

# KBARA Gazette

Quarterly Journal of the Kamiak Butte Amateur Repeater Association

Fall 2020

## Proposed FCC Amateur License Fees

In my September 2020 Northwest Division Newsletter we discussed newly proposed FCC mandated fees for amateur radio licenses and other transactions.

A refresher: Under the proposed fee structure amateur radio licensees would pay a \$50 fee for each amateur radio license transaction. Included in the FCC's fee proposal are applications for new licenses, renewal and upgrades to existing licenses, vanity call sign requests, and even for official copies of amateur licenses. Excluded are applications for administrative updates, such as changes of address. The FCC proposal is contained in a Notice of Proposed Rulemaking (NPRM) in MD Docket 20-270, which was adopted to implement portions of the "Repack Airwaves Yielding Better Access for Users of Modern Services Act" of 2018 — the so-called "Ray Baum's Act."

The Act requires that the FCC switch from a Congressionally-mandated fee structure to a cost-based system of assessment. In its NPRM, the FCC proposed application fees for a broad range of services that use the FCC's Universal Licensing System (ULS), including the Amateur Radio Service that had been excluded by an earlier statute. The 2018 statute excludes the Amateur Service from annual regulatory fees, but not from application fees.

The ARRL has been notified that the NRPM was formally published in yesterday morning's Federal Register (<https://tinyurl.com/yk8f2yp>). The Register notes the deadline for comments on the NPRM is November 16, and the Reply comment deadline is November 30.

I would highly recommend that all amateurs submit comments to the FCC regarding this repressive NRPM. Not only our wallets, but the possible long term viability of this wonderful hobby depends on it! If you would like to submit a comment on this proceeding, the official FCC website address is: <https://www.fcc.gov/ecfs/filings>. Where it asks for: Proceeding(s), type in: 20-270.

ARRL FCC Counsel, David Siddall, K3ZJ has provided us all information and suggestions that would be very helpful for those submitting comments:

"Arguments against FCC Fees for Radio Amateurs:

Amateurs contribute to the public good. In many areas they provide an emergency communications backbone capability at no taxpayer cost. Consistently we have witnessed storms and natural disasters completely wipe out internet, cellular, and other means of communication. Radio amateurs often fill that void on an unmatched, flexible basis when needed. One recent example is the California wildfires.

Unlike operators in other FCC licensed services, Amateur Radio operators by law – domestic and international -- must eschew using their license for any pecuniary interest. Amateurs are prohibited from earning or charging any money for any communications activity.



## Proposed FCC Amateur License Fees continued...

The expenses for their equipment and activities come out of their own pockets, with no opportunity for reimbursement or payment of any kind.

The United States is experiencing a severe lack of RF engineers and expertise at the very time it is needed by the burgeoning wireless industries. Amateur radio is helping to meet the deficit, but much more is needed and youngsters (High School and College-aged) are least able to afford licensing fees. RF knowledge and related digital expertise is needed to maintain U.S. leadership in wireless industries. At a minimum, young people (below the age of 26) should be exempt from the proposed license fees.

Amateur radio is self-regulating. (a) Amateur examinations are written and administered by radio amateur volunteers. (b) Examination results and paperwork most often are submitted electronically to the FCC. Electronic submission could be required if there would be a cost savings to the Commission. (c) Amateur radio educational classes are conducted by volunteers who by-and-large do not charge fees or tuition for teaching. (d) The amateur service, in cooperation with the FCC's Enforcement Bureau, has a volunteer corps that monitors the amateur airwaves, and has programs that try to prevent their misuse before FCC involvement might be needed. The amateurs also observe non-amateur signals both within amateur spectrum and outside it, and report unusual or suspicious signals.

Amateur radio continues to be a source of significant technological innovation that should be encouraged, not discouraged."

More comments from David, K3ZJ:

"I do not recommend arguing that the \$50.00 fee every 10 years, which amounts to \$5.00 a year, will "kill" amateur radio, even though as proposed this is for each covered application, which includes upgrade applications. Tech-General-Extra could be \$150, if the exams are taken at different sessions, a substantial amount. But it "rings" the wrong way to say the whole service turns on \$5.00/year for each licensee.

The Commission argues that the charges are required by the statute. The word used is "shall", which is mandatory, not optional. But the statute does not set the amount, nor does it prohibit reasonable exceptions – evidenced by the Commission's proposal to exempt from fees administrative update applications based on policy grounds.

