TROY AMATEUR RADIO ASSOCIATION N2TY TARA "The Home of Uncle Sam"

THE TARA NEWS

Affiliate of the American Radio Relay League

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TARA 2005 Soda Drive

If you haven't noticed Field Day 2005 is just a month away and it's time for us to get things going. One of the very first tasks we try to take care of is our "Annual Soda Drive". Each year we have this fundraiser of sorts to keep the expenses down for our Field Day weekend and what is left over goes to picnics & meetings.

As you all know the price of beverages is not a cheap thing today and it's just too much of a load on our treasury, especially when we need other things. So, how do we get around this problem?
For several years now we've been asking everyone that plans on attending our Field Day weekend on June 24, 25 & 26 to bring in a few six packs of your favorite soda.

Please remember that we cannot have any alcoholic beverages in Frear Park and everything must be either cans or plastic.
Please,…NO GLASS!

If you could help us by bringing in some soda or even bottled water has become very popular, it would be greatly appreciated. This can save the club some mighty big bucks, especially if we have a very hot weekend. There is another way we can handle this for you and for a lot of you it works out better.

We're well aware that for some of you it's a hassle to stop and get the soda, then remember to bring it to the next couple of meetings. So, if you would like to donate a few bucks, we then can purchase the soda that we need. This really works out best for there have been a few year's that we get overloaded with let's say 10 cases of Root Beer but no 7UP, Coke, or of course the best one...Diet Pepsi! (I just had to add that!!). You can give your donation to Karen Smith, KS20, and after we collect all of the soda donations we can then go out and purchase the flavors we need most.

Can you help us out? I sure hope so. I know it can get very hot over in the park and without a lot of cold beverages it just makes it unbearable!

"Please do your best to help us out"

Important Monthly Meeting

Nomination of Officers

Field Day Preparations

Award Nominations

I'd like to remind each of you that our next monthly meeting will be held on May 17 at 7:30 PM in Green Island. This is a very important meeting as we'll be voting on our "Bubba Award" (The Thomas M. Remmert - N2TR Achievement Award) and who will be the next recipient. This award will then be presented at our Field Day in June. Additionally, we will be accepting nominations for our Board of Directors and Officers too. Elections are held each June at the monthly meeting.

Also, at the next meeting we'll be making plans for Field Day and our Public Service Events coming up. I ask that each of you to try your best to attend this meeting. We have a lot of things happening and we need volunteers.

Keep in mind that Nick, NW2D, will begin accepting dues for 2005/2006 at the next meeting. Our dues run from June to June of each year. Even if you recently joined the club you still have dues coming up in June. Nick said he'll try his personal best to send each of us a statement in the mail as a "REMINDER" only!! Don't be getting upset if you receive one for as I said it's more as a reminder than anything else. If you want to mail your dues in that will help us out greatly. I would like to tell you this right now. Our insurance expenses have more than DOUBLED over the last 3 year's! This is another reason we need you to pay your dues on time. The insurance bill comes due at the end of June and we need to pay that off. We'll have more info on this topic coming up soon.

Thank You!
Bill - N2ZU

Upcoming Public Service Events

Greetings Everyone,
We have numerous Public Service Events coming up in the near future and I will be looking for anyone who is interested in helping out with them.

The Albany GHI Corporate Challenge will be held in Washington Park on Thursday, May 19th at 6:25 p.m. This race should be about an hour. We should meet there no later than 6 P.M.

On Sunday May 22nd. is the Annual East Greenbush Rotary Run. This race starts off at about 9 a.m. and is usually over with by 11 a.m.

Then on May 30th. we have the Annual Watervliet Memorial Day Parade. This parade starts at 10 a.m. and is usually about 20 minutes long.

If anyone is interested please let me know as soon as possible
******** WE NEED YOUR HELP ********

The last Public Service Event is on June 4th and this is the Freihofers Run for Women in the City of Albany at Washington Park. This race starts at 10:15 a.m. but we have to be in the park before 8 a.m. because they close off the park. Again, this is very fast paced pace and is usually over before 11:30 a.m. Considering there at least 4000 runners from all over the U.S.

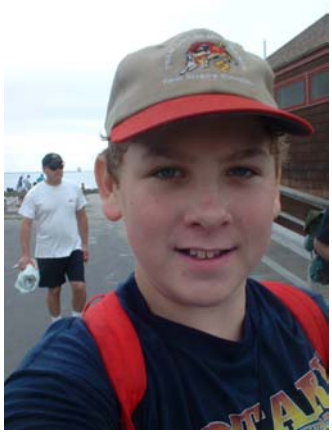
Anyone who is interested in working at these Races ....all you need is a handheld or mobile rig.
I am looking for help at all of these Events and the parade.

