



The Parasitic Emission

Volume 35 - No. 1

The Official Newsletter of the Quad-County Amateur Radio Club

September 2009

1

Back in the Saddle

by Joe Shupienis, W3BC (ex WA3IHK)

Hello again, everybody. It's been many years since I've put together a *Parasitic Emission*. A lot of water has passed under the bridge since I moved to Pittsburgh 15 years ago. I have enjoyed making new friends, and participating in a very active club, the Steel City Amateur Radio Club.

Family matters bring me to the Quad Counties regularly, so I am no stranger to the goings-on in



The Award-winning 2008 ARRL June VHF Contest Team: W3BC, WA3VXJ and KB3NZX

these parts. However, due to the limited time I have on my weekly visits, I have not had the opportunity to keep up with everyone I know here.

I am saddened when I hear of the passing of good friends who were very active hams and who led the QCARC through the past 34 years.

Nonetheless, I'm encouraged

to hear new callsigns on the air. We are keeping the flame alive, and I am happy to observe that the club I founded 34 years ago is still in existence.

I have reached that age when it's time to focus on getting the most out of my remaining years, and as a result I will be spending more time in the Quad-County area. Over the past several summers, Bryan, WA3UFN and I have become very active in VHF contesting, operating in the Rover category. It's a lot of fun, and we have received quite a few awards. We also have been active in some HF contests, notably Field Day and the Pennsylvania QSO Party.

I have made a commitment to re-establish this newsletter as a monthly journal of original news and articles by local hams, for local hams. I re-

member typing the first issues on a manual typewriter, and I can assure you that at least in this case, modern progress has made things better!

In those bygone years, the Club's largest expense was printing and mailing the newsletter. Once again, modern technology has given us the ability to produce a first rate publication and deliver it to our membership **for free!**

I am preparing this newsletter using *OpenOffice* software. In the best Amateur tradition, this software is free and Open Source.

The masthead and title fonts hark back to the very first editions of *The Parasitic Emission* and work as well today as they did then. Don't be surprised if an old friend or two from the past stop by to say Howdy!

In selecting colors, blue and green were chosen to represent the mountain forests, clear skies and pure water that are hallmarks of our four counties. We can be justifiably proud of these natural treasures we all cherish.

All amateur radio related articles are welcome, and you're encouraged to submit your writings. All it takes for a nice article is 150-200 words and/or a picture of your ham radio activities.

73 - de Joe, W3BC (ex WA3IHK)

The September Meeting of the Quad-County Amateur Radio Club will be held at the Clearfield 911 Center on Friday, September 18, 2009 at 7:30 p.m.

After the business meeting, coffee and donuts will be served. All current and former members are urged to attend.

Also, don't forget the club breakfast is Saturday, September 12 at Billy's Burgerland in Clearfield. Reservations are made with Lars, SM7FYW (sm7fyw@hotmail.com) by Thursday, September 10.

In this issue...

- *August Minutes (KA3FHV)*
- *Behind the Gavel (KA3DWR)*
- *ARES Report (W3PRL)*
- *Getting the Right HDTV (W3BC)*
- *Shorts*
- *ARRL September VHF Contest (W3BC)*



Affiliated Club



Minutes of the August Meeting

by Jeff Rowles, KA3FHV, Secretary



CLEM
SEZ,
"HOWDY!"

The deadline for submitting articles is Monday after the first Friday of the month.

The meeting was called to order at 7:36 PM by Doug, KA3DWR.

There was one piece of correspondence: an Announcement of the Mid Atlantic States VHF Conference and the Packrats Flea Market the last weekend of September.

The minutes of the previous meeting were approved as read. The treasurer's report was approved on a motion by KA3FHV seconded by K3EDD.

Old Business

The Field Day report was filed in time by KA3DWR. The annual club swap meet was discussed. No response was received from an email to N3RTK nor was there a return phone call from the Clearfield-Lawrence Township Airport Authority. It was generally agreed that it will not be held this year.

