





Next Monthly Meeting: Thursday, July 5th, 2018

The next meeting of the Wireless Association of South Hills, Inc. will be on **Thursday**, **July 5**th **2018**, in the Conference Room at the St. Clair Hospital Outpatient Center, 2000 Oxford Drive, Bethel Park, by South Hills Village & Village Square (map on the back page). The room is available at 6:30 PM. The meeting will be starting at 7:00 PM.

Subjects for the meeting include Field Day wrap-up, the 2018 Pennsylvania QSO Party, and other upcoming plans for 2018. See you there!

Cover Photo: W3B Field Day, Saturday Night, Jim & Tony, Digital and CW stations cranking away! More photos inside.

Cover Photo is courtesy of & © Copyright 2Ø18 Ron Notarius W3WN

WASH 2018 OFFICERS

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AND WE COULDN'T DO IT WITHOUT:

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Ways & Means

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Carol Danko KB3GMN
Chuck Bihun KC3ELA
Rick Bell KB3IAC
Bill Hill W3WH

CLUB-Affiliated Repeaters, Beacons, & Digipeaters:

146.955 MHz (-) Mt. Lebanon N3SH / R PL 131.8 442.550 MHz (+) N3SH / R PL 131.8 North Side 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 Monday Night, 8:00 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), a 501.C.3 not for profit organization.

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Editor & Publisher: Ron Notarius W3WN

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Ron Notarius W3WN

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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 & operators of both the N3SH/R Repeaters 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

Next WASH VE Test July 12th

The Next WASH VE exam sessions will be Thursday, July 12th, 2018, 7:00 PM, at the WPXI Community Room, 4145 Evergreen Road, Pittsburgh, PA 15214. Talk-in on the 146.955 MHz and 443.650 MHz repeaters. All examiners are ARRL VEC affiliated.

Pre-registration is not required. Walk-ins welcome!

But if you plan on attending the test session, please contact VE Team Liason Ron Notarius W3WN:

Telephone (412) 572-6723 or E-Mail: w3wn at n3sh dot org

Please bring the following to your test session:

Picture ID or other suitable identification (2 forms of ID required) Pen / Pencil / Calculator

Original FCC license plus a copy of license (if upgrading) Original CSCE plus a copy of CSCE (if upgrading)

Check or Cash in the amount of \$15.00 (payable to: ARRL VEC)

October 18th, 2018 February 24th, 2019 Future test dates:

Glen's Musings

Whew! What a Field Day! Thanks to everyone, WASH had one of the best scores the club has ever had.

Thanks not only to the fine operators, but due to the awesome engineering of some

very radio-tech savvy amigos, we had no one brawling for antennas or interference (or as Kramer would say, "Another Festivus miracle!"). We're on the right track now. I know I'm looking forward to next FD already.

Did someone mention 13 Colonies? It's not too late.

— 73. Glen Roberts KE7FD President, Wireless Association of South Hills, Inc. N3SH / WA3SH / NP2SH/b

This year is the 10th

Running July 8th the event eatures 1x1 calls K2A thourgh K2M representing

Event.

plus bonus WM3PEN in GB13COL in

the colonies

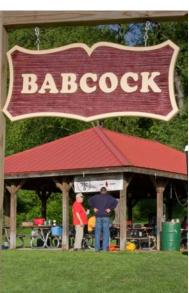
information can be found at <u>http://</u> www.13colon ies.net

The last day of June isn't usually the start of a long Fourth of July weekend, but that was certainly the case on June 30th, as the WASH Breakfast Gang met at usual at... well, it's official, it's no longer Suzie B's, but Vinnie's, 950 South Central Avenue (Route 910a t the intersection of Route 519 at US 19) in Canonsburg. In attendance were WA4GCS, N3FB, KB3GMU, W3WH, KB3YCX & his wife Jane, and W3WN. Morning discussion covered was this our best overall Field Day ever?, returning to Babcock Grove in 2019, comparing scores from the past, 6 meter activity, "excited about 700 QSOs on CW!", where is the usual contingent of State Police officers? (out collecting holiday, ah, revenue?), replacing the kitchen flooring, gasified sewage sludge, beams vs. another vertical, rotatable dipoles for 20, Raspberry Pi & Digital Projects, the micro-BITX QRP SDR kit, HDSDR, PVGP, stealing a pool, and running a BNB. And that wasn't the half of it!

Our next gathering of the Gang will be on Saturday, July 29th, as usual at Vinnie's, 950 South Central Avenue (Route 910 at the intersection of Route 519 at US 19), Canonsburg, officially starting at 8:00 AM. Our "usual" tables will be reserved, but please let Jim WB4GCS know ahead of time, so that the crew will have enough space available for us. (We really don't want to fight the State Police for seats... we'd lose!) See you there?

Our thanks once again to Susan Barckhoff, aka Suzie B, for all of her hospitality and good food to us over the years. We hope she is doing well and enjoying her well-earned retirement!

W3B Field Day 2018: Wow! What more can really be said? If you weren't able to come, you missed out on one of the best FD ops we've had in a long time... and considering the number of good or great ones we've had in the past, that's saying a LOT! Just about everything came together, we had lots of visitors, everyone who wanted to operate pretty much got to. Only two things didn't work in our favor... the LED lights growing legs and walking away Friday night, and 15 opening on Sunday morning but no spare antenna handy to work the band. Fortunately, that second issue will be easy enough to reconcile next year, we'll just make sure we have one or two more "spare" antennas handy for the upper bands, just in case!



Hope you enjoy all the pictures, and thanks again to all of our club photographers. There are a few people who promised their photos but didn't have a chance to get them in before deadline, so we hope to run those next month.

Reminder that the July 2018 VE Test Date has changed. Due to a scheduling conflict, the July exam will be one week earlier, on July 12 (same bat-time, same bat-channel). If you or you know of someone who was planning to take their exam in July, please make sure that the word of the change gets around.

We know it seems a little early (it's actually not), but now is as good a time as any to start making your plans for the 2018 Pennsylvania QSO Party. The new website is up and running, and we're anticipating more information from the new sponsors, the Pa QSO Party Association. You can stay up to date by checking out the new site at http://www.pagso.org.

