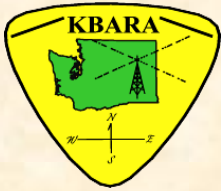


42nd Spokane Hamfest and Washington State Convention

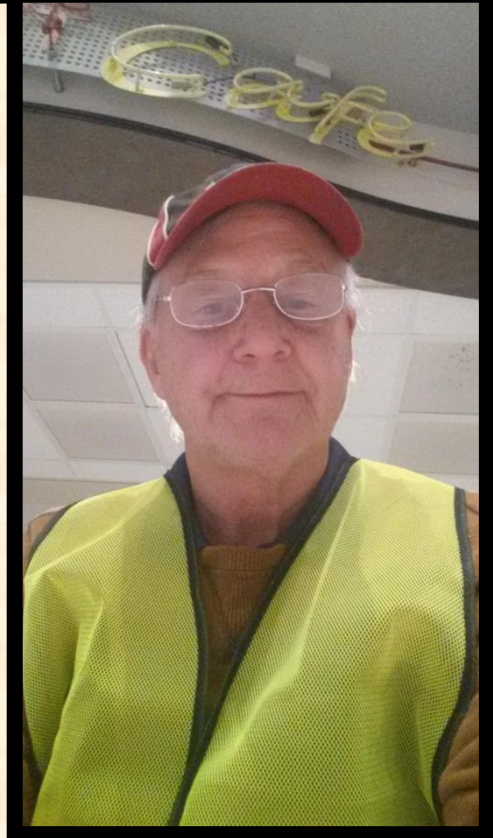
Another successful Spokane Hamfest & ARRL WA State Convention has come & gone, thanks to the six clubs who host this yearly event. A special thanks go to our host, University High School, & our friend & fellow Ham, Jared, KE7FLD, University High School teacher. And a big thanks to our new Spokane Hamfest Chairman, Dave, K7DSR, our Treasurer, Jake, KI7QPJ, and, of course as always, to our Hamfest Committee. This year, the event was attended by about 425 paid participants, featured numerous commercial & swap tables, & had many exciting seminars & activities. Two new improvements were appreciated by all: the long swap tables, and conducting the seminars in main floor classrooms. On the program were: "ARRL Election Forum"; "Logging Programs – Which One?" By Chuck, KI7DG; "Spokane ARES/RACES" by Aaron, AD7DD; ARRL License Testing hosted by Mary, AA7RT & VE's; "HF Noise Mitigation Techniques" by Mike, W7VO; "Community EMCOMM: a Start" by Dave, K7DSR; "GPS: the Ins and Outs" by Dan, NV2Z; "Radio Basics" by Dale, KE7VMN; "I have My License – Now What?" By Jack, AD7FO; "Radio Test Gear Table" by Jack, AD7FO;



"Junque" Auction by John, W7OE; refreshments & lunch by Toby's BBQ. For the raffle drawing this year, the 1st prizes of \$500 gift certificates from DX Engineering & from HRO, went to Mike, K7INP of Spokane, & Alan, N7RLM, of Post Falls; 2nd prizes of \$250 gift certificates from DX Engineering & from HRO, went to Rick, K7PHM of Spokane & Steve, WA7WKX of Spokane; and 3rd prize of a Raspberry PI 3 Starter Kit, went to Jim, W7JWT of Kettle Falls. :Congratulations to all those winners & a special thanks to all who helped support this yearly event.



Spokane Hamfest continued...





From the Ham Shack of our President

KBARA Members,

Well, greetings again, everyone. I'm penning this letter just a little earlier than I anticipated, due to a sudden acceleration of publication date. I was hoping not to have to write it until after HAMFEST on Sept. 22. But, oh well, life is full of surprises, I guess.

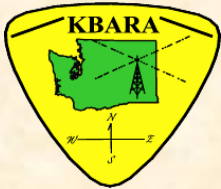
Since assuming the KBARA presidency just a few months ago, I've done little more than to just watch, listen, observe — trying to grasp and comprehend the mechanics of how KBARA works, and, of course, whenever possible, offer to be of some small assistance or help myself whenever I can (haw, haw!).

