next page)

EDITOR'S NOTE -- Eric, W3DQ

While February may be the busiest month in the winter/spring contesting season, it certainly hasn't stopped PVRC members and fellow testers from voicing their opinions, thoughts, comments and criticisms on the many contest and dx-related forums, from TopBand to CQ-Contest to 3830. The topics have ranged from the mundane to the radical, be it bad spotting techniques and whether spots should even be allowed, to the most recent thread, a passionate discussion of the length of any given contest. And our own Jamie Dupree, NS3T, was subject to wrath of the uninformed few (certainly not PVRC members) who decried his use of recorded messages in phone contests. I chuckle now when I re-read those emails, as many of his critics willingly worked him in the most recent phone contests!

This issue has some new features I hope you'll enjoy. Jim N3JT, attended a local lecture on Abraham Lincoln and his use of Telegraphy in the Civil War. Brian WV4V contributed a review of the acclaimed book, "Hello World." I'm hoping they -- and you -- will continue contributing to the Newsletter. More book reviews are in the pipeline, as are regular columns from K4GMH and NS3T. I'm always looking for short (approximately 250 words) contributions on contest and station-related subjects.

As I said last month, I encourage you to participate in this effort by contributing your thoughts, ideas, experience, concerns and comments to this publication. If there's anything in particular you'd like to see -- or not -- in the Newsletter, please let me know!

We hope to see even more of you on the air!
73, Eric W3DQ

**Deadline for the April PVRC Newsletter is
MARCH 25
Email your contributions to w3dq@arri.net**

FROM THE PRESIDENT (cont.)

you have probably noticed that there is a great number of them on the air. They might not know all the right “lingo” or way things are done – however with some coaching, guidance and patience – these new hams can become...CONTESTERS! Let’s all make sure to slow down and warmly welcome them to this great hobby.

Best wishes to everyone during the March contest season.

73, Jim Nitzberg WX3B

BOOK REVIEW -- Brian, WV4V

Hello World: A Life in Ham Radio

By Danny Gregory and Paul Sahre

Danny Gregory, a New York City -based writer, purchases a collection of 369 QSL cards at a flea market knowing nothing about them or ham radio. With his friend and graphic artist Paul Sahre, he is intrigued enough to develop a book based on the cards and their original owner, Jerry Powell W2OJW (SK). What a fascinating story within a story!

Gregory and Sahre reveal a story that is a living history of radio, amateur radio operators, and world politics of the Twentieth Century from the perspective of Jerry Powell. From Marconi to Market Reef, the profusely illustrated book is well-written and fast reading. The QSL cards, including many from exotic DXpeditions, span the years 1928, when Jerry was a teenager, to 1995. To the delight of this reviewer, they are presented in full color.

Most of Jerry's post-war QSL cards are mostly from 20, 15 and 10 meter contacts. And while there are several cards from 11 meters before the FCC converted it to Citizens Band in the late 1950's, there is no evidence from that Jerry frequented the low bands, although they may not have been included in the cards purchased by Gregory. Interesting, too, is that although the pre-war QSL cards (when Jerry was W9DOG and went by the nickname W9PUP) were mostly for CW QSOs, all of the postwar QSL cards are for contacts made in the fone/SSB mode.

Details about Jerry's life and non-ham related photos came from interviews with his son. Jerry, an aeronautical engineer with Bendix, moved from the mid-west to the east coast from the mid-West during WWII and spent 55 years in the Hackensack, NJ area operating on one suburban lot or another. While there is little information about Jerry's "working conditions" there is a 1992 W2OJW QSL card indicating that Jerry worked Market Reef on 20 meters with 500 watts using a TS-830 and a mini-quad antenna. Signal report was 3X3 both ways. No amp was identified on the card.

This reviewer noted few technical flaws in the book. One error that stood out is the supposition that hams were tested by ARRL volunteer examiners back in the 1930's.

