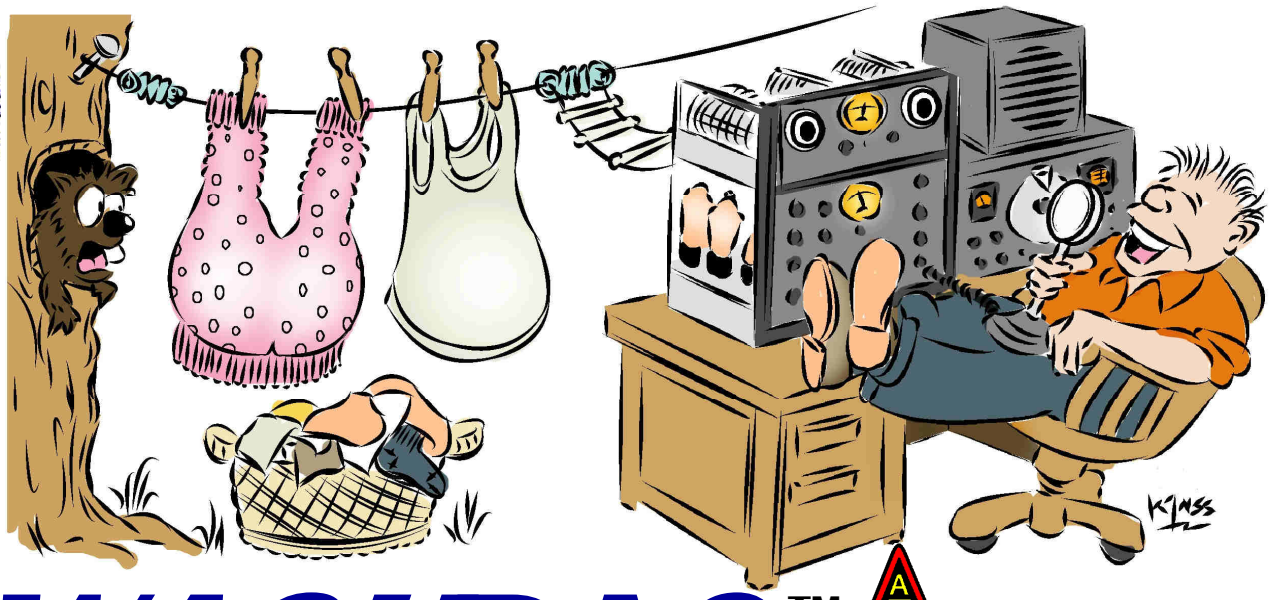
WASHRAG™

VOLUME 22 ISSUE 12
DECEMBER 2020

Wireless Association of South Hills

N3SH WA3SH NP2SH/B www.n3sh.org www.washarc.org

Wireless Association of South Hills



WASHRAG™

VOLUME 22 ISSUE 12

DECEMBER 2020

Next Monthly Meeting: Thursday, December 3rd, 2020

The next scheduled meeting of the WIRELESS ASSOCIATION OF SOUTH HILLS, INC. will be on **Thursday, December 3rd, 2020.**

Due to the pandemic situation, the conference room at St. Clair Hospital's Outpatient Center is not available, and has been replaced by an on-line Zoom meeting, also starting at 7 PM.

If you would like to attend but did not receive an invitation, contact Tony KB3BYA.

See you there!

Cover Photo: Of COURSE there is a Santa Claus… will he be QRV from OF9X again this year? And have YOU been good?

Cover Photos courtesy of and © Copyright 2020 Radio Arcala

WASH 2020 OFFICERS

EXECUTIVE COMMITTEE:

President	Tony Romano KB3BYA
VP / Secretary	Dan Campbell K3CMU
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/B QSL Manager	Ron Notarius W3WN
NP2SH 2009 QSL Manager	Carl Schroeder K9CS
VE Team Liaison	Grant Olson KC3MLL
Webmaster	Curtis Turner KB3CMT
Quartermaster	Harold Rosenberger K3HCR
WASH FM Net Manager	Chuck Bihun KC3ELA
*WASH*Fest 2021 Committee	Carol Danko KB3GMN, Chairman
	Bill Hill W3WH, Co-Chair
Activities & Operating Events	Rick Bell KB3IAC
Ways & Means	Carol Danko KB3GMN
WASH 2M Contest Chair	Chuck Bihun KC3ELA
Field Day 2020 Coordinator	Glen Roberts KE7FD

CLUB-AFFILIATED REPEATERS, BEACONS, & DIGIPEATERS:

Mt. Lebanon	N3SH / R	146.955 MHz (–)	PL 131.8
North Side	N3SH / 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 *WASH*Net, 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 WASH*Rag™"** (formerly ***"The Mariner™") is the Official Newsletter of the **WIRELESS ASSOCIATION OF SOUTH HILLS, INC. (WASH),** a 501.C.3 not for profit organization.

Published Monthly with occasional Special Editions as warranted.

Editor & Publisher: 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 TBA

The Next WASH VE exam session will be on Sunday, February 23rd, 2020, 10:00 AM, at ***WASH*Fest 2020**,3735 Buffalo Drive, South Park, PA 15129. Talk-in on the 146.955 MHz repeater. All examiners are ARRL VEC affiliated.

We still haven't been able to schedule any **VEC Sessions** for the rest of the year, due to the COVID-19 crisis.

But we do have people indicating that they'd still like to get tested.

The VE Team is looking into holding some small sessions to try and accommodate as many as we can . Finding a venue has been… challenging… so we may have to do it at someone's kitchen table.

More details on this will be forthcoming on the club email reflector, as we work out the details.

Tony's Musings

I hope everyone had a great Thanksgiving, and are gearing up for Christmas and Hanukkah!!

The KDKA Centennial was fantastic what a great opportunity, I've heard nothing but good stories about it!! fantastic work to all involved!!!

Please be safe and let's hope for face to face QSO's in 2021!!

— 73, Tony Romano KB3BYA
President, Wireless Association of South Hills, Inc.
N3SH / WA3SH / NP2SH

This will be the last newsletter distributed through YahooGroups , since Verizon / AOL is discontinuing the service on December 15th.

You can expect to see an email sometime in the next two weeks with an invitation to join the new mailing list, or otherwise notifying you of the selected replacement service.

Our apologies for the inconvenience (which is more than you'll ever get from the owners of YahooGroups)

Reminder: The December WASH Meeting will be held online as a Zoom Meeting. If you would like to attend the meeting but did not receiving an invitation, please contact Tony Romano KB3BYA immediately.

If you do not have or cannot install the Zoom app, you can attend by telephone; Tony will get you the phone number.

Well, what a year 2020 turned out to be, hmmm?

OK, so the bad news is, the pandemic continues, even as we thought that we had turned the proverbial corner. Guess it was the wrong corner. The good news is, we are on the verge of multiple vaccines being made available. Hang in there, it can't last much longer.

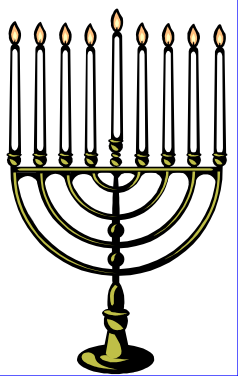
We still haven't been able to schedule any **VEC Sessions** for the rest of the year, due to the COVID-19 crisis. But we do have people indicating that they'd still like to get tested. The VE Team is looking into holding some small sessions to try and accommodate as many as we can before the end of the month. Finding a venue has been… challenging… so we may have to do it at someone's kitchen table. More will be forthcoming on the club reflector, as the details get worked out.

Chuck KC3ELA has announced the date for the 2021 **WASH 2 Meter Simplex Contest**, which will be on Saturday, January 9th. The 2021 rules will be on the club web site in the near future, and are printed on Page 14. Looking forward to another fun event!

Which leads us to… Page 18 and the announcement for ***WASH*Fest 2021**. At the moment, it is still on. And we strongly hope that we can have it this year. Right now, the biggest issue is that under current restrictions from Allegheny County, we can't have more than about 55 people at any one time inside the Home Economics Building. And that just plain won't work. But the end of February is still a ways off, and things may yet turn around. If they don't… well, we have to find out if we lose our deposit, or if we can apply it to 2022. Another option might be to postpone the hamfest until later in March or even the beginning of April, hoping the restrictions will be relaxed or eliminated by then. A lot of "ifs." This will be discussed at the December meeting.

Please try and attend the December meeting (via Zoom or telephone), since this will be our election night for 2021. We promise, there will be no appeals to the State Supreme Court over improper absentee ballots… we don't have any, so, no problem!

Have a safe and happy holiday season with your family and loved ones, however you choose to celebrate the season.



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

Minutes, November 5th Meeting

Dan Campbell K3CMU, Vice President.Secretary, **WASH**

Note: Due to the Pandemic Quarantine, this was a Zoom virtual meeting

Call to Order: 19:05. Presiding Officer: Tony Romano (KB3BYA)

Pledge of Allegiance, Moment of Silence for Silent Keys and others Deserving.

Roll Call: Members Present: 12

Committee Reports:

Treasurer: Mark Stabryla, (N3RDV): No report.

Secretary: Dan Campbell (K3CMU): No corrections to the minutes. Motion to accept: Bill W3WH, Second: Tony KB3BYA, Carried.

Repeaters: Jim (WB4GCS): Repeating. Minor problem with 2 meter signal.

***WASH*Net**: Charles (Chuck) Bihun, III (K3CELA): Doing well; needs volunteer net control operators for a few months.

Tuesday Night Net: Glen Roberts (KE7FD): Last net cancelled (election night).

Contests: Jim (WB4GCS) "Zombie Shuffle" (Halloween related); got 15 contacts; Bill (W3WH) participated for a short time until keyer failed; Bob (NU3Q) multi-club event in Canonsburg.

Public Service: No Report

Newsletter: Ron Notarius (W3WN): Published.

Volunteer Examiners: Grant Olsen (KC3MLC): No report. (Next exams expected to be hosted at ***WASH*Fest 2021**.)

Ways & Means (including Member Contributions)**:** Carol Danko (KB3GMN): Some donations to the club would be appreciated. Carol to inquire regarding vendor interest in 2021 Hamfest; logistical problems apparent: will Allegheny County permit event, food issues, prizes?