Call me anytime at 273-6594 or e-mail me at KS2O@N2TY.ORG

73 and Thank you,
Karen -KS2O

THE BPL SCENE

Make sure you visit the ARRL Grassroots Booth at Dayton and pick up a few STOP BPL bumper stickers. From Texas comes news of a state bill to help BPL and utilities:
As drafted, the bill establishes a state regulatory framework for electric utilities, municipally owned utilities and electric cooperatives to develop and deploy BPL systems in Texas. It would allow utilities to lease their power lines to other concerns to operate BPL systems. The measure also would authorize a utility, should it chose to do so, to recover its BPL investment from ratepayers. A utility offering BPL would only have to consider 40 percent of its BPL revenues as income in rate proceedings. Texas ARRM members are working hard to stop this bill from being passed. See http://www.arrl.org/news/stories/2005/04/26/1/?nc=1 for details. If you are not sure what BPL is all about visit http://www.arrl.org/tis/info/HTML/plc/ for a wealth of information including video and audio files. You could spend all week digesting the information available there. Don't overlook the sidebar on this page, also



TARA's Ham of the Month

David R. Fritts

K C 2 I B F

Eagle Scout

David became an Eagle Scout on February 17, 2005 and his Court of Honor Ceremony was this past, April 23rd, 2005 at the New Scotland Presbyterian Church.

To earn the Eagle Scout rank, the highest advancement rank in Scouting, a Boy Scout must fulfill requirements in the areas of leadership, service, and outdoor skills. Although many options are available to demonstrate proficiency in these areas, a number of specific skills are required to advance through the ranks—Tenderfoot, Second Class, First Class, Star, Life, and Eagle. To advance, a Boy Scout must pass specific tests that are organized by requirements and merit badges.

Merit badges signify the mastery of certain Scout craft skills, as well as helping boys increase their skill in an area of personal interest. Of the 120 merit badges available, 21 must be earned to qualify for Eagle Scout. Of this group, 12 badges are required, including First Aid, Citizenship in the Community, Citizenship in the Nation, Citizenship in the World, Communications, Environmental Science, Personal Fitness, Personal Management, Camping, and Family Life. In addition, a Scout has a choice between Emergency Preparedness and Lifesaving and a choice among Cycling, Hiking and Swimming.

David actually had to plan his Court of Honor Ceremony where he actually received his Eagle Badge & other commendations as well as presentation of certificates from many local government officials, sponsoring organization reps, etc. The Eagle Scout actually has to plan the whole ceremony out, invite officials to participate, arrange for the guest speakers as well as arrange setup/decoration of ceremony location and also take care of clean up, letters of thanks, etc. All of this is done completely by the scout NOT the parents - his troop is very strong about that. It is not an easy job but the rewards once accomplished are that much greater for the scout.

We are ALL very proud and excited for David and his advancement to Eagle Scout. I hope each of you will take a few minutes to drop this very special young man a letter of CONGRATULATIONS at kb2ibf@nycap.rr.com .

FT5XO Kerguelen Island DXpedition logs nearly 68,000 contacts

Apr 7, 2005 -- The recent FT5XO Kerguelen Island DXpedition racked up 67,954 QSOs during its 11-plus days of operation in late March. Located in the subantarctic region of the Indian Ocean, Kerguelen (IOTA AF-048)--also known as "Desolation Island"--is ranked as the 13th most-wanted DXCC entity worldwide and the 10th most-wanted in the US. The multinational Microlite Penguins DXpedition Team--AG9A, GI0NWG, HB9ASZ, M0DXR, N6MZ, N0TT, SP5XVY, VE3EJ, VK6DXI, W3WL, W7EW and 9V1YC--reports that 68 percent of the contacts were made on CW--many of them on 40 and 30 meters--while 29 percent were on SSB and 3 percent on RTTY. European DXers were the primary beneficiaries, accounting for slightly more than one-half of the FT5XO contacts made. Japan followed with 21 percent, and the US at 17 percent. The operation took place from an abandoned whaling station, Port Jeanne d'Arc, close to the shore and with good takeoffs in most directions. Weather during the team's stay ran the gamut from strong wind, rain and sleet to heavy snow. Static from snowstorms produced fierce QRN and forced the operation to shut down until it abated. The DXpedition was organized and sponsored by the Northern California DX Foundation. QSL FT5XO via VE3XN.--*George Fremin* III, K5TR

New all-ham crew now safely aboard ISS

International Space Station Expedition 10 crew members Leroy Chiao, KE5BRW, and Salizhan Sharipov opened the hatches between the ISS and the newly arrived Soyuz transporter early Sunday, April 17, to welcome Expedition 11 Commander Sergei Krikalev, U5MIR, and US Astronaut and ISS Science Officer and Flight Engineer John Phillips, KE5DRY. Accompanying them on the taxi flight was European Space Agency Astronaut Roberto Vittori, IZ6ERU, of Italy.

"The two crews greeted one another with handshakes and hugs," NASA reported. The first scheduled activity for the five crew members was a safety briefing.

Krikalev, Phillips and Vittori docked with the ISS April 16. The five space travelers will conduct nearly eight days of joint operations. Expedition 11's Krikalev and Phillips will spend about six months aboard the ISS. During his ISS visit, Vittori will conduct experiments aboard the station under a commercial agreement between ESA and the Russian space agency.