PVRC Contest and Event Calendar All Dates and Times are in UTC (Zulu) Except as Noted

ARRL Inter. DX Contest, SSB

0000Z, Mar 3 to 2400Z, Mar 4

North American Sprint, RTTY

0000Z-0400Z, Mar 11

Russian DX Contest

1200Z, Mar 17 to 1200Z, Mar 18

Virginia QSO Party

1800Z, Mar 17 to 0200Z, Mar 19

CQ WW WPX Contest, SSB

0000Z, Mar 24 to 2359Z, Mar 25

SEE YOU ON THE AIR!

The book meticulously capsulizes every aspect of the art and science of ham radio through the eyes of one individual who had a lifelong obsession with this hobby. It should be of interest to the amateur community as well as the general public. Why would a non-ham read such a book? Perhaps to better understand a friend or relative who is "possessed" by amateur airwaves.

The ironic twist to the story is that the two Brooklynites became so captivated by the amateur radio story they became hams themselves while researching and writing Jerry's story. Danny Gregory is KC2KGT and Paul Sahre is KC2KHN.

AMMUNITION FOR LITTLE PISTOLS

-- Bill, K3WA

Well, me and my big mouth!

Last month I mouthed off about the warm weather. So what happens, you printed my column and WHAM! We get hit by an ice and snow storm. Enough ice that I couldn't even get up my own darn mountain to go home, much less get on the air. I'm anxious to get a chance to get home and see if I had any antenna damage with the recent storms. The mountain goats I used to string up my beverages quit after that job. Said the land was just too steep to be running wires. So I'll have to do any repairs my own self. Of course, that also means that I missed the ARRL DX CW contest. RATS!

As a consequence, I was forced to stay down in the big city, in my nice warm apartment, fireplace going, bottle of red wine on the table, and cuddle with my girl friend all weekend. *(continued on the next page)*

AMMUNITION FOR LITTLE PISTOLS (cont.,)

It was OK, but it ran a close second place to a full weekend of a CW DX contest - close, but still second. 48 hours without a single "CQ contest". A new form of sensory deprivation.

I have devoured the contest results you all posted on the PVRC reflector as a form of vicarious contest participation. The posts sounded like I missed another really great contest and that the PVRC stalwarts had a great time despite less than optimal conditions.. Recently there was some chatter on the reflector about eliminating or reducing the post-contest reports on the reflector. Please DON'T. I, for one, especially enjoy the soapbox comments and do learn something after each contest.

I particularly enjoyed the observations of some of the QRPers following the ARRL DX CW test. The operating skills a QRPer develops are equally germane to all little pistols. Those techniques, especially the listening and timing issues are critical for a little pistol to do well in any contest.

So it looks like this quasi-little pistol's next meaningful contest will be the CW WPX in May. That gives me almost two months to explain contesting to my girl friend and why she will lose me for two days.

I've introduced her to ham radio. She knows that wire antennas work like mistletoe and that she has to kiss me whenever we walk under one. She knows that walking under the beams on the tower has yet another meaning. She's watched me make a few QSOs and has a very basic concept that ham radio transcends everyday run-of-the-mill geekiness. But contests and contesting... that's entirely another matter.

I looked at the ARRL and CQ magazine ads and on line but I couldn't find a publication with a name like "Contesting for Girlfriends". Maybe we need to schedule a specialized PVRC presentation at a future meeting.

Meanwhile, I will continue my ham radio free life until I get home the first weekend in March. Then I can survey my antenna farm, get my station contest ready again, and hopefully work some good DX. I just hope I have no real antenna damage. What's on your tower? (sorry, I just couldn't resist).

73 and CU in the 'tests.... Bill K3WA

SELDOM USED Q SIGNALS -- Mike, W0YR (originally posted on the PVRC Reflector in 2004)

I ran across some Q Signals that are used infrequently, however they may prove useful.

QBA How big is your antenna?

My antenna is BIG!

QBO? Can you spare some soap?

Don't sit next to that guy in the meeting.

SELDOM USED Q SIGNALS (cont.,)

QBS? May I tell you about my DX?