Nominations for 2021 Club Officers: President: Tony (KB3BYA); Secretary: Dan (K3CMU); Nominations closed for November meeting; election in December.

President's Report - Tony Romano (KB3BYA): (none, nominations done instead)

Old Business: Need permanent storage location for the Tower Trailer. Paul NØVLR now storing temporarily.

New Business:

Curtis (KB3CMT) will update website in the coming weeks; anyone needing assistance in transferring large files (FTP – file transfwer protocol) is invited to call for help.

Motion to allocate monies to cover potential expenses to move club member e-mail addresses to new service; existing service is going away; by: Jim (WB4GCS), 2ND by: Bill (W3WH). Carried

Good of the Order: (none)

Adjournment: Motion Bill (W3WH); seconded Carol (KB3GMN). Carried

Adjourned: 20:21 hours

WASH Spotlight: Winner!

"Winner, winner, radio dinner!" (Ah, I don't think that's quite the way that the Gunner put it, Paul)

Paul NØVLR was one of many hams who donated to he W3PIE Virtual Hamfest. He was notified in mid November that he was selected as one of the winners of a VHF Mobile Raedio (pictured). Congratulations!

Photo courtesy of and © Copyright 2020 Paul Lusardi NØVLR

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 ***Eat'n Park***, 3380 Washington Road (US 19), McMurray. 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

AE3DL
K3CMU
K3GW
K3HCR
K3JDS
K3SGT
K3VX
K6DWR
KA3VXM
KB3BYA
KB3CMT
KB3DCO
KB3GMN
KB3GMU
KB3JHR
KB3YCX
KC3ELA
KC3GMM
KC3MLC
KC3NPJ
KC3OCT
KC4WTT
KE7FD
NØVLR
N3DFK
N3FB
N3KFD
N3RDG
N3RDV
N3SBF
N7TDX
N8NEU
N9SOJ
NY9H
W3LE
W3WH
W3WN
WA3PYU
WA3VSS
WA3WXR
WB4GCS

WASH FL
KA3UPY/M
W4ZE

WASH NE
NØPEU

WASH OR
KB3NVL
KB3NVM

WASH OH
N8DPW

WASH TN
K3OL
KE3XB
N3YPB

WASH TX
NB3C
K3LGM
KB3IJX
Jane Wagner

WASH VI
NP2JF

Silent Keys

AB3KA
K3EED
K3LIE
KA3NMG
KB3ENX
KB3FNM
KB3FQT
KB3JHQ
N3BPB
N3CZZ
N3FZ
N3HKQ
N3KEH
N3OBD
N3RNX
N3SKR
N3SRC
N3ZEL
N3XFE
W3ZLK
WA3JPP

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

Through November 26th, 2020
List complied by
Mark Stabryla N3RDV, Vice President/Treasurer

2020/21 WASH Upcoming Events Calendar

Club Meetings & Other Significant Events — Subject to Change

December 3rd	*WASH* Meeting	ZOOM MEETING
December 4th — 6th	ARRL 160 Meter Contest	http://www.arrl.org/
December 12th — 13th	ARRL 10 Meter Contest	http://www.arrl.org/
December 20th	ARRL Rookie Roundup	http://www.arrl.org/
December 31st	Straight Key Night	http://www.arrl.org/
January 7th	*WASH* Meeting	ZOOM MEETING
January 9th	*WASH* 2 Meter Simplex Contest	http://www.n3sh.org
February 4th	*WASH* Meeting	ZOOM MEETING
February 20th - 21st	ARRL International DX Contest CW	http://www.arrl.org/
February 28th	*WASHFest 2021*	Home Economics Building, 3735 Buffalo Drive, South Park
March 4th	*WASH* Meeting	ZOOM MEETING
March 6th - 7th	ARRL International DX Contest SSB	http://www.arrl.org/
March 27th - 28th	CQ WPX Contest SSB	https://www.cqwpx.com
April 1st	*WASH* Meeting	ZOOM MEETING
May 6th	*WASH* Meeting	ZOOM MEETING
May 21st - 23rd	Hamvention 2021	Greene County Fairgrounds, Xenia, OH
May 29th - 30th	CQ WPX Contest CW	https://www.cqwpx.com
June 3rd	*WASH* Meeting	ZOOM MEETING
July 1st	*WASH* Meeting	ZOOM MEETING
August 5th	*WASH* Meeting	ZOOM MEETING

CW Sweepstakes 2020

Bill Hill W3WH

Chartiers Township, PA November 9th, 2020 – It's been many years since I dipped my big toe into the Sweepstakes pool but this year since WACOM cancelled their Hamfest I decide that it was time. I also decided to enter as a QRP Station using my old call, W3IBT, which I have access to as the President of the Western Pa. QRP Club.

As some of you may know the exchange for the Sweepstakes is rather long requiring a QSO number, the precedence which indicates your transmitter power, repeat your call, the year you were first licensed (56) and finally your ARRL section (WPA). Well that task is now easily solved in that the logging software sends all of that for you. The other half of the exchange requires you to copy, and I really appreciate, enter the other stations info in your log. Certainly a half a loaf is better than none.

Being a QRP entry is not without other struggles such as being heard using a 5 watt peanut whistle. I really appreciate the guys I worked doing their best to copy the long exchange. I had no intention of trying to win anything other than having some fun on a November weekend without a Hamfest to attend. I attained my goal and had fun.

I operated several one or two hour segments on /Saturday and Sunday and probably spent eight hours, give or take, accumulating 158 Q's and 55 ARRL Sections. There were a few unusual things that happened. For example, I never heard SNJ and the same was true for NLI until right at the end of my operation. Also on two occasions I tried to work AL and neither of them heard me and I called many times. Hmmm... Then there were two or three CA stations that I worked easily and a couple that couldn't copy me.

I always amazed how some people in contest can run up big numbers of QSO's. I heard one guy yesterday that had over 1100. I can't stay in the chair that long!

All in all I'm glad I participated this year and I was very happy how all the equipment worked well. I'm already looking forward to the ARRL 160 contest which will be a couple days after you read this.

Bias Tee Problems

Larry Comden K3VX

Pittsburgh, PA, November 29th, 2020 – Last month I wrote about testing bandpass filters using an antenna analyzer. The test setup compared the power applied to the filter versus the power reflected over a frequency range. Little was reflected within the passband while almost all was reflected outside of the passband. The same setup can be used for testing other items.

During one Field Day, I had a vertical antenna which was going to be used on several bands. An SGC tuner was connected at the feed point. The tuner needed 12VDC to operate. A Bias Tee is a device which allows coax to carry DC voltage in addition to the RF power. There was a pair of home brew Bias Tees, one at the rig end and one at the tuner end of the coax. The tuner would not work on 80 or 40 M, but was OK on 20, 15 and 10! As I remember, the quick solution was just to have a battery at the tuner. What was wrong with the Bias Tee setup? I posed the question to Phil, AD5X, who designed the Bias Tee. He said to change the RF choke which is used isolate the DC from the RF. The change worked.

Fast forward to our 2020 PA QSO Party effort. We needed three pairs of Bias Tees to supply DC to feed point tuners. Failure again, even worse, as at least one pair would not work on any band. First thought was that no DC was reaching the tuner. Wrong.

I went back to the test setup from last month. Three of my six home brew Bias Tees were OK, that is, power applied to the input reached the dummy load. Two of the other three would not pass any RF! The third one was like the old FD one, no good on the low frequencies and sort of OK on higher frequencies. Clearly there is a flaw in this design or components.

Smehing to remember about choosing components: real coils, such as the RF chokes used in my home brew Bias Tee, are not pure inductance. They have distributed capacitance which may become a self-resonant circuit in the frequency range of interest. That's probably what happened to the unit which would only work on 20M and up. Real capacitors are not pure capacitance either. They and their wiring have distributed inductance which may also exhibit self-resonance.

Universal Radio Closing

Fred Osterman N8EKU & Barbara Osterman KC8VWI

Worthington, OH, November 28th, 2020 – Dear Friends Of Universal Radio,

Time waits for no one, and that includes Barbara and myself. We have decided to retire and our current location in Worthington will close on November 30, 2020. Even though the store is closing we will fulfill all existing customer orders and have a large amount of inventory to close-out. The Universal Radio website will be maintained for the foreseeable future to sell this remaining stock, publications and some select products. Unfortunately the lack of a store front showroom will preclude us from carrying some manufacturers' products.

I am very fortunate to have been in the radio business for over 50 years, 13 at Radio Shack and 37 at Universal Radio. We have met many wonderful people along the journey who have supported me personally as well as Universal Radio. It has been a privilege to have a continuous career in the fascinating field of radio since 1969.

Please accept our sincere "Thank You" for your support of Universal Radio for these many years, and for the months to come.

Our new address for correspondence and mail order is below.
This is not a store front.

Universal Radio Inc..

752 N. State St. Unit 222,
Westerville, OH 43082

Phone: 614 866-4267

Thank you.

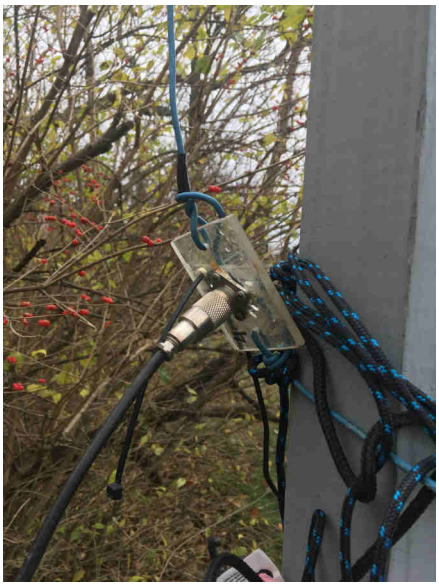
universal radio inc.
6830 Americana Pkwy.
Reynoldsburg, Ohio

Undated photo of the Universal Radio showroom in Reynoldsburg, OH, courtesy of Universal Radio

An Unusual Application of a 40 Meter Dipole

Bill Hill W3WH Photos Courtesy of and © Copyright 2020 Bill Hill W3WH

Chartiers Township, PA November 27th, 2020 – Some of you may remember that during the Pa. QSO party we used a makeshift antenna for 40 meters. Well the makeshift antenna worked well enough that after the "Party" I installed it in the back of my property on a more permanent basis.