This is not "aimed at amateur radio to kill it." There is a long history and precedent on charging fees for the licensing service involved, just as there is for passports, green cards, driver's licenses (issued by states), etc.

Better to make pertinent arguments on why the fees would impair the public benefits of the amateur radio service than argue that the whole service might die as a result of a fee that, in fact, is less than the fee many of us paid in the 1960's and 1970's, including myself as a struggling high school and college student (if adjusted for inflation).



# Proposed FCC Amateur License Fees continued...

For background: this proceeding is being handled by staff unfamiliar with amateur radio. It is being handled in the FCC's Office of Managing Director (OMD), not in the Wireless Telecommunications Bureau where the amateur-specific Part 97 matters are handled. The focus of OMD is accounting – budgets and the like for the entire Commission. The fee proposals cover every FCC license and service across the board and the consideration was directed by Congress. I recommend keeping “ham jargon” out of comments, it won’t be understood by the intended recipients.”

I think that David is right on target here. I recommend, and also urge, that arguments submitted for this petition are both thoughtful and respectful. To do otherwise leaves a very poor light on the hobby we all love. Take what you see here, re-word as necessary so it comes from your heart, and let's get this defeated, (or at the very least, mitigated)!

73;

Mike Ritz, W7VO  
ARRL NW Division Director

## Wednesday Night Net Control Operators Needed

We would like to expand our roster of net control operators for our Wednesday night net. We have a short list who rotate net control duties. It is a short net, usually about 15-20 minutes depending on comments and the number of check ins. The preamble and a software program to assist in identifying call signs and names is available on the On Air Nets page on the KBARA website. Come join the fun and get a little practice running the show for KBARA on Wednesday Nights.

## New Radio from Icom by Scott, KA7FVV

Icom gave the world a sneak peak at a new radio at the Tokyo Hamfair in August of 2019. The IC-705. It is a QRP HF/VHF/UHF all mode including D-Star portable radio. Max output on all available bands is 10 watts. This radio uses the same handheld battery that the ID-51 and 31 have used for years. With the portable battery the output power is 5 watts just like the handhelds noted above. To get the full 10 watts you will need an external 12 volt power supply. The 705 has a lot of the same features that the IC-7300 and IC-9700 base HF and VHF/UHF radios have. One of the obvious similarities is the display. This is the same display used on the base radios and is touchscreen controlled as well. Radio comes with a speaker mic, one battery, and power cord. These are slowly arriving in the US after production was delayed due to the corona-virus. You may hear operators on the air checking in with this radio. I will be one of them as soon as mine arrives. HRO is slowly receiving shipments.





# KBARA Technical Update

by Jim, N7WRR

The Pikes Peak 147.28 repeater and the Stensgar Mt. 147.36 repeater are working well since repairs were made early this year; and the West Twin 147.32 repeater is sounding good after work was completed by Scott KA7FVV.

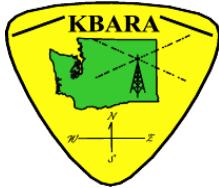
Karl AK2O worked on the 223.90 hub repeater at Stensgar last month, which connects the 147.36, 147.38, 147.28 and links to IRLP and Echolink.

The Bears Group on the west side has been updating their system. Recently Dan AA7JP was working on the system and the west side is sounding better than ever via IRLP.

Lookout Pass 147.02 repeater: On August 6<sup>th</sup> Glen K1RR, Kurt KG7OQY, Bill KG7SJR and I went to KBARA's new Lookout Pass site, and installed a Kenwood TKR-750 repeater, new RLC-4 controller, hardline, and a Commander Technologies antenna on a 40 ft tower. The 147.02 is working well and has coverage that is better than ever, but it is currently stand-alone until we get the UHF link to Mica Peak working. We ordered the parts needed - hard line, connectors, etc, to get the UHF link at Lookout done. Glen and I were scheduled to go back up on October 8<sup>th</sup> but the trip was delayed due to illness. We rescheduled for the 18<sup>th</sup> but upon opening the boxes of parts we ordered, found the wrong parts had been sent. Glen contacted the supplier and they are sending the correct parts. We will try to get to Lookout to complete the work as soon as the correct parts arrive. However, Lookout would still remain a stand-alone repeater until we get the other end of the link repaired at Mica. It currently has coverage to near Missoula throughout the Silver Valley, into Coeur d'Alene and even a few areas in the Spokane area can pick it up.