It's getting deep here.

QCW? Shall I whistle Morse Code?

Please whistle Morse Code (on SSB)

QDR? Do you have a Dead Receiver?

Damn Right the frequency is busy!

QFH? Is this frequency hogged?

This frequency is MINE! - go elsewhere.

QHI? Are you leaving after only one transmission?

I just came on to say "HI."

QLF? Are you sending with your left foot?

I am sending with my left foot.

QPP? Do you need to take a break?

I have to go to the bathroom!

QZZ? Are you asleep?

I am very tired, good night!

CRITICAL FREQUENCY PREDICTION TOOL

--- Ty, K3MM (from the PVRC reflector)

Here's the best FREE package I've come across that's EASY to use: <http://www.dxatlas.com/HamCap/>

It uses the VOACAP engine but gives it a very simple user interface. You input the Kp and SSN numbers, select an antenna (selection is somewhat limited, but it's all relative anyway), click on the band and hour and it gives you a good idea of the propagation using a gray scale map where brighter is better. You can also click on a point in the map, click on Chart, and it will give you a 24 hour chart of the best bands to that location and give you little boxes on the optimal times and bands. There is also a button to select short path or long path maps for the DX contests. It's very cool and it's free!

At the same site you can download trials of DX Atlas which gives you bigger, fancier maps to overlay the same data.

Ionoscope is another 30 day free trial that keeps track of the propagation numbers and storms. There are buttons within HamCap that are supposed to allow you to link it with these two programs, but I found it to be a little unstable and I'm not sure it was importing the numbers from Ionoscope correctly, so I gave up on those.

*[from W3DQ: Also check out VOAProp from G4ILO:
<http://www.g4ilo.com/voaprop.html>*

"VOAProp shows you typical propagation for a given hour of the day during a given month. The propagation is shown as expected signal strengths to be received from different parts of the world, plotted on a world map. VOAProp can also display daily point-to-point propagation charts showing the best frequency and time of day for communication with a particular location."

THE TOOLBOX -- Don, K4ZA

It's hard to believe we've enjoyed cordless power tools for nearly 30 years, but the portable revolution began with Makita's cordless drill in 1978. Since then, NiCad (Nickel-Cadmium) and NiMH Nickel Metal Hydride have been the standards. But things changed with Milwaukee's introduction of Li-ion (Lithium-ion) batteries in 2005, so let's try to understand what's happening. Here's what you need to know!

If you believe the marketing hype (you can), you already know that Li-ion means higher voltage and longer run times. However, the simple fact is that any increase in voltage will increase the run time of any cordless tool. Nickel-based cells are 1.2V, so they require 15 cells to provide 18V of power. Li-ion-based cells produce 3.6V, so an 18V battery can be made with only five cells. You see where this is going—you can make more powerful cells (higher voltages). And you also make smaller tools that run on lower voltages.

The ability to pack more volts/cell into different sized packages does not mean you've got more power, despite the advertising. Power, as we know, is derived from volts and amp/hours. So, when comparing batteries, if the voltage rating is identical, a 3 amp/hour battery would run twice as long as a 1.5 amp/hour battery, IF the workload remained the same. The harder any battery works, the shorter its life cycle will be (cycle life is the total number of charges obtained before needing a new battery). Obviously, life cycle cannot be a meaningful standard of comparison when choosing one's power source.

In the quest for more power, manufacturers responded by making higher voltage nickel-based batteries. But due to the number of cells needed, their heavier weight often made them impractical. DeWalt recently announced 36V batteries weighing about the same as older 18V units.

Other manufacturers have joined the race as well. Makita, Rigid, Bosch, and Milwaukee are all developing product based on using these batteries. And higher voltage tools are not the only outcome. Several lower voltage ultra-compact tools, like driver drills, are now available, with more are slated to follow.

High Prices—what's up with that?

