



Wireless Association of South Hills

WASHRAG

TM



VOLUME 15 ISSUE 11
NOVEMBER 2013



Carol's Comments

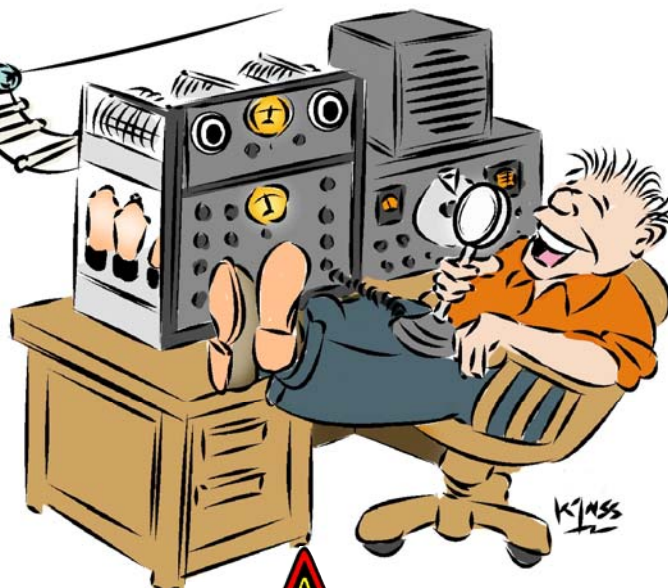
It was great to see everyone who attended the 2013 WACOM hamfest.

It was nice that two of our members won! Ron W3WN won the 46" HD TV and Sean N3NWR won the iPad. I am sure both of his children are enjoying it. I am now looking forward to our own **WASHFest** in February.

I hope all those who did the PA QSO contest had a good time. Richie and I had a great time. 67 counties always feels good.

Happy Turkey Day to all. See you at the meeting on the 14th of November. And don't forget about our Christmas Party on January 10th!

73, Carol Dank KB3GMN
President, Wireless Association of South Hills
N3SH / WA3SH / NP2SH



WASHRAG™



VOLUME 15 ISSUE 11

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Next Monthly Meeting: November 14th, 2013

The next meeting of the [WIRELESS ASSOCIATION OF SOUTH HILLS, INC.](#) will be on **Thursday, November 14th 2013**, at the [Crossroads Ministries Church](#), 88 Walter Long Road of f Route 88, Finleyville PA, starting at 7:00 PM.

2014 Officers Election Night! The Pa QSO Party wrap-up, the 2014 2 Meter Simplex Contest, **WASHFest 2014** and other plans for the fall will be amongst the topics. See you there!

Cover photo: 50/50! Carol KB3GMN & Daryn Sleeman lending a hand, selling 50/50 tickets at the 2013 WACOM Hamfest! (Let's face it, Carol is very good at ticket sales!)

More WACOM Hamfest pictures on Page 3 & scattered throughout the newsletter!

All 2013 WACOM Hamfest Photos courtesy of and © Copyright 2013 Sean Sleeman N3NWR

WASH 2013 OFFICERS

EXECUTIVE COMMITTEE:

President	Carol Danko KB3GMN
VP / Secretary	Ben Williams KB3ERQ
VP / Treasurer	Mark Stabryla N3RDV

AND WE COULDN'T DO IT WITHOUT:

N3SH Trustee	Larry Comden K3VX
WA3SH Trustee	Rich Danko N3SBF
NP2SH Trustee	Paul Jordan NP2JF
N3SH / WA3SH / NP2SH QSL Manager	Ron Notarius W3WN
NP2SH 2009 QSL Manager	Carl Schroeder K9CS
VE Team Liaison	Ron Notarius W3WN
Webmaster	Sean Sleeman N3NWR
Asst. Webmaster	Ben Williams KB3ERQ
Quartermaster	Harold Rosenberger K3HCR
WASH FM Net Manager	Sean Sleeman N3NWR
WASHFest 2014 Committee	Carol Danko KB3GMN, Chairman
	(tba), Co-Chair
Activities & Operating Events	Rick Bell KB3IAC
Ways & Means	Carol Danko KB3GMN
WASH 2M Contest Chair	Ron Notarius W3WN
Field Day 2014 Coordinators	Larry Comden K3VX
	Rick Bell KB3IAC

CLUB-AFFILIATED REPEATERS, BEACONS, & DIGIPEATERS:

Mt. Lebanon	N3SH / R	146.955 MHz (-)	PL 131.8
Mt. Lebanon	W3SRL / R	442.550 MHz (+)	PL 131.8
Canonsburg	N3FB / R	443.650 MHz (+)	PL 131.8
St. Johns, VI	NP2SH / B	28.276 MHz	Propagation Beacon
Canonsburg	N3SH	144.390 MHz	APRS Digipeater

N3SH / WA3SH WASHNet, the weekly on-air net of WASH, meets every

Sunday Night, 9:00 PM ET, on the 146.955 & 443.650 repeaters.

All radio amateurs, WASH members or not, are welcome to join in!

THE LEGAL STUFF

"The WASHRag™" (formerly **"The Mariner™"**) is the Official Newsletter of the **WIRELESS ASSOCIATION OF SOUTH HILLS, INC. (WASH)**

Published Monthly with occasional Special Editions as warranted.

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Editor & Publisher: Ron Notarius W3WN

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Ron Notarius W3WN
3395 Rosewood Drive
Castle Shannon, PA 15234-2546

e-mail: newsletter@n3sh.org or w3wn@arrl.net

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The **WIRELESS ASSOCIATION OF SOUTH HILLS, INC.** was founded on August 23rd, 1993, as the original **SOUTH HILLS AMATEUR RADIO CLUB**, and operated under that name through 1998. WASH was also known briefly in late 1998 as the **N3SH AMATEUR RADIO CLUB**. It is not in any way affiliated with the "South Hills Amateur Radio Club, Inc." and is not responsible for that group, it's members, or it's actions in any way, shape, or form.

As always, special thanks to the owners of both the N3SH-W3SRL Repeater System and the N3FB/R Repeater System for permitting the **WIRELESS ASSOCIATION OF SOUTH HILLS, INC.** and it's members to use their repeaters for club purposes.

WASH Amateur Radio Club News Briefs

A new version of the TQSL software for use with Logbook of The World is available, and it has major changes. This latest update, [TQSL 2.0](#), has been revamped to combine TQSL-Cert and TQSL into a single program, adds additional documentation for certificate operations, and includes a new, task-oriented user interface. Where previous versions had two icons on your desktop — TQSL and TQSL Cert — the new version has just one. You'll now be able to log onto your user account from TQSL. In addition, icons within the TQSL user window are larger and easier to identify.



WACOM Hamfest 2013 photos courtesy of & © Copyright 2013 Sean Sleeman N3NWR



A better than expected sunny Saturday morning greeted the **WASH Breakfast Gang** on October 26th, when we met for our monthly coffee clatch at **Suzie B's**, Route 910 at the intersection of Route 519 at 19 in Canonsburg. This month's crew included N3IDH, W3WH, KB3DCO, N3BPB, KD4CNS from KY, WB4GCS, N3FB, KB3GMU, KB3GMN, N3SBF, K3SGT & Barb, KB3IAC & W3WN... and we even had a cameo from Suzie herself! Topics of the long, crowded table included radios still in pieces, reading between the lines, home remodeling, mailing lists from the ARRL, 160 antennas, travelling on the T, walk away business, field lengths for Purchase Order numbers, Mickey D's dropping Heinz Ketchup, finding Heinz & Campbells in Budapest, eye surgery, Pa QSO travails, tour guides in Bangkok, flying for the first time at 24, clean sweeps, the 2 meter simplex contest, asbestos shingles, buying and selling houses... and that's just from one end of the group!