New Business

There was a slight change made on the membership renewal form. Referring to the 147.315 repeater, the word "owned" was changed to "sponsored by." Starting in September the net call-up order of counties will change. We will start with the Quad-Counties in alphabetical order, followed by the remaining counties also in alphabetical order.

Ed, K3EDD, proposed that he donate the sum of \$150.00 to the club to be earmarked for payment of future electric bills in exchange for the old 146.865 repeater, amplifier, and remaining hard-line. A motion accept the offer was made by K3JE and seconded by W3KWT. Motion carried.

A motion to adjourn was made by KA3FHV and seconded by SM7FYW at 7:51 PM

A brief review of the history of the club by founding father, W3BC, followed along with some ideas on how to increase club membership and improve attendance at meetings. Coffee and doughnuts were available after the meeting.

Attendance

KA3FHV, W3KWT, SM7FYW, Kay Kvant, W3BC, K3EDD, K3JE and N3PUQ.

Behind the Gavel

By Doug Rowles, KA3DWR, President

Once again The Parasitic Emission does its imitation of the phoenix and rises from the ashes. This latest revival is the result of some brainstorming after the last club meeting between W3BC and K3EDD. This time it will take the form of a PDF file and be distributed by email. ALSO, it will be posted on the club web site at www.qcarc.com. Joe, W3BC, has agreed to be our editor, and also take care of distributing each issue.

Members are invited to submit articles for publication at w3bc@parasiticemission.com. They could be about an interesting radio contact, a new piece of gear, a product review, or whatever else comes up. The deadline for submitting articles is the Monday after the first Friday of the month. We also will feature a column each month from the Clearfield County Emergency Coordinator, W3PRL, to keep us updated on events and information on the emergency communications front.

Last weekend the club got an email from e-qs.com. It seems we had 164 e-QSLs in our inbox. I signed on to the web site and got us registered. Sure enough there were e-QSLs dating back to 2000. All of them were from Field Day operations. The contacts were acknowledged. From time to time I'll check for further activity on our account.

While I was at it I registered my call sign and discovered 34 in my incoming box. Most are 6 meter contacts plus one 40 meter QSO with K3MD that had completely slipped my mind.

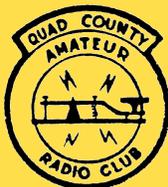
Dues will be due at the end of the year. A minor change had to be made to the membership form. Since the county supplied us with a new repeater system, the statement that "The QCARC owns the 147.315 repeater" had to be changed to "The QCARC sponsors the 147.315 repeater." The 2010 membership form will be on the website and be a part of this newsletter in future months.

73 for now. I hope you enjoy this and future editions of The Parasitic Emission.

Please submit articles to W3BC@parasiticemission.com by the first Monday after the first Friday of the month of publication. Photos and other images should be scanned at the highest resolution possible. Text is preferred in RTF or ODT format, but virtually ANY format can be read.



Affiliated
Club



ARES In Clearfield County

By Paul Lowes, W3PRL, Emergency Coordinator

The Clearfield County Amateur Radio Emergency Service has been an integral part of providing the Clearfield-Jefferson Red Cross of Clearfield County with reliable emergency communication services for a year and a half. Over the past several months, we've responded to a weather event and most recently to a house fire in Grampian where a family of five lost all their possessions.

Tornado

The weather event was a tornado alert near the Parker Dam area. The path of the tornado skirted Clearfield Borough, but straight line winds were reported in Grampian, causing severe damage to a big picnic shelter and uprooting several large trees.

Response from the field for this weather event was excellent. Approximately 10 different amateur radio stations provided weather activity information that could have proved essential to 911 had this tornado found it's way to Clearfield and surrounding townships.

House Fire

The house fire in Grampian started just after dark, and when I got to the fire scene, it was totally involved. Being a volunteer for the Red Cross for eight years, I responded to the fire scene wearing two hats. One for the Red Cross and one for ARES.