The antenna is a standard length 40 meter dipole which is installed one half vertically and the remaining half horizontal about 4 feet off the ground functioning as a tuned radial. The idea for this came from the Steppir Crank IR portable antenna.

The antenna works much better than it deserves to in my opinion. On a recent afternoon I tried the reverse beacon network and got nine replies. 7 of those were from stations hearing me in Europe and the other morning I worked VK4DX/p with one call.

If you happen to have only one tree or if you have a push up mast at least 35 feet tall you can easily try this antenna for yourself and I don't think you'll be disappointed. Larry, K3VX, modeled the antenna on EZNEC and it appears to have a radiation angle of 21degrees which answers the question of why it works very well for DX. It also works well for closer in work. For example while writing this I worked W8XK from the Skyview Amateur Radio Club only about 25 miles or so from me.

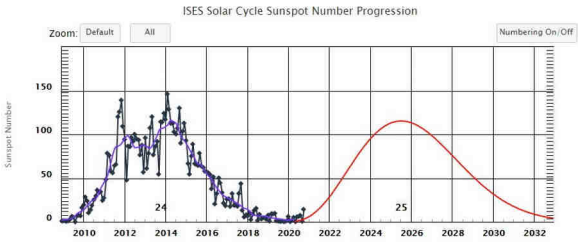
If you're a proponent of the KISS principle (Keep it simple etc) this wire might be worth a try. If you try it, let me know how it works for you.

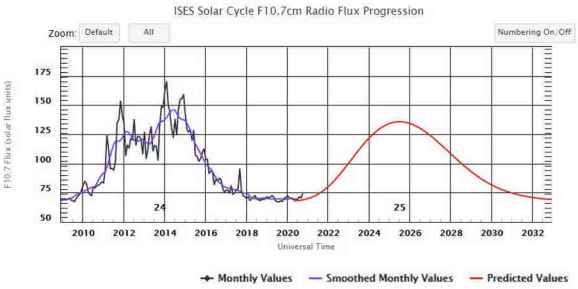
There's no reason that this shouldn't work well on other bands as well. Just change the dimensions.

Sudden Increase in Solar Cycle 25 Activity

Frank Donovan W3LPL Solar Graphs courtesy of NOAA Space Weather Prediction Center

Glenwood, MD, November 26th, 2020 – Sunspot activity has increased dramatically over the last two months.





Most days this month have had multiple and more active sunspots resulting in the solar flux index exceeding 100 for the first time since September 2017. SFI is likely to remain above 100 during the CQWW CW DX Contest and remain at 90 or above for at least another week.

But recall that both the sunspot number and the 2800 MHz solar flux index are proxies for the the actual source of F layer ionization that cannot be observed on the surface of the Earth: extreme ultraviolet radiation

We can't yet determine if this is a short term surge or a sustained increase in sunspot activity. We'll have a better understanding in about six months.

The first year of increased sunspot activity is a sweet spot in the solar cycle because:

- Increased extreme ultraviolet radiation starts to open the 10 meter band, makes 15 meters more reliable including more frequent JA and long path openings keeps 20 meters open later into the night and opens it well before sunrise keeps the MUF into Europe above 7 MHz during most or all of the night
- Coronal hole high speed streams that cause elevated K indices during the declining years of the solar cycle and during solar minimum are now less frequent and not as strong, keeping the K index consistently low for about the next year.
- Fast coronal mass ejections (fast CMEs) that cause much more severe and more frequent geomagnetic disturbances won't start to occur regularly until at least late next year.
- Daytime D layer absorption that affects 160 and 80 meters much more severely than 40 meters hasn't yet begun to increase significantly as it will when we get closer to solar maximum
- E layer ionization (not sporadic-E -- that's completely different) hasn't yet begun to increase significantly. As we get closer to solar maximum consistently higher E-layer MUFs will blanket 40 meter DX openings until later in the afternoon.

Enjoy the ride!

We are seeing the Solar Flux Index hit a daily peak of 104 already, even though solar minimum is said to have been reached only 11 months ago in December 2019. I thought this seems faster than it rose last time, so I went to

https://www.swpc.noaa.gov/products/solar-cycle-progression to take a look at what happened just after the last minimum. According to that chart, monthly average solar flux bottomed out at 65.7 in July of 2008. Monthly average solar flux did not get to over 100 until March of 2011, or 32 months later.

Granted, the last solar minimum began with an SFI about 2 points lower than this latest minimum, but still, it looks to me like the rise is faster this cycle.

Yes, there are complications, like the difference between actual daily values and the smoothed daily values which are used to produce a visual curve that doesn't jump all over the place. And what we have today are daily values, not monthly values. But it still looks to me like things are moving along pretty fast.

I am not a scientist, so I invite all of those interested to go to that site, hover your mouse over the curve, and see what you come up with.

73, Fred Laun K3ZO

An 80-40 Meter All-Band Wire Antenna (AKA A Doublet)

Glen Roberts KE7FD

Clairton, PA, November 30th, 2020 – Background: I presently have enough space to experiment with antennas, something which I know occupies most of my radio activity. That being said it is my intention to move beyond tinkering and back into spending more time on the air using the antennas which I've found fit my purposes best. There's a particular 75 Meter SSB net I check into once a week and when I had my 80M "Cloud Warmer" full wavelength loop, I had no problem getting logged in every week. But when I moved to a place that had no trees (nor the space), I've been relying on dipoles and verticals to get me into the net. The vertical I posted about last year was short lived because of noise from the power lines nearby and my ZS6BKW (an updated version of the venerable G5RV) is laid out where the major lobes go north and south. The net members however are mostly west of me, so my signal was always weaker than I'd hoped it be. Then it occurred to me that I could take down the vertical and use the materials to build an inverted-v with the legs angled towards the west to improve my signal strength in that direction.

Researching a solution: Over the years I've picked up some bad habits, like calling things by the wrong names, for example calling a coax fed fan dipole (a dipole with multiple wires), a ***doublet***. While the two antenna designs do share some things like the use of balanced wires, they are different (I'll go into this shortly). So, which of these two was a best fit for my needs? Ultimately whatever antenna I was to go with needed to be as efficient as possible. I won't go into deep details here but suffice it to say the basic coax fed dipole is not especially efficient, mostly on account of the coax itself. The doublet, or an open-wire fed dipole (AKA Zepp) has an power transfer efficiency in the high 90% when done right, higher than a coax fed dipole. This is the major design difference between a dipole and a doublet. An added bonus of the doublet is that it tends to multi-band much easier than a dipole. At this pole, some notions need to be cleared up and explained. Coax, an unbalanced feedline radiates. Period. It may radiate just a little or it may radiate a lot depending on how much care one takes to suppress common mode currents. Common mode currents manifest themselves (and yes, currents, plural) as high impedance (think S.W.R. here), more noise in the receiver and heat in certain places like the coax. Most new hams will hang a dipole in a tree, feed it with coax of a length to reach the radio and off we go; you're on the air. That coax is radiating; and what's more, there's more noise reaching the receiver that needs to be. Thank you common mode currents! When I was a very new novice back in the '70's, my Elmer's would say words like tuners and baluns, but since those weren't on the exam I didn't pay much attention to such things. Today however, after an ocean of water under the bridge, I've come a long way in my thinking when it comes to power transfer to the antenna. Sure, you can buy an amp to punch your way through to make contacts but why would you want to heat up the feedline, and accept additional noise when with a few tweaks, you could vastly improve those areas without spending all that money? Anyway, that's where my mind is at after 47 years of being licensed. L.B. Cebik , W4RNL (SK) said:

> *"Perhaps too many new hams embarking on their first HF adventures think only of resonant dipoles fed with coaxial cable and plugged directly into the transceiverÞs output connector. Many end up with a mass of wires in the back yard as they try to make separate antennas for 80, 40, 15, and 10 meters. Others think that they are restricted to only one band because they have room for only one antenna. Too few modern Elmers have the personal experience to guide new HFers into one of the oldest ham antennas of all: the all-band doublet."* (http://www.antentop.org/w4rnl.001/radio.html)

He must have been thinking of me when he said that. When I was a Novice, WN7UKI, I built a 40M dipole which also worked on 15 meters. That was it, that's all I had. If I had been paying attention to my Elmers, I could have gotten on more bands (although in those days the FCC rules stipulated back in those days that Novices were to use crystals to set transmit frequencies; no VFO's for Novices back then). So, dusting off the mental cobwebs, I took Cebik's suggestion and built a doublet, and actually a *fan doublet*! While it may seem redundant to hang a 40M wire under the 80M, I'm guessing a near-resonant antenna might work better than just using the one wire (the entire 80M wire), but time will tell.

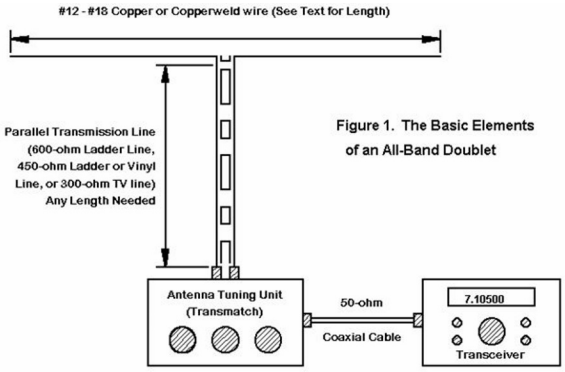


Figure 1. The Basic Elements of an All-Band Doublet

The Solution: The Doublet.

As you can see, building a doublet requires using twin lead or parallel transmission line and less coax. The (right) illustration implies that the twin lead be brought to the radio where the [vintage] tuner/transmatch will make the radio happy with a 1:1 S.W.R. The illustration is dated; there were no microcontrollers in those days and the operator had to bring the line into the shack all the while avoiding metal objects the entire way.