Li-ion powered tools cost more, because the raw material needed to make these cells costs more, but so does the technology BEHIND them. Charging, discharging, and heat-monitoring are issues manufacturers are addressing. Li-ion batteries need protection from both ends of the temperature spectrum, as do their nickel-based cousins. And you should not drain them past where they need recharging. You've probably also heard Li-ion batteries have no "memory," which is certainly true, but you should also know that's been true for nickel-based batteries for many years.

An area where the technologies do differ is shelf life. Li-ion batteries lose only about 2% of their charge while

stored, compared to older technology batteries, which can lose up to 25% of their life while awaiting use. Li-ion batteries provide consistent power throughout their life, so there's no dramatic drop-off in performance as you get close to discharge. However, it's difficult to judge how much power is left, so LED gauges are becoming more prevalent.

Fires, Explosions, Re-Calls—what's up with that?

Okay, the first thing to know or remember is that there have been 1.6 Million Li-ion batteries recalled. Obviously, something is going on (or was). Perhaps you've even seen the TV footage of the laptop bursting in to flame (it was popular during November sweeps!)?

First, some ground rules. It's not the chemistry. It's not the manufacturer (we can't blame Dell, or even Sony, who supplies the cells). It's the manufacturing PROCESS, whereby (somehow) metal chips or particles somehow got into the separator within the cell, which can create a short between the anode and cathode. Then, the cell can die, get hot, melt, catch fire, or, in rare instances, explode.

Because of their higher energy density, producing more voltage, and thus more run time, we will continue to see them gain in use and popularity. Despite the wicked warnings from the coiffed-hair newscasters, I'd buy and use them without worry, all things being equal.

As often happens, new technology brings with it some mild panic that everything one already owns is suddenly going to be obsolete. All the manufacturers have indicated that they will provide viable solutions to using these new batteries with the older, nickel-based tools. After all, the market is flooded with them already. However, you can expect the Li-ion platform to increasingly dominate that market.

And, as also often happens, there are some "buts" to consider in this vast, power-hungry set of arguments--some considerations within that "all things equal" equation. Li-Ion batteries:

- Require some complex, semi-safe circuitry (adding to the cost)
- Require special chargers
- Generally have a short warranty
- Have a very short number of charge/discharge cycles

Doing the math show the actual cost per watt hour of run time is high. Their sloped discharge curve shows degrading performance over battery lifetime.

Do I have ANY other options, after all, or must I be limited by the manufacturers? Nickel Cadmium or Nickel Metal Hydride packs using Panasonic, Saft, or Sanyo's "BEST OPTION" battery cells, are still widely available, and are probably manufactured in the USA by Appalachian workers.

And remember, don't throw out those old, corded tools, either. Regardless of what power source you use with your cordless tools, sometime...some time, you simply have to recharge that battery. The old corded tools will allow you to work while you're waiting!

ABRAHAM LINCOLN AND THE TELEGRAPH - -- Jim, N3JT

I was intrigued by an announcement on the PVRC reflector of an upcoming lecture on Abraham Lincoln and the telegraph at the National Archives. John, N3AM and I saw two exhibits of fantastic photographic art at the Museum of Natural History before attending the 7 p.m. presentation at the Archives. At ten minutes before 7, we were among only a handful of people in attendance, yet the first 3 rows of the sizeable auditorium were reserved and empty. At two minutes before the hour, a flock of people filed into the room, filling most of the seats of the auditorium, including the reserved rows. Oddly, many of those people seemed to know each other, not typical for a public event like this.

The evening was an entertaining and interesting discussion between the Archivist of the United States, Allen Weinstein, and Tom Wheeler, author of *Mr. Lincoln's T-Mails: The Untold Story of How Abraham Lincoln Used the Telegraph to Win the Civil War*.

Abraham Lincoln was an early adopter in his use of the telegraph for the war effort and for his own, personal communications. Making frequent visits to the local telegraph office, he read incoming messages sent by his generals -- even if they were intended for others. This helped Lincoln know what troublesome people like George McClellan were up to.