On April 18, he conducted an Amateur Radio on the International Space Station (ARISS) school group QSO with two technical schools in Italy. One of the schools was named for wireless pioneer Guglielmo Marconi, and his daughter, Princess Elettra Marconi, assisted in the event and sent greetings to the astronauts.

"With great enthusiasm I extend greetings to Roberto Vittori, who greatly honors Italy. All my admiration," Princess Elettra said. "I think that my father, Guglielmo Marconi, would have been proud of you for your marvelous mission. All my best wishes. I feel very close to you. Thank you."

Vittori will return to Earth with the Expedition 10 crew of Chiao and Sharipov, which has been living aboard the space station since October. The three will depart for Earth Sunday, April 24, in the Soyuz that brought the Expedition 10 crew to the orbiting laboratory last fall. They're scheduled to land that evening in Kazakhstan.

Over the next few days, Krikalev, 46, and Phillips, 54, will receive extensive handover briefings from the Expedition 10 crew. NASA says a third crew member may arrive at the ISS on the space shuttle Atlantis. This is Krikalev's second tour of duty aboard the ISS. He was part of the first ISS crew.

TARA "Skirmish" Scores Needed...

Ernie Mills, WM2U, says they're still are a lot of participants from the last running of the TARA "Skirmish" and he wants to hear from you! We'd like to hear from as many of you as possible that participated in the "Skirmish" so please submit your score. It couldn't be much easier to do so. All you have to do is go to our "ONLINE SCORE SUBMISSION" at _http://n2ty.org/seasons/tara_dpx_score.html_ In a matter of a couple minutes you'll be all done.

PLEASE, no matter how many contacts you made we want to hear from you. You'd be surprised at how many folks that tell us, "oh, I was in the contest but my score was really too small so I didn't bother posting it." We say..SUBMIT IT!!

We've been seeing a lot of new folks trying the digital modes out and we're seeing them in the contest too. Now, we need for you to take that final step and submit your score. That goes for you seasoned contesters as well! We just believe every score is important and we'd like to hear from you. So, if you could PLEASE take a few minutes right now to submit that score of yours I just might be able to get "Red Fred" or I mean Ernie, WM2U, to give me a raise!!

Don't forget that your score for the "Skirmish" also counts towards the TARA Tour'ney! Full details on the Tour'ney can be found at: _http://www.n2ty.org/seasons/tara_tourney.html_ Results from the 2005 TARA "Skirmish" must be posted on our ONLINE Submission Page no later than 14th-May-2005. Don't hesitate any longer....we need your score now!!!

Thank You!
Bill Eddy, NY2U
President of TARA

International Lighthouse Weekend

The 2004 International Lighthouse/Lightship Weekend took place over the weekend 21/22 August 2004 when over 380 lighthouse stations were established in 52 countries. A full list of stations with their details can be found at http://illw.net/2004_list.htm

This year the event will run from 0001 UTC 20 August until 2359 UTC 21August 2005. Guidelines for the International Lighthouse/Lightship Weekend 2005 can be found at http://illw.net/index.html
So come and join the fun and let us have over 400 stations at lighthouses or lightships.
73 Mike GM4SUC
Gm4suc@compuserve.com

CY9SS DX-pedition

June 7th to July 7th

www.cy9ss.com

We are planning for: SSB/CW/RTTY/PSK on HF bands and SSB/CW EME/WSJT M/S/ on VHF. We will run 700W into 'salt water verticals' and a log periodic on HF. Square fours on 80M and 40M!
We will have two separate VHF stations:
One dedicated to trans-Atlantic paths we will run high power to a large antenna on 6M and high power to a 68 element array on 2M.
For the Americas a separate site on a ridge about a half kilometer away will have similar capabilities. Both 2M arrays will have AZ/EL rotors. All four VHF stations will be EME capable.
Our aim is to provide a new country or band/mode country to as many radio amateurs around the world as we possibly can.
This trip we will make a serious effort towards a Trans-Atlantic 2M conventional CW QSO. We will run high power with a large array. The intent is to use an attended beacon running continuously to Europe on 2M during peak Es hours.
This promises to be by far the longest and largest ham radio expedition to St. Paul Island ever. We plan to rotate operators in weekly shifts for four weeks starting the second week in June.
The requirements to receive permission to visit St. Paul have changed a great deal in recent years. It is believed that these changes are due to concerns for public safety. We are working our way through this process and are receiving excellent cooperation.
Transporting and unloading tons of equipment and supplies onto this island is a daunting and complicated process to say the least. It is surrounded by high jagged rock cliffs and strong ocean currents. The odds are good that we will experience more than one North Atlantic storm during our stay. It is cold there in June.
The scope of our proposed expedition in 2005 will require assistance from DX organizations, radio clubs and vendors as well as individuals who are interested in supporting an expedition of this size. Sponsors will be recognized on a special page listing their name and donation and on the back of our colorful fold-out QSL cards. Equipment loaned to the expedition must be for the entire 4 week period.
We are still looking for experienced operators who are physically able to carry their weight. There are no accommodations on the island. We will be living and operating in tents. We are hoping to have 5 or 6 operators on the island at all times.
We will maintain communications with our boat captain, Robert McLellan on marine frequencies. In an emergency he can be there on short notice (weather permitting). He will deliver operators and supplies as necessary. His boat handling skills and knowledge of the waters around St. Paul are legendary.