By way of modern technology and even dogged ingenuity, operators can now locate the tuner at the antenna. In my case, this is an SGC SG237 Coupler. Instead of running the open wire into the house, instead it runs from the top of the antenna feed point (40+ feet up) down the fiberglass mast, to the weather protected tuner which is fed by the coax from the station. The whole idea is that common mode currents be dealt with from the radio all the way to the tuner to eliminate noise and keeping the coax from radiating. Twin lead will not radiate but will force all the power (minus a few calories left behind in the matching solution) to the dipole itself regardless of the mismatch! This is of course if the build isn't hosed up along the way like not having the same length of wire along the top (i.e…. 66 ft and 65 ft). And yes, mismatched antennas will radiate. It is possible that if one limits operation to one frequency a properly wound balun will be all you need at the transition from coax to twin lead. I looked into doing this by using my analyzer at the feed point, recording all the "R" & "Z" values across the HF bands but decided to go with the SGC because I had it, and to give me all bands if I ever need something other than 80M for my net. Just to recap: Coax, an unbalanced transmission line will radiate if not sufficiently suppressed, and twin lead, a balanced line, will not, without all the clamp-on ferrites.

This of course in idealized as amateurs tend to do. The SGC tuner requires power to work and since I had discovered a 120v line not far from the mast, I ran 12VDC to the tuner, and able to turn the power on/off using a remote switch (thank you Home Depot). This is the fan doublet: (bottom right)

Sorry for the poor quality of the photo; it's hard to see important stuff, hence the tags. Some details: The half-wave dipole lengths are calculated with the usual 468/f, so in my case: 66ft and 33ft (but not critical). If you're following Cebik's design, you'll see he just narrows the lengths down to ranges, not exact. The heavy lifting to cope with high/low Z seen as the SWR is being done by the tuner. The mast is from DX Engineering, their 46 foot fiberglass mast kit (DXE-TFK46-HD). I opted for the HD version to satisfy the more-must-be-better glitch in my mind. It's been painted black to help with the UV concerns. The twin lead is home brewed 600 Ω since I had the wire, but any type will do. I ran RG8x from the tuner to the station (not shown). I started out with 3 sets of guys but shortly decided 4 sets of guys is a minimum, every 90 degrees.

Continued on Page 9

The Time Has Come To...

Bill Hill W3WH

Chartiers Township, PA, November 27th, 2020 – Linda and I recently decided that the time has come to begin downsizing.

In October of 2021 we'll sell our home and move to "Encore on the Lake" a new project of Presbyterian Senior Care. We're both excited and sorry to contemplate leaving our home of almost 22 years.

The new home will be an apartment on the 4th(top) floor overlooking Canonsburg Lake. I agreed to this since I was able to get permission (in writing) to install a screwdriver antenna on our balcony. I also may be able to operate remotely when a rare one comes on the air.

One of the new necessities is that most of my excess gear will have to be moved on to new homes. The current absence of Hamfests is not making this easier. However I'm planning my own "Minifest" in my garage and driveway probably in April. A couple of WASH members will also bring things to sell.

I will post a list of things for sale on the website after the Holidays. In the meantime, here"s the first couple deals deal:

- Kenwood TS-590SG (It's perfect) with a brand new Butternut HF6V 80-10 Vertical and an SDR Play RSP1A SDR receiver to give you panadapter capability. $1200.
- Yaesu FT-7900 Dual Band Mobile $100

I hope to hear from you soon.

Monica Ide

Randy Ide N2QIV

Crafton, PA, 24 November 2020 – I know I've been too busy to remain active in the club activities.

There may be a few members that knew my wife, Monica. She went on a trip to Dayton 8-9 years ago and has been seen at Corner 7 on PVGP Schenley Sundays for many years.

It is with deepest sadness to say that she passed away on Saturday, November 21st , 2020. She had a dream of driving the PVGP, but the best she had was Patron Rides and static displays.

Arrangements were handled through Hershberger Stover Funeral Home in Crafton. Due to current restrictions, there was no public visitation.

A Celebration of Life service will be held when restriction lift.

https://www.hershberger-stoverfh.com/obituary/Monica-Ide

Photos courtesy of and © Copyright 2020 Randy Ide N2QIV

AKA A Doublet

continued from Page 8

How does it play? From the comfort of my mostly comfortable chair, I'm able to get less than 1.5:1 match across all HF and 1.1:1 on my net frequency. It's fairly new but this I can say: I got into my 80M net first time with a good signal, and with 10 watts!

I would like to thank Bob, N3RDG, for helping me get this antenna up one afternoon *and* for his always encouraging comments to buoy up my spirits during my tinkering (aka: nagging). I'd also like to thank my son Andrew for helping me add the 4th set of guy lines.

References used: *http://www.antentop.org/w4rnl.001/radio.html*

https://kv5r.com/ham-radio/2018-projects/80-meter-doublet/

https://www.ad5gg.com/2018/04/02/antenna-tuners-matching-and-swr/

UPDATE: I kept tinkering with things (what happened to the idea that if it works, don't fix it?) and managed to mung up a coax somewhere in the mix. I've also discovered a few other things along the way during this build which I'll share with you next month. Shorter article, but some of my own hints and kinks (apologies to QST). Perhaps I'll call it lessons learned….

Side note…

The doublet antenna should look familiar to most hams on HF. The G5RV strictly speaking is a Doublet! Varney (G5RV, SK) just tweaked things in such a way to meet certain needs he had and in the hope to get away from using a transmatch (tuner). The thing everyone misses from these older designs and illustrations and who are eager to put up a G5RV is the context in which Varney was subject to: Vacuum Tubes! And tubes meant Pi-networks in the final amplifier, and Pi-networks can take a LOT of abuse. Not so much with today's solid state rigs. And by extension, the newer spin of Varneys design is what ZS6BKW did to it with computer modeling to come up with a slightly better design.

Ham Radio Needs to Embrace the Hacker Community Now More Than Ever

An Open Letter to All Ham Radio Operators

Robert Bolton KJ7NZL (from his Blog)

Syracuse, UT, November 24th, 2020 – "Ham Radio is dying!" A phrase all to often uttered that it's become cliché, but it's partly true. You can't deny a considerable section of the ham radio operators in the world are in the latter part of their lives.They won't be around forever so naturally new people must assume their place. The good news is amateur radio licenses are on the rise. The bad news is the people induced to ham radio these days aren't interested in pushing the limits of RF technology. To be blunt I'm talking about preppers and those solely interested in emergency communications. Neither of which have any desire to explore ham radio beyond a disaster fetish in which they use their $25 BaoFeng HT to save the world. So what can ham radio operators do? Easy, reach out to the hacker community! First, allow me define the word hacker since there are nefarious connotations of the word's meaning. When I use the word hacker, I'm talking about the type of individual who wants to comprehend how a given technology works and who explores all the possibilities that technology has to offer. These are the people who grew up dismantling electronics just to appreciate how they work, the people who stayed up late into the night teaching themselves to code, and these are the people ham radio needs to propel it further into the future. To attract and retain hackers within the ham community there are a few things that we need to do.

1. Stop Primarly Promoting Emergency Communications

Every day I see on the r/amateurradio subreddit a number of people who solely promote ham radio's role in emergency communications. Does it have a place within the hobby and community? Certainly, however, there is little interest from the hacker community in relaying messages about the state of the weather during a thunderstorm. Ham radio offers so much morel. You do it a disservice when you either dismiss the other areas of the hobby as secondary to emergency communications or fail to mention them at all. For crying out loud, we launch our own communications satellites and utilize them every day. Satellite communications, the blending of RF and VoIP to communicate around the world, software defined radio represent the things we need to promote to the hacker community. To effectively communicate, identify your audience.

2. Start Promoting Software Defined Radio

There is a lot of interesting work that's currently being done within the hacker community with RF. Most of this work is currently centered around WiFi, LoRa, IoT networks. It not difficult to imagine someone who has an interest in these communication technologies wouldn't be open to software defined radio. They just need to be presented with easy to understand examples and a little encouragement to become licensed. Kelly Albrink's 2020 DerpCon talk *Ham Hacks: Breaking into the World of Software Defined Radio* does just that.

Will SDRs like the HackRF One be the future of ham radio?

Software Defined Radio is here and we as hams need to explore all the potential the technology has to offer. Currently full SDR transceivers are available from Flex Radio, and the major ham radio manufactures are beginning to produce hybrid SDR transceivers. With SDRs such as the BladeRF 2.0, LimeSDR and the HackRF One the entry point into software defined radio is relatively low. These lowcost SDRs make excellent platforms for experimentation within the VHF/UHF bands. The YouTube channel Tech Minds has some excellent videos of what these little radios can do.

3. Provide Communities That Foster Technical Discussion and Exploration

It's been my experience that local radio club are more focused on emergency communications rather than the more technical aspects of ham radio (Seriously, why so much obsession with emergency communications?). Most of the anecdotal evidence I've collected has suggested this is a common occurrence around the United States. This type of focus doesn't foster an environment of learning and exploration. Why would the hacker community want to participate, in discussions about who's going provide communications "support" on the corner of Elm and Main St. during the annual Forth of July parade?

You need to create the type of environment where the discussion is focused on RF technology. If you can't do that locally in person or over the air, then it's time to turn to the digital voice modes. That's right, DStar, DMR, and System Fusion provide an opportunity to essentially create local communities of common interest. Access to these communities are as easy as connecting to one's hotspot; I guess you could present the argument that some repeaters are connected to these digital networks and blah blah blah. Hotspots! That's what the cool kids are doing these days. As an aside, check out my new hotspot.

Introducing the Radio Hackers YSF Reflector

In my efforts to better understand the System Fusion and WiresX Network and how they relate to each other, I created a YSF Reflector called Radio Hackers. As you may have guessed this is the beginning stages of the hacker community, I'm fostering among ham radio operators. This is by nowhere complete and I welcome you to assist me in any way that you can. The most significant thing you can do is inform others and join in on the discussion on the reflector.

- ID: 33360
- Name: Radio Hackers
- Dashboard http://hackers.ysf.kj7nzl.net
- Bridged Networks: TBD

If anyone knows more about bridging networks together with XLX please reach out to me. I'd love to speak with you more. My contact information is provided on the home page of this site.

Silent Keys

Judith Stabryla, wife of Mark Stabryla N3RDV Bethel Park, PA, November 6th

Monica Ide, wife of Randy Ide N2QIV & mother of Kenneth Ide N3VVL, 63, Crafton, November 21st

W7UUU Total Loss: Entire Shack Lost To Fire

On the evening of October 25th, Dave Ellison W7UUU of Port Orchard, WA, one of the moderators of the QRZ.COM forums, shut down his equipment following the CQ WW DX Contest (SSB), and went into his house to prepare to spend time with his family while they all watch his favorite NFL team.