That the North had a vastly more extensive telegraph network than the South certainly helped it, but even Wheeler did not think the telegraph determined the outcome of the war.

Although Lincoln always preferred face-to-face meetings with people, we were shown several interesting messages, including one to his wife, who was spending too much on her buying trips to New York City, along with several to his generals. One message of note was to George McClellan, chastising him in creative terms for procrastinating. In another, Lincoln supported General Grant's decision not to leave his current engagement, encouraging him to hold onto the enemy "with a bulldog grip, and chew and choke as much as possible." When he got the President's message, Grant laughed out loud, so out of character him that his staff rushed over to see what was going on! He showed them the telegram and said, "The President has more nerve than any of his advisors." For more on this bit of history go to http://www.vectorsite.net/twcw_77.html.

Wheeler, who, as it happens, I knew when he was president of the National Cable Television Association and later the Cable Television and Internet Association, is a partner in a capital investment firm and has had an interest in the telegraph and Lincoln for a long time. He is also president of the Foundation for the National Archives, which explains why everyone seemed to know one another.

PVRC GROUP PURCHASE FROM GREEN HERON ENGINEERING

--- Jack, K4VV (from the PVRC reflector)

I met Jeff Ach, W2FU, a serious and accomplished contester and the founder of Green Heron Engineering, at Dayton last spring, where he gave me a good rundown on his controllers. The time has now come for me to order. Frank and I together will order 12 units, and Jeff has agreed to offer a PVRC discount of 15% off the Amateur Radio Net pricing for his standard products.

Frank, W3LPL, and I have discussed a group discount purchase from Green Heron Engineering.

These systems are especially interesting because of the capability to 1) control all the common commercial rotators (and be configured for others), by adding digital accuracy and convenience if at all possible; 2) be linked to move individual antennas together as a stack; 3) "point and shoot" azimuth pointing; 4) ramp up and down rotation; 5) be configured with a fail-safe for TIC RingRotors, Pro-sis-tel, Alfa-Spid, etc. that have no mechanical limit switches to prevent motor runaway; 6) use the latest Power MOSFET components that are nearly indestructible; 7) are field software upgradeable for special applications (" We have been working on software that allows multiple stations access to the same controller depending on the band. This is an ideal solution for M/S and M/2 applications where you don't want to keep reaching to other locations to turn the antennas."); 8) are only 4" high with a large bright LCD display (optional vacuum fluorescent display for the ultimate look), and 9) look great!

If you are interested in joining this discount order, please email me with your interest. For more info on the products available, look on the web site <http://greenheronengineering.com> and download the manual for details, or call Jeff at (585) 217-9093 or via email: info at greenheronengineering dot com.

An order form will be developed and distributed soon. I will consolidate your orders and collect your checks or credit card info to consolidate and forward to Jeff. A \$5 additional discount will apply for cash equivalent (check or money order). After a few weeks of ordering time (target is Thursday, March 22), the orders will be submitted to Jeff for delivery (which may take some weeks, depending on his inventory at the time of our order).

I will keep Jeff informed of the total order status for his planning. Jeff will not be able to deliver all the products at once, so we may keep track of who is in a hurry for units, with first order-first delivery. After the initial large order, Jeff will accept additional individual PVRC discount orders until the end of April. The cash and carry prices at Dayton will be higher than our costs per unit.

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GREEN HERON GROUP PURCHASE (cont.,)

Jeff will need to know the rotator with which you will use each controller, so that he can pre-configure each unit. This will save a little time when you first receive the units (unless Jeff is here to configure each one and demonstrate).

Prices (note: the PVRC discount only applies to the above standard products)

RT-20 (w/o internal rotor motor supply) \$499

RT-20pp Prop Pitch (Int. 28VDC 10A supply)

w/balanced mag spinner kit (K7NV Systems) \$659

RT-20D Deluxe (Black front panel, VFD display) adds \$150 to any version.