First, I wish to thank from my heart the likes of people like Betsy N7WRQ, Jim N7WRR, Dan KG7ZCW and Scott KA7FVV (former president). These people have continued applying their knowledge, experience, and skill to keep things moving and also to keep me informed & aware of things. Betsy in particular has been impressive. I expected to see her vanish completely from the HAMFEST scene. Although she no longer is in over-all charge and control, she has continued attending HAMFEST meetings and, in general, to make her knowledge/experience available to ensure a smooth transition. There are others I should mention also, but, due to time/space limitations, I'm afraid a simple "thank you" will have to do.

As you all know KBARA maintains a number (at least a dozen or so) repeaters-nodes-links scattered hither and yon. Some are as close as Mica Peak near Spokane, while others are a ways distant, maybe as far away as Pullman, WA, Chewelah, WA, or maybe Lookout Pass near the Idaho-Montana border. Whenever one ceases to function properly, a repair(s) has to be made. This involves, first, the owner of the facility plus one of our "tech" experts (Glen K1RR, maybe) both becoming aware of the breakdown, then getting together and scheduling time for a trip together to the site and then effecting either a temporary or permanent repair. Sometimes, a person who resides at or near the facility may have to be called into action also. Needed repair parts have to be ascertained and acquired. This can all take time. I've seen some impressively fast repairs make; then again some not so impressively fast. If the weather is bad (snow, etc.), it can be even worse, particularly if the facility is under 10 feet or so of snow. At a mountaintop site, this frequently can be and is precisely what our owners-technicians run into sometimes.

I'm not proposing a solution or anything — just making note of what I've observed. Suggestions, anyone?

73, Dennis, KF7UTH
President KBARA



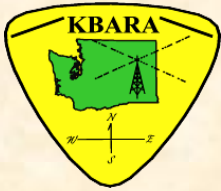
Thoughts & Observations Ham Radio & Technical Knowledge

by Dennis, KF7UTH

Technical knowledge is indeed important in Ham Radio — knowledge of radios, antennas, connectors, cables, repeaters, how enter nets through nodes, IRLP, Echolink, etc., and, well, I guess maybe I've just barely scratched the surface. If you want to go even further, get your license upgraded from technician to general and from here to amateur extra, by all means go for it. As for myself, I've deliberately restricted and limited my choice/selection of equipment (antennas, radios, etc.) in such a way as to keep my required range of technical art within the bounds of what I can reasonably and comfortably live with. I decided long ago that Ham Radio was not going to become the be-all and end-all of my whole life, or evolve to such a state that all I ever did was think, breathe, and live Ham Radio. In the space of just six years, I have met here and there an individual(s) who, in my estimation, came awfully close to it. That's their decision, and I'm not critical of it — but it's not mine.

When you buy a new radio, always familiarize yourself with the owner's manual. On my first radio, the owner's manual was chock full of programs you could "key" into the radio for a variety of things. Most of them I've yet to even use. There were a few that I have to master right away, such as programming in a tone code, for example, or adjusting power from low to medium to high and/or maybe getting a mouthpiece microphone installed. For all other programs, whenever I find myself in need of one, I'll sit down, get my owner's manual out, study and master it. Take everything just as it comes, as they say. Yes, I have found it much easier to just wait, master a program as you have need to, rather than have your radio bursting with a lot of programs you may never even use or need. That can cause even bigger problems down the road a way, and I'll tell you specifically just what that could be in just a moment.

Repeater offsets. Remember, whenever you're transmitting on your radio via a repeater, there's always what is called a repeater offset. For example, when you're using the KBARA 147.380 repeater, the minute you press your transmit key, the frequency displayed, on your LCD (liquid crystal display) changes to 147.980. When you release the transmit key, it falls back once again to 147.380. What we have here is a so called repeater offset of +(plus) 600 khz. On other repeaters, it will be -(negative or minus) when the repeater output is below 147 MHz. These shifts can be changed on your radio(s) if you ever have need to do so. It's something I've not had to do you, and prayerfully hope I never have to. But if and when the day comes, I'll sit down, get my manual out, and master the procedure. That's the path I like to take — cope with each problem when it arrives, not before nor after.