Our next gathering will be the week AFTER Thanksgiving and Black Friday, so holiday food saturation shouldn't be a problem (leftovers not withstanding, of course). So we hope to see you all there — join us on November 30th, at **Suzie B's**, Route 910 at the intersection of Route 519 at 19, Canonsburg. (If you're coming, try and let Jim WB4GCS know ahead of time, so that enough space is reserved — yes, reserved! — for us) See you there!

Don't forget that this month is **Elections for 2014 WASH Officers**. If you want a say in next year's officers, now is the time!

Also, be aware that the Crossroads Ministries Church **will not be available** to us on our usual meeting night in December, due to a prior commitment. The December meeting location hasn't been announced yet. As soon as that's finalized, the information will be posted on the reflector.

Speaking of the reflector, Sean N3NWR is about to "**throw the big switch**" and implement the new **N3SH Google Groups** reflector. All active club members on the current Yahoo Groups reflector for N3SH will receive an email from Sean with instructions on how to access the new group. It will be more than just an email reflector, but also an open forum for discussions, including the ability to post pictures and documents. Keep your eyes open!

We will maintain the WA3SH newsletter distribution list for the **WASHRag** for the time being. Once the transition to the new group for N3SH is done, we'll address that as well.

Sean will also soon be posting to the N3SH web site the archive of **older issues** of the **WASHRag** that were once stored on the now-gone WASHRAG.INFO site. Ye Editor just needs to get his act together and get the files to Sean!

With 2014 fast approaching, don't forget that our **annual 2 Meter Simplex Contest** is coming up in January. Rules are in this issue. And of course, **WASHFest 2014** will be here before you know it. The updated "flyer" with our main prize (FTDX 1200) is also in this issue!

WASHNet 2013 NCS Schedule

11/03/2013 Dave N3IDH	12/01/2013 Bill W3WH
11/10/2013 KB3GMN/N3SBF	12/08/2013 Sean N3NWR
11/17/2013 Bob AB3ED	12/15/2013 Fred KB3DCO
11/24/2013 Ron W3WN	12/22/2013 Larry K3VX
	12/29/2013 Glen KE7FD

2014 Sked TBD

Join WASH or Renew your Membership for 2014 Today! Membership Application on Page 13!

Minutes, October 10th Meeting

Ben Williams KB3ERQ, VP/Secretary, **WASH**

Carol KB3GMN called the meeting to order at 19:08 hours. There were 18 members and guests in attendance.

The Pledge of Allegiance was recited by all, followed by introductions.

A moment of silence was observed for recent silent keys and other deserving persons.

A motion was made by Carol KB3GMN to waive reading of the February minutes as published in the newsletter. Seconded by Mark N3RDV and carried unanimously.

Committee reports:

Treasurer (N3RDV): A balance on the bank account was read & accepted.

Secretary (KE7FD): No report

VE Team (W3WN): No report.

Repeaters (N3FB): No negative comments about the new 955 location. Jim WB4GCS indicated there may be a few incremental improvements in coming weeks.

WASHNet (N3NWR): Schedule has been mad up through the end of the year. We are also talking about doing a digital net.

N3SH.ORG (N3NWR): Reflector status widget has been brought up to date.

Contests:(K3VX): Short discussion of the Pennsylvania QSO Party. Larry inquired about who is operating.

WASHFest 2014 (KB3GMN): Initial flyer is out and will be available at the **WACOM** Hamfest. Ron W3WN has cleaned up the mailing list and made it much easier. Final decision has to be made on the main prize, although it will be an HF transceiver. Bill W3WH has been appointed the hamfest co-chair.

Public Service (N3RDV): No report. Carol thanked Rick for his efforts.

Ways and Means: 50/50 tonight.

Newsletter (W3WN): Out. Short discussion on continued problems with Yahoo Groups.

President's Report (KB3GMN): Nothing additional

Old Business: **WACOM** would like to participate with us next year in the Fox Hunt at our annual summer picnic.

New Business: Carol opened a discussion on the Tower Trailer. We need to establish who is allowed to borrow it, and under what circumstances. Concerns included insurance not covering non-members of the club.

Good of the order: KE7FD announced that "Houston" is visiting us for the meeting tonight.

Motion to Adjourn by Carol KB3GMN, second by Bill W3WH and carried.

Meeting adjourned at 19:58 hours.

Following the meeting and a short break for refreshments, Rick KB3IAC ran a presentation and demonstration on standardizing power connectors on Anderson Power Poles.



WASH Spotlight: **WACOM**



Seen at the 2013 **WACOM** Hamfest. Words fail us...

Photo courtesy of & (c)Copyright 2013 Sean Sleeman N3NWR

Every month we're going to feature a **WASH** club member, something about them, something they're involved in or a club-related activity that we're involved in, in the **WASH Spotlight**. Submissions for the Spotlight should be sent to Ron W3WN at [newsletter at n3sh dot org](mailto:newsletter@n3sh.org)

Monthly **WASH** Breakfast

Please join us for the next **WASH** Breakfast! We usually get together on the LAST Saturday of every month for a chance to informally sit down, shoot the breeze, compare notes, drink lots of coffee, and just have a good time!



Join us this month at **The Beach House**, on Route 88 in Finleyville, just south of Trax Farms and adjacent to Mineral Beach. Start time is about 8 AM until ????. Monitor 146.955 & 443.650 for talk-in or any last minute changes.

All are welcome, **WASH** members or not, amateurs or not!

Wireless Association of South Hills Membership

AB3ED	KB3YKL	N9SOJ	WASH FL	WASH OH	Silent Keys
AB3KA	KB3ZCX	NY9H	KA3UPY/M	N8DPW	
AE3DL	KC3ANX	W3LE	W4ZE	WASH SC	K3EED
K3GW	KC4WTT	W3RWS	WASH GA	N3RNX	K3LIE
K3HCR	KE7FD	W3VFA	K3OL	WASH TN	KA3NMG
K3SGT	KJ3D	W3WH	KB3IJX	KE3XB	KB3ENX
K3VX	N2QIV	W3WN	WASH ID	N3YPB	KB3FNM
K3WJL	N3AWF	W4CKR	N3ZNI	WASH TX	KB3FQT
KA3TWI	N3BFPB	WA3BOJ	WASH NE	K3LGM	N3FZ
KB3DCO	N3DFK	WB4GCS	N0PEU	Jane Wagner	N3HKQ
KB3GMN	N3IDH	Vincent	WASH OR	WASH VI	N3KEH
KB3GMP	N3NWR	Polis	N0VLR	NP2JF	N3OBD
KB3GUZ	N3OVO	Darryn	N0WPV		N3SKR
KB3IAC	N3RDV	Sleeman	KB3NVL		N3SRC
KB3IVX	N3RHT		KB3NVM		N3ZEL
KB3JHR	N3SBF				N3XFE
KB3MHM	N3TIR				W3ZLK
KB3TOA	N3YJJ				WA3JPP
KB3YCX	N7TDX				