I assisted with emergency communications from the fire scene due to very spotty cell phone service. I reported family health and welfare information from the scene to John, N3SPW, who was in phone communications with the Red Cross Disaster Volunteer. Jerry, N2GUN assisted, along with Scott, W3EOD.

Scott and I responded back to the scene with canteens and water. Many thanks to all those who participated in these events. The Red Cross and the family involved thanked us for our Services.

October SET

Clearfield County ARES will be conducting a Simulated Emergency Test on Saturday, October 31. All County ARES members, and bordering county guests are asked to participate. Let's hope we have a really great turnout.

Getting the Right Wide Screen TV

by Joe Shupienis, W3BC

The new fall TV programs are starting, and football season is kicking off. With falling prices, lots of people are thinking about upgrading to one of the new, widescreen TVs. But what is the right size?

Starting in the early days of round picture tubes, TV's have always been measured diagonally. For the past 50 years, rectangular TV screens have used a 4:3 "aspect ratio." The new, flat-panel TVs use the wider 16:9 ratio. You can't compare them to each other by the "inches."

It is very important to note that you need a "larger" wide-screen TV to see the same size image – a 27 inch wide-screen will give the same image size **vertically** as a 22 inch old-style screen. From this chart we can see that a standard 27-inch set will require a 32 inch wide-screen TV to produce an image that appears to be the same size. If you try anything smaller, you will be disappointed!

"OLD"	"NEW"	"OLD"	"NEW"
9	11	21	26
13	16	25	31
15	19	27	32
17	21	33	40
19	23	35	43

Screen Resolution

There are some common numbers bandied about, such as 720p, 480i and 1080p, and here is a short guide to what they mean.

In a nutshell, they are the number of pixels, top to bottom. The old, analog TVs produced 525 lines from top to bottom, with 45 of those lines above and below the displayed image (the "interframe gap") for a net of 480 lines used for the picture.

So in today's terms it is called "SDTV" or "Standard Definition TV." It is also called "480i" which means, "480 lines of picture, interlaced scanning." In the old, analog days, the TV station sent lines 1, 3, 5 ... 525, and then sent lines 2, 4, 6 ... 524 a 60th of a second later. It made the picture displayed on a phosphorescent screen seem less "jittery" and "flickering." Every TV can display this mode.

Next comes "EDTV" for "Enhanced Definition TV." It is also called 480p, where "p" is for "Progressive scan." This means the lines are sent in order, 1,2,3 ... 480. It gives a sharper picture on scenes which contain a lot of motion. All HDTV sets can

Clearfield County ARES will be conducting a Simulated Emergency Test on Saturday, October 31.



4

display this mode, but analog-only TVs **cannot**, unless they have a digital tuner or converter box which “downsamples” the signal to 480i.

If your DVD player can send a 480p signal to your new TV, by all means use it. Your eyes will thank you! You must use an “HDMI” or “component” cable to connect the DVD player to the TV in order to use 480p EDTV (and better) signals. The old, yellow “video,” “composite,” and “S-Video” cables are only capable of the 480i, SDTV signals.

HDTV Specifications

Currently there are 4 High Definition TV (“HDTV”) modes: 720i, 720p, 1080i and 1080p. As you have probably figured out, 720i is 720 lines from top to bottom, with interlaced scanning (1,3,5 ... 719/2,4,6 ... 720). 1080p is 1080 lines, scanned from 1 to 1080 in sequence. Some digital TV stations transmit some programs in one of these modes.

A word of caution about DVD players: Many new players can output “720p” or “1080i”, which will display in their full resolution if hooked up to a new, digital TV with an HDMI cable. But even though that is the resolution of the signal, the source material on the DVD is nowhere near that good. Most DVDs are recorded at 480i with only 480 lines of picture (or only 360 if it is “letter-boxed” or “widescreen”). Those 480 lines are “up-sampled” to 720 or 1080, and will “lose something in the translation.” You are much further ahead to play your DVDs in their native resolution, and let the TV display it as best it can.