* This expedition is dedicated to the memory of Robbie McLellan, who along with his brother Doug volunteered his kind assistance and good cheer on our previous visits to St Paul..

New HAMSAT in Orbit

HAMSAT is the latest Amateur Radio satellite in orbit. Launched this week, it is India's first. Although it doesn't yet have an OSCAR designation, several stations--including W1AW--already have completed contacts through its SSB/CW transponder. "We congratulate all who have worked for the HAMSAT and its successful launch," said AMSAT-India Treasurer Sandip Shah, VU3SXE, who was among more than a dozen radio amateurs at the control center in Bangalore, India, for the May 5 launch. With several dignitaries--including India's president--on hand to watch, the satellite went aloft from the Satish Dhawan Space Centre (SDSC) SHAR in Sriharikota. Going into space along with the 42.5 kg HAMSAT was the primary payload--the 1560 kg Indian remote sensing satellite, CARTOSAT-1, intended for mapping applications. The spacecraft were placed into polar sun synchronous orbit at an altitude of 632 x 621 km with an equatorial inclination of 97.8 degrees. The microsat will provide two new linear mode U/V transponders for SSB and CW use only. Only one transponder will be active at any given time. The uplink passband is 435.225-435.275 MHz (LSB), and the downlink is 145.875-145.925 MHz (USB). An unmodulated carrier has been reported on 145.936 MHz, and a CW telemetry beacon on 145.860 MHz. Dutch graduate student William Leijenaar, PE1RAH, who designed one of HAMSAT's transponders, saw the PSLV-C6 vehicle carry the satellite skyward from SDSC SHAR. "It was very interesting to see how my radio finally went into space," he said afterward. "It is the best ham radio experience in my life." There's more information on the AMSAT-India Web site http://www.amsatindia.com/hamsat.htm.

Resolution Calls on FCC To Evaluate BPL Interference, Review Rules

Rep Michael Ross, WD5DVR, of Arkansas, has introduced a resolution in the US House of Representatives calling on the FCC to "conduct a full and complete analysis" of radio interference from broadband over power line (BPL). The resolution, H. Res 230, says the Commission should comprehensively evaluate BPL's interference potential incorporating "extensive public review and comment," and--in light of that analysis--to "reconsider and review" its new BPL rules, adopted last October. If approved by the full House, the non-binding resolution, introduced April 21, would express the requests as "the sense of the House of Representatives."

"We are grateful to Congressman Ross and his staff for taking a leadership position in recognizing that the BPL interference issue deserves more careful consideration than the FCC was willing to give it under former Chairman Powell," said ARRL CEO David Sumner, K1ZZ. The resolution has been referred to the House Committee on Energy and Commerce, on which Ross serves.

The resolution's prime focus is on BPL's potential to disrupt critical public safety radio communication. It cites National Telecommunications and Information Administration (NTIA) studies that "have determined that broadband over power line creates a 'high risk' of radio wave interference, and that harmful interference to public safety mobile radio receivers can be expected at distances of 75 meters from the power line where broadband over power line is in operation, and at distances of up to 460 meters from fixed stations, such as VHF police or fire dispatch communications facilities."

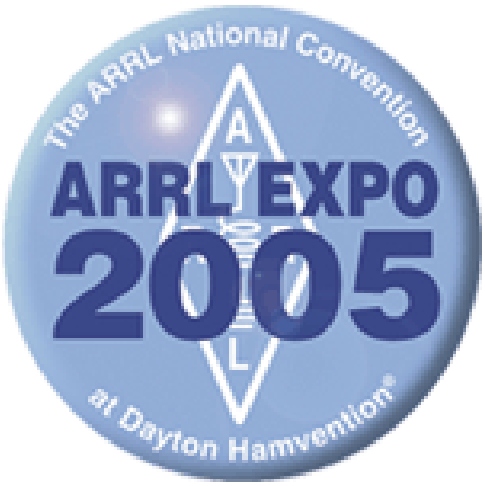
The resolution notes that the same NTIA study determined that BPL interference to aeronautical and airline travel communications "could be expected at distances up to 40 kilometers from the center of the broadband over power line system, and that interference to outer marker beacons for airline instrument landing systems could be expected at great distances as well."

Many public safety agencies and support services, including emergency medical services, fire, and law enforcement, utilize Low-Band VHF (30-50 MHz), the resolution points out. According to the resolution, at least 13 states--California, Connecticut, Florida, Illinois, Indiana, Mississippi, Missouri, Nebraska, North Carolina, South Carolina, Tennessee, West Virginia and Wyoming—use the band for state police operations. It's the primary public safety radio band in nine states.