Mica 147.38 repeater: John W7OE and I went to Mica Peak on August 8<sup>th</sup>. We found the UHF link antenna to Lookout had been moved to a new location with its direction heading almost 90° off; John realigned it. The old UHF link radios need to be replaced, the transmitters to both are not working, and the controller and 220 link radio need to be replaced. It will not be an easy task, though. The controller is very old being one of the original Bears' controllers. There are no plug-ins, with all the wires from each radio being soldered directly onto the mother board of the controller. It is a major task to discern which wires are what. Too we have been searching for new link radios for some time and it is difficult because not many work on our link frequencies in the 430-439 MHz range. The best solution is the Motorola MTR-2000, but these are getting harder to come by on the used market and are running from \$1200 to \$1500, if you can even find them. If any of you have a lead on getting one, please let Glen K1RR or me know. We are also looking into other UHF repeater options as well.





# KBARA Technical Update, continued

by Jim, N7WRR

Karl AK2O had offered to help us with the Mica rebuild, but the repeater would need to be taken to him and it would be off the air for a month or possibly longer. Due to difficulty in getting UHF link repeaters, his scheduling, COVID, etc. this would now have not been possible until next year.

We don't have very many "technical" people or tower climbers within the KBARA group to help out in keeping the system up and running. I would really like to acknowledge Glen K1RR for all he has done for us as well as Karl, Kurt, John, Scott and the others who have assisted over the past year on the technical side of things. Thanks Guys!!!

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## THE MECHANICS OF NETS ON LINKED REPEATER SYSTEMS

by John, W7OE (From Summer 2005 newsletter)

Conducting nets on linked repeater systems require special consideration. It takes a small amount of time for the repeaters to link, there is a potential for doubling with many repeaters in use, and the IRLP has unique characteristics. I will also include my opinions regarding procedures that make nets run more smoothly.

How should we check into nets? Check in with call sign or perhaps call sign, name, and location. Ragchew check-ins cause extra doubling and resentment by those patiently waiting their turn to check in. Cross talk to those checking in should be avoided during that period because it causes extra doubling. You can say hello to your friend after he or she finishes their check-in by simply giving your call sign and letting the net control acknowledge. Also when Net Controls ask for Ins and Outs, only check in at that time if you no longer plan to be with the net. Crowding in front of the line should be left to the supermarket check out line.

Leave plenty of space during the net. This allows for emergency traffic to break in. Also, a long dissertation is inappropriate unless you un-key every minute or so to allow for these breaks. You should also key up about one to two seconds before talking to allow the repeaters to link. This is especially important when the IRLP is connected.

What is a good way for Net Controls to take check-ins? Take the group of check-ins and then acknowledge by call or name. Then ask if anyone was missed. This will allow the doubles to get acknowledged. Then ask again until there are no more responses. Remember, you must do two things: acknowledge the check-ins so they know that they were heard AND ask for those that were missed. If you happened to have been overlooked, don't come back with "this is K7UGA AGAIN!" That makes you sound like a whiner.

What are hams' favorite topic? Themselves. Long-winded monologues by the Net Controls work against this idea. Good Net Controls focus more on the check-ins and less on themselves. I am not suggesting a dry and mechanical approach by the Net Controls but instead avoid situations like I have heard on HF nets where the Net Control would talk for about five minutes between each check-in (that would usually last for less than a minute each).

Now for my favorite quote (by Dennis, N7UTM): "Let NetControl run the net". If this idea is unclear, drop by Frankie Doodles some Saturday and talk with Dennis. He has some very good ideas in this regard. TTFN, John, W7OE PS Don't forget to catch those "mobiles" first.



# From the Ham Shack of our President

## Kbara Members,

Well, greetings again, everyone. As I begin writing here in late July, 2020. ( I always get these President's letters written up as early in the quarter as possible and get them to Scott, KA7FVV as quickly as possible, so that he is not overwhelmed in the last few weeks or days before publication, he is our newsletter editor in case you didn't know. Anyway, due probably to a time-perspective difference, you may notice a tonal variation between things I write about that happened early in the quarter as contrasted with those occurring later. Just a thought I'd alert you to this, some of you no doubt have noticed already.