To view a real 720 or 1080 recording in its full resolution, you need three things:

1. An HD-DVD or Blu-Ray™ disc
2. An appropriate Blu-Ray™ or HD-DVD player
3. A widescreen HDTV set.

When you combine all of these, you are in for a real treat!

The Bottom Line

So all this wonderful stuff sounds expensive. Is it really? The best answer is that its not as high priced as you may think. HDTVs have pretty much saturated the market. You can hardly find a 4x3 set any more, let alone a TV with a glass picture tube. As with all consumer electronics, the price is going down and the performance is going up.

Typical prices are \$200-300 for a 19” HDTV, \$300-400 for a 26”, and \$350-\$450 for the popular 32” sets. At these “small” screen sizes 720p is all that is available (or advisable). In 37” HDTVs, the 720p units are available for \$400-\$700, and 1080p sets range from \$600-\$900.

Blu-Ray™ players start at \$129 and range up to the \$400 point. Currently, Blu-Ray™ discs are overpriced in my opinion, with many popular titles retailing for as much as \$35. I suggest waiting until Christmas when deep discounts will kick in. (A Blu-Ray disc holds up to 50 gigabytes, while a DVD holds no more than 9 gigabytes.)

As an added feature, many HDTV sets have a VGA connector so you can plug your computer into them and use them as a monitor. The native resolution for 720 sets is usually 1366x768 pixels, and for 1080 sets it's 1920x1080. That can make a great addition to your hamshack!

I am writing this article using a \$199 19” HDTV which replaced the 15” LCD monitor I used to use. It is nice to have the wider image for my computer, and even nicer when I want to take a break and watch TV. It's fully cable-ready and tunes all the analog and QAM digital channels. The pre-season football games in HD must be seen to be believed! I picked up a \$79 Blu-Ray™ player, and all my DVDs look great – and the Blu-Ray™ movies I rented are pure eye-candy.

Shorts

The Clearfield County ARES/RACES net is being held Sunday evenings at 7:45 pm on the 147.315 repeater.

W3BC is looking for old photos of QCARC activities. You can scan them or he can scan them for you and return them. Please send your photos or information to w3bc@parasiticemission.com

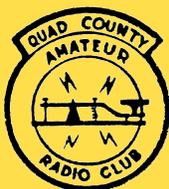
It's the Fall Contest season! Don't miss out on the fun. Here are a few of the most popular:

Date	Start	Length	Contest
09/12	2 PM	33 hr	ARRL September VHF QSO Party
09/21	7 PM	4 hr	144 MHz Fall Sprint
09/29	7 PM	4 hr	222 MHz Fall Sprint
10/07	7 PM	4 hr	432 MHz Fall Sprint
10/10	12 PM	13 hr	PA QSO Party Part 1 (Saturday)
10/11	9 AM	9 hr	PA QSO Party Part 2 (Sunday)
10/29	7 PM	4 hr	6 Meter Fall Sprint

Herb Murry, KB3TAP has a shiny, new 50 foot tower, tri-bander, 2-meter antennas and an Icom 746 PRO to go with it all. He's been trying it all out and is impressed with 2-meter SSB.



Affiliated Club



Are You Game?

[The 2009 ARRL Sept. VHF QSO Party]

by Joe Shupienis, W3BC

It's fall again – the kids are at school, the TV is full of football games, and the air is full of... VHF signals? That's right. It's time again for the annual September VHF contest. This year it starts at 2:00 on Saturday, September 12th and wraps up on Sunday at 11:00 p.m.

Don't run off just yet – you probably already have everything you need to participate. Even though it sounds complicated, and for “VHF Experts” only, there's actually lots of fun for everybody, even those with simple equipment and antennas.

You can take part in the contest with as little as a hand-held rig. Yes, there is FM operation on simplex frequencies. And, yes, there is SSB and CW operation as well. Chances are that you might already have a radio that can do SSB on the VHF bands, but have simply never tried it out.