And congratulations to the Charter Members of PaQPA: N3IW, NK8Q, K3NG, AA3B, K3CT and N3CMM



Join WASH or Renew your Membership Today! Membership Application on Page 19

Minutes, June 2nd Meeting Harold Rosenberger K3HCR, Vice President/Secretary, WASH

Glen KE7FD called the meeting to order at 19:05 hours. There were 21 members & 1 guest present.

The Pledge of Allegiance was recited, followed by a moment of silence was observed for recent Silent Keys & others deserving, and then introductions.

Motion to waive reading of the minutes based on the minutes printed in the newsletter by Bob N3RDG, second by Carol KB3GMN, passed unanimously.

Committee reports:

Treasurer (N3RDV): Read. Motion to accept by Carol KB3GMN, second by ron W3WN and passed unanimously.

Secretary (KB3ERQ): Minutes in the newsletter

VE (W3WN): Due to a scheduling conflict, our next session has been rescheduled for July 12th at the WPXI Community Room. Thanks as always to N3FB & WPXI. We have 1 pre-registered candidate at present!

Repeaters (N3FB): Repeating!

WASHNet (KC3ELA): Net is going very well.

N3SH.ORG (N3NWR): No report.

Public Service (AB3ED): NU3Q is cancelling his operation on Saturday in Scott Township due to weather. There will be an upcoming public service event at Millenial Park In Bethel Park, see Bob AB3ED for details.

Contests (K3VX): Most are listed in the newsletter.

Field Day 2018 (W3WH/K3VX): We're going to have a great Field Day!

- Thanks to Frank and Jim for all the time & effort that they put in for antennas and FD Prep.
- Thanks also to Rick KB3IAC for the patch panel, arranging the batteries from Elly Alderson, and especially the FD T-Shirts
- Larry indicated that of the allocated funds, we have spent \$943 on FD related capital expenses.
- FD setup starts on Frida June 20th at 10 AM, weather permitting. Saturday, there will be a group gathering at the Eat N Park at South Park for breakfast at 8 AM, before heading over to setup.
- Further discussion on the antenna arrangements. We expect to have 5 operating positions, so we'll have the ability to activate a GOTA station if needed. This will include an IC-7300, two IC-756 Pros, an FT-857m and
- Carol will arrange for a sandwich ring for Saturday lunch, dinner Saturday to be decided. Sunday breakfast will be "you're on your own!" Motion by Carol KB3GMN, second by Bill W3WH, to allocate up to \$300 to cover the costs of Field Day food supplies. Passed unanimously.
- Short discussion over the generator for lights etc. Jim's offer to loan his generator was accepted, with the expectation that we will buy one by next year,
- The Tower Trailer will be picked up from Rick on the 19th or 20th of June.
- Quick count of hands 14 of those in attendance tonight plan to be at Field

Ways & Means (KB3GMN): Voluntary membership contributions underway and will be accepted after the meeting.

Newsletter (W3WN): Out.

President (KE7FD): Field Day pins are here, see Glen after the meeting.

Old Business: None

New Business: Motion by Carol KB3GMN, second by Rick KB3IAC, to reimburse Carol \$47.50 for expenses related to the Breezeshooter's Hamfest. Passed unanimously. Carol announced that the club had won a Buddipole at Breezeshooter's! Motion by Carol KB3GMN, second by Bill W3WH, to make the Buddipole one of our main prizes for **WASHFest**t. Approved unanimously.

Good of the Order: Bill W3WH announced that word is going around that the Pa QSO Party will be in good hands, as a new group is taking over the event from NARC.

Motion to Adjourn by Ron W3WN, second by Glen KE7FD, and carried unanimously.

Meeting adjourned at 19:47

Bob N3RDG demonstrated his remote capability with his Flex Maestro to interested members after the meeting. Also, Rick KB3IAC helped club members load the latest FD software on their laptops for use at FD.

WASH Spotlight: Maestro



Bob N3RDG waiting for the June meeting to start, checking out the bands on his Flex — at home, remotely controlled by his Maestro. After the meeting, Bob demonstrated how it all works for interested members!

Photo courtesy of and © Copyright 2018 Ron Notarius W3WN

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

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 Vinne's, Route 910 at the intersection of Route 519 at US 19, 1 mile North of Downtown Canonsburg. .Start time is about 8 AM until ???? Monitor 146.955 & 443.659 for talk-in or any last minute changes. All are welcome, WASH members or not, amateurs or not!

Wireless Association of South Hills Membership

AA3GM KB3YCX N3SBF AB3ED KC3ELA N7TDX AB3NM KC3GMM NU3Q AE3DL KC3KMY NY9H K3CMU KC4WTT W3WH K3HCR KF7FD W3WN K3JDS **NØVLR** WA3JFL K3SGT N1NCZ WA3PYU WA3VSS K3VX N2QIV KA3VXM N3BPB WB4GCS KB3BYA N3DFK WB3CAI KB3DCO N3FB W037 KB3ERQ N3KFD Barbara KB3GMN KB3GMU KB3IAC KB3IVX KB3JHR KB3ORO

KB3SQZ

WASH FL WASH TN KA3UPY/M K3OL KE3XB W4ZE WASH NE N3YPB WASH TX **NØPEU** NB3C WASH OR K3LGM NØWPV KB3IJX **KB3NVI** Jane Wagner **KB3NVM** WASH VI WASH OH NP2JF

If your call should be listed here & isn't, please contact Mark N3RDV

Udren

Through June 30th, 2018 List complied by Mark Stabryla N3RDV, Vice President/Treasurer