Well, so far as the coronavirus pandemic goes, it is still, as I write, very much with us. Again, as I mentioned last time, the pitiful weakness of the societal structure all our livelihoods rest upon has become all the more obvious and apparent. Homelessness, poverty, injury, illness, and even death have become all the more real and threatening. Things we have always worked hard at and dedicated ourselves to have been curtailed, reduced, and on many occasions stopped completely. Don't know about you, but I've actually wondered whether some of these things/activities were ever worth working hard for or taken seriously at all.

One thing in particular really caught my notice. After the pandemic got under way, this social distancing got under way, and a try was made, virtually everywhere, to try and conduct most everything remotely, via internet, email, and other such digital means/devices. The entire effort was a gigantic flop! Oh, I suppose there may have been a few scattered successes here and there, but by and large it was all a miserable failure. The reason for the failure was largely attributed to the obvious lack of such things as human rapport, contact and empathy. Such was the popular explanation of the failure. The real reason for failure, however, ran much deeper and to a much greater extent than this. Schools, churches, and businesses everywhere attempted to conduct daily affairs digitally and failed, not because of any lack of human spirit, but simply because far to many people just had not gotten into internet and/or email yet, nor Twitter nor Google, nor anything else. Consequently, to many people were just simply left out or unable to access anything. They'd not yet gotten into them and, more over, are never going to. Why so many of our people, citizens, leaders, what ever, overlooked this or failed to see it in advance is troubling.

**Editor Note:** I know there were members of our community that were not up to speed with technology that were not able to participate with online events. I know I heard stories of kids and grandkids helping the parents and grand parents out with getting online with Zoom for online church services and virtual doctor visits. Schools stepped up with remote learning as fast as they could. I think most everyone that had internet and a laptop, tablet or smart phone at home were on board fairly quickly. I work remote for my work supporting a hospital almost 2000 miles from home. Do Skype, Teams or Zoom meetings weekly. Zoom never saw so much use until the pandemic hit. Last spring I set my wife up to participate in a Zoom virtual baby shower. It worked out great. Dennis is correct that we are a social society and need that human interaction. We have our millennials that use social media to its fullest using Snapchat, TikTok, Facebook and other platforms to there full extent. So connecting online is nothing new for them.



# From the Ham Shack of our President, continued

## Annual Meeting/Election of Officers/Directors, Valleyford Park—08/09/20

Present were Dennis, KF7UTH, Jim & Betsy, N7WRR and N7WRQ respectively, Scott, KA7FVV, Glen K1RR, Dan, KG7ZCW, Harry, W7HEE, John, W7OE, and Jim, KM7H with dog. My profoundest thanks to all who attended, more than I anticipated seeing. Due to the relatively small number of members in attendance and confirmation by silent assent of most issues, there was no need to conduct time consuming vote collection/counting procedures, and things went fairly fast. A meeting summary (minutes) would probably look something like this:

1:00 pm—Meeting called to order by President Dennis Roberts, KF7UTH.  
Last year's (2019) meeting minutes read by Secretary Harry Estep, W7HEE

A short summary of previous year's activities plus anticipation of future developments was given by President Dennis. So far as future goes, Dennis suggested that to just muddle along and see what happens might well be the best approach to take, considering all the changes that have transpired within the scope of KBARA's activities, objectives, etc.

A Secretary's report was given by Secretary Harry. He discussed and reported on the current net control situation, i.e. the early morning 7:00 am nets plus the 7:00 pm mid-week evening nets. Availability of qualified and experienced controllers, future prospects, possible problems, etc.

A Treasurer's report was submitted by Treasurer Betsy, N7WRQ. Current balance in KBARA treasury, about \$7000. Current numbers of KBARA members, roughly 70. The annual Hamfest at University High School has been cancelled due to the pandemic (Coronavirus) complications.

There followed a brisk discussion conducted largely by Scott, KA7FVV, Glen, K1RR, and Jim, N7WRR, on technical matters, past, present, and future. John, W7OE was also a participant. Repeater site repairs, modifications, ownership transfers, legal complications, and other things were all discussed for 20-25 minutes (could easily have gone for that many hours).