Through October 8TH, 2013

List compiled by

Mark Stabryla N3RDV, Vice President/Treasurer

2013 WASH Upcoming Events Calendar

Meeting Topics & Other Significant Club Events — Subject to Change

November 14 th	WASH Meeting	@ Crossroad Ministries Church
November 16 th & 17 th	ARRL Sweepstakes Phone	http://www.arrl.org
November 23 rd & 24 th	CQ WW DX Contest CW	http://www.cqww.com
December 6 th —8 th	ARRL 160 Meter Contest	http://www.arrl.org
December 12 th	WASH Meeting	TBD
December 14 th & 15 th	ARRL 10 Meter Contest	http://www.arrl.org
December 22 nd	ARRL Rookie Roundup CW	http://www.arrl.org
December 31 st	Straight Key Night	http://www.arrl.org
2014		
January 9 th	WASH Meeting	@ Crossroad Ministries Church
January 10 th	WASH Christmas/Holiday Party	TBA
January 11 th	WASH 2 Meter Simplex Contest	http://www.n3sh.org
January 19 th	Breezeshooter's Groundwave PSK31	http://www.breezeshooters.net
February 13 th	WASH Meeting	@ Crossroad Ministries Church
February 15 th	Breezeshooter's Groundwave CW	http://www.breezeshooters.net
February 15 th —16 th	ARRL DX Contest CW	http://www.arrl.org
February 23 rd	WASHFest 2013	http://www.n3sh.org
March 1 st —2 nd	ARRL DX Contest SSB	http://www.arrl.org
March 13 th	WASH Meeting	@ Crossroad Ministries Church
March 15 th	Breezeshooter's Groundwave SSB	http://www.breezeshooters.net
March 29 th — 30 th	CQ WPX Contest SSB	http://www.cqwpw.com
April 10 th	WASH Meeting	@ Crossroad Ministries Church
May 8 th	WASH Meeting	@ Crossroad Ministries Church
May 16 th —18 th	Dayton Hamvention	http://www.hamvention.org
June 1 st	Breezeshooter's Hamfest	http://www.breezeshooters.net

The Eagle Has Landed... In Houston (PA)

Bill Hill W3WH

I've had the good fortune to own many amateur radios, more than a dozen. Most people would say that that doesn't make a whole lot of sense since they all do roughly the same thing in the same way but I do get a great deal of pleasure out of trying new and different radios.

In the last few years I've been in my 'BUY AMERICAN' period and have owned a Flex 3000 and all the Elecraft line while I was maintaining touch with the folks in Tennessee Ten Tec. Many will remember the unfortunate incident at field day a few years ago where my Omni VI+ transceiver was unfortunately damaged beyond repair. Well, after that, I bought a Flex 3000 — but eventually went back and got another Omni VI+ because I missed it.

I'm now privileged to own not only an Omni VI+, but an Omni VII, and just a few weeks ago, I bought a Ten Tec Eagle. This occurred because at the QSO party in Mercer County once again I had trouble with my Elecraft K2 and I vowed to learn how to use that radio. After returning home I started to study the manual and decided that for how often I use it is unlikely I would ever really master the K2. So I decided to put it up for sale, and thankfully it sold in one day and I then decided to replace it with a Ten Tec Eagle. I decided on the Eagle because of the wonderful reviews it has received and its suitability for portable and mobile operations including field day the QSO party and vacations.

One of the selling points of the Eagle is its apparent simplicity to operate. I said that's good for me. Well it is fairly simple in some respects but since it has very few controls unlike some of the high-end Japanese radios on the market these days all the buttons on the front panel at least two functions. Of course depending on your operating style you may not have to utilize the secondary functions of many buttons very often in my case operating CW split a good deal of the time I'm using at least some of the secondary functions often.

So far the radio is a delight. The receiver as advertised is extremely quiet noise reduction seems effective the audio is crisp and clear and the display if it becomes boring you can change the color to pretty much any color of the rainbow that you choose. Right now I've got a pleasant pastel green shade on the display and it is very pleasant to look at.

The radio runs 100 Watts from 160 through 6 meters, and so far has presented no problems. It does lack some of the conveniences that would be provided by more buttons and controls on the front panel, but the outstanding receiver will more than make up for occasional inconvenience caused by complicated controls. Thus although the radio is advertised as a simple rig to operate I think that's somewhat of a misnomer but it's performance more than makes up for the those minor inconveniences

The accompanying picture shows Ron W3WN at my QTH trying out the Eagle. I think he'll tell you he approves.

If you happen to be in the market for a moderately sized and moderately priced radio I would heartily recommend you consider the Eagle.



How much can you tell about a radio by sitting down in front of it, without reading the manual, and starting to play? Maybe not a lot...

The first thing that impressed me about the Eagle was it's compact size. It was already on & tuned in to some DX when I arrived in Bill's shack, and the audio was fantastic. More importantly, it had the hottest receiver I've heard in a long time.

Most of the front panel controls are very intuitive. Like the Orion and Orion II, you should be able to figure out the basic operations of the rig in under 5 minutes. I found that the controls are laid out in a very ergonomic fashion... the placement made sense and "felt" right. Most of the "main" functions you'd expect from the rig are right there on the main controls; most of the "secondary" controls are just the press of a Function button away.

I operated the rig for about an hour, making a few contacts with it. I found it very easy to use, very easy to set the CW speed, very easy to adjust the filtering.

A few minor quibbles... operating split will take a little practice, as the rig as an RIT but not an XIT (or if it does, it's not obvious). It does not have a second antenna input jack, which can be useful to someone who wants to run a separate receive antenna on 160, or different hi-band/low-band antennas. There are only three crystal filter positions, which can be a challenge if you want to run AM & FM (both of which require specific filters installed)... but most users will want a narrow CW filter, and not have a need for a narrow SSB or very narrow CW filter.

In short, I like the rig. It would be a nice addition to anyone's shack, and it would serve quite well as a mobile or portable rig as well. Personally, I might not want it as my only rig, but it would certainly give my Omni VI+ a run for it's money — and it would be more than enough to put my Corsair II out to pasture.

The Eagle, along with the new Argonaut VI, represent the next generation of main-stream Ten-Tec gear. It looks like they have a real winner for the long term here... and I plan on saving my shekels for one!

— 73, Ron Notarius W3WN



WACOM Hamfest 2013 photos
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Sean Sleeman N3NWR



Try 160 Eric Nichols KL7AJ

With all the uncertainty about the future....or lack thereof...of our solar cycles....it's probably a good idea to think about 160 meters seriously again. After all, it's sort of where amateur radio started. In fact, the American Radio RELAY League was formed basically when nearly all radio was down in the nether regions.

For all those who have contemplated working 160, but were daunted by reports about how hard it was to do, .stay tuned.

Yes....if your introduction to ham radio was via 2 meter repeaters, the challenges of operating 160 might seem extremely daunting. But the fact is...at one time not long ago nearly every ham did it. — with homebrew equipment, no less.

But let's look at some facts that might be encouraging.

- 1) Working DX on 160 is difficult.
- 2) Working local stations on 160 is easy.

Let's talk about point 2 first. MF is extremely effective for local communications within about a 50 mile radius. This is why AM broadcasting is where it is. Contrary to popular opinion, you don't need to pave the back 40 with copper wire or put up a 1/4 wave antenna to do effective local 160 communications.

Direct wave vs Ground Wave

The direct line-of-sight distance for 160 meters is about 30% beyond the optical or "geometric" horizon. This chart gives you the geometric horizon vs. height. Multiply the figure from this chart to figure out the optical horizon and then multiply by 1.3. http://www.totally-cuckoo.com/distance_hORIZON.htm

Now, you really need to DOUBLE this distance to figure out the distance to another station with an equal horizon distance...assuming your signal just touches the earth at the midpoint between you.