Keys AB3KA K3EED K3LIE **KA3NMG** KB3ENX KB3FNM KB3FQT KB3JHQ N3CZZ N3FZ N3HKQ N3KEH N3OBD N3RNX

N3SKR

N3SRC

N37FI

N3XFE W3ZLK

WA3JPP

Silent

2018 WASH Upcoming Events Calendar

Club Meetings & Other Significant Events — Subject to Change

July 5 th	WASH Meeting	St. Clair Hospital Outpatient Center, 2000 Oxford Drive, Bethel Park	
July 12th	<i>WASH</i> VE Exams	WPXI Community Room, 4145 Evergreen Road, Pittsburgh	
August 2 nd	WASH Meeting	St. Clair Hospital Outpatient Center, 2000 Oxford Drive, Bethel Park	
September 6 th	WASH Meeting	St. Clair Hospital Outpatient Center, 2000 Oxford Drive, Bethel Park	
September 6 th	Butler Co ARA SwapFest 2018	Unionville Fire Department, 102 Mahood Road, Butler PA	
October 4 th	WASH Meeting	St. Clair Hospital Outpatient Center, 2000 Oxford Drive, Bethel Park	
October 6 th & 7 th	53 rd California QSO Party	http://www.cqp.org	
October 13 th & 14 th	61 st Pennsylvania QSO Party	http://www.paqso.org	
October 18 th	<i>WASH</i> VE Exams	WPXI Community Room, 4145 Evergreen Road, Pittsburgh	
October 27 th & 28 th	CQ World Wide DX Contest SSB	https://www.cqww.com	
November 1 st	WASH Meeting	St. Clair Hospital Outpatient Center, 2000 Oxford Drive, Bethel Park	
November 3 rd - 5 th	ARRL Sweepstakes CW	http://www.arrl.org/sweepstakes	
November 4 th	WACOM Hamfest	Printscape Arena, 114 Southpointe Blvd., Canonsburg PA New Location	
November 17 th - 19 th	ARRL Sweepstakes SSB	http://www.arrl.org/sweepstakes	
November 24 th - 25 th	CQ World Wide DX Contest CW	https://www.cqww.com	
November 30 th — December 2 nd	ARRL 160 Meter Contest	http://www.arrl.org	
December 8 th - 9 th	ARRL 10 Meter Contest	http://www.arrl.org	

"Seen" at the June Weeting Photos Courtesy of and © Copyright 2018 Ron Notarius W3WN





W3B Field Day 2018: What Interference?

Bill Hill W3WH

Chartiers Township, PA, June 27th, 2018—Unless you live in a cave, virtually every ham knows that this past JUNE 23rd and 24th was the annual ARRL Field Day. It's the most popular on air event of the year and like most Clubs, WASH sponsors a Club effort. We've been celebrating FD for many years and during all of those years we've been suffering with interference among our various stations. To say the very least it's been frustrating and it detracted from our enjoyment. We could not have two stations on the same band at the same time. Grrr....

NOT THIS YEAR! This year the Club agreed to invest a significant amount of money to purchase dipllexers, band pass filters, and various other items in an attempt to minimize this problem.

K3VX and I have been talking about FD since this past winter and we decided to suggest that the Club go to school and learn from the N3ZK Pa QSO Party group who seem to have the interference demon under control.

First we decided to separate the 80/40 antennas as far as possible. Since we were going to operate at Babcock Grove in South Park, we decided to install antennas at remote locations. The first was in the trees above the shelter and the second was about 500'down the hill atop our tower trailer. Each installation consisted of an 80 and 40 meter dipole cut for either the SSB or CW end of the bands. They were fed through a single transmission line after passing through a diplexer and appropriate band pass filter. The antennas were installed to be about 90 degrees apart and roughly 50 feet in the air.

The antenna configuration was the result of a great deal of work by K3VX N3FB and WB4GCS. They used knowledge gained over many years and test results to conclude that the configuration we used SHOULD work.

Well not only should it have worked, it did work. There was virtually no interference to limit operating at all, and for the first time, we had two stations on the same band at the same time. Wow, what a luxury!

Harold, K3HCR installed the filters and diplexers on the rear of the antenna patch panel. The installation not only worked but it looks as professional as possible. He also used his antenna launcher to put our wires high in the trees. Thanks Harold!

We also installed the Club's 5BTV vertical and used it on 20 meters. One shortfall of our operating scheme emerged during the weekend. We should have had two 20 meter antennas since the band was open and we might have made more contacts if two were available. We'll try to address that for next year.

One of our FD mainstays, Rick Bell KB3IAC, was out of town this year. Even though he was absent he contributed as much to our success as anyone. He arranged the computer network, prepped the trailer, ordered the T-shirts etc. etc. Thanks Rick. Dave N3DFK, as usual got all the kinks out of the computer network which ran flawlessly. Thanks Dave.

We didn't eat steak this year. We decided to use the KISS principal (keep it simple, silly!), but we certainly ate well. Delicious sandwich rings from Giant Eagle for lunch, and hamburgers & hot dogs for supper. Thanks to Carol KB3GMN our resident caterer, for feeding us. It's greatly appreciated.

As far as I can recall we had 22 Club members participate. Excellent! Larry, K3VX is checking this year's score and will submit our log to the ARRL. He's also checking results from past years and we're pretty certain that we had a record number of Q's. We were just short of 1400 contacts and for the first time (I think) the SSB guys gave the CW ops a run for their money. That's great.

During the course of the weekend we had a fair number of guests stop by to visit and a couple operated. Bud Plants N3TIR, representing the ARRL stopped in Saturday night. Thanks Bud.

We started tearing things down about 11:30 Sunday but kept two stations on the air right up to the bitter end. The entire weekend was wonderful and even the rain on Friday during antenna work really didn't have a significant effect on our work

A great deal of time, money, and effort was invested this year and IMHO every bit was worth the outstanding results achieved. Hopefully we can do even better in 2019.

W3B Field Day 2018



Tower Raising

Photos courtesy of & © Copyright 2018 Frank Valley WA3JFL



W3B Field Day 2018

Photos courtesy of & © Copyright 2018 Ron Notarius W3WN



W3B Field Day 2018 Photos Courtesy of and © Copyright 2018 Harold Rosenberger K3HCR



Recent Field Day Scores

ear /	Call(s)	s) Class QSOs		Notes	
			1418	CW 701	
2018	W3B	4A		SSB 673	
				Digital 44	
2017	W3A	3A	893		
2016	N3SH	3A	527		
0045	N3SH	3A	357		
2015	K3VX	1A Battery	348	QRP CW	
	N3SH	1A		SSB	
014	WA3SH	2A Battery	355	QRP CW & Digital	
2013	N3SH	3A	760	State State of the	
2012	N3SH	4A	720	ALESS ASSO	
2011	N3SH	3A	754	8	
2010	N3SH	3A	859		
2009	N3SH	3A	1053		
8009	N3SH	4A	1194	WILLOS	
2007	N3SH	5A	1430		
200)7	7 N3SH	7 N3SH 5A	7 N3SH 5A 1430	

Data courtesy of Larry Comden K3VX



Field Day Musings James A. Sanford WB4GCS, PE

Hopefully you have by now recovered from Field Day and are willing to do some reflection on what I think was a great effort.