The resolution further notes that the Association of Public Safety Communications Officials Inc (APCO), and the National Public Safety Telecommunications Council (NPSTC), have urged the FCC to withhold final action in the BPL proceeding for at least a year, pending a "conclusive determination" of BPL's potential to interfere with public safety and other licensed radio systems operating below 80 MHz. It also cites comments filed by the Missouri State Highway Patrol, which uses a statewide radio system with more than 1400 Low-Band VHF users. The Missouri State Highway Patrol commented that the overall effect of BPL implementation would be "a potentially significant increase in interference to the mission of critical public safety communications," the resolution says.

The resolution recounts that the FCC has struggled for years to resolve widespread harmful radio interference to first responders on 800 MHz and "should not have proceeded with introduction of a technology which appears to have substantial potential to cause destructive interference to police, fire, emergency medical services, and other public safety radio systems" without first conducting a comprehensive evaluation.

A copy of HRes 230 is available on the ARRL Web site in .PDF format at:
http://www.arrl.org/tis/info/HTML/plc/filings/hres230/HRes230.pdf
See the ARRL Web site, http://www.arrl.org, for more information



ARRL National Convention at Dayton Hamvention® is May 20-22

If you've never been to Dayton Hamvention®, THIS IS THE YEAR! Dayton Hamvention® is host to the 2005 ARRL National Convention. It's like having two great shows in one! At the convention, you'll visit ARRL EXPO, a huge exhibit area featuring a variety of booths and activities to enhance your Amateur Radio experience. Pickup your free ARRL Passport at ARRL EXPO. It's the ultimate convention scavenger hunt that ends with a drawing for great prizes. Limited to the first 5,000 visitors to the ARRL EXPO exhibits area.
http://www.arrl.org/expo

Franks Funnies
Lawyers

A farmer named Clyde had a car accident.

In court, the trucking company's fancy lawyer was questioning Clyde.

Didn't you say, at the scene of the accident, 'I'm fine,'" asked the lawyer.

Clyde responded, "Well, I'll tell you what happened. I had just loaded my favorite mule, Bessie, into the..."

"I didn't ask for any details", the lawyer interrupted. "Just answer the question? Did you not say at the scene of the accident, 'I'm fine!'?

Clyde said, "Well, I had just got Bessie into the trailer and I was driving down the road..."

The lawyer interrupted again and said, "Judge, I am trying to establish the fact that, at the scene of the accident, this man told the Highway Patrolman that he as just fine. Now several weeks after the accident he is trying to sue my client. I believe he is a fraud. Ask him to simply answer the question.

By now, the Judge was fairly interested in Clyde's answer and said to the lawyer, "I'd like to hear what he has to say about his favorite mule, Bessie".

Clyde thanked the Judge and proceeded,
"Well as I was saying, I had just loaded Bessie, my favorite mule, into the trailer and was driving her down the highway when this huge semi-truck and trailer ran the stop sign and smacked my truck right in the side. I was thrown into one ditch and Bessie was thrown into the other. I was hurting, real bad and didn't want to move.

However, I could hear Ole' Bessie moaning and groaning. I knew she was in terrible shape just by her groans.

Shortly after the accident a Highway Patrolman came on the scene. He could hear Bessie moaning and groaning so he went over to her. After he looked at her, he took out his gun and shot her between the eyes.

Then the Patrolman came across the road, gun in hand, looked at me, and said "How are you feeling?"

"Now what the hell would you say?"

Ol' Yeller

A wealthy old sailor decides to go on a photo safari in Africa, taking his faithful aged English Lab named Ol' Yeller, along for the company.

One day the Lab starts chasing butterflies and before long, Yeller discovers that he's lost. Wandering about, he notices a leopard heading rapidly in his direction with the intention of having lunch.

The old Lab thinks, "Oh, oh! I'm in deep doo-doo now!" Noticing some bones on the ground close by, he immediately settles down to chew on the bones with his back to the approaching cat. Just as the leopard is about to leap, the Lab exclaims loudly, "Boy, that was one delicious leopard! I wonder if there are any more around here?"

Hearing this, the young leopard halts his attack in mid-strike, a look of
terror comes over him and he slinks away into the trees. "Whew!", says the leopard, "That was close! That old dog nearly had me!"

Meanwhile, a monkey who had been watching the whole scene from a nearby tree, figures he can put this knowledge to good use and trade it for protection from the leopard. So off he goes, but the old Lab sees him heading after the leopard with great speed, and figures that something must be up The monkey soon catches up with the leopard, spills the beans and strikes a deal for himself with the leopard.

The young leopard is furious at being made a fool of and says, "Here,
monkey, hop on my back and see what's going to happen to that conniving canine!"

Now, the old Lab sees the leopard coming with the monkey on his back and thinks, "What am I going to do now?", but instead of running, the dog sits down with his back to his attackers, pretending he hasn't seen them yet, and just when they get close enough to hear, the old Lab says: "Where's that damn monkey? I sent him off an hour ago to bring me another leopard!"

Moral of this story..

Don't mess with old farts...age and treachery will always overcome youth and skill! Bullshit and brilliance only come with age and experience!

2ND ANNUAL HAMFEST

East Greenbush

W2EGB

Amateur Radio Association

Saturday May 21, 2005

8:00 AM Until 1:00 PM

Phillips Road Firehouse

East Greenbush, N.Y.