A few minutes later, his shack / workshop / garage, which was located in a separate stand-alone structure, went up in flames.

Even though the local fire department was dispatched immediately and arrived within minutes, the shack is a total loss. This included Dave's collections of vintage and historic gear.

Cause of the fire was determined to be a cheap plastic power strip that had failed.

All radio gear is considered a total loss. Some equipment was damaged by the heat from the fire, or the fire itself. Other equipment suffered smoke damage. And just about everything that survived this much was done in by a combination of water, and anti-fire foams and chemicals used to put out the fire. Everything has since been inventoried, but little to nothing will be considered salvageable. Sadly, most of Dave's collection is destined for the dumpster, and disposal.

If that wasn't bad enough… on November 13th, Dave was working in an upstairs living room when he was alerted by his wife Anne N7ANN that smoke was pouring out of a new APC UPS unit recently installed in their home office. Fortunately, this was caught in time with no damage to any equipment, outside of the UPS itself. Again, the cause is believed to be a cheap plastic power strip, similar to the one involved in the shack fire.

It has since been suggested to Dave that he check with his local electricity supplier, Puget Sound Energy, to see if any power distribution issues may have caused the power strips to fail. In the meantime, as he is assessing the damage for the insurance claim… his insurance does cover replacement, but there is a question of how much his equipment will be valued for replacement purposes… no, he did not have supplementary coverage through the ARRL program, nor through Ham Radio Insurance Associates, or equivalent… he has replace all of the cheap power strips with more robust industrial grade ones. ("All metal no MOV power strips" according to his posts

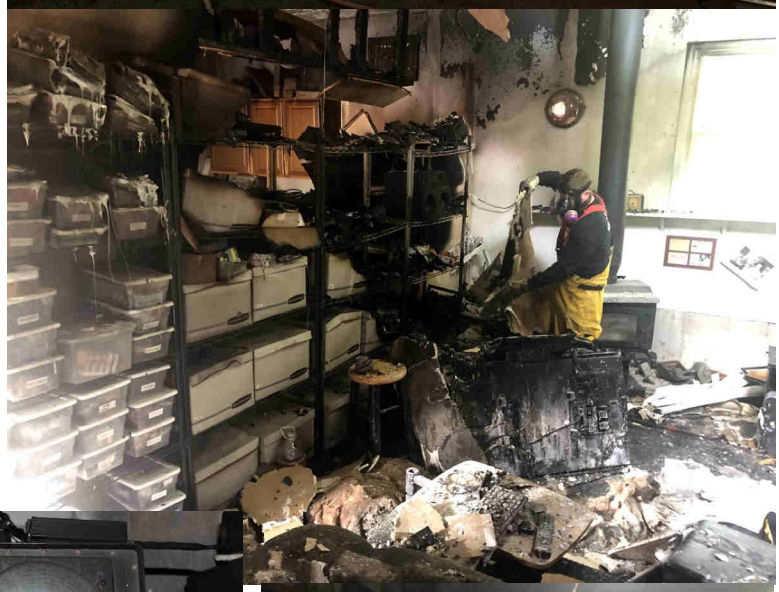
Dave is going to rebuild the garage/shack, and will be replacing at least some of the gear, once insurance issues are settled (and the rebuilt building is ready)

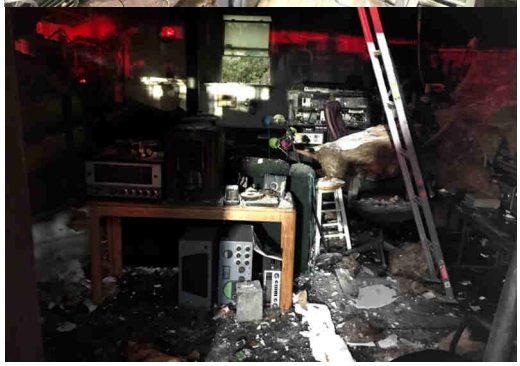
You can read more about both incidents at these links:

Entire shack/shop/man cave lost to fire tonight | QRZ Forums

This is just NUTS!!!!! ANOTHER fire averted... thank God | QRZ Forums

Selected photos below are from these links, courtesy of and ©Copyright 2020 Dave Ellison W7UUU





ARRL Asks FCC to Allow 3.4 GHz Operation until Spectrum is Occupied

American Radio Relay League

Newington, CT, November 26th, 2020 – In comments to the FCC, ARRL has argued that radio amateurs be allowed to continue shared operation in the 3.4 GHz band until 5G licensees who purchase the spectrum when the FCC puts it up for auction initiate incompatible operations. In its *Further Notice of Proposed Rulemaking* (***FNPRM***) in WT Docket 19-348, the FCC had proposed to sunset the band for amateur radio in two phases, governed by when new licenses are issued rather than when the new licensees begin to use the spectrum. In the *FNPRM*, the FCC solicited comments on whether alternatives exist to its proposal.

"Amateur activities further the public interest and should be permitted to continue on a secondary basis unless and until a new primary licensee is ready to occupy the spectrum in a preclusive manner," ARRL told the FCC. "At a minimum, amateur operations should be permitted to continue indefinitely in the 3.3 – 3.45 GHz spectrum, where no new flexible licenses are under immediate consideration. The Commission could consider whether a registration or other mechanism similar to that found in Section 97.303(g) would facilitate avoiding interference."

Section 97.303(g) contains specific frequency-sharing requirements for the 2200- and 630-meter amateur bands. ARRL said its comments were without prejudice to its pending *Petition for Reconsideration* of the FCC proposal to delete the amateur secondary allocation from the entire 3.3 – 3.5 MHz band.

ARRL noted that some 1,000 comments have been submitted by individual amateurs and amateur organizations at the initial stage of this proceeding. Those included one from the Emergency Communications Coordinator in the California Governor's Office of Emergency Services, who wrote: "Over the years the State of California Governor's Office of Emergency Services Public Safety Communications Tactical Communications Unit has utilized Radio Amateur Television product during fire operations to gather intel and monitor threats to communications sites being affected by fires and fire weather events… Part of the backbone of the [amateur radio television] system utilizes the 3-GHz spectrum, and due to heavy spectrum usage in the 1.2 and 5.8 GHz spectrum, the 3 GHz spectrum becomes very important for frequency diversity supporting these networks…"

As ARRL noted, "Amateurs often select the 3.4-GHz spectrum precisely because other spectrum choices are sub-optimum or simply not available. Amateurs also are only secondary users on most of the other spectrum suitable for similar purposes," ARRL said. "Links must be carefully engineered because of that secondary status, which applies to most of the 2.4- and all of the 5.8-GHz bands available to amateurs. In many geographic areas, it is a misconception that the 3.4 GHz operations easily can be moved to other bands."

ARRL emphasized the importance of allowing amateurs to continue to use the 3.4 – 3.45 GHz portion in particular. "As stated by commenters during the initial stage of this proceeding, some of the equipment commonly used in this band for network linking cannot be re-channeled below 3.4 GHz," ARRL said.

ARRL pointed out that in many geographic areas it could be years before the 3 GHz spectrum is actually put into use by commercial users, and argued that amateur radio should be allowed to continue to operations on a secondary, non-interference basis as it has done for decades with federal primary users, until new uses actually begin, rather than when licenses are issued.

ARRL Seeks Waiver of Proposed FCC Amateur Application Fees

American Radio Relay League

Newington, CT, November 19th, 2020 – ARRL has urged the FCC to waive its proposed $50 amateur radio application fee. The Commission proposal was made last month in a *Notice of Proposed Rulemaking* (***NPRM***) in MD 20-270. The proposal already has drawn more than 3,200 individual comments overwhelmingly opposed to the plan. The fees, directed by Congress and imposed on all FCC-regulated services, are to recover the FCC's costs of handling and processing applications.

"Amateur radio applications were not listed when the Congress adopted its 1985 fee schedule for applications, and therefore amateur license applications were excluded from the collection of fees," ARRL said on November 16th in its **formal comments** on the proposal. "Similarly, a decade later when regulatory fees were authorized, the Amateur Service was excluded, except for the costs associated with issuing vanity call signs." The new statutory provisions are similar. Amateur radio license applications are not addressed in the application fees section and explicitly excluded from regulatory fees," ARRL said, and there is "no evidence of any intent by Congress to change the exempt status of amateur applications and instead subject them to new fees."

ARRL argued that the FCC has explicit authority to waive the fees if it would be in the public interest, and should do so for the Amateur Radio Service. Unlike other FCC services, the Amateur Radio Service is all volunteer and largely self-governing, with examination preparation, administration, and grading handled by volunteers, who submit licensing paperwork to the FCC, ARRL pointed out.

"Increasingly, the required information is uploaded to the Commission's database, further freeing personnel from licensing paperwork as well as [from] day-to-day examination processes," ARRL said. "The addition of an application fee will greatly increase the complexity and requirements for volunteer examiners."

The Communications Act, ARRL noted, also permits the FCC to accept the volunteer services of individual radio amateurs and organizations in monitoring for rules violations. In 2019, ARRL and the FCC signed a memorandum of understanding to renew and enhance the ARRL's Volunteer Monitor program, relieving the Commission of significant time-consuming aspects of enforcement.

These volunteer services lessen the regulatory burden — including the application burden — on the Commission's resources and budget in ways that licensees in other services do not, ARRL said.

Amateur radio's role in providing emergency and disaster communication, education, and other volunteer services also justifies exempting radio amateurs from FCC application fees. For example, ARRL noted, last year more than 31,000 participated as members of the ARRL Amateur Radio Emergency Service (ARES), and local ARES teams reported taking part in more than 37,000 events, donating nearly 573,000 volunteer hours, providing a total value of more than $14.5 million.

Amateur radio also has motivated many students to develop critical science, technology, engineering, and mathematics (STEM) skills. ARRL noted that the Amateur Radio Service contributes to the advancement of the radio art, advances skills in communication and technology, and expands the existing reservoir of trained operators, technicians, and electronics experts — all expressed bases and purposes of the Amateur Radio Service.

"Accomplishing these purposes entails working with young people, many of whom may have difficulty paying the proposed application fees of $50, $100, or $150," ARRL said. "The $150 fee would be the cost of passing the examinations for the three amateur license levels in three examination sessions," ARRL said. "Such multiple application fees to upgrade would dampen the incentive to study and demonstrate the greater proficiency needed to pass the examinations for the higher amateur classes."