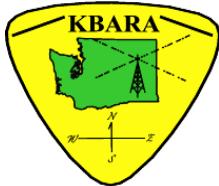
Old business out of the way, attention now turned to new business specifically the elections of new officers/directors. Results left the entire situation pretty much as it had been:

Directors: Scott, KA7FVV; Glen, K1RR; Jim, N7WRR

Officers: President: Dennis, KF7UTH; Secretary: Harry, W7HEE; Treasurer: Betsy, N7WRQ

The position of vice-president, currently held by Bill, KG7SJR, was intentionally left unfilled temporarily. There was no volunteer's readily available to accept the position, and Bill himself is currently undergoing a major change in his life (due to the death of his wife not long ago). His future availability is uncertain at best. Also, director Jim, N7WRR three year director's term had terminated and he was duly installed for another three year director term.

Meeting adjourned at 1:55 pm. Thank you all again for your attendance and participation.



# ISS Radio Updates and SSTV Event

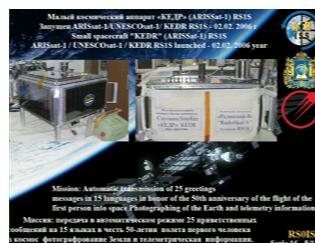
by Scott, KA7FVV

For years ISS has been running a 5 watt Erickson handheld and specially built TNC to do amateur radio communications both voice on 145.800 MHz for not only school contacts but occasional astronaut voice contacts with the ground when their time off permitted, for those that are licensed amateurs of course. Also for APRS on 145.825 MHz in the US Columbus module. A couple of years ago the TNC became intermittent and finally failed leaving APRS silent. NASA found a duplicate TNC gathering dust and put on a resupply flight. After about a year APRS was back up and running. In the mean time efforts were on going to raise money to build a new radio system. The design is what is called the Interoperable Radio System (IORS). Consisting of a Kenwood D710GA transceiver along with an ARISS developed multi-voltage power supply. This would allow the radio to work on either the US or Russian sides of the station. There is already an older Kenwood G700 transceiver on the Russian side. This is what usually is active during SSTV events. The new radio was completed by the winter of 2019-2020 and was flown to ISS in March of 2020 aboard a SpaceX Dragon resupply flight. NASA finally worked installation into the crew schedule in August. After installation the V/u repeater built into the system became active with an uplink of 145.990 MHz, PL tone of 67.0 Hz required and a downlink of 437.800 MHz. Many contacts were made by amateurs around the world, including me, through this new repeater. This remained active until early October with the next SSTV event took place. No APRS activity on 145.825 MHz has been seen since the installation of the new radio. No schedule has been announced for operations between the repeater, APRS and astronaut school contacts or amateur communications.



## Latest ISS SSTV Event

From October 3rd to 8th with some gaps for Cygnus resupply ship arrival and crew duties we had our latest SSTV transmissions. The theme for this event was satellites.





**Kamiak Butte Amateur Repeater Association  
KB7ARA  
PO Box 30801  
Spokane WA 99223-3013**



KBARA is a support group for several privately and club owned linked Amateur Radio repeaters. The system covers an area from NE Washington to NE Oregon, and from western Montana to central Washington. The KBARA system is also part of the Evergreen Intertie, an interconnected group of repeaters located in western Washington and Oregon. The primary purpose of the KBARA repeaters is to provide a means for emergency communications within the above areas, and secondarily for routine radio traffic. It makes possible a single system of mobile communications coverage, extending the limited range provided by any single repeater operation. The KBARA FM repeaters operate in the VHF bands and are linked by UHF radios and IRLP. The repeaters' frequencies, call signs and locations are as follows:

147.380 MHz W7OE on Mica Peak near Spokane, WA, owned by John, W7OE & Jim, N7WRR  
147.360 MHz N7WRR on Stensgar (Stranger) Mt. near Chewelah, WA, owned by Jim, N7WRR  
147.320 MHz (103.5 Hz tone) KA7FVV on West Twin near Moscow ID, owned by Scott, KA7FVV, & KBARA  
147.280 MHz KB7ARA on Pikes Peak in the Blue Mountains near Walla Walla, WA, owned by KBARA  
147.020 MHz KB7ARA on Lookout Pass on the Idaho-Montana border, owned by KBARA  
223.900 MHz AK2O hub repeater on Stensgar (Stranger) Mt. near Chewelah, WA, owned by Karl, AK2O  
IRLP Node #3638 in Spokane WA owned by Glen, K1RR  
IRLP Node #3636 on East Tiger Mt, near Issaquah, WA owned by KBARA  
EchoLink KB7ARA-R (947272) in Spokane Valley, WA owned KBARA

All licensed Amateur Radio operators are welcome to use this open repeater system.