Recall, several months ago, the Club had extensive discussions on how to do better at Field Day, particularly in terms of mutual interference. The experiences of the N3ZK group at PA QSO party factored into the discussions and some decisions were made:

- Buy enough coax to achieve serious physical separation of SSB and CW antennas on the 1. same band.
- Buy some "Cadillac" band pass filters to minimize out of band noise.
- 3. Buy some 80/40 meter diplexers to allow sharing of coax to dipoles for the two bands.
- Make some more chokes to limit feedline radiation/reception.

Over the ensuing couple of months, Frank, N3FB and I made extensive measurements on diplexers, bandpass filters, and chokes. (Documented on the N3SH web site, for rapid promulgation.) We concluded that sharing coax to two different rigs could work, but I was concerned that the remaining leakage could raise signal levels enough in the receiver that it would be very vulnerable to intermodulation from adjacent strong signals.

That concern led to another series of measurements with a coupling section, a bunch of attenuators, and my spectrum analyzer. (I didn't want to blow out the front end of the analyzer with 100 watts!) These measurements, also published on the web site, led me to conclude that we were not at risk of damaging any receiver front end, but spurious signals would be very detectable, and might put the front end close enough to overload that it would be vulnerable to adjacent strong signals. I concluded by speculating that any decent receiver would be OK, cheapies would be vulnerable. (These measurements and this conjecture took no credit for the unmeasurable filtering in the receiver front ends, which would only make things better.)

I also measured some chokes that Larry K3VX made. These performed better (in terms of common-mode impedance over 160/80/40 meters) than any that the club has - quite impressive.

SO, how did this work out? In my opinion, great!. At Field Day, I didn't even think about interference until Saturday evening when Bill W3WH, mentioned to me that had heard zero complaints about interference. I then realized that I had heard none, and also experienced no interference. On Sunday, I did experience two events where the SSB station on the same band raised my noise floor on the panadapter display, but never caused me a problem hearing anything. I didn't hear of any interference events from anyone else, so I think everything we did paid off.



Recommendation: I heard on Sunday someone wishing we had two 20 meter antennas. I recommend that we execute something discussed: Buy a DX Engineering tri-plexer and buy/build a triband beam to mount on the tower. This will give us 2 antennas for the higher bands, and can play well when they are

Soapbox: First, I had a ball! I had set a goal of operating only CW and making as many contacts as possible. The SDR worked great, and I think we had at least one CW station operating most of the time. I was absolutely thrilled on Sunday around noon, when I saw that we had over 700 CW contacts. I think the combination of decisions on antennas and filters/diplexers played well and helped us keep 2 stations on CW. I also think that the "younger" guys who stayed all night made a difference - Thanks!!

Second, I detected some disappointment when I packed up Saturday night and brought the SDR home. I apologize for that, anyone is welcome to operate it, and I actually encourage you to try it out. Given that the components are no longer replaceable (without buying newer units at great price) and the theft of our LED lights Friday night, I can't take the chance on leaving it out when I'm not around. Sorry about that, but self-preservation is.

I look forward to our discussion Thursday night!



Photo Credits above: Jim WB4GCS operating the digital station from his SDR courtesy of and © Copyright 2018 Ron Notarius W3WN. Back of the antenna patch panel displaying the diplexers and the band pass filters courtesy of and © Copyright 2018 Charmel Spirk



It may not be a Field Day weekend in Allegheny County without a little rain... but the rainbow when it's over makes it all worthwhile!

Photo courtesy of and © **Copyright 2018 Charmel Spirk**

cspirkphoto@gmail.com



Newington, CT, July 2nd, 2018 – A poorly worded online solicitation seeking donations to support medical costs for an ill youngster is **not** from ARRL and is a scam! Some members have reported receiving an email with the subject line "Help Support Dawn," dated on or about June 30th, stating that "Dawn" is the critically ill son of an ARRL member and requires urgent surgery.

"ARRL would never send an unsigned email like this to our members," said ARRL CEO Barry Shelley N1VXY. "This is clearly a hoax, and we would never solicit for private causes in this fashion. To prey on the willingness of our members to help other hams in need, is particularly despicable."

The attempt to solicit funds through GoFundMe and PayPal may be aimed at collecting personal and credit card information. ARRL members are urged not to repost, forward, or respond to this request.

Canadian Radio Amateurs Petition Parliament to End Deliberate Interference American Radio Relay League

Newington, CT, June 12th, 2018 – Radio Amateurs in Canada — primarily in the Province of Quebec — have mounted a <u>petition drive</u> demanding that members of the House of Commons prompt decisive regulatory action against a Quebec resident who has been causing deliberate interference. The petition does not spell out the particulars of the allegations but says the alleged offender — apparently unlicensed — is already known to authorities. Petitioners claim that the individual's "malicious intentions" have been "threatening the security of emergency radio communication in the province," and they called upon Parliamentary lawmakers "to ensure the security" of HF radio communication.



"For 2 years, a Nicolet resident, near Trois-Rivières [Quebec], illegally set up a transmitting radio station and is generating interference on purpose," the petition recounts. "Amateur Radio operators in Quebec have identified the illegal radio station and brought it to the attention of Innovation, Science and Economic Development (ISED) Canada, and its inspectors seized the individual's radio equipment." One of ISED's functions is telecommunications regulation.

According to the petition, the alleged offender "acquired new equipment right away and returned to jamming the airwaves." The petition identifies the alleged offender as a male who is "known to police in Nicolet and Trois-Rivières" and "has regular encounters with the law."

"We are calling on the government to provide more support to the Department of Innovation, Science and Economic Development Canada, so that it can intervene more decisively in this matter," the petition declared.

Radio Amateurs of Canada (RAC) — the country's national Amateur Radio organization — was noncommittal. "While we have not had a chance to investigate the specific details of the incidents [that] the petition refers to, we agree with the importance of acting to support the security of high frequency communications," RAC said this week.

As of June 12th, the online petition had gathered more than 625 signatures, primarily from Quebec and Ontario. Canada has more than 50,000 Amateur Radio licensees.