Since most common 160 antennas have the maximum radiation just above the ground plane, you have to use this height as the "height" of the antenna. Using this figure, 160 seems pretty depressing. If your ground radials are 10 feet above ground, as in my situation (to properly clear moose antlers) the horizon is just a little over 4 miles. That's the bad news.

The good news is, you almost NEVER use direct wave for 160 communications. If you have ANY kind of ground conductivity in your region, most of your signal will be via true ground wave. This is a vertically polarized wave (always!) which travels in contact with the earth's surface, and can extend WELL beyond the horizon. If your antenna has ANY vertical component at all, you can take advantage of this. Now, the true ground wave attenuates quite rapidly with distance. — more so than mid-band A.M. broadcasting. True ground wave is very lossy, but it's also very RELIABLE. Or to put it another way: it usually works poorly; but *uniformly* poorly! The true ground wave is utterly immune to anything that's happening with the Sun. This is great news indeed!

Now, in the early days of the RELAY league hams knew about this and realized that if every ham had just ONE station within the radius of his ground wave, you could build an EXTREMELY robust network of stations. This is a fact that is lost on most new entries into 160 meters. Early 160 meter operation was systematic! Every ham knew the location and capabilities of every other ham in his region. In fact, QST pretty much started out as a catalog of available MF relay stations.

Probably the most attractive feature of such a network is that it is entirely independent of any commercial infrastructure (at least if you have some kind of battery or generator backup). It is Simplex on Steroids.

Again....a century ago, dozens of hams were doing 160 with little more than wet noodles for antennas. Sure there were some impressive "top hat" antennas even back then...but these were not the norm.

Of course, any effective radio station must have ears as well as a mouth. However, nowhere more than on 160 do you realize how different the requirements of transmitting and receiving can be...and how important it is to have separate transmitting and receiving antennas!

If you're a "little gun" on 160, which is probably the case for 99.9% of top-band denizens, it's almost a given that any transmitting antenna you can put up will be essentially an isotropic radiator. Any significant directivity or gain on 160 is strictly the bailiwick of the "big boys." In fact, it's almost a given that any practical antenna you can put up will be in the "negative gain" region....usually some -dB figure compared to an isotropic radiator. Not a problem. Don't let "negative gain" figures daunt you in the least. (For more insight into this, check out the experimental 500kc.com site).

The use of the right receiving antenna is crucial for effective ground wave reception. It's not the Gain of the receiving antenna that counts, but rather the signal to noise ratio. This fact explains some rather counter-intuitive properties of some of the best 160 receiving antennas.

You've probably heard that most man-made noise is *vertically polarized*, and so any effective low-noise receiving antenna needs to be horizontally polarized. Well, this "wisdom" tends to fall apart when you realize that ALL true ground wave is vertically polarized...and man-made noise or not, ANY horizontal receiving antenna will have a ZERO signal to noise ratio...because you'll have zero signal!

All effective ground wave receiving antennas are vertically polarized. This includes small tuned loops, Beverage antennas, Adcock arrays, and the like.

Most people are ASTONISHED to learn that the Beverage antenna is vertically polarized! How can THOUSANDS of feet of horizontal wire with no vertical sections at all possibly be vertically polarized? Not only is the Beverage vertically polarized, but it is more DEFINITELY vertically polarized than any other known MF antenna. The Beverage is in a class by itself and works on entirely different principles than other antennas...it is a traveling wave antenna. More on the Beverage antenna later.

(Note: The Beverage, almost by definition, SUCKS at transmitting. Although some misguided hams try using it for transmitting...it works at all it's sheer luck).

Some receiving basics

Many newcomers to the hobby (and even some oldsters who should know better) will say that if you have a high noise situation, the solution is to use a low noise preamplifier. The only place this BEGINS to have any validity is in the upper regions of VHF, where internally generated receiver noise becomes significant. At HF frequencies...and ESPECIALLY at MF, the S/N ratio is determined ENTIRELY by thermal agitation noise of the antenna. This is noise generated by the mere existence a wire which is at a temperature above absolute zero. You can hear thermal agitation noise by plugging a coat hanger into the antenna terminals of an H.F. receiver when there are no signals around. The increase in noise you hear is due to thermal agitation. If you can HEAR thermal agitation at all, NO increase in receiver sensitivity or internal S/N will do you ONE IOTA of good. The thermal agitation noise of an antenna is the limiting factor in ultimate S/N ratio. Nothing you can do to your receiver can fix it.

This leaves you only one option to optimizing overall system S/N....and that is increasing the S/N of the antenna itself. One way you can make a significant improvement toward this end is narrowing the bandwidth of the antenna. The use of a sharply tuned, (High Q) multiturn loop antenna is a simple way to do this. In addition to the bandwidth reduction, the use of a tuned multiturn loop increases the voltage proportionally of an incoming coherent signal, while the thermal agitation noise remains relatively constant. (A longer wire of the same gauge does have more thermal noise, but the increase in this as result of more turns is overridden by the increase in induced voltage).

A mis(match) is as good as a mile:

Many hams go through great efforts to match a multiturn loop to the input impedance of the receiver. Here again, the increase in effectiveness is insignificant. In fact, until you get up to VHF, it's relatively unimportant to match receiver input impedance to much of anything). It will usually be found that an "under-loaded" high Q loop will deliver a higher S/N by virtue of its Q than precise power transfer schemes.

Try 160 continued from Page 7

Null & Void:

One of the best known advantages of the small tuned loop is its ability to sharply null out signals arriving from one (actually two) directions, such as a localized noise source. This is great, as long as the localized noise source is in a different direction than the signal you want. Otherwise you will null your desired signal as well. One workaround for this is to put up a separate "noise antenna" which can then be used to combine and phase out the noise in your "main" antenna. MFJ makes a widget that makes implementing this sort of thing a snap.

Don't shield me!

As W8JI and others have elegantly noted, an electrostatic shield on a receiving loop does absolutely nothing...zilch, zip, nada... to discriminate against noise. What the shield DOES do is help the loop maintain its desirable directional characteristics by reducing "night effect" which can INDIRECTLY reduce noise in some situations. However, the claim that a shield "shields out" noise is utterly false. If you use a shield, use it for the right reason.

The amazing BEVERAGE antenna

One of the most misunderstood and unappreciated antenna in all of hamdom is the Beverage. Many would-be hardcore 160 folks use up significant real estate installing Beverage antennas with no real understanding of how it's supposed to work. If you're going lay out that much copper, it might be good to understand what a Beverage actually IS!

Unlike just about every other antenna used by hams, the Beverage antenna is a traveling wave (in older literature a simple "wave") antenna. Its function is ENTIRELY different from a dipole and all its derivatives.

A Beverage receives signals directly END ON. Now if you've ever modeled a wire in free space, you realize that a wire has a PERFECT NULL off its end...regardless of the polarization of the signal coming in, or the length of the wire. An end-on signal has no electric field vector along the line of the wire, so no energy can be induced.

In fact, a Beverage antenna will not work in free space. In fact it won't work over a perfectly conducting ground either! (In this case it would simply act as a lossless transmission line; again, incapable of "receiving" any signals at all).

Instead, the Beverage works only when placed over a *lossy* ground...or more accurately, a ground with a different dielectric constant than air. (Ground loss is actually a complex number, composed of the conductivity constant AND a dielectric constant) A vertically polarized signal traveling in contact with a dielectric (the earth) TILTS in the direction of the movement of the wave. This tilt is the same thing that causes a ground wave to follow the contours of the earth, and thus be received beyond the horizon. It is this TILT of the wave over an imperfect ground that causes a TINY electric field vector in the direction of the wire. The amount of tilt, and thus the amount of "correct" vector orientation is in proportion to the difference in the ground dielectric constant and the air. The "slower" the ground is, the more the tilt per unit of distance. The desired vector INCREASES proportionally to the length of the antenna indefinitely.