Thoughts & Observations Ham Radio & Technical Knowledge

by Dennis, KF7UTH

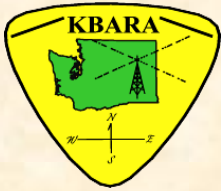
If you ever participate on Ham teams at public events (i.e., Bloomsday Race, Lilac Day Parade, etc.), and you are using a handheld radio hanging on your pants belt via a belt-clip, be extremely careful. If, for any reason, you need to reach down with your hand to temporarily disengage your radio from the belt clip, for heaven's sake, turn the radio off first. Otherwise, the fingers of your hand are most certain to inadvertently press against a few radio keys and set into motion sometimes a whole new bevy of signals, cancellations, additions, modifications, etc., in such a way that all the pre-programming you already have in your radio will become hopelessly mixed-up, snarled, modified — cancelled maybe, so that they may become hopelessly non-functional. There will be nothing you can do except cancel (remove) all your previous programming and start all over again from scratch. Believe me, I'm speaking from personal experience — it's happened to me more than once.

Finally remember always to have within immediate reach some sort of back-up arrangement in case your main antenna and/or radio go on the fritz, one or the other or both. I always have within easy reach a ready-to-go radio connected to a magnetic mount antenna in case my main radio-rooftop antenna system collapses, or whatever reason(s), its signal is not quite as strong, nor are all repeaters and/or simplex frequencies readily accessible to it, but it just might be a whole lot better than nothing at all.

Guide Lines That Help excerpt from Winter 1995 KBARA Gazette.

Ham Radio is a hobby. An enjoyable one. But one that depends on how we use the airways. Read the guidelines and review your operations habits.

1. Use the word "BREAK" for emergency and time critical communications only. If someone says "BREAK" let them use the frequency immediately.
2. When entering a conversation, wait for a natural pause, then simply announce your call sign between transmissions. Try not to enter when someone is about to answer a question.
3. Always try to hit the machine 'Solid'. If your signal is weak because of your poor location or antenna don't try to have a lengthy conversation unless you have an important message. It is irritating to listen to and a scratchy signal from a fringe area.
4. Several brief contacts are much better than one that goes on and on. Saying "Does anyone want to use the repeater" does not solve the problem. Most people won't interrupt even a long-winded QSO to call someone else.
5. Keep radios in good shape and use an antenna that does the job. Deviation should be limited to +/- 5 KHz and mike gain should be set to minimize distortion.
6. Avoid tying up a long-haul repeater for very long when simplex operation would do just as well. Don't work simplex on a repeater output frequency.
7. Try to avoid testing of repeater frequencies, but if you must, then Identify yourself. Remember, often you'll be getting into a repeater even if you don't have it coming back to you.
8. Do not kerchunk the machine. It irritates the hell out of other and is illegal. Besides, it wouldn't break your jaw to identify.
9. If someone is making a call, give his party time to answer. If he's not mobile, it takes time to get to the mike. If you butt in, chances are he won't even get on the radio.
10. Don't be a freeloader, repeaters are expensive to put up and maintain. Hams have formed associations in order to pay the bills. If you don't use the repeater, fine. But if you do, then it's pretty rotten to not join and expect other to support your habit.
11. Leave the "Good Buddy" language back on the CB band. Phrases like "Back on out of here", "Mercy", "Be on the side", and "10-4" are frowned on.
12. Most important—BE FRIENDLY, COOPERATIVE, AND HELPFUL. We have a good thing going. Ham Radio is fun and we must do our best to keep it that way!



Thoughts & Observations Fun Hobby or Emergency Prep?

by Dennis, KF7UTH

HAM RADIO: fun & exciting hobby or serious emergency preparation?

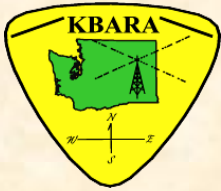
Which do you think it is? Well, actually, it's both. Matter of fact, I know of no other hobby which is so much fun & delight in normal times, yet at the same time comes in so handy & powerfully when a crisis or emergency strikes. The past is rife with examples of crisis, emergencies, and disasters striking without waring — telephone systems utterly collapsing, radio networks going erratic or silent. Often, HAM radio has been all that survived, providing emergency communications services that would not otherwise have been there. Yes, HAM radio even saved lives that would not otherwise have been saved.

Why has ham radio always been so promoted & encouraged by not only government, but by virtually everyone and everything? It is simply because, so many times, HAM radio has been all that remained at least partially intact after a total or near-total collapse of all other means of communications, transportation, evacuation, and relief.