Pavilion Tables $ 10. 00
Limited Space
1st Come – 1st serve basis

Tailgating Freewith $5. 00
General Admission Fee

VE EXAMS held at 9AM
Off Site

TALK IN 146.52 Simplex

FOOD BOOTH OPEN ALL DAY

Rain or Shine

Vendor Setup 6:00 am

Gate Opens at 8:00AM

For Information on Reservations Contact:
KB2HWL@nycap.rr..com

Directions: I 90 East & West – Take Exit 9-Rte 4 South 1.4 Miles to 9 & 20 – take 9 West 0.5 miles turn left onto Phillips Road – 0.6 miles to East Greenbush Fire Dept. #3 Station on Right.

From 787 North & South – take Rensselaer, NY Exit 2.7 Miles from light – take Rt. 9 East to Phillips Rd. Turn Right 0.6 miles to East Greenbush Fire Department Station #3 on Right.

VHF/UHF Propagation

How Atmospheric Conditions Can Affect And Improve Your Listening

By Joseph Pasquini, N2NOU

From the April 2005 Edition of "Scanning USA" magazine
http://www.scanningusa.com
Reprinted with permission

Introduction

The value of having a basic understanding of and an appreciation for VHF and UHF propagation cannot be repeated often enough. Since both VHF and UHF utilize line of sight, you will normally only monitor relatively local communications until some form of atypical propagation occurs. But when some good propagation does occur, you may suddenly find your self hearing distant (DX) transmission from hundreds and in some cases even thousands of miles away, even with a modest ground plane antenna.

You probably already know a little about DX and line of site, but how does all of this help to improve your listening? Well, if you are able to differentiate one form of propagation from another, you will be able to more effectively evaluate what you are hearing as the weak and sometimes not so weak signals start blasting across your receiver's speaker. Fortunately for us, the various forms of propagation differ enough from one another to be discernable. Equally as fortunate, the weather sometimes plays a major role in determining the type of propagation that is to occur. Virtually all weather conditions affect VHF/UHF propagation is some manner.

Elements of Propagation

The atmosphere of the earth is divided into layers totaling approximately three hundred miles in height. These zones are known as the troposphere, the stratosphere and the ionosphere. As the altitude increases, the density of the atmosphere slowly decreases. Ionized layers within this span have the ability to reflect radio waves. These three layers are responsible for many of the various types of VHF and UHF propagation we may encounter from time to time. While it is true that many different types of VHF/UHF propagation have been observed and documented, this article will focus on those forms that are of the most interest to our monitoring. Let's begin the discussion.

Tropospheric Enhancement (TrE)

Tropospheric enhancement is probably the most likely form of beyond-the-horizon propagation that you will encounter. As the name implies, this form is dependent upon variations in the region of air where weather occurs. This region is otherwise known as the troposphere. Changes in the temperature and water vapor content in this region affects its refractive index and alters the range of VHF waves.

Tropospheric propagation occurs along temperature inversions which are often associated with the passage of a strong weather front. Temperature inversions form along the junction of where colder air meets warmer air. Fog, smog, haze and airborne particulates can also cause an inversion. The altitude of the inversion is proportional to the range of the propagation. Distances can range from fifty miles to over eight hundred miles at times.

Tropospheric propagation features a steady signal with minimum and gradual fading over a period of time. As a rule of thumb, it is usually at its best on UHF, very good on the VHF-high and not so good on VHF-low. However, unless your station is optimized for UHF monitoring, this form of propagation will appear to favor VHF-high.

Tropospheric Ducting (TrD)

When a high altitude inversion is sandwiched between two stable regions, an atmospheric *duct* is formed. Such tropospheric ducting can result in propagating signals as far as two thousand miles away. These ducts can extend for great distances and have been known to even remain stable for many days at a time if a weather front remains stationary.

Tropospheric Scatter (TrS)

Another form of tropospheric propagation is known as *scatter*. Unless you keep your squelch open all the way and use an optimized antenna system, you normally will never notice tropospheric scatter as the signals are weak at best. Signals will flutter and randomly fade in and out. This form gets its name from the fact that wave energy of a VHF or UHF transmission is scattered as it passes the radio horizon and continues on as an extremely weak, unreliable signal. This form of propagation can travel from fifty to five hundred miles. Scatter may interest you if you have a well equipped monitoring post.

Sporadic-E Skip (Es)

Sporadic-E skip, commonly referred to as the abbreviated *Es*, is caused by clouds of ionized atomic particles in the E-layer of the ionosphere. The ionosphere, which reacts to the sun's radiation, is about fifty miles in altitude. This mode tends to peak during the

VHF/UHF Propagation (Continued)

Sporadic-E propagation is very unpredictable and mostly affects the VHF-low band. The DX range is typically one thousand miles or more with double hops extending out to over two thousand miles. The lower the frequency, the greater the DX range.

The mode is characterized by signals that are normally quite strong but may rapidly vary moment to moment. DX stations being heard thanks to Es may sound just as strong as local stations.