Not only is the Beverage very STRONGLY vertically polarized, but is also extremely directional in the direction of the wave travel. So, what's the down side?

The Beverage is EXTREMELY INEFFICIENT. In fact, the better it works as a receiving antenna, the worse it works as a transmit antenna. (So much for reciprocity!)

It's important to understand the difference between EFFICIENCY and EFFECTIVENESS in all that we do as radio amateurs. For transmitting, of course efficiency is important. For receiving, who gives a rip? It's the OTHER station that's supplying all the power! It's a great tradeoff....throw out all kinds of power (picowatts!) to achieve huge S/N improvements.

It's a big band (plus some A.M. comparisons)

200 KHz may not seem like a very big chunk of spectrum, but on a PERCENTAGE basis, 160 meters is huge. 200 KHz out of 2 MHz is a 10% bandwidth. Considering its rarefied usage, there's tons of elbow room. But also some challenges if you want to use the WHOLE band.

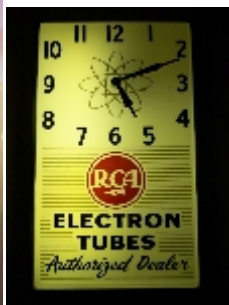
It has long been realized that the upper part of 80 meters is significantly different from the lower part. In fact 75 meters is often considered a separate band from 80. 160 meters presents a similar case. The upper half of 160 has notably different propagation characteristics than the bottom half...though you will never notice them if you hang around the bottom end, as is normal practice.

By the way....most folks don't stop to think about the fact that the upper limit of the American A.M. broadcast band is THREE TIMES the frequency of the bottom end. It has a 3:1 frequency ratio. The upper part of A.M. had PROFOUNDLY different propagation than the lower end. Skywave is much more prevalent on the upper end...while true ground loss is much less at the bottom end.

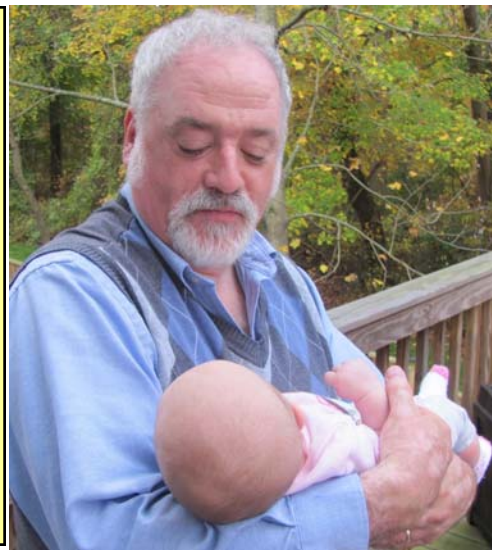
If you want a "preview" of 160 meter propagation in your area, you want to listen to the upper end of the A.M. broadcast band, which is most similar to the bottom end of 160 — just 50 kHz or so below, if you consider the "extended" A.M. band goes to 1750.



Above: Daryn holding the iPad prize
Photo courtesy of & © 2013 Sean Sleeman N3NWR



Right: It doesn't take a lot to make W3WN miss the WACOM Hamfest... just about 9 lbs worth...
Photo courtesy of & © 2013 Julie Notarius



Announcing the Fourteenth Annual WASH 2Meter Contest!

This January will mark the Fourteenth Annual **WASH** 2 Meter Contest. We've already had a lot of interest in it, and this year promises to be even more exciting!

Everyone who participated in it the last thirteen years had a blast, and we hope to continue the tradition again this year!

Please review this year's rules carefully. After evaluating feedback from participants the last two years, we made some changes and additions last year that we hope will really generate some interest! There may be some additional "tweaking" of the rules between now and January, so keep an eye on this column in the next few newsletters, and we'll look forward to seeing you on the 11th!

Date & Times: Saturday, January 11th, 2014 from 7 to 11 PM EST.
(That's January 12th 0000-0400 UTC to the purists!)

Objectives:

- To make as many contacts as possible
- To have fun!

Band, Mode & Frequencies: The contest will take place solely on 2 meter band.

- **FM** : FM simplex only, no repeater contacts. The FM frequencies are all standard 2 Meter simplex frequencies, as per the ARRL 2 Meter Band Plan, every **15 kHz**, from **146.505 to 146.595 MHz**, and **147.450 to 147.580 MHz**. Use of simplex frequencies in the "FM Experimental Simplex" band of 145.510 to 145.670 are not recommended. See list of recommended simplex channels at the end of the rules.
- **CW**: 144.05 to 144.1 MHz Only. (See ARRL 2 Meter band plan)
- **SSB & AM**: 144.2 to 144.275 MHz Only. (See ARRL 2 Meter band plan).
- **Digital (including RTTY)**: 144.51 to 144.55 MHz. (See ARRL 2 Meter band plan) Multiple digital modes may be used, and participants are free to use any generally accepted Digital mode, but only ONE Digital QSO with a given station regardless of mode

→ *Note: Listen for CW QSO's around 144.1 MHz 15 minutes after the hour*

→ *Listen for SSB & AM QSO's around 144.2 MHz 30 minutes after the hour*

→ *Listen for Digital QSO's around 144.51 MHz 45 minutes after the hour*

In the event of accidental QRM with nets and non-contest QSO's in progress, please respect their right to the frequency and QSY.

Power Limit: Maximum 100 watts output.

Exchange : Callsign, contact number, ZIP Code.

For the purposes of the contest, the 5 Digit ZIP Code for your location is sufficient — do not use the "Zip +4" code. Mobiles and portables should use the ZIP code of their location as determined to the best of their ability. Canadian stations will use their 6 digit postal code

Example 1: "N3ZCG from W8XK, please copy Number 3, 15347."

Example 2: "K3VX from K3CM, please copy Number 21, 16801"

Example 3: "W3WH from W3OC, please copy Number 7, 15137"

Contacts : Work as many different calls and locations as possible, giving Exchange as noted above. Work each station **once** per mode, and **once** per ZIP Code — Mobiles can be reworked whenever they change locations. Remember hilltops work best!

Disqualification: Remember, this is a friendly "for fun" contest. Stations may be disqualified for infractions of the rules and for unacceptable operating practices. While not an inclusive list, stations may be disqualified for:

- FM signals transmitted on simplex channels below 146.505 MHz.
- Intentional interference to non-contesters, nets, & QSO's
- Intentional interference to other contest operators
- The committee reserves the right to verify QSO's. QSO's that can not be verified may be removed from the log without penalty.

Scoring: Each Contact: **Phone** (FM, SSB, AM): 1 point
CW: 2 points
Digital (any mode): 2 points

Multipliers: Locations (Number of different ZIP Codes)

Power: Stations running 10 watts output or less: 3

Stations running over 10 up to 30 watts output: 2

Stations running over 30 watts output: 1

Final Score: Total Points x Locations x Power

After the Contest: Fill out all the log information. In the upper left corner check whether "base" or "mobile." In the upper right corner be sure to enter your callsign and club affiliation (or "none" if not a member of any club). Please number all log sheets consecutively. Log sheets can be downloaded from the **WASH** web site, www.n3sh.org, no later than January 1st.

Submit Log Sheets: Check your log sheets carefully for dupes. Verify that all information is entered.