While 10 meters has not been the hottest band in the Amateur Radio toolkit of late, Iran apparently has found it an ideal spot to operate various radars. The interference was audible in International Amateur Radio Union Region 1 (IARU R1) and perhaps elsewhere in the world.

"Iranian radars were very active on our 10-meter band every day [in May]," reported IARU Monitoring System (IARUMS) Coordinator for Region 1 Wolf Hadel DK2OM, in the IARUMS newsletter. "On 28.860 MHz, we could daily receive the strong and long-lasting signals. Other frequencies were used in [frequency hopping] mode."

The list of additional Amateur Radio intruders on 10 meters included — or in some cases, no longer included — some of the usual suspects. Hadel reported that FM signals from Russian taxi dispatchers, driftnet fishery buoys, and Citizens Band "abusers" in Brazil have been operating on various 10-meter frequencies, "as usual."

Hadel reported a "hybrid modem" signal for a few days in May on 14.000 MHz from the Israeli Navy, consisting of six pre-carriers — PSK4 parallel and MIL-188-110A modified. Just below 20 meters, on 13.998.0 MHz, transmissions of MFSK-16 from Russia were observed on May 31st. The signal was heard up to 14.001.165 MHz in the amateur band.





WPA Section News

Joe Shupienis W3BC, ARRL Western Pennsylvania Section Manager

Falls Creek, PA, June 10th, 2018 — Thanks to everyone who participated in our WPA Section Convention at the Breezeshooters Hamfest in June. All eight of our forums were well attended, and we are receiving many positive reports.

What's next? More ARRL programs are in the works, with District meetings and a Pennsylvania State ARRL Convention in Uniontown in September:

- North-1, July 14th following the Northwestern PA Hamfest in Wattsburg
- PA State Convention, September 1st at the W3PIE Club House, 433 Old Pittsburgh Road, Uniontown
- South-1, November 4th following the WACOM Hamfest in Cannonsburg

Many thanks to the Hamfest sponsors for supporting our WPA Section activities, which are open to all radio amateurs.

In Conclusion...

Now that summer activities have started, please remember to put safety first, especially when traveling our wonderful Pennsylvania highways.

Allow yourself extra time, and keep a safe distance from other traffic.

Set a good example by being alert and patient in the many construction zones, and comply with radio silence in blasting areas, especially with APRS radios. Remember, Safety is No Accident!

If you're looking for a program for your club meetings, why not put together some activities for new hams and those who are interested in Amateur Radio? Demo the latest entry level radios like the Icom 7300 and the Yaesu 991A (for example), have some Elmers available to answer questions, have a show and tell about DXing, digital modes, SDR, signal location... the list is endless.

Advertise it as much as you can, especially in schools, colleges, on bulletin boards at work, on your nets, and in person to the hams in your communities who recently got licensed. It doesn't have to be perfect — it just has to be done. Who knows, you might make the difference needed to gain someactive new members!

Above all else, go out of your way to make new hams feel welcome and respected! We want to make good amateur radio friendships in the best

100+ year tradition of Amateur Radio!

Still looking for more ideas for meeting programs? Drop me an invite or a request for a visit by any of our section staff. We are available to travel to your group, and can discuss a variety of very interesting Amateur Radio topics.

Visit us on the Internet: wpa-arrl.ord

Find us on Facebook: WPAARRL Facebook Group

73 and Press On!





The Pittsburgh Vintage Grand Prix is seeking Amateur Radio operators to work the Flag & Safety corners, and provide race communications for the 2018 PVGP events.

This year, Amateur Radio Operators are needed for these race weekends:

The Historic Race Weekend on July 6th - 8th, at Pitt Race (formerly BeaverRun Motorsports Complex) in Beaver Falls, featuring Muscle Cars & European Racers from the 60's & 70's.



For More Information or to Volunteer, please call Corky Bennet N3MJP at (724) 217-5458











Experiments Look to Leverage Low-Latency HF to Shave Microseconds Off Trade Times American Radio Relay League

Newington, CT, June 20th 2018 -- Experimental operations now under way on HF appear aimed at leveraging low-latency HF propagation to shave microseconds from futures market trades and gain a competitive edge in a field where millionths of a second can mean winning or losing. Bloomberg on June 18th reported on a secretive antenna facility near Maple Park, in Kane County, Illinois, and speculated that futures traders might be looking to take advantage of lower-latency HF propagation over state-of-the-art microwave links and undersea cables, where even the slightest path delay could compromise a transaction. The facility is not far from a major futures data center. As the Bloomberg article explained. "Rapidly sending data from there to other important market centers can help the speediest traders profit from price differences for related assets. Those money-making opportunities often last only tiny fractions of a second.

Radio amateur Bob Van Valzah KE9YQ said in a May blog post that he recently stumbled onto the first evidence of HF radio futures trading at a site in West Chicago, Illinois. There, he spotted HF log-period dipole arrays on a pole, and a microwave dish he determined was aimed at a Chicago Mercantile Exchange (CME) data center. Additional research led him to the antenna facility in Maple Park, Illinois, which also sported a

microwave dish that appeared aimed in the direction of the CME data center. Two approximately 170foot towers on the site support a directional wire array for HF. Van Valzah is a performance engineer on leave from the high-frequency — no pun intended — trading field.

Bloomberg said the company behind the Kane County project is New Line Networks, LLC, a joint venture of Chicago-based Jump Trading, LLC, and New York-based Virtu Financial, Inc. While no FCC Part 5 Experimental license appears to have been assigned to New Line Networks, WH2XVO is assigned to partner Virtu Financial, which assumed the license from Services Development Company

Sites listed on the license are Aurora and Chicago, Illinois, in addition to Homer, Alaska, and Secaucus, New Jersey — home to several financial firms and right across the Hudson River from many more in New York City. Part 5 Experimental license WI2XAJ has been assigned to Toggle Communications, which is using the West Chicago site and appears to be experimenting with a similar system from other sites. Other entities may also be conducting similar experiments.