ARRL concluded that the FCC should exercise its authority to exempt amateur radio from application fees generally. If the FCC cannot see its way clear to waive fees for all amateur radio license applications, the fees should be waived for applicants age 26 years and younger. Such individuals, ARRL contended, have the most to contribute to the future of radio technology and other STEM-related activities and are the most likely to find the proposed application fees burdensome.

Arecibo Radiotelescope Destroyed

Associated Press

Photo Courtesy of the American Radio Relay League

Arecibo, Puerto Rico, December 1st, 2020 (AP) — A huge, already damaged radio telescope in Puerto Rico that has played a key role in astronomical discoveries for more than half a century completely collapsed on Tuesday.

The telescope's 900-ton receiver platform and the Gregorian dome — a structure as tall as a four-story building that houses secondary reflectors — fell onto the northern portion of the vast reflector dish more than 400 feet below.

The U.S. National Science Foundation had earlier announced that the Arecibo Observatory would be closed. An auxiliary cable snapped in August, causing a 100-foot gash on the 1,000-foot-wide (305-meter-wide) dish and damaged the receiver platform that hung above it. Then a main cable broke in early November.

The collapse stunned many scientists who had relied on what was until recently the largest radio telescope in the world.

"It sounded like a rumble. I knew exactly what it was," said Jonathan Friedman, who worked for 26 years as a senior research associate at the observatory and still lives near it. "I was screaming. Personally, I was out of control.... I don't have words to express it. It's a very deep, terrible feeling."

Friedman ran up a small hill near his home and confirmed his suspicions: A cloud of dust hung in the air where the structure once stood, demolishing hopes held by some scientists that the telescope could somehow be repaired.

The collapse at 7:56 a.m. on Tuesday wasn't a surprise because many of the wires in the thick cables holding the structure snapped over the weekend, Ángel Vázquez, the telescope's director of operations, told The Associated Press.

"It was a snowball effect," he said. "There was no way to stop it.... It was too much for the old girl to take."

He said that it was extremely difficult to say whether anything could have been done to prevent the damage that occurred after the first cable snapped in August.

"The maintenance was kept up as best as we could," he said. "(The National Science Foundation) did the best that they could with what they have."

Installing a new telescope would cost up to $350 million, money the NSF doesn't have, he said, adding it would have to come from U.S. Congress.

"It's a huge loss," said Carmen Pantoja, an astronomer and professor at the University of Puerto Rico who used the telescope for her doctorate. "It was a chapter of my life."

Scientists worldwide had been petitioning U.S. officials and others to reverse the NSF's decision to close the observatory. The NSF said at the time that it intended to eventually reopen the visitor center and restore operations at the observatory's remaining assets, including its two LIDAR facilities used for upper atmospheric and ionospheric research, including analyzing cloud cover and precipitation data. The LIDAR facilities are still operational, along with a 12-meter telescope and a photometer used to study photons in the atmosphere, Vázquez said.

The telescope was built in the 1960s with money from the Defense Department amid a push to develop anti-ballistic missile defenses. It had endured hurricanes, tropical humidity and a recent string of earthquakes in its 57 years of operation.

The telescope has been used to track asteroids on a path to Earth, conduct research that led to a Nobel Prize and determine if a planet is potentially habitable. It also served as a training ground for graduate students and drew about 90,000 visitors a year.

"I am one of those students who visited it when young and got inspired," said Abel Méndez, a physics and astrobiology professor at the University of Puerto Rico at Arecibo who has used the telescope for research. "The world without the observatory loses, but Puerto Rico loses even more."

He last used the telescope on August 6th, just days before a socket holding the auxiliary cable that snapped failed in what experts believe could be a manufacturing error. The National Science Foundation, which owns the observatory that is managed by the University of Central Florida, said crews who evaluated the structure after the first incident determined that the remaining cables could handle the additional weight.

ARRL Foundation Scholarship Application Deadline

John Lewis AI3I, Affiliated Club Coordinator, WPA Section

Ford City, PA November 25th, 2020 – Our Section Manager, Mr. Joe Shupienis W3BC, has asked me to share the following with you…:

The ARRL Foundation scholarship application period for the academic year 2021 ends on December 31st, 2020. The Foundation issued nearly $300,000 in scholarships in 2020 and for the academic year 2021 there has been a significant increase in the number of large dollar scholarships thanks to a generous contribution from the Amateur Radio Digital Communication group (ARDC).

For the academic year 2021, there are two new $25,000 scholarships, thirteen $10,000 scholarships, nine $5,000 scholarships as well as dozens of $1,000 and $500 scholarships.

A description of the many scholarships available is online: http://www.arrl.org/scholarship-descriptions

It is also very easy to apply as scholarship applications are online: http://www.arrl.org/scholarship-application

Since only amateur radio operator students may apply, the chances of being selected for a scholarship are good. It would be a shame for your members to miss this opportunity. Please place a notice in your December Newsletter or send a separate e-mail to your Section to let your members know that the ARRL Foundation offers over 100 scholarships and it only takes a simple online application to apply.

Since 1973, the ARRL Foundation, with the generosity of many donors and the hard work of a long line of dedicated Foundation Directors, has had a positive impact on the lives of many amateur radio operator students. To ensure that this positive impact does not wane, I ask each of you to timely notify your members of this opportunity. Being awarded an ARRL Foundation scholarship could mean the difference in whether a student can pursue their education in 2021 or not.

Thank you and the Foundation and I wish all of you a Happy Thanksgiving, a Merry Christmas and a Happy New Year.

Dr. David Woolweaver K5RAV, President, ARRL Foundation

21st Annual WASH Two Meter Contest Rules

This January will mark the Twenty-First Annual **WASH** 2 Meter Contest. We're looking forward to a chance to stretch our legs, our wheels, and our antennas once again!

Unfortunately, there's no way to know if we're having ***WASH*fest** at this time, so we can't guarantee the typical door-prize ticket awards, but you can still expect a fun operating event where you can hear some old friends, and maybe make some new ones! See you on the air!

- 73, Chuck Bihun III KC3ELA

Date & Times: Saturday, January 9th , 2021 from 7 to 11 PM EST. (That's January 10th 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: **** Correct Address for 2021 ****

WASH 2 Meter Simplex Contest
c/o Charles Bihun KC3ELA
4144 Lebanon Church Road
West Mifflin, PA 15122

Enclose a #10 SASE for return of results.

Entry Deadline: February 1st, 2021

Each log submitted on or before the deadline will receive one (1) main prize ticket to *WASH*Fest 2021 (Unless cancelled.)

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:

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.

More information about the frequency selection can be found in the FAQ section on Page 5 of the Contest Rules, Log Sheets, and other information found on the **WASH** web site, http://www.n3sh.org.

Hamvention Announces It's 2021 Theme: "The Gathering"

American Radio Relay League

Newington, CT, November 23rd, 2020 – "The Gathering" will be the theme for the 2021 Dayton Hamvention®. Hamvention General Chair Rick Allnutt WS8G said the theme reflects what has been missing from our lives most of this year.

"We have spent the last 6 months being bound to our houses and small groups," he said. "We are very optimistic that when May arrives, we will be allowed to get together."

Allnut, a medical doctor with a master's degree in public health, said Hamvention management is closely following the coronavirus situation and believes it will improve enough by May that government restrictions on travel and large groups will be relaxed. The Hamvention team will continue to follow developments.

"We hope we will all be able to get together, talk about ham radio, and share the interaction we have missed," Allnutt said. "The Gathering" theme acknowledges the role that Hamvention plays in amateur radio.

Hamvention 2021 will be held May 21st – 23rd at the Greene County Fairgrounds and Expo Center in Xenia, Ohio.

Neutron-1 Scheduled for Deployment November 5th

Hawaii Space Flight Lab, University of Hawaii via AMSAT News Service

Kensington, MD, November 1st, 2020 – The 3-U **Neutron-1 CubeSat** is scheduled for deployment from the International Space Station (ISS) on November 5th at 10:40 UTC. For the satellite's first month and during its commissioning phase, the Neutron-1 beacon will transmit 1,200 bps BPSK **telemetry** every 60 seconds on 435.300 MHz. Developed by the Hawaii Space Flight Laboratory (HSFL) at the University of Hawaii at Manoa (UHM), the satellite's payload includes a VU FM amateur radio repeater during available times and according to the spacecraft's power budget. The Neutron-1 science mission is spelled out in a **formal paper**, *Neutron-1 Mission: Low Earth Orbit Neutron Flux Detection and COSMOS Mission Operations Technology Demonstration*. HSFL operates and maintains a satellite UHF, VHF, and L/S-band amateur radio ground station at Kauai Community College.

The primary mission of Neutron-1 is to measure low-energy neutron flux in low-Earth orbit (LEO). The science payload, a small neutron detector developed by Arizona State University, will focus on measurements of low-energy secondary neutrons — a component of the LEO neutron environment.

A number of other amateur radio satellites are expected to launch or be deployed in the next few months. AMSAT's RadFxSat-2 (Fox-1E) is expected to go into orbit by year's end on Virgin Orbit's LauncherOne vehicle. RadFxSat-2 carries a 30 kHz wide VU linear transponder.

The Tevel Mission — a series of eight Israeli 1U CubeSats, each carrying a UV FM transponder — is expected to launch from India on a SpaceX Falcon 9 rocket in December. Also from the Herzliya Science Center is a 3U CubeSat called Tausat-1, which is scheduled to launch on a Japan Aerospace Exploration Agency (JAXA) ISS resupply mission in February for subsequent deployment. Tausat-1 carries an FM transponder.

AMSAT-Spain (**AMSAT-EA**) reports that its PocketQubes, EASAT-2, and HADES, have been integrated for launch on a SpaceX Falcon 9 in December, while GENESIS-L and GENESIS-N have been integrated for launch on Firefly's Alpha rocket.

In other amateur satellite news, Jérôme LeCuyer F4DXV set yet another record, this time via EO-88, on October 28th, working Vladimir Vassiljev R9LR at a distance of 4,560 kilometers (2,827 miles). F4DXV is now a distance-record contact partner on 10 LEO satellites, while R9LR is a contact partner for records set on four LEO satellites. AMSAT tracks claimed **distance records**.