Send the logs to: WASH 2 Meter Simplex Contest
c/o Ron Notarius W3WN
3395 Rosewood Drive
Castle Shannon, PA 15234-2546

Enclose a #10 SASE for return of results.

Entry Deadline: February 1st, 2014

Each log submitted on or before the deadline will receive one (1) main prize ticket to WASHFest 2014 on February 23rd

Logs submitted with an SASE will have their ticket mailed to them, otherwise, the tickets will be available at the **WASH** Club table

Recommended FM Simplex Frequencies:

After the first year of the contest, we found that the limited number of frequencies suggested in the rules were insufficient for the activity level. In subsequent years, we permitted use of any recognized simplex frequency, as per the ARRL recommended guidelines published in the annual ARRL Repeater Directory and other sources, above 146.520 MHz.

You will note that many of these frequencies are listed as potential dual use, with a "local option" for them to be used for repeater inputs and outputs.

After discussions with Frank Bobro N3FB, Repeater Coordinator for the Western Pennsylvania Repeater Council (WPRC), we have determined that the following simplex frequencies are recommended for use. Use of those that are "dual use" are not expected to cause issues for any known repeaters.

Remember that good amateur practice indicates that should a contest participant be notified that they are inadvertently causing interference to a coordinated repeater that is using a recognized simplex channel, they should immediately cease use of that frequency in favor of, and out of respect for, the existing repeater.

The following list of recommended frequencies are recognized as standard simplex channels and should not suffer from co-channel problems with any existing repeaters:

146.505 MHz	146.580 MHz	147.510 MHz
146.520 MHz (*)	147.450 MHz	147.525 MHz
146.535 MHz	147.465 MHz	147.540 MHz
146.550 MHz	147.480 MHz	147.555 MHz
146.565 MHz	147.495 MHz	147.570 MHz

Simplex channels below 146.505 MHz are not to be used, as many of these are in use in WPA as repeater input frequencies.

(*) The National Simplex Frequency, 146.520 MHz, may be used. However, many stations use 52 for casual conversation or as a calling frequency. If the frequency is in use or becomes used by non-participants, please permit them to use the frequency unimpeded.

To avoid interference to other contestants and other users of the bands, please do not operate on 5 or 10 kHz "offsets" from these recognized FM channels.

Bottom line: Enjoy the contest, but do so responsibly.



Z81X Group Underway

Wayne Mills OH2/N7NG

Helsinki, Finland 13 November 2013 — The Z81X Group departed today, Wednesday at 1100 UTC. The group consists of DL3DXX, N7NG, PB2T, OH0XX, OH2BH, OH2PM and OH6KN.

Upon their arrival they will team up with Z81B and Z81D and start doing two projects simultaneously. They will set up their low-band antenna field and start a series of workshops for the government of South Sudan.

At least on one station should be operational by late Friday evening. Their selected low-band operating frequencies are 1826.5 KHz and 3523 KHz.

On the other house-hold bands, 7 MHz thru 28 MHz, you can find them at suitable portions of those bands. Check Internet spotting for current frequencies.

As the operation will be running for two-weeks, SSB operation on low-bands will come on-line later during the stay — specifically during the 2nd weekend with CQWW on CW. During the contest there may be as many as three single band stations activated.

OQRS is functional at Z81X at QRZ.com. All support for the high freight cost of the equipment will be highly appreciated.

QSL Z81X via OH0XX

The Russian Robinson Club will be celebrating their 20th anniversary as **T32RC** (not T32RRC) will be QRV from Kirimati (Christmas) Island 4 – 11 December. They will be active in the ARRL 160 Meter contest, looking for North American stations. More information <http://www.t32-2013.com/home.html> QSL via N7RO or OQRS. — T32RC

A large group of EU ops will activate **4S7 Sri Lanka** 10 – 23 March, with multiple stations, 160 – 6 CW & SSB, including one dedicated to RTTY, PSK31 & SSTV. Call TBD. More information at <http://www.dl7df.com/4s7/index.php> QSL via DL7DF – DL7DF

You will probably be aware that Steve ZC4LI passed away at the end of August 2013.

I am pleased to advise that I have managed to obtain copies of Steve's logs from his widow and should be able to confirm any outstanding QSOs. All logs for **ZC4LI, ZD8LII, 5B4AHA AND G0LII** have been uploaded to LoTW.

There will be log searches available shortly at <http://www.g3swh.org.uk>

I understand that Steve's widow has already returned to their sender any unanswered QSL requests at the time of his death. Anyone in that situation should re-apply to me.

Please note that as Steve was not a member of the RSGB, I am unable to process any bureau requests whatsoever.

— 73, Phil Whitchurch G3SWH

Petr OK1DOT, announced last month that **RW6HS is not the QSL Manager** for the following DX stations. Some stations do not exist, or have other QSL Managers or that the station does not even know that their callsign is listed on the RW6HS Web site!

Petr has contacted the below stations and their response was surprising: their QSL cards can be handled by themselves; My QSL Manager is not RW6HS! This information was gathered from QRZ.com and DX bulletins.

Here is the list of stations: **4X0F, CE2EZE, CT1JSP, EA8/W4OI, EW1AR, JX7DFA, KP3EM, OD5NO, PR7CPK, SQ5OZH, TA1AZ, VK4SJP, VU2UR, YV5DEH and ZB2FK**

— 73, Ron Lago AC7DX

Zorro JH1AJT and his group will be on air from Nay Pyi Taw, Myanmar again from 15 to 26 November 2013. This will be the third and final run for 2013 from XZ land. Proposed call sign is **XZ1J** this time, and plan to set up three to four stations, run 24/7, on 160 through 10 meter bands, CW SSB and RTTY

— 73, Murray Green K3BEQ

DX News Briefs



A multinational group will be in Juba, South Sudan from 14 – 28 November 14 as **Z81X**, with an emphasis on low bands, 160m and 80m. The period includes the CQWW CW contest with some single-band entries and low-band SSB focus during the contest weekend. They plan to have three stations QRV. More information at <http://www.qrz.com/db/Z81X> QSL via OH0XX – OH0XX

F5UOW & F8FUA are QRV as **TO2R** from Reunion Island through 17 November. QSL via F5UOW – DX World

I0WDX will be QRV as **S79WDX** 12 – 23 November, 160 – 6. QSL via I0WDX – I0WDX

A group will be operating from both **American Samoa** and **Samoa** as **W8A** 12 – 22 November, **N8A** during the CQ WW CW contest, and **5W8A**, 27 November – 2 December. 160 – 6 meters. Operation will be primarily CW, with some SSB & RTTY possible. More information at <http://www.n8a.eu> QSL via ZL3CW – ZL3CW

An 8 man team will be QRV as **YB8V** from "rare IOTA" OC-157 Banda Island through 15 November. More info at <http://oc157.blogspot.co.uk/> QSL via YB9BU – YB8XM

LA8HGA will be on **Spitsbergen** EU-026 as **JW8HGA** 15 – 18 November. Mainly CW, some SSB. QSL via LA8HGA – DX World

Several amateurs will be QRV as **TO0MT** from **Guadeloupe (FG)** 18 November – 1 December during the "Mini Transat" transatlantic race. More information at <http://www.minitransat.fr/> and <http://www.qrz.com/db/TO0MT> QSL via "e-QSL & LoTW ONLY!" — FG8OJ

A group is trying to get **Lakshadweep** QRV "in a matter of weeks" as **VU7AG** 20 November – 10 December, from Agatti Island. Permission was only received at the end of October. **VU7KA** may also be QRV from Kavaratti Island, but this would be used only for "a short duration" More information at <http://www.vu7ag.info> . QSL via W4VKU – VU2PAI