The Experimental licensed systems use a variety of frequency shift-keying modes, including FSK, AFSK, QPSK, and 8-PSK, on frequencies ranging from about 6 MHz to 24 MHz and power levels from 20 kW ERP to nearly 50 kW ERP, depending on the Experimental license in question. Van Valzah pointed out in his blog post that, while HF is low bandwidth, unreliable, and expensive, "you can't beat it

Speculation is that the systems are taking advantage of software-defined radio (SDR) techniques and technology. Transmitter equipment information on the Experimental license application for WH2XVO was redacted from the public filing.

ARRL reached out to the point of contact listed on the WH2XVO application but has not heard back.











QRZ.COM forums by C. Michael D'Alto K2CD. © Copyright 2018 Paul Gentry K9PG

lamvention® marked another successful year in 2018, General Chair Ron Cramer KD8ENJ, told ARRL. At 28,417 visitors. Hamvention recorded its third-largest attendance ever in its second year at its still-new location in Xenia, Ohio.

"We had a slight decline in attendance, but we think people were waiting to hear about the upgrades we made, and some upgrades did not happen until the very last moment," Cramer allowed. "Many were worried about the mud.'

The drop in attendance amounted to some 900 fewer visitors from Hamvention 2017. Hamvention attendance peaked in 1993 at 33,669, before the 1996 change in date from April to May while it was still being held at Hara Arena. Attendance in 2016 for the show's final year at Hara was 25,364.

Cramer said other events in the Xenia-Dayton area cramped lodging availability, but Dayton Amateur Radio Association (DARA) organizers were "very pleased with the results and comments everyone has made this year.

Hamvention's 2018 theme was "Amateur Radio...Serving the Community," and the event highlighted emergency communication forums — many put on by ARRL — plus a big display of emergency communication vehicles.

This was a year of "fine tuning the event" through critique sessions with committee chairs and evaluating comments, compliments, and criticisms from first-year Xenia attendees and vendors, Cramer

"From all the information we have received back already this year, from guests and vendors, we believe we have been successful and are working hard to prepare for Hamvention 2019," Cramer offered. "We expect new additions to the show and finer tuning to make sure our guests keep coming back."

Bethel Park Fireworks

Bob NU3Q was the NCS during Bethel Park Fireworks on Saturday, June 30th, from Millennium Park in Bethel Park.

"I finagled my antenna up on the roof of the maintenance shed (our Command Post) with a piece of wood from the barrier horse!



ITU Says Assigning Kosovo **Z6 Call Signs** "Unauthorized & Illegal"

American Radio Relay League

Newington, CT, June 18th, 2018 Kosovo, which won its battle to become a DXCC entity earlier this year, appears to have another fight on its hands. International Telecommunication Union (ITU) Secretary-General Houlin Zhao has determined that the Z6 call sign prefix was never allocated to Kosovo. The Secretary-General issued his finding in the wake of a March 16th inquiry from Serbia, from which Kosovo declared independence 10 years ago, the last piece of the former Yugoslavia to do so. Serbia has continued to reject Kosovo's secession.

"ITU has not allocated call sign series Z6 to any of its member states," Houlin Zhou said. "Consequently, the utilization of call signs series Z6 by any entity without a formal allocation and consent of the ITU represents an unauthorized and illegal usage of this international numbering resource.

Kosovo is not an ITU member state and is therefore not eligible to receive a call sign block allocation from the ITU.

Houlin Zhou also informed the International Amateur Radio Union (IARU) that the ITU had not authorized use of the Z6 prefix, and he asked the IARU not to include Z6-prefix call signs on its website, where they have appeared since the 2015 admission of Shoqata e Radio Amatoreve te Kosoves (SHRAK) as an IARU member-society. An ITU sector member, the IARU complied with the request and advised SHRAK.

Kosovo joins a short list of **DXCC entities** where radio amateurs use "unofficial" call sign prefixes. The list also includes Western Sahara (SØ) and the Sovereign Military Order of Malta (1A).

Earlier this year, in Mission Goodwill Kosovo, the IARU member-society SHRAK's headquarters station **Z6ØA** mounted a massive special event operation to celebrate Kosovo's addition to the DXCC List, as well as its 10th anniversary of independence.

In July 2010, the International Court of Justice (ICJ) found that Kosovo's declaration of independence from Serbia did not violate international law. Relations between the two nations have become less hostile in recent years, but Serbia likely would oppose any move on Kosovo's part to normalize the Z6 call sign block with the ITU.

Avenues to resolve the call sign prefix issue for Kosovo all are fraught with possible roadblocks. In addition to possible action at World Radiocommunication Conference 2019 — which could run into Serbian opposition — Kosovo's telecommunications regulator could decide to assign call signs from a block the ITU is not using.

A team of young radio amateurs will be on the air from Market Reef Lighthouse as OJØC, from July 21st until July 28th, and again from August 18th until August 25th. The lighthouse is nearly at sea level, and waves have been known to cover the entire reef.

The Finnish Lighthouse Society (FLS) and the Amateur Radio League of Finland (SRAL) in conjunction with OH-DX-Foundation (OHDXF) and DX University (DXU) have organized the first-ever International Youth at Sea (IYAS) cultural exchange-based radio activity, which could become a regular annual event. The 2018 youth team members are Nuuti OH1UBO; Elias OH2EP; Otava OH3OT; Mikael OH3UAF; Pieter ON3DI; Florian OE3FTA, and Ilie YO3IMD — all 16 to 25 years old.

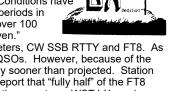
The young operators will be participating in daily workshops of safety and survival at sea in the remote lighthouse. In addition, they will become familiar with the latest digital modes and, most important, learning how operating the radio efficiently — providing OJØC contacts and handling pileups. Their instructors are Martti OH2BH; Henri OH3JR, and Pasi OH3WS.

QSL OJØC via OH3JR.

The FYROM is now officially know as the "Republic of North Macedonia" as of 17 June 2018. Greece and Macedonia signed an agreement to end their dispute, which would result in Macedonia being renamed the "Republic of North Macedonia". This puts an end to the dispute which started in 1991 over the use of the name Macedonia. Wikipedia states, "The agreement still requires ratification by both parliaments to come into effect, while Macedonia is also scheduled to hold a referendum about the required changes to its constitution later in 2018. As of June 2018, both governments are expected to have to overcome stiff political opposition in their respective countries in order -- courtesy of OPDX to conclude this process."