Many popular HF transceivers now include 6 meters. Some, like the Icom 746, have 2 meter FM, SSB and CW as well. The popular Icom 706 rigs all do very nicely on 6 and 2 meters, and the MkII G model does a great job on 432, too. The IC-746 PRO, IC-7000, Yaesu 847, 897, and Kenwood 2000 are all very popular HF radios that will do a fantastic job on VHF and UHF.

Down on the (Antenna) Farm

On to antennas. Of course, the best performance results from big beam antennas on tall towers atop high hills, but it is possible to make many QSOs with much less than the ideal. For 6 meters, you can try using your HF antenna. Most of the time, you can get a good match with your antenna tuner on 6. It isn't perfect, but I always say, “The antenna you have in the air is at least 100 dB better than the antenna you don't have.”

For two meters and for 432, you can try to use the vertical antennas you have. Sure, you will have “cross-polarization” loss. Sure, they're cut for the FM part of the band. But... they're better than nothing!

Operating the contest

You have to know where to look to find stations. If you're going to use FM, the contest rules state that all contacts must be made on simplex frequencies, and may not be made on 146.52 or repeaters. Here is a list of FM frequencies that permit contest activity (Calling Channels, **DO NOT USE!**):

6 Meter FM Simplex Frequencies (31)

51.50	51.60	53.00	53.60	53.70	53.80	53.90
51.52	52.02	53.52	53.62	53.72	53.82	
51.54	52.04	53.54	53.64	53.74	53.84	
51.56	52.525	53.56	53.66	53.76	53.86	
51.58	52.54	53.58	53.68	53.78	53.88	

2 meter FM Simplex Frequencies (18)

145.51	145.59	146.52	146.58	147.555
145.53	145.61	146.535	146.595	147.57
145.55	145.63	146.55	147.525	147.585
145.57	145.65	146.565	147.54	

220 MHz FM Simplex Frequencies (6)

223.40	224.42	223.44	223.46	223.48	223.50
--------	--------	--------	--------	--------	--------

432 MHz FM Simplex Frequencies (80)

445.000-447.000, 25KHz channels

446.000 calling channel

Weak Signal Modes

SSB and CW (and digital modes) are called “Weak Signal” modes. Not necessarily because they are weak, but because they permit communications with very weak signals, at levels an FM signal would be lost in the noise.

Try listening on the calling frequencies, and then in the ranges listed here:

SSB/CW Frequencies

Band	Calling Freq	SSB/CW Range
6 meters	50.125	50.125-.250
2 meters	144.200	144.150-.250
220 MHz	222.100	222.100-.250
432 MHz	432.100	432.100-.300

Signals will be found outside these ranges as well, but be careful. You will be told in no uncertain terms if you blunder into the “Intercontinental DX” window on 6 meters. Do NOT transmit below 50.125 unless you are trying to work DX. US and Canadian stations are NOT considered “DX”!

Making Contact

The rules for VHF contests are fairly simple, and the exchange is very short. In the weak signal realm, it is necessary to keep things short and sweet because of the nature of VHF/UHF signals. Quite literally, a communications path can be “there one minute and gone the next.” And that is part of the fun!

...There's actually lots of fun for everybody, even those with simple equipment..