OH4MDY will be QRV as **XV2RZ** 23 November – 8 December, 20 to 6, CW & SSB. QSL only via OH4MDY – OX3RZ

SM6LRR will be QRV as **XV2LRR** 29 November – 14 December, 40 – 10, CW & SSB only. QSL via LoTW only – RM2D

G3WIP is currently at Casey Station, AN as **VK0GB** through February. Look for him around 0930 & 1730 Z, on or about 7.185, 14.315, 18.130 & 21.300 MHz. — DX World

ON4AVT plans to be QRV as **PZ5ZC** 1 – 28 March, primarily on PSK. QSL via ON4AVT – DX World

QSL Routes

3C0E via EA5BYP — W4DN	R20RRC via RZ3EC — W3AWU
3C6A via EA5BYP — W4DN	SU9VB via UA4WHX — W4WN
4S7YSY via JA2SWH — JA1HGY	T2YY via DH7WW — TA3J
5B4AHA via G3SWH — G3SWH	T48K via DK1WI — JA1HGY
9Q6AL via DF9TA — K3BEQ	T8GM via PG5M — JA1HGY
A35JP/H via JA0RQV — JA1HGY	TF4M via G3SWH — TA3J
A52UVY via JA3IVU — JA1HGY	TU5DF via F5SWB — JA1HGY
C4C via G3SWH — G3SWH	UK8FF via W3HNK — TA3J
CN2XN via DK2WV — JA1HGY	V6G via PG5M — JA1HGY
CP4BT via DJ2BW — JA1HGY	V63PR via JJ8DEN — E73Y
EX2M via W3HNK — TA3J	VU3RWP via OE1ZKC — JA1HGY
G7G, G8G via G3SWH — G3SWH	XZ1Z via JH1AJT — JA1HGY
GW3KHZ via G3KHZ — W3AWU	YW5X via DM4TI — KC2EVO
HQ8D via KD4POJ — JA1HGY	ZB2CN via DJ9WH — JA1HGY
MJ0CFW via M0CFW — JA1HGY	ZC4LI via G3SWH — G3SWH
OA4TT via N6XQ — JA1HGY	ZD8LI via G3SWH — G3SWH

Thanks to the NJDXA DX News & DX Chat Reflectors, the DX-QSL Reflector, 425 DX News, OPDX News, DX World.Net, ICPO Bulletin, & ARRL DX Bulletin for our DX News information. Thanks also to Bill Moore NC1L / ARRL DXCC Desk, & Bernie McClenny W3UR / The Daily DX for confirmations & additional information.



WASH Classifieds

Information shown here is as supplied to the **WASHRag**. Condition as stated, and all sales should be considered "as-is" unless otherwise noted. All subject to prior sale or withdrawal from sale at the owner's discretion. All responsibility for this information lies with the source and not the **WASHRag** or the **WIRELESS ASSOCIATION OF SOUTH HILLS, INC.**

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Murrin, Taylor, Flach, Gallagher & May

110 East Diamond Street, Butler PA 16001

Phone: 724-282-3141 mlazaroff@murrinlaw.com

Custom Decals, Signs, Plaques and Woodworking from **Randy George N3ZK**

More information at his web site, Randy George Woodworking <http://www.randygeorgewoodworking.com/>

See his eBay store for special deals at http://stores.shop.ebay.com/Randy-George-Custom-Signs_W0QQ_armrsZ1

The **WASHRag** Masthead is courtesy of Jeff Murray K1NSS creator of DASHToons & Dash the Dog Faced Ham!!

Find the online cartoons and stories of Dash the Dogfaced Ham & more at www.dashtoons.com !

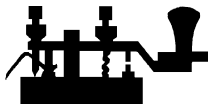
Shop for Dash items at his online store on Café Press, www.cafepress.com/shopdash



Has Roadway found the tower yet?



Silent Keys



Chuck Wilhelm WC3C, Last President of the *South Hills Brasspounders & Modulators*, Finleyville PA, November 2013

FCC FCC News

Courtesy of the American Radio Relay League

Newington, CT October 22nd, 2013 — The FCC has dismissed a Petition for Rule Making that sought to expand Technician privileges in the 10 meter band. The Toledo Mobile Radio Association (TMRA) had asked the Commission last June to expand the spectrum available to Technician licensees on 10 meters to include operating privileges in the FM portion of the band, from 29.520 to 29.700 MHz. Novice and Technician licensees now may operate on 10 meters from 28.000 to 28.500 MHz.

"We conclude that TMRA has not presented grounds for the Commission to revisit the question of operating privileges for Technician class licensees," the FCC said October 17 in denying the petition. The FCC said that Technicians may transmit through repeaters licensed to a General class or higher licensee that have an output channel in the 29.5 to 29.7 MHz segment, as long as the repeater has a 2 meter or 70 centimeter input.

Further, the FCC pointed out that the current licensing structure was developed "with the expressed desire of the amateur community to provide an incentive, ie, additional frequency privileges, to motivate Amateur Radio operators to advance their communication and technical skills." The FCC noted that it increased Technician privileges in 2006 to include Novice and Technician Plus privileges. "A Technician class licensee can upgrade to a General class operator license and receive significantly more frequency privileges (including those at issue here) by answering correctly a minimum of twenty-six questions on a thirty-five question written examination," the FCC said. TMRA, the Commission concluded, had submitted no evidence that the FCC should depart from its "long-standing policy of providing additional frequency privileges as an incentive" for license advancement.

TMRA had asserted that amending §97.301(e) of Part 97 would extend Technician voice privileges on 10 meters to "coincide with today's technical advancement of the Amateur Radio Service."

The ARRL Executive Committee has authorized ARRL General Counsel Chris Imlay, W3KD, to file a Petition for Rule Making on the League's behalf calling for the deletion of symbol rate references for data emissions in the HF bands. The EC met October 5 in Aurora, Colorado.

The League's Petition, still in the final stages of preparation, would substitute an authorized bandwidth of 2.8 kHz for all data emissions in the bands below 30 MHz. Current FCC rules limit data emissions to a symbol rate of 300 baud below 28 MHz and to 1200 baud on 10 meters. The current limits date to 1980, when US amateurs first were authorized to use ASCII, reflecting the state of the art back then, which, the League points out, has been overtaken by technology. After discussing alternatives to the 2.8 kHz limit, the EC okayed filing the petition as drafted, subject to any final editorial changes.

At its July meeting, the ARRL Board of Directors, on the recommendation of the Ad Hoc Symbol Rate Rule Modernization Committee, directed Imlay to draft a Petition for Rule Making with the FCC seeking to modify §97.307(f) of the Amateur Service rules to delete all references to symbol rate. The Petition would ask the FCC "to apply to all amateur data emissions below 29.7 MHz the existing bandwidth limit, per §97.303(h), of 2.8 kHz." In digital systems "symbol rate" refers to the number of times per second that a change of state occurs. The ARRL chose the 2.8 kHz bandwidth, since the FCC already has applied it to emissions on the channelized 60 meter band and because it's slightly wider than the data mode bandwidths currently in use by amateurs on HF.

The Ad Hoc Committee had determined that the current symbol rate restrictions in §97.307(f) "no longer reflect the state of the art of digital telecommunications technology," and that the proposed rule change would "encourage both flexibility and efficiency in the employment of digital emissions by amateur stations." ARRL Chief Executive Officer David Sumner, K1ZZ, discussed the symbol rate issue in detail in his September 2013 QST "It Seems to Us" editorial. "The guiding principle for our use of the spectrum allocations to the Amateur Radio Service is cooperation in the sharing of access to a limited resource," Sumner wrote.