DX News Briefs

KH1/KH7Z Baker Island OC-089 has been going strong since landing on the island on June 27th. Conditions have been reported as "brutal" with "long work periods in the Sun" and with daytime temperatures over 100 degrees, on an island described as an "oven."



Activity continues on all bands 160 - 6 meters, CW SSB RTTY and FT8. As of July 2nd, they had logged over 40,000 QSOs. However, because of the tides, they will go QRT on July 6th, one day sooner than projected. Station teardown will start late on July 4th. They report that "fully half" of the FT8 callers are not using the correct software; they must use WSTJ-X version 1.9.1, go into Advanced Settings, choose "Hound" mode, and sync their computer's clock. More information at http://baker2018.net/ QSL via K4TSJ or ClubLog's OQRS, which will be activated after the DXpedition has ended.

7V5ID will be QRV in July to celebrate the 57th anniversary of independence, 160 - 10 on CW SSB & FT8. QSL via 7X4CZ.

ZF2RM is QRV from NA-016 through 7 July, 40 – 10 on CW SSB RTTY FT8 and Satellite. QSL via K3TRM

VQ5Z is QRV from NA=002 through 2 July, HF & 6 meters, on CW SSB FT8 MSK144 and JT65A. QSL via VE3IKV direct only.

OZ1DJJ will be QRV as OX3LX from East Greenland (NA-018) until July 14th, on various HF bands in his limited spare time. QSL via OZØJ

KV1J will again be QRV from Miguelon NA-032 as FP/KV1J 3 - 17 July. He will be on 80 – 10, multiple modes, primarily SSB & RTTY, plus satellites. More information at http://www.kv1j.com/fp/July18.html. QSL via KV1J

JW1ØØPUT will be QRV from Spitsbergen EU-026 18 – 31 July, to celebrate the 100th anniversary of 'Academic Ham Radio Club of the Poznan University of Technology'. They will be on 80, 40, 20, 2 and 70 cm, SSB & FM. QSL

PJ2Y will be QRV 19 – 24 July from the PJ2T contest station, operated by the Dave Kalter Youth DX Adventure. Operators will be 4 youths plus the team leaders, various HF bands, CW SSB & possibly FT8 More information

3B8/OK2ZI will be QRV from Pointe aux Sables, Mauritius (AF-041) 26 July - 4 August, 80 - 10 (possibly 160), CW SSB & digital. QSL via OK2ZI

7Q7ELA will be QRV 17 – 26 September from three different lodges in Malawi, various HF bands, mainly CW. QSLs will be sent automatically via the buro, for more information, send an email to iw5ela@gmail.com

BØ/BI8CKU will be QRV 6 – 14 August from Lhasa, Tibet, on 40 & 20, FT8 only. QSL via BI8CKU

A team from Slovenia will be QRV as XT2SZZ 22 - 30 October, HF and 6 meters. QSL via S59ZZ

VP9KF will be QRV from NA-005 31 October - 14 November, 160-10, CW only. More information at http://vp9kf.com QSL via W4/VP9KF direct only.

QSL Routes

5H9GB via G4SVV GX4BJC via G6XOU 5P5CW via DI 5SF J3/GØVJG via G4DFI 7Q7ELZ via IW5ELA JD1YAB/JD1 via JA1MRM 7V5ID via 7X4CZ JW1ØØPUT via SP3PET AN1WHC via EC1DD K4Z via W4KAZ AO3JMT via EA3RCY M1K via M1KTA OJØY via MØSDV MX1SWL via G4XOU SV7/LZ1ZJ via LZ1ZJ OHØZ via WØMM ED7R via EA7IZJ OT4A via ON4AEK EF8U via EA8URL SV9/R2DX via R2DX EF9R via EA5KB S55ØDDR via S59DDR ESØ/OG55W via SV9/SM7PXS via OH2OT SM7PXS GB1ØØRAF via S59ØRTVS via S5ØE G8FC

SN85LOT via SP1PMY T77BL via T77BL TM2CF via F4KIW TM53J via F6KSU TM5R via F5KAY TM88FU via F8KHP V47JA via W5JON VQ5Z via VE3IKV XT2SZZ via S59ZZ XW4XR via E21EIC YL18FIFA via YL18FIFA ZF2RM via K3TRM

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

SE4E via SM4DQE



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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Lazaroff & Suhr, Attorneys at Law 277 West Main Street, Saxonburg, PA 16056

Phone: 724-352-4905

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

Find the online cartoons and stories of Dash the Dogfaced Ham & more at https://www/jeffk1nss.com!

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





Recognize This Tower?

Spotted on Field Day weekend, this tower, and what's left of it's antenna etc.. is believed to have belonged to a now Silent

Located in Bethel Park, near John McMillian Presbyterian Church, it is visible from new housing that has sprouted up on the hillside above it over the last 15 or so years.

It is not known who currently owns the tower or the property it sits on, or what condition it is in, or if it would be safe to easily remove or to hang another antenna on, if that's what the current owner desires to eventually

A sad reminder of what we sometimes leave





FCC News

Courtesy of the American Radio Relay League

Newington, CT, June 7th — In the wake of an investigation resulting from a 2017 ARRL complaint, the FCC has proposed fining HobbyKing and associated entities \$2.8 million for apparently marketing noncompliant RF devices and failing to comply with Commission orders. According to a June 5th FCC Notice of Apparent Liability (NAL), HobbyKing appears to have sold audio/video transmitters (A/V) intended for use with unmanned aircraft, such as drones, marketing them as Amateur Radio equipment in some instances.

"The Enforcement Bureau previously issued a Citation notifying HobbyKing of its legal and regulatory obligations and ordering it to cease and desist from marketing noncompliant equipment," the FCC said in the NAL. "Additionally, the Bureau issued a Citation against HobbyKing for failing to fully respond to a Letter of Inquiry. Despite these Citations, HobbyKing has continued its apparently unlawful practices."

HobbyKing had denied that it was marketing its drone transmitters to US customers, but ARRL's January 2017 complaint pointed out that ARRL Laboratory Manager Ed Hare W1RFI, was able to purchase two drone transmitters from HobbyKing and have them shipped to a US address for testing in the Lab.