To support KBARA, please send your contributions to: **KBARA, P.O. Box 30801, Spokane, WA 99223-3013**

Name \_\_\_\_\_ Call Sign \_\_\_\_\_

Address \_\_\_\_\_

City/State \_\_\_\_\_ Zip \_\_\_\_\_

Telephone \_\_\_\_\_ Amount Paid \_\_\_\_\_

Email Address \_\_\_\_\_ ARRL Member? \_\_\_\_\_

Dues are \$15.00 per year for individuals and \$20.00 for a family (all must be living at the same address), but any amount will be greatly appreciated. Dues are due January of each year. If they are paid between September 1 - December 31, they will be applied through the entire following year. Also, any contribution to the Repeater Fund will be gladly accepted. For more info, please visit our website at [www.kbara.org](http://www.kbara.org). See us on Facebook.



# Upcoming Hamfests and Events

Courtesy of N7CFO.com

Check the above page for cancelation as events get closer

We hope 2021 it is a much better year for amateur radio activities around the Northwest.

**March 6, 2021. Mike & Key 40th Electronics Show & Fleamarket.** *This is an ARRL sanctioned event.* Puyallup fairgrounds exhibition hall, Puyallup, WA. <http://www.mikeandkey.org/index.php>

**April 2021. Communications Academy.** South Seattle Community College, Seattle, WA. <http://commacademy.org/>

**May 2021. Kennewick Tailgate Swap Meet.** Kennewick, WA. Contact Dan, KD7KJJ, [dancar68@aol.com](mailto:dancar68@aol.com)

**May 2021. Spring DMR Gathering.** Valley Camp, North Bend WA. Contact: Thom, [K7FZO@WA7VC.org](mailto:K7FZO@WA7VC.org)

**May 2021. Stanwood Camano Amateur Radio Club Flea Market and Hamfest.** [http://www.scarcwa.org/ham\\_fest.shtm](http://www.scarcwa.org/ham_fest.shtm) . Contact: Fred Laun, [w7pig@arrl.net](mailto:w7pig@arrl.net)

**May 2021. MicroHams Digital Conference.** <https://www.microhams.com/mhdc>

**June 4-5-6, 2021. SEA-PAC Hamfest and ARRL Northwestern Division Convention.** Seaside Convention Center, Seaside, Oregon. [info@seapac.org](mailto:info@seapac.org) . [www.seapac.org/](http://www.seapac.org/) .

**June 2021. Apple City ARC Hamfest.** Dryden, WA. (Five miles east of Leavenworth on Hiway 2).

**June 2021. Tailgate/swap.** Spokane, Washington. Contact Duane, KE7NUB, (509) 435-7718

**June 2021. Port Ludlow ARC Annual Tail-gater.** Port Ludlow, WA. <https://www.n7pl.org/index.html>

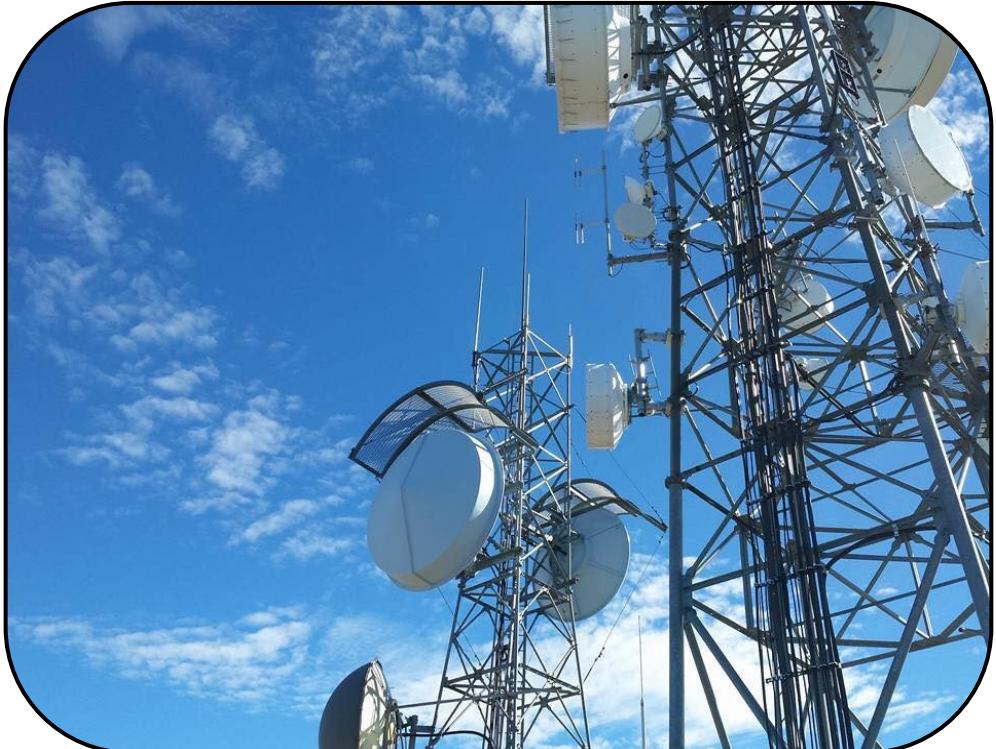
**July 2021. Chehalis Valley ARC Ham Radio Tailgate Swapmeet.** Southwest Washington Fairgrounds, Chehalis, WA. Contact John Ellingson, K7OSK. [k7osk@boatanchor.com](mailto:k7osk@boatanchor.com) . <http://www.cvars.org/>