On another FCC-related matter, Imlay noted that the FCC has yet to take action in ET Docket 12-338 to formally reflect the Final Acts of the 2007 World Radiocommunication Conference in its rules. Comment deadlines were more than 6 months ago. The Commission also has taken no action on the ARRL's November 2012 petition to implement a 472-479 kHz allocation, which stemmed from WRC 2012. Imlay said the subject may be considered in a Further Notice of Proposed Rule Making in the proceeding.



WASHfest 2014

The South Hills Hamfest — Now in our **NINETEENTH** big year!

Sponsored by the WIRELESS ASSOCIATION OF SOUTH HILLS AMATEUR RADIO CLUB, INC.

Sunday, February 23rd, 2014

8:00 AM until 3:00 PM Rain or Shine (or Snow!)

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2nd Prize: Comet CMX 2300
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3rd Prize: Clear Speech Speaker



Additional Hourly Door Prizes! Special Black Box Prize (Separate Drawing)!

Main Prize tickets are \$2.00 each, 3 for \$5.00, 7 for \$10, 15 for \$20

All Prizes Subject to last-minute changes

For Table Reservations, or More Information, Please Contact:

Carol Danko KB3GMN at (412) 884-1466 n3sbf@comcast.net

E-mail us directly at washarc@yahoo.com Check out our website too! www.n3sh.org

Please Note: Early Table Reservations must be paid in full on or before January 31st, 2014. Reservations received after February 1st, 2014 must include payment in full. Reserve now... we have sold out in advance four years running!

Hamfest Table Reservation Form—Please PRINT LEGIBLY ALL INFORMATION

Name: _____ Email: _____

Address: _____ Phone: () _____ - _____

City: _____ State: _____ Zip: _____

Call Sign: _____

Tables WITH Electricity: _____ X \$15.00 = _____

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Please make all checks payable to:
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We reserve the right to resell any tables not occupied by 8 AM, unless prior arrangements have been made!



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I would like to join WASH!. I am interested in the following type of membership: ☐ **New Membership** ☐ **Membership Renewal**

(check quarter _____) →
(check one) ↓

	<input type="checkbox"/> 1st Qtr Jan-Mar	<input type="checkbox"/> 2nd Qtr Apr-Jun	<input type="checkbox"/> 3rd Qtr Jul-Sept	<input type="checkbox"/> 4th Qtr Oct-Dec
<input type="checkbox"/> (F1) Full Membership:	\$20.00	\$15.00	\$10.00	\$5.00
<input type="checkbox"/> (F2) Full Membership < 18 or > 65 yrs of age:	\$10.00	\$7.50	\$5.00	\$2.50
<input type="checkbox"/> (A1) Associate Membership:	\$10.00	\$7.50	\$5.00	\$2.50

☐ (FM1) Family Membership (\$3.00 x No. of household family members): \$ _____

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☐ I do NOT want to be added to the Electronic Newsletter Mailing List

[If you have an Email address, you Will be added to both lists UNLESS you choose to Opt-Out]

Signature: _____

Call Sign: _____

License Class: _____

Expires On: _____

Work Phone: _____

Birthday: _____

ARRL Member? ☐ Yes ☐ No Family ARRL Member? ☐ Yes ☐ No

Date: _____

Amount Enclosed: \$ _____

N3RDV has requested that 2013 membership requests and renewals include an application so that his information is up to date

Please make your check or money order payable to the club treasurer, Mark Stabryla.
The Wireless Association of South Hills, Inc. reserves the right to accept or reject new memberships or renewals.
Please return completed membership form along with check/money order to the club treasurer or mail to:

WIRELESS ASSOCIATION OF SOUTH HILLS, INC.
c/o Mark Stabryla N3RDV, VP/Treasurer
1120 McKnight Drive
Bethel Park, PA 15102-2456



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Benefits for you: Joining and participating in everything the League has to offer, including a QST subscription.
Benefits for the club: A few more shekels for our coffers.

Just fill out the form below, include a check or money order made out to WASH/ARRL, and return all to the club treasurer or mail to:

WIRELESS ASSOCIATION OF SOUTH HILLS, INC.
c/o Mark Stabryla N3RDV, VP/Treasurer
1120 McKnight Drive
Bethel Park, PA 15102-2456

Name: _____

Address: _____

City, State, ZIP: _____

Please Check the Appropriate One-Year Rate:

- ☐ \$39 in US
☐ Age 21 or younger, \$20 in US (only if you are the oldest licensed amateur in your household)
☐ Canada \$49
☐ Elsewhere \$62
☐ Other (including Blind, Life, QST by First Class Postage — please contact ARRL for rate)

Dues subject to change without notice

Call Sign: _____

Date of Birth: _____

Total Enclosed: \$ _____

☐ Additional Family Members at the same address (\$8 per family member)

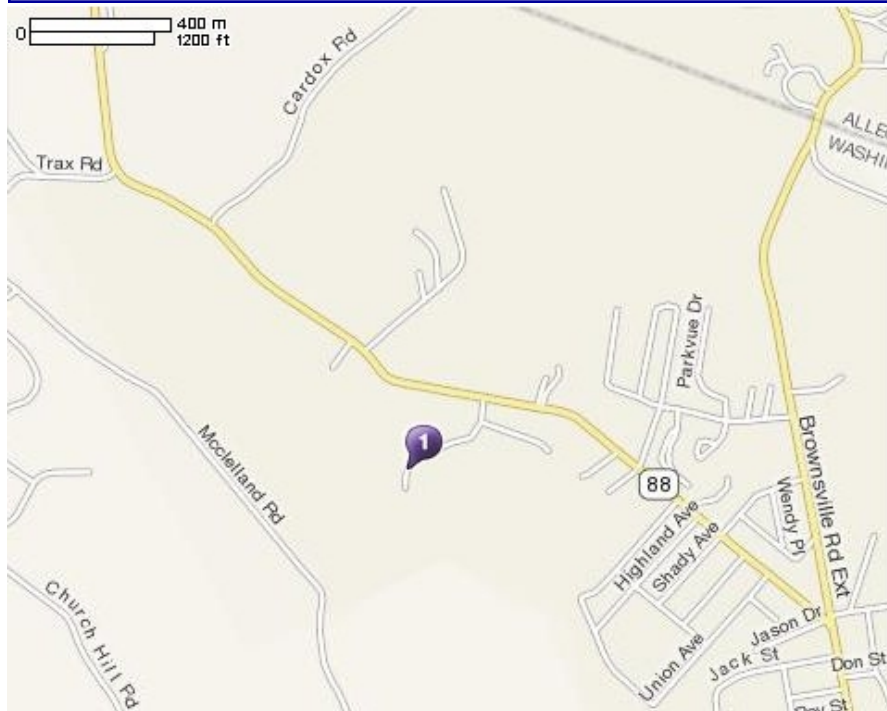
Name & Call Sign: _____

Name & Call Sign: _____

Name & Call Sign: _____



Directions to Crossroads Ministries Church



Take Library Road / State Route 88 to Walter Long Road (just past Mineral Beach & The Beach House), North of Finleyville. Turn onto Walter Long Road, follow it back to the church (which should be visible from the road).

The *WASH*Rag

Wireless Association of South Hills, Inc.
Ron Notarius W3WN, Editor
3395 Rosewood Drive
Castle Shannon, PA 15234-2546



N3SH / WA3SH
NP2SH/B

www.n3sh.org
www.washarc.org