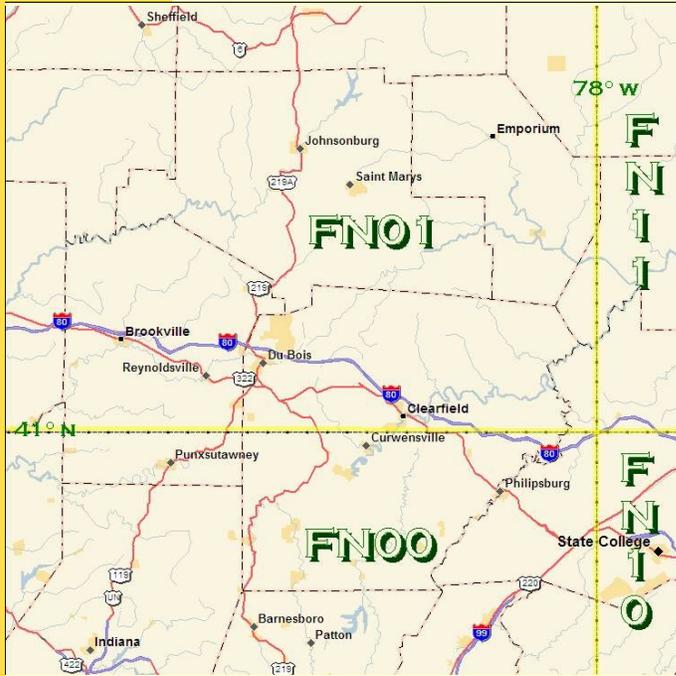
You can take part in the contest with as little as a hand-held...



ORVILLE SEZ, "GLAD T'SEE YEZ AGIN!"



The exchange consists of the other station's call sign and your "grid square." The Quad-County area is contained within four relatively rare grids, FN00, FN01, FN10 and FN11. Almost all of Cameron county and all of the rest of the Quad-



Counties are west of 78°. So if you're north of 41° you're in FN01. South of 41°, your grid is FN00. For those of you who are east of 78°, south of 41° is in FN10 while north of the line is FN11.

Now that you know

your grid, a contest QSO would go like this. Let's suppose you're running the contest using the call N3QC. You're tuning across 2 meters and on 144.218 you hear:

HIM: CQ CONTEST CQ CONTEST W3SO WHISKEY-THREE-SUGAR-OSCAR, CONTEST.

YOU: NOVEMBER-THREE-QUEBEC-CHARLIE.

HIM: N3QC THANK YOU. PLEASE COPY FOX-NANCY-ZERO-ZERO.

YOU: W3SO ROGER. WE'RE IN FOXTROT-NOVEMBER-ZERO-ONE.

HIM: THANKS...

So there you have a typical contest QSO. It took about 20 seconds. You can now tune around some more, after putting it in the log.

Work Smarter, Not Harder

But wait - there's more! W3SO is a powerhouse, Multi-Op, Multi-Transmitter Big Gun, and he isn't going to let you get away that quickly. Not until he can squeeze out every point you can give him! (This is OK, because you'll get to squeeze out every point he can give you!)

Instead of saying goodbye, his last transmission to you will be a request to meet him on other bands. In VHF contesting this is an allowable and perfectly normal practice. After all, most of us have several VHF/UHF bands we can use, so it makes

sense to use the other bands and get all the extra points and multipliers we can.

After the initial exchange on 2 meters, that contact would end something like this:

HIM: THANKS... DO YOU HAVE ANY OTHER BANDS?

YOU: I HAVE 6 AND 432.

HIM: WE'LL LOOK FOR YOU ON 50.138

YOU: 50.138. SEVENTY-THREE.

HIM: GOOD LUCK. W3SO, CONTEST.

In this case, you will log the 2-meter QSO, then go to 50.138 and listen for W3SO calling CQ. The operator of that transmitter will have seen a message from the 2-meter operator pop up on his screen with your call, and will be expecting you. Call him and repeat all the info as before. He'll hand you off to the 432 operator, and you get to work the station yet again for more points and multipliers.

So by working your first station, you have made 3 QSOs, gotten 4 QSO-points (222 and 432 are worth 2 points per QSO, 902 and 1296 are worth 3, etc.) and added 3 multipliers. Congratulations! You have **12 points**.

You hear W3ZZ calling CQ from FM19 and answer him. You pick up 4 more points and 3 more multipliers. You now have a whopping **48 points** by only working two stations!

What's this? You find "W3BC/Rover" frantically calling CQ on 144.086. You work me in FN11 on all three bands for 4 more points and 3 more multipliers, and then I tell you to look for me in an hour from FN10.