Remote MOSFET driver board for integration into a remote power systems \$129; Requires customer to add relays and appropriate voltage source based on his need. (DC Motors only, must specify <48 VDC or > 48 VDC motors)

Jeff also told me that if we purchase about 20 units, he would be willing to deliver the controllers to the DC area (saving the shipping cost), and to meet with those interested in a discussion of the setup, applications, and a demo of the remote control software. His opportunity to deliver and visit would depend on the timing of our order completion and other commitments. Many of us will see him at Dayton, and we might be able to set up a time to get together there.

More information from Jeff about his offer to PVRC:

“We would be happy to offer a group discount program to the PVRC. 15% on 10 or more is fine and as long as each buyer pays his own shipping, we can just ship direct. UPS ground to the DC area is only about \$11 or so, and we have a 2 pack box that makes a pair about \$16 to ship down there. *More information on shipping rates for the standard or D RT-20 (standard or D) from K4VV:*

1 shipped to residence = \$13

2 shipped to same residence = \$17

1 shipped to commercial address = \$10

2 shipped to commercial address = \$14

Again, if you are interested in joining this discount order, please email me (K4VV at AOL dot com) with your interest. I will consolidate your orders and collect your checks or credit card information to consolidate and forward to Jeff.

An additional \$5 discount will apply for cash equivalent (check or money order).

The target date for orders is Thursday, March 22

WPX RTTY CONTEST AT K4GMH

-- Mike, K4GMH

For me, the WPX RTTY contest was divided into four unplanned segments.

The first segment started before the contest on Friday, when Peter Pan Peanut Butter introduced me to salmonella symptoms. Sal is not recommended at anytime, especially the day of the contest! No way was I going to get in the Contest at the start, 0000 Z 10 Feb, as my attention was focused elsewhere. I went to bed at 1947z after posting the last list of planned PVRC contest participants to our Reflector.

The second contest segment started the next morning at 1245z when I felt well enough to give the contest a try. At 1314z, my first QSO -- SP3VSE on 20 meters -- was in the log.

The bulk of the contacts during the five hour first segment were on 20, followed by 15, and surprisingly (at least to me), a nice amount of 40 meter QSOs.

The first segment produced close to 500 QSOs. By then I was losing stamina and had to take an hour-long break. I doubt if I could have kept up the pace, as the rate had dropped to about 80 QSOs for that fifth hour.

After the break, the third segment started. For the next twelve hours, 80 percent of my operating was on 80 and 40. The rate wasn't as high as the previous five hours, but the points were being racked up due to the doubling of the point value for "low" band QSOs. At the end of the twelve hours (0710z), approximately 1450 QSOs were in the log.

My final segment started at 1000z on 80 and 40 meters. The rate was okay considering the time, propagation and the number of stations already in the log on those bands. Surprisingly, I didn't work any JAs on 40 meters. Although they wouldn't be a multiplier, it would have been nice to have the six points per QSO in the log. After two hours (at 1200z), I went to 20 meters and for the next couple of hours had a rate of 75 QSOs per hour. One transmitter was kept on 20 until the end of the Contest.

Fifteen meters started to show life at around 1400z. This help to sustain the rate of over 50 QSOs per hour for the next several hours. At 2000z I switched from 15 to 40 meters.

At about this time the low voltage (+12 vDC) supply in the second amp failed. I finished the contest running 80 watts on 20 m and 1500 Watts on 40. Still the rate per hour for the final segment was close to 50 QSOs per hour. The bottom line is 2093 QSOs and a raw score of 4,456,782 points.

Last year, this score would have set a North American record. This year, it's second best to Tyler's, K3MM, with a score of over 5 million points!

PVRC CENTRAL REGION MEETING
Monday, March 12 @ 7:30 PM

"The Earth's Ionosphere - Why It Does What It Does"
by Dr. John Evans, N3HBX

This meeting will be held in the auditorium at Capitol College in Laurel, MD. Capitol College is located at 11301 Springfield Road, Laurel, Maryland. This is near the intersection of Powder Mill Road and the Baltimore-Washington Parkway (I295). A map and directions are available at <http://www.capitol-college.edu/aboutcapitol/visiting/map.shtml>

There will be an informal pre-meeting dinner at about 6:00 PM at the Old Country Buffet, 9608 Fort Meade Rd., Laurel, MD.