ARRL Announces Director, Vice Director Results

American Radio Relay League

Newington, CT, November 22nd, 2020 – The ARRL Dakota Division will have a new Director, and the Great Lakes and Midwest Divisions will have new Vice Directors on January 1st. The results of four contested elections for Director and Vice Director in three ARRL Divisions were announced on November 20th. after ballots were tallied at ARRL Headquarters.

In the Dakota Division, incumbent Matt Holden KØBBC, lost his re-election bid to challenger Vernon "Bill" Lippert ACØW. The vote was 982 to 485. Holden had served as Director since 2018.

In the Great Lakes Division, incumbent Director Dale Williams WA8EFK retained his seat in a challenge from Michael Kalter, W8CI. The vote was 1,840 to 1,398. In a three-way contest for Great Lakes Division Vice Director, Ohio Section Manager Scott Yonally N8SY received 1,670 votes to outpoll Jim Hessler K8JH, with 975 votes, and Frank Piper KI8GW who received 611 votes. Incumbent Vice Director Tom Delaney W8WTD did not run for another term.

In the Midwest Division, Dave Propper K2DP will become the new Vice Director in January. He received 1,164 votes to 623 votes for challenger Lloyd Colston KC5FM. Current Vice Director Art Zygielbaum KØAIZ will become the new Director in January. He was unopposed to succeed incumbent Director Rod Blocksome KØDAS who did not seek a new term.

Declared Elected without Opposition

- In the Atlantic Division, Director Tom Abernethy W3TOM, who has held the seat since 2015, and Vice Director Bob Famiglio K3RF, elected to a 3-year term (2015 – 2018) and then appointed in 2019 to fill a vacancy when the incumbent stepped down.
- In the Dakota Division, Vice Director Lynn Nelson WØND, in office since 2018.
- In the Delta Division, Director David Norris K5UZ, who's served in that office since 2012, and Vice Director Ed Hudgens WB4RHQ, appointed in 2013.
- In the Midwest Division, current Vice Director Art Zygielbaum KØAIZ, will become the new Director in January, succeeding incumbent Rod Blocksome KØDAS, who is stepping down. Zygielbaum has been Vice Director since 2014.

All newly elected officials take office at noon on January 1st, 2021.

Yasme Foundation Excellence Awards

Ward Silver NØAX, President

St. Charles, MO, November 26th, 2020 –The Yasme Excellence Award is presented to individuals and groups who, through their own service, creativity, effort and dedication, have made a significant contribution to amateur radio. The contribution may be in recognition of technical, operating or organizational achievement, as all three are necessary for amateur radio to grow and prosper. The Yasme Excellence Award is in the form of a cash grant and an individually-engraved crystal globe.

The Board of Directors of The Yasme Foundation is pleased to announce the latest recipients of the Yasme Excellence Award:

Brett Ruiz PJ2BR and Helena Ruiz PJ2ZZ

Brett and Helena have been active leaders of VERONA for more than twenty years, including technical activities, disaster preparedness and relief, as well as training potential licensees. They act as liaisons to government and international organizations, as well as contributing to important events such as GAREC and IARU assemblies and meetings. Brett is also active in pursuing long -distance VHF propagation and digital communications.

Bob Wilson N6TV

Yasme recognizes Bob's technical support to literally hundreds of hams through various radio manufacturer's user groups, to logging software communities, and the detailed assistance he provides to Reverse Beacon Network hosts, keeping their equipment configured and running. Bob also provides invaluable support to traveling hams worldwide when they most need help. Along with being technically talented he is exceptionally selfless in using that talent to help others, quick to encourage others in many areas.

Jari Perkiömäki OH6BG

Jari has supported the online VOACAP software and website, www.voacap.com, for almost 20 years, without compensation, making world-class HF propagation prediction and modeling services available to any radio amateur. He believes in team work, acknowledging the contributions and ideas from all of the ham community for further development of the service, but especially from James Watson M0DNS/HZ1JW and Juho Juopperi OH8GLV. He estimates that today VOACAP Online serves thousands of users, with visits from more than 100 countries every month, including integration with the DX Summit and Club Log services. He is part of the Radio Arcala, OH8X team and acts as a propagation specialist, assisting the WRTC community, RSGB and others.

Jim Brown K9YC

Amateurs worldwide have benefited from his extensive contributions to amateur radio regarding ferrite materials and their use in combating RF interference, feed line applications, and transformers. His efforts to improve transmitter performance and operating practices are also greatly appreciated, as are the extensive set of personal publications available to the public and performing reviews of technical material for amateur radio publishers.

The Yasme Foundation is a not-for-profit corporation organized to support scientific and educational projects related to amateur radio, including DXing (long distance communication) and the introduction and promotion of amateur radio in developing countries. For additional information about The Yasme Foundation, visit our website at www.yasme.org.

The U.S. Postal Service is temporarily suspending international mail acceptance for certain destinations due to service impacts related to the COVID-19 pandemic.

As of November 13th:

Suspension Due to Foreign Postal Operator Service Suspension:

Libya, Madagascar, Panama ,Turkmenistan

Suspension Due to Unavailability of Transportation:

Angola, Guadeloupe, Republic of Congo, South Sudan, Brunei, Liberia, Reunion (Bourbon), Tajikistan, Chad, Martinique, St. Pierre & Miquelon, Timor-Leste, Cuba, Mauritius, Seychelles, Yemen, French Guiana, Niger, Sierra Leone

Postal Customers are asked to please refrain from mailing items addressed to the countries listed above, until further notice.

For more details, see: https://about.usps.com/newsroom/service-alerts/international/welcome.htm

DX News Briefs

LZ2Ø2ØSMAS will be QRV through 1 January, 2021. QSL via LZ1VKI

TM2ØXMAS and **TM21HNY** will be QRV to celebrate the Christmas and New Year holidays. QSL via F4GPB

8Q7AR will be QRV from Saii Lagoon (AS-013) through 4 December, holiday style on the FM and SSB satellites.

IK5WRF reports that IU5HWS has received his license as **YI9WS** on 25 November. He is on active duty and will be QRV as time permits, on a dipole, SSB between 15 and 80. All **YI9/IU5HWS** QSOs will be confirmed via mail. QSL as directed.

EP3CQ will be QRV through mid-January as **6O1OO**, as time permits. He will be on 160 -6, CW SSB & FT8, with focus on 40 & 20 FT8. QSL direct only to his address in Germany.

S53R has been QRV as **T6A** and **T6AA** since September 2019, and will be there for another year. Increases in local QRM have made low band operation virtually impossible for him, and other operation very difficult.

G6FJY, who has been QRV as HSØZIB and XZ2A, is now QRV as **XWØLP**, 160 – 20, FT8 and SSTV. He is not permitted 60 meters at this time. Please do not QSL at present, due to the postal service in Laos being suspended due to COVID-19.

K6ZO has been issued **D6ØAB** for an unknown length of stay, 160 – 10. QSL via K6ZO direct.

SN3ISS will be QRV through 21 December to celebrate the 20th anniversary of active amateur radio communication service aboard the International Space Station. More information at https://ariss.pzk.org.pl/20yHAMonISS

DL7BO will soon be QRV as **5T7OO** for an extended period of time. QSL via DJ6TF

A group of 10 operators will be QRV as **7C9B** from OC-150 through 10 December, 160 – 10, SSB & FT8. QSL via DL3KAZ

4X6T will be QRV from the Tel Beersheba UNESCO World Heritage Site 25 – 26 December. QSL via 4Z5LA

CT7AQD will be QRV as **CQ75ØRSI** throughout 2021 to celebrate the 750th anniversary of the birth of Queen Saint Isabel. More details available on his QRZ.COM page.

DL4MM will be QRV as **P44AA** 29 – 31 January during the CQ 160 CW Contest. QSL via DL4MM

Radio Club Talcahuano CE5TH plans to activate six Lighthouse during South American Lighthouse Weekend in February 2021. Look **for 3G5C, 3G5H, 3G5I. 3G5P, 3G5S** and **3G5T**. QSL as directed.

OZ2I reports that the **XP9I** operation had to be cancelled due to COVID-19 concerns.

QSL Routes

3D2TS via MØOXO
3E1FP via HP3BSM
3G3G via EA5GL
3V8SS via LX1NO
4U75B via 9A2AA
5B4AAB via G8CLY
5B4AMM via UT5UDX
7C9B via DL3KZA
8P1W via KU9C
8Q7ZO via OHØXX
9AØDIG via 9A3SM
9K2K via EC6DX
9V1VV via EA5GL
A25SL via N4GNR
A45ØMO via A47RS
A61DL via A61BK
A91UAE via EC6DX
AU2JCB via VU2DSI
AU6JCB via VU2LR
C6AGU via HA7RY
C6AGU via HA7RY
CE2SV via N7RO
CN8PL via RW6HS
CO9JAB via IK2DUW
CR2X via OH2BH
CR3W via DL5AXX
D2XX via CT1CRS
DPØGVN via DL5EBE
EA6FO via EA3M
EH2EUS via EA2TP
GIØVWU via M5DIK
GN4BJC via M5DIK
HC1M via EA5GL
HC3RJ via EA5GL
HF2ØISS via SP5PMD
HF7ISS via SP7O
HG12ØBAY via HA5GY
HP2DFA via EC6DX
HZ1UAE via HZ1SAR
JW7GIA via MØOXO
KP2B via EB7DX
KP3DX via N4AO
LZ7G via LZ1NK
LZ8E via LZ2BE
LZ2Ø2ØXMAS via LZ1VKI
MX1SWL via M5DIK
NP2J via K8RF
OE25JML via OE5JML
OHØR via OH2PM
OL1A via OK1CW
P4ØW via N2MM
P43K via RW6HS
P44AA via DL4MM
SI9AM via SM3FJF
SM5X via SM5GMZ
SNØLEWIN via SP2KPD
TC61CAT via TA3LCK
TG9ADM via EA5GL
TG9ADQ via VE7BV
TI2VVV via EC6DX
TI7W via MØURX
TM2ØXMAS via F4GPB
TM21HNY via F4GPB
V31PS via MØOXO
V51LZ via EA5GL
VK9LF via VK4YQS
WP3C via W3HNK
YBØAR via EB7DX

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.