Huh? You mean you can work a "Rover" more than once? You bet! A Rover works for a while from one grid, then sets up in another grid later. You can work him all over again from the new grid, because he is a "new" station at that point.

...his last transmission to you will be a request to meet him on other bands. In VHF contesting this is an allowable and perfectly normal practice



Affiliated Club



...Suddenly, the bands will open up as if by magic. There will be a flurry of activity, with everybody trying to work everybody else...

So if you only worked W3SO, W3ZZ and W3BC/Rover (twice) you would have 16 QSO points and 12 multipliers for a **score of 192**. Rovers are your friends!!! If you work me a third time when I'm in FM09, you will then have 20 Qs, 15 Mults and **300 points!**

In between times, if you worked, say, 8 locals on 2 FM, your score would become 28 Qs, 16 Mults and **448 points**. If you can drag just two of them to 440, you now have earned 32 Qs, 17 Mults and a **score of 544**.

In last year's contest, you would have beaten 100 of the other entries and taken 172nd place – in the middle third nationwide in the Single-Operator, Low-Power category. You would have been in the middle of the pack in the entire Atlantic Division, and taken 2nd Place in the Western Pennsylvania Section. And you'll have the award papers to prove it!

Your award-winning 24 contacts with 11 different stations would have taken no more than 3 or 4 hours of very casual operating, and required no more equipment or antennas than you already have.

How To Improve Your Score

More time spent operating will result in more stations worked. But don't expect a steady flow of contacts like in HF contests. If the bands are not open, you'll only hear locals, patiently calling CQ for hours on end, with few takers.

And then, suddenly, the bands will open up as if by magic. There will be a flurry of activity, with everybody trying to work everybody else in a mass feeding frenzy until the conditions all go away again.

There's not much Sporadic-E propagation in the September Contest but when there is, you can bet everybody goes to six meters. During the 2007 CQ WW VHF Contest, WA3UFN and I were roving at the highest point in FN10 near Philipsburg. We worked several stations in Michigan and north of Lake Erie. Those signals slowly faded, and we started to work due north into New York's Niagara Frontier and VE3s in Ontario. Finally those faded away and we found ourselves chatting with W1s, VE1s and VE9s in Maine, Labrador and Newfoundland.

This year in the CQ WW VHF contest, we observed that signals would appear for about 20 seconds and then disappear. We scratched our heads over this phenomenon. The duration was too long for meteor scatter, and too short for typical tropo

propagation. Later, we heard a single engine airplane flying overhead, and both of us being pilots, instinctively looked up to see it.

Then we looked at each other as the light bulb lit – the mystery was solved. We had been hearing distant stations via high-altitude airplane scatter! (I'm now working up a plan to use it to our advantage.)

On the higher bands, ducting and tropo-scatter are the norm. With 35 watts and a home-made yagi (3 feet of PVC pipe, 11 pieces of #14 wire and a roll or two of duct tape) on 432, I made contacts with Connecticut and North Carolina on the same evening. This was with the antenna about 10 feet up, while sitting on a 2100' knob near Troutville in FN00, one pleasant October evening.

Conclusions

So, why don't you give the September VHF contest a try this year, either at your own station or by visiting somebody else who is going to try it. It's a fun-filled event, and I just can't describe in words the feeling you get when you first talk to another VHF ham several hundred miles away.



WA3UFN operates the 222 MHz position at W3SO, September 2008

Or maybe I can... One evening WA3UFN and I were set up on top of Boone Mountain for the 2-meter Fall Sprint. We worked a number of local stations with our 50 watts and 15 element CushCraft Boomer, but DX conditions were not the best.

During one of those fleeting band openings, we worked a station near the Illinois border in western Indiana – a distance of over 400 miles. The operator sounded so excited to work us that I remarked to Bryan we might have to buy him a new set of underwear!

That's how much fun it can be!