In his 2017 letter to the FCC Spectrum Enforcement Division, ARRL General Counsel Chris Imlay W3KD, described the transmitters as "blatantly illegal at multiple levels," and noted that they used frequencies intended for navigational aids, air traffic control radar, air route surveillance radars, and global positioning systems and not Amateur Radio frequencies, as the marketer had purported.

ARRL told the Enforcement Bureau in 2017 that the devices "represent a real and dangerous threat to the safety of flight, especially when operated from a drone platform that can be hundreds of feet in the air." Hare and ARRL Lab staffers Mike Gruber W1MG and Bob Allison WB1GCM, tested the units. Imlay credited ARRL Central Division Director Kermit Carlson W9XA, and the Electromagnetic Compatibility Committee he chairs, for calling attention to the issue and prompting ARRL's action.

In a related news release this week, the FCC said that while HobbyKing represented that its transmitters operated in designated Amateur Radio bands, the Commission's investigation uncovered that 65 models could also apparently operate outside of the ham bands. The FCC noted that Amateur Radio equipment used to telecommand model craft are limited to 1 W (1,000 mW), but three transmitters included in the NAL "apparently operate at significantly higher power levels of 1,500 mW and 2,000 mW."

"The Commission generally has not required amateur equipment to be certified, but such equipment must be designed to operate only in frequency bands allocated for amateur use," the NAL said. "If such equipment can operate in amateur and non-amateur frequencies, it must be certified prior to marketing and operation." The FCC also said in its NAL that consumers who own such HobbyKing devices "should cease using them immediately or risk enforcement action.

The FCC this week also issued an **Enforcement Advisory** cautioning that drone transmitters must comply with FCC rules in order to be marketed to customers in the US, and that operators must comply with FCC rules.

"However, many A/V transmitters that purport to operate on amateur frequencies also operate on frequencies that extend beyond the designated amateur frequency bands," the advisory said. "If an A/V transmitter is capable of operating outside of the amateur frequency bands, it cannot be advertised, sold, or operated within the United States without an FCC equipment certification. Individuals without an amateur license may not use such radio equipment, if it is designed solely for use by amateur licensees."

Imlay said the FCC action addressed "another of many instances in which unscrupulous importers import and market products in the US touted as Amateur Radio equipment but actually marketed to the general public, and which, in this case, have a high potential for abuse and interference to other radio services and to radio amateurs." Imlay characterized the FCC NAL as an important "line in the sand" aimed at keeping companies from encouraging the general public to use the amateur bands without a license.

If you've downloaded the WASHRag from the N3SH web site, or picked up a copy from a friend... you can sign up to have the PDF copy sent directly to your email You do NOT have to be a member of WASH!

Just send an email to wa3sh-subscribe@yahoogroups.com and the automation should take care of the rest!

Has Roadway found the tower yet?

Uniontown ARC 69th Annual Gabfest



Saturday, September 1st, 2018, 8:00 AM—??? Vendor Setup prior to 8:00 AM

W3PIE Clubhouse

433 Old Pittsburgh Road, Uniontown PA 15401 Talk-in on 147.045 PL 131.8 Free Admission More Information at http://www.w3pie.org

Butler County ARA Swapfest 2018

Sunday, September 9th, 2018, 8:00 AM—3:00 PM



Grounds Open at 6 AM for Vendors & Tailgaters
Unionville Volunteer Fire Department
102 Mahood Road (at Route 8 North), Butler, PA 16001
Talk-in on 147.360 PL 131.8
Admission \$5

More Information at http://www.w3udx.org

WACOW HAMFEST 2018

Printscape Arena [New Location!]

114 Southpointe Blvd, Canonsburg PA 15317

Sunday, November 4th

8:00 AM to 3:00 PM Setup at 6:30 AM

Talk-In on 146.790 (131.8 PL)

Vendors contact: Bud Plants N3TIR
bud@n3tir.com 724-350-6745

Or WACOM, c/o Norma Plants N3YJJ, 236
Chambers Ridge Rd, West Alexandria, PA
15376

The sale of illegal amplifiers or Adult Material is strictly prohibited









First Prize: ICOM IC-7300 HF & 6 M Transceiver

Second Prize: Yaesu FTM-3200DR 65 W 2 Meter FM Mobile Transceiver Third Prize: Yaesu FTM-3200DR 65 W 2 Meter FM Mobile Transceiver Fourth Prize: Yaesu FTM-3200DR 65 W 2 Meter FM Mobile Transceiver

Other Prizes To Be Announced

Main Prize Drawing at 1 PM

Winner Need Not Be Present To Win

Black Box: What is it? It's a Mystery!

— Only 50 Tickets Sold! —

VE Testing starting at 9:00 AM
Breakfast & Lunch Will Be Available
Check www.wacomarc.org for Updates





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	□ (F1) Full Membership:	\$20.00	\$15.00	\$10.00	\$5.00	
	\Box (F2) Full Membership < 18 or > 65 yrs of age:	\$10.00	\$7.50	\$5.00	\$2.50	
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Home Phone:			Work Phone:			
Email Address:			Birthday:			
	mbers Only:		ARRL Member?	☐ Yes ☐ No Family A	ARRL Member? ☐ Yes ☐ No	
☐ I do NOT want to be added to the Club E-Mail Reflector ☐ 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]			Date:			
Signature:			Amount Enclosed: \$			

N3RDV has requested that all 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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Arghh!
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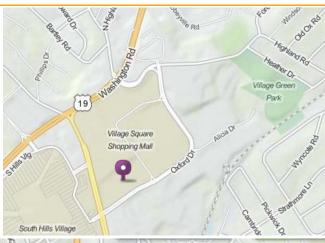




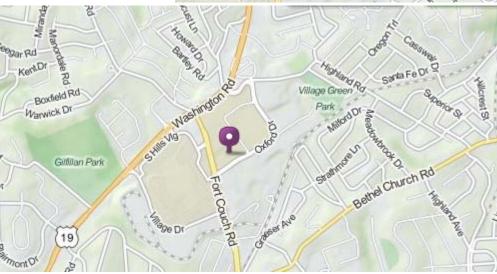
2018 WASH Meeting Location

St. Clair Hospital Outpatient Center Conference Room

2000 Oxford Drive, Bethel Park PA 15102
Adjacent to Village Square Mall, across Ft. Couch Road from South Hills Village Mall, just off of US Route 19







The WASHRag

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