WASH Classifieds

Information shown here is as supplied to the ***WASH*Rag**. 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 ***WASH*Rag** or the **WIRELESS ASSOCIATION OF SOUTH HILLS, INC.**

The ***WASH*Rag** 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 https://www/jeffk1nss.com !

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

US Amateurs by Class as of November 30th , 2020:

	Novice	8,383
	Technician	423,023
	General	190,161
	Advanced	39,370
	Extra	156,599
	Club	12,603
	Total	**830,139**
All-Time High	11/24/2020	830,234
Last 90 Days:	New Amateurs	9,169
	Callsign Changes	2,923
	Class Changes	3,277
	No Longer Licensed	5,126
	All Updates (*)	30,486

(*) Includes renewals, address changes, etc.
Information gathered from FCC Daily Updates, courtesy of Hamdata.com

Latest Region 3 Sequential Calls Issued as of November 30th, 2020 :

Group A	AC3GW
Group B	KF3EU
Group C	(none available / all issued)
Group D	KC3QQB

Information gathered from FCC Daily Updates, courtesy of Hamdata.com

If you've downloaded the ***WASH*Rag** 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?

FCC News

Courtesy of the American Radio Relay League

Newington, CT, November 30th, 2020 – FCC Chairman Ajit Pai has **announced** that he intends to leave the Commission on January 20, 2021, as the Biden Administration comes into office. The FCC chairman is appointed by the president.

"It has been the honor of a lifetime to serve at the Federal Communications Commission, including as Chairman of the FCC over the past 4 years," Pai said. "I am grateful to President Trump for giving me the opportunity to lead the agency in 2017, to President Obama for appointing me as a Commissioner in 2012, and to Senate Majority Leader McConnell and the Senate for twice confirming me. To be the first Asian-American to chair the FCC has been a particular privilege. As I often say: only in America."

The FCC has five members, typically three from the party in the White House.

ARRL has submitted comments on two draft recommendations approved in October by the FCC's World Radiocommunication Conference Advisory Committee (WAC). The comments focus on draft recommendations for World Radiocommunication Conference 2023 (WRC-23) Agenda Item (AI) 1.2. AI 1.2 will consider the identification of frequencies in the 3.3 – 3.4 GHz and 10.0 – 10.5 GHz bands, among others, "for International Mobile Telecommunications (IMT), including possible additional allocations to the mobile service on a primary basis," in accordance with WRC-19 Resolution 245. ARRL urged no change to the 3.3 – 3.4 GHz international secondary allocation to the Amateur Service in ITU Regions 2 (the Americas) and 3 (Oceania), and no change to the 10.0 – 10.5 GHz worldwide secondary amateur and amateur-satellite allocation.

"Radio amateurs make substantial use of both bands," ARRL said in its comments. "They have conducted experiments and designed systems that protect primary users. The lack of interference complaints is evidence that they have been successful in doing so. In this manner, new spectrum horizons are explored and new techniques are developed that put spectrum to productive use that otherwise would represent lost opportunities and waste of the natural resource."

ARRL stressed that the WAC preliminary views make no suggestion that the international secondary allocations to the Amateur Service should not continue in both bands. ARRL said it wanted to reaffirm that these secondary allocations continue to be important and useful and that WRC-23 should not consider changing either secondary allocation.

"Sharing between primary users and secondary amateur radio users has been highly successful, and the US domestic Table reflected the International allocations until this year," ARRL said. In September, however, the FCC adopted an *Order* to delete the secondary amateur and amateur-satellite allocations in the 3.3 – 3.5 GHz band. Amateur radio operations may continue on a secondary basis, subject to decisions to be made on issues raised in a *Further Notice of Proposed Rulemaking* in the proceeding, WT Docket 19-348.

ARRL maintained that amateur radio should remain secondary in the international allocations at 3.3 – 3.4 GHz "until more is known about the technical characteristics of equipment that will be used by new services and the extent of geographic build-out."

With regard to 10.0 – 10.5 GHz, ARRL noted that it has been used for many amateur terrestrial experiments and tests that have helped to develop the technical characteristics of the band. The band also is heavily used throughout much of the world as the downlink for the Qatari amateur satellite Es'hail-2 (QO-100).

ARRL noted that radio amateurs utilizing the secondary spectrum at 3.3 – 3.4 GHz and 10.0 – 10.5 GHz "have developed and honed their equipment and capabilities to share with the existing services."

"The Amateur Service has earned its reputation for making careful and non-preclusive use of its secondary allocations and will continue doing so," ARRL concluded. "Therefore, we respectfully request that the Amateur Service and Amateur-Satellite Service be continued as secondary services in the above bands."

WASHfest 2021

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

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

Sunday, February 28th, 2021

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

Home Economics Building, South Park

3735 Buffalo Drive, South Park Township, PA 15129

Behind the Allegheny County Police Station on Brownsville Road

Talk-In on 146.955(-) and 443.650(+) 131.8 PL

Donation $5

(800) 545-8881

Breakfast & Lunch will be available!

FREE Coffee for the entire Hamfest courtesy of HAM RADIO INSURANCE ASSOCIATES of Canonsburg, PA

MAIN PRIZES — *You've Got to Play to WIN!*

First Prize:	To Be Announced
Second Prize:	To Be Announced
Third Prize:	To Be Announced

Additional Hourly Door Prizes! 2 Special Black Box Prizes (Separate Drawing)!

Main Prize tickets are $2.00 each, 3 for $5.00, 7 for $10, 15 for $20, 40 for $50, 90 for $100

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, 2021.

Reservations received after February 1st, 2021 must include payment in full.

Reserve now… we have sold out in advance eleven 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 = _____

Tables WITHOUT Electricity: _____ X $12.00 = _____

5 Or More Tables w/o: _____ X $10.00 = _____

Please make all checks payable to:
WIRELESS ASSOCIATION OF SOUTH HILLS
PLEASE MAIL RESERVATION TO:
*WASH*FEST 2021
C/O CAROL DANKO KB3GMN
4246 Seton Drive
Pittsburgh, PA 15227-1244

We reserve the right to resell any tables not occupied by 8 AM, unless prior arrangements have been made!

WIRELESS ASSOCIATION OF SOUTH HILLS, INC.

Membership Application, New or Renewal

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

(check quarter →) (check one ↓)	☐ **1st Qtr Jan-Mar**	☐ **2nd Qtr Apr-Jun**	☐ **3rd Qtr Jul-Sept**	☐ **4th Qtr Oct-Dec**
☐ (F1) Full Membership:	$20.00	$15.00	$10.00	$5.00
☐ (F2) Full Membership < 18 or > 65 yrs of age:	$10.00	$7.50	$5.00	$2.50
☐ (A1) Associate Membership:	$10.00	$7.50	$5.00	$2.50

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

Name(s): _____ _____

Name: _____ **Call Sign:** _____

Address: _____ **License Class:** _____

City, State: _____ **Expires On:** _____

Home Phone: _____ **Work Phone:** _____

Email Address: _____ **Birthday:** _____

New Members Only:
☐ **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]

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

Date: _____

Signature: _____

Amount Enclosed: $_____

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

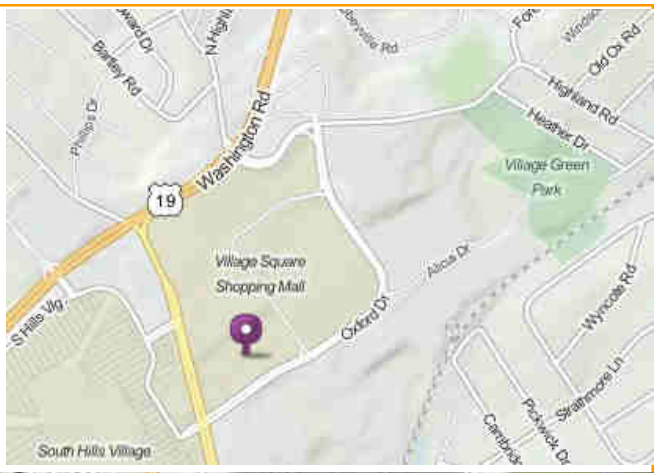
Please make your check or money order payable to the club treasurer, Mark Stabryla.
The Wireless Association of South Hills, Inc. reserves the right to accept or reject new memberships or renewals.
Please return completed membership form along with check/money order to the club treasurer or mail to:

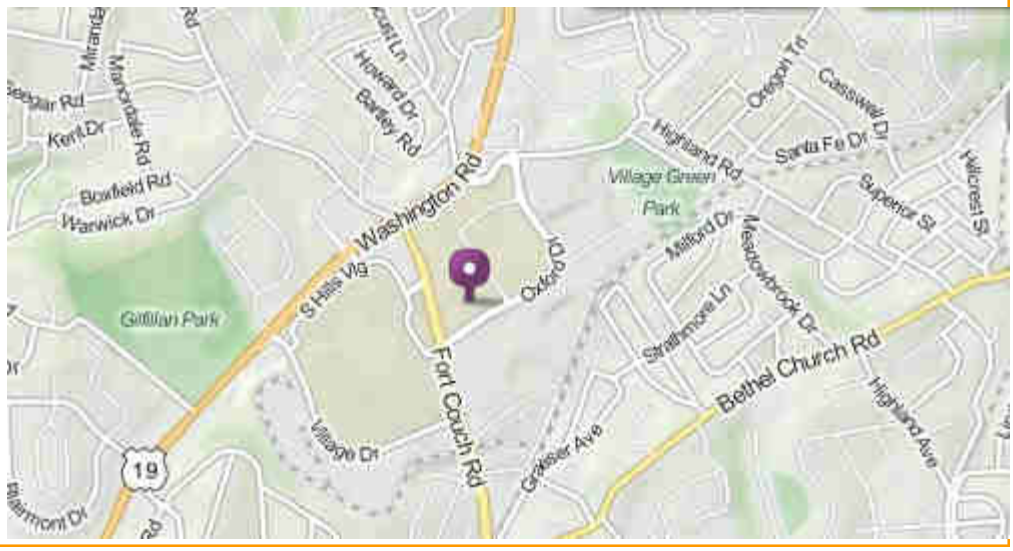
WIRELESS ASSOCIATION OF SOUTH HILLS, INC.
c/o Mark Stabryla N3RDV, VP/Treasurer
1120 McKnight Drive
Bethel Park, PA 15102-2456

2020 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 *WASH*Rag
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