Ionospheric Skip – F2 Layer Propagation

Ionospheric skip, which is also referred to as F2 layer propagation, is typically active during periods of high solar activity. This is the familiar long distance propagation which bounces shortwave (HF) signals around the world. Under the right circumstances, this mode can reach into the VHF-low band. During active sunspot cycles, you may be able to monitor public service transmissions from thousand and thousands of miles away during daylight hours!

F2 layer skip does not extend to the UHF band and rarely to the VHF-high.

Ionospheric Scatter

This particular propagation mode features very weak signals as a result of scatter occurring in the D-layer of the ionosphere. Signal ranges are typically 500 to 1200 miles. The higher the frequency or longer the distance, the more pronounced the signal fade. Ionospheric scatter frequents VHF-low and on occasions the lower side of VHF-high.

Due to the low signal strength, you will normally not hear any transmissions via ionospheric scatter unless you leave your squelch open completely and are monitoring a low-traffic frequency.

Aurora Reflection

Aurora displays are obviously common around the polar regions, but unusually strong displays do make it down into the continental US from time to time. It is more frequent in the northerly latitudes. Aurora reflection occurs at altitudes between 50 and 80 miles above the earth and typically impacts VHF only. The reflected path can be as long as 1200 miles in length.

An aurora reflected signal is characterized by an unusual growling or hissing superimposed on top of it. Unfortunately, this noise often makes typical FM voice communications difficult to understand.

Knife Edge Diffraction

Under certain conditions, it is possible for a ridge of hills or mountains to refract VHF waves over their crests. This refraction over the edge can be enhanced if the ridge is surrounded by low lying clouds. This unique phenomenon is capable of providing a “boost” of sorts to a signal over a long path. As a result, the received signal is several decibels stronger than it would otherwise be if the ridge wasn’t in the path of the signal.

Miscellaneous Weather Conditions

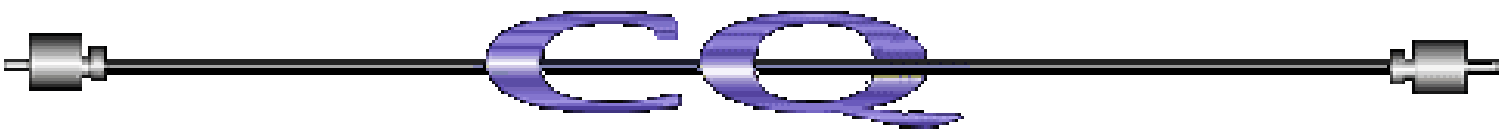
VHF and especially UHF transmissions can be severely attenuated by heavy snowfall. However, following a winter storm, the coating of fresh snow can actually improve signal propagation by providing a gigantic ground plane and reflective surface. Even the humidity on a hot summer day can effect propagation. As an example, it's not uncommon to get a little short-range enhancement from "ducting" during overcast or muggy conditions.

Conclusion

As you can see, VHF/UHF signal propagation can play a distinct role in what we are able to monitor at times on our receivers. Propagation is generally not a factor for local listening. It is, however, a factor for those times we wish to try to monitor DX signals. And, it also helps us to better understand those situations when a completely unexpected signal breaks our scanner’s squelch.

Further Reading

VHF/UHF Tropospheric Ducting Forecast: http://home.cogeco.ca/~dxinfo/tropo.html
Tropospheric DX Modes: http://home.cogeco.ca/~vem3ont22/propagation/tr-modes.htm
Low VHF/Utilities: http://www.skywaves.info/lowvhf.html



CQ ANNOUNCES ANNUAL "DX MARATHON"

Visalia,California **April 16,2005**

CQ magazine today announced the revival of the long-dormant CQ DX Marathon, last run in 1948. The new CQ DX Marathon will essentially be a year-long DX contest, with stations competing to contact as many different countries ("entities") and CQ Zones of the World as possible over a full-year period, then starting again at zero at the beginning of the next year. The new CQ DX Marathon is part of CQ's broader "Waking Up DXing" program, whose goal is to reinvigorate DXing, or contacting hams in faraway places. The program was outlined for the first time at the International DX Convention in Visalia, California on April 16.

"DXing has always been the heart of ham radio," says CQ Editor Rich Moseson, W2VU, "and it continues to be the biggest thing that sets us apart from other forms of electronic communication. Healthy DXing activity is vital to the long-term health of amateur radio."

Bob Locher, W9KNI, of Idiom Press, provided the inspiration for the new activity and joined in the announcement at Visalia. "Many active DXers have noticed a drop-off in general DXing activity outside of contests and DXpeditions," notes Locher. "I suggested that CQ start up an event that would promote activity all year long, would minimize geographic advantages and provide for simple scoring. It turns out that the CQ DX Marathon, which evolved after 1948 into the CQ World Wide DX Contest, was already based on the same concepts."

Scoring will be very simple, consisting of the total number of DX entities and CQ zones contacted over the course of a year. There will be no multipliers and each country and zone will count only once. In the case of a tie, the station whose last qualifying contact came earliest in the year will be the winner.