From the Baltimore-Washington Parkway, Turn RIGHT onto Ramp towards MD 197 / Laurel / Bowie and take 197 towards Laurel. The restaurant is at the intersection of 197 and 198.

The Earth's Ionosphere – Why It Does What It Does
Dr. John V. Evans, N3HBX

This talk reviews our present understanding of the behavior of the earth's ionosphere, and in particular the F-Region which is responsible for most long-distance radio propagation at HF. Early vertical incidence soundings revealed many so-called "anomalies" that were not understood when I entered the field in 1954.

These include the fact that at mid latitudes the F-Region critical frequency is higher in winter than in summer, and that in summer there tends to be a decrease in the critical frequency near noon. These anomalies are now understood to be a consequence of the role of winds in the neutral air set up by a large temperature difference in the upper atmosphere between the day and night sides of the earth.

The winds serve to modify the chemical composition between the summer and winter hemispheres resulting in a richer O/N2 ratio in winter i.e., in the ratio between the ionizable species and the constituent that is chiefly involved in the removal of electrons. The winds also drive ions up or down the field lines of the earth's magnetic field – serving to depress the F-Region density during the day in summer, but preserve the F-Region at night. The talk will conclude with a brief review of the role of energy deposited in the auroral regions during "magnetic disturbances" in affecting the ionosphere at mid-latitudes.

VHF/UHF CONTEST CORNER -- Jamie, NS3T

March is a quiet time for VHF/UHF contesting and a good time for you to plan any station and antenna upgrades you might want to make before the June VHF contest. My plan is to finally put some small VHF antennas up on my chimney.

But what about those of you who mainly play in HF contests? How about getting some of you to venture above 10 meters and join the fun?

For many, it's not that hard, because you already own a rig that has 6 meters, or maybe even 2 and 432 as well. Those bands are on my Kenwood TS-2000, for example, along with 1296.

Let's focus for now on 6 meters, which is probably the most familiar band to HF'ers. Is that band switch crying because it's never used? It's really not that hard - and you don't need any special antennas - you can use what you already have in your backyard or on your tower!

If you want to make something basic, you can always make a simple wire dipole for six meters. A halfwave dipole is a little less than 9 and a half feet.

But if you already have an 80 meter dipole or inverted vee, those will tune up on six meters and may not even need an antenna tuner.

Does it work? I made over 40 contacts in the January VHF contest on 6 meters with my 80 meter inverted L - and most of those were CQ'ing - so it definitely does.

For those of you with HF beams, some of those will tune up on 6 meters as well.

Bob KC3VO says he has actually worked Europe on 6 meters with his HF beam antenna - but he says "you might NOT be aware that the signal is strongest off the REAR of the beam on 6 meters!" Gene W3ZZ also warns that some tribanders have common mode RF chokes, which could hurt a VHF signal. He recommends going the 80 meter dipole route.

In terms of VHF/UHF contests this month, there isn't much to offer in March. About the only local opportunity is in the Virginia QSO party, which allows contacts on 6, 2, 222 and 432. The contest runs from 1800Z March 17 to 0200Z March 19 (Saturday afternoon to Sunday night).

Looking ahead to April, Ham Radio Outlet of Virginia has taken over the sponsorship of the Spring VHF/UHF Sprints. The 2 meter sprint is Tuesday April 9. The 6 meter sprint is Saturday May 12. More on that next month and at <http://www.sysadnet.com/vhfsprinruts.htm>.

We'll talk about those more next month.
73 Jamie NS3T

REMINDER

Beginning in 2007, most of the United States begins Daylight Saving Time at 2:00 a.m. on the second Sunday in March (**MARCH 11**) and reverts to standard time on the first Sunday in November (**NOVEMBER 4**)



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