<http://www.gwhamfest.org/>

## Area Repeaters

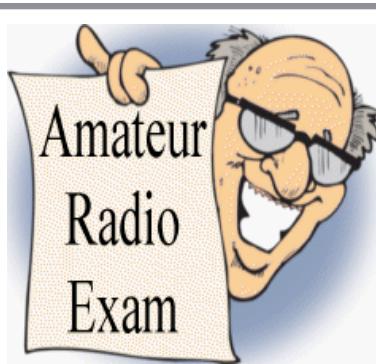
# KBARA Repeaters and Echolink/IRLP Nodes

Frequency	CTCSS Tone	Location	Call sign	RF Link
<b>Repeaters</b>				
223.90 MHz	None	Stensgar Mtn	AK2O	Hub
147.38 MHz	None	Mica Peak	W7OE	AK2O—223.90
147.36 MHz	None	Stensgar Mtn	N7WRR	Hard wired Hub
147.02 MHz	None	Lookout Pass	KB7ARA	W7OE—147.38
147.28 MHz	None	Pikes Peak	KB7ARA	AK2O—223.90
147.32 MHz	103.5	West Twin, Moscow	KA7FVV	IRLP
<b>Links</b>				
Echolink KB7ARA-R	N/A	Spokane, WA	KB7ARA-R	AK2O - 223.90
IRLP Node 3636	None	East Tiger Mt	KB7ARA	145.33 & Ref 9075
IRLP Node 3638	None	Spokane, WA	K1RR	AK2O—223.90 & Ref 9075



**KBARA Membership / Support Information:** The KBARA repeater system consists of several club & privately owned linked Amateur Radio repeaters. It covers an area from northeastern Washington to northeastern Oregon, and from western Montana to central Washington. The KBARA system is also part of the Evergreen Intertie, an interconnected group of repeaters located in western Washington and Oregon. The primary purpose of the KBARA repeaters is to provide a means for emergency communications within the above areas, and secondarily for routine radio traffic. It makes possible a single system of mobile communications coverage, extending the limited range provided by any single repeater operation. The KBARA FM repeaters operate in the VHF bands and are linked by UHF radios. All licensed Amateur Radio operators are welcome to use this open repeater system. Your support would also be greatly appreciated. Please visit this site for more information:

**<http://www.kbara.org> for more information about the club and repeaters.**



Testing is held the 3rd Wednesday of every month at Spokane Fire Station No. 4 at 1515 W 1st Avenue, Spokane. Brought to you by Glen, K1RR. If you have any questions please contact Glen at [glen@k1rr.com](mailto:glen@k1rr.com) or 509.216.0666.

**Contact Glen for updates on testing during the pandemic**

To support KBARA, please send your contributions to:



**KBARA**  
PO Box 30801  
Spokane WA 99223-3013

Annual support is \$15 per calendar year for a single membership and \$20 for a family membership. Dues are due in January of each year and if paid between September 1 and December 31, they will be applied through the entire following year. Also, any contribution will be gladly accepted to the Repeater Fund. This can also be done via PayPal on our webpage at [www.kbara.org](http://www.kbara.org).

## **KAMIAK BUTTE AMATEUR REPEATER ASSOCIATION**

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