Complete details and rules for the new CQ DX Marathon will be published in the May issue of CQ magazine and will be posted on the CQ website www.cq-amateur-radio.com after the issue is in subscribers' hands. The first running of the event will be in 2006.

CQ Communications, Inc. / 25 Newbridge Rd. / Hicksville, NY 11801 / 516-681-2922 www.cq-amateur-radio.com

CALIFORNIA EMERGENCY OFFICIALS SEE ADVANTAGES OF SSTV IN DRILL

Amateur Radio Emergency Service (ARES) volunteers in California made slow-scan TV part of the communication mix when they participated in a voluntary wildfire evacuation drill April 30. The exercise involved residents of nearly 400 homes in a high fire hazard area of Santa Barbara County, and ARES' use of SSTV definitely caught the eye of emergency officials.

"ARES provided us with the only continuous, real-time information on traffic flow and conditions in the incident area," said Jay McAmis of the county's Office of Emergency Services. "It was great!"

Santa Barbara South County ARES Emergency Coordinator Lou Dartanner, N6ZKJ, says communicators with SSTV gear deployed at three locations along a narrow, winding road out of the canyon and in two locations along the evacuation route to a reception center some five miles away. Three additional ARES members provided voice reports on traffic flow, while four other team volunteers supported the field activity at the command post and reception center.

Since the county's inaugural test of its new "reverse 911" system failed to reach everyone, many residents were alerted instead by sheriff's units using public address systems and by search-and-rescue team members going door to door. "As a result, instead of the traffic jam with fender-benders and finger-wagging, an orderly trickle of vehicles moved out of the area," Dartanner reports. "An SSTV station was set up at the reception center, and a crowd of about three dozen jostled around the monitor all morning, watching the near-continuous stream of pictures coming in from the field. A second, portable system was set up in back of a car at the Command Post, and the Incident Commander was able to see exactly what was--or was not--occurring in the incident area."

More than 200 residents participated, as did personnel from 21 agencies and organizations. "Local fire officials are excited about using SSTV capability in the future," Dartanner says, "and ARES will continue to play an important role in their activities."

The Magic Band Six Meter Fun

Hi Gang,
I was pleasantly surprised to receive a few e-mails asking for more information about building home brew 6M antennas. So, I thought that my next installment might include some comments on that subject.

First, a very neat home brew 6M antenna is based on a Police or Fire Department Style steel whip type, low band antenna. You can find these at just about all hamfests and even on EBAY. The great thing about using these antennas is that they almost always come with a mounting base and heavy spring. As the PD & FD low band is just below 6M, you'll only have to trim them a little bit to resonate on 6 meters.

Just remember, the universal 1/4 wave formula of: 234/F(mhz)= 1/4th wave. For the FM section of 6M..say at 52.525, a 1/4 wave would be about 54". And, for the SSB section of 6 meters say 50.130 Mhz, a 1/4 wave would be about 56 inches.

I strongly advise that an inch or so be added to the initial cut to begin with. It's easier to prune than it is to add. A good ground is always a must. If you use one of these antennas in your attic, just add 54" or 56" of wire for the counter-poise as needed.

A second type of home brew antenna for 6M is the little known, resonant feed-line dipole. See, you're probably scratching your head now and saying, "what is that?" Actually it is a 1/2 wave antenna made from coax. It can be used indoors, outdoors and configured as a sloper, a vertical or a horizontal antenna.

I usually use 8X mini coax to construct my resonant feed-line dipoles, though you can use RG-58. If you leave one PL-259 on the coax, this antenna can be run directly to your rig when the construction is finished.

Using the universal 1/2 wave formula of: 468/F(mhz)= 1/2 wave, the math comes out to about 107" for 52.525 and 112" for 50.130. As you know, the 1/2 wave dipole has two sides...this can set up by cutting and removing about 55" for FM and 57 inches for SSB of the outer cover and shielding from one end of the coax.

Be very careful here not to cut in to the center of the coax. Once this step is done, the center conductor you now have will be 1/4 wave. Now, measure back along the coax from the cut line the same distance as you cut for the radiator. Mark it, but do not cut it. At this point, I add 3-#43 material snap-on ferrite chokes.

Remember, the other 1/4 of the 1/2 wave has to go somewhere and that 1/4 wave somewhere is from the inside of the shielding out to the outside of the shielding to complete the radiation pattern. If you don't stop it, that somewhere could also be right back in to your rig too. And we all know that never is a good thing.

You could also wind a 9 turn 6" coil in the coax to do the same thing as the snap-on chokes. After you tune the SWR by trimming the radiator, you now have a resonant feed-line dipole. I have run as much as 100 watts through one of these when it's mounted out in the clear. Before you even ask, the snap-ons do get rather warm at that power.

After final SWR adjustments, I apply some electrical tape to the joint between the radiator and shielding. To hang the antenna, I usually add a crimp-on circle connector to the end of the radiator.

If you have any questions about these constructions, please feel free to e-mail at n2neh@arrl.net .
73 until next month.
Chris - N2NEH

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