Let us never, however, become over-confident or arrogant. Strong winds can blow our antennas down as well as anyone's; fires and floods can scorch and inundate us just as severely as anyone elsewhere. Remember that series of hurricane winds that struck the gulf area and affected all surrounding land masses, i.e., Mexico and Florida, etc., late last year (2017)? I recall that, following one particularly severe hurricane sweep, not a single HAM repeater was left functional throughout the entire area. Things like that can and do happen. All we can hope for, really, is that, as we pursue our HAM hobby with delight and enthusiasm, in event of a catastrophe or emergency, enough of us and our equipment will survive to provide some relief, save a few lives, and expedite recovery. Our contribution may vary from minimal to substantial. Either way, all is made worthwhile.

I encourage every HAM to become an ARRL (Amateur Radio Relay League) member and, concurrently, a regular subscriber to QST Magazine. Many of the articles in QST may be technically a little over your head. I often myself can only derive a barely "intuitive" comprehension or understanding of them. But, in every issue, there are always articles of a more general nature — outlining emergency preparedness — what items you should have and include in your emergency prep bag or kit, for example. Or maybe an article or two outlining such things as proper ethics and behavior during an emergency — what you should say and how to say it, or what just not to say — things of that sort, or, in other words, just what proper attitude and/or demeanor to adopt — how to make things more bearable for yourself and everyone else.

And that's not all. There's plenty of stuff, also, on current HAM activities & projects, club activities, ARRL meetings, recommendations, votes, new officers, HAM radio history, and more.



Thoughts & Observations My First Radio

by Dennis, KF7UTH

When I received my HAM license in early 2012, my next step was, of course, to acquire a radio of some sort. Being a total novice to the field. I was largely unaware and uninformed as to just what was available and/or what might be best for me at that very early stage of my HAM career. Well, I acquired a few HAM equipment catalogs and began leafing through them trying to set my sights on a good beginner's choice of a radio considering my background, experience — which were about “zilch” at the time.

Every time I turned around someone was popping up and giving me advice on the type of radio to start out with, brands, handhelds, mobile, multi-band, single band, etc., etc. Most if not all of this advice was, I am sure, well-intentioned. But it all quickly became tiresome. I reached the point where I actually wished everyone would just “shut up” and let me study, think, look, and ultimately make my own decision. I

decided, finally on a Yaesu 2-meter RT-170 handheld, not because of this, that, or the other things, but simply because I just plain “liked the look of it” as pictured in the

catalog — that and nothing more. I guess it was indeed one of the life's rare times when not only was I practical and expedient, but vitally necessary as well to just tune myself out of all counsel/advice and make my own decision unassisted. The Yaesu RT-170 was indeed the right radio for me. I subsequently acquired two more of them, now owning three. I also acquired another

Yaesu multi-band handheld. To this day, I recommend the Yaesu RT-170 as the ideal beginning radio for any newly licensed HAM, and it's a decision I made entirely on my own.



Editors Note: Looks like the RT-170 has been renamed the VX-170 before it was discontinued by Yaesu.

KBARA Newsletter Archive by Scott, KA7FVV

Thanks to Betsy, N7WRQ's stash of old newsletters I am able to expand our online archive. Currently have newsletters back to 1992. Some years are not complete due to the newsletter not being published or just issues that Betsy is missing. If you see a missing newsletter and you happen to have that issue please scan it and send it to me so I can include it in the archive. It is very interesting reading the KBARA history as told in the newsletters.





FM Satellite Update

by Scott, KA7FVV

We have three easy to work FM Satellite alive and well. SO-50, our almost 16 year old workhorse has out lasted all other FM satellites. AO-91 and AO-92 continue to strong and healthy. AO-85 is easily heard but tough to work portable. I have yet to be successful with it in a portable setting due to an antenna fix issue just before launch.

Included here is a programming chart correcting for Doppler shift. You can program the V/u or U/v split into each memory if you are using a Yaesu or Baofeng radio. Using an Icom or Kenwood you will need to use both VFO's.

Track with your tracking program of choice depending on what device you are using. Orbitron continues to be a great program for the Windows PC. If you use an iPhone GoSatWatch is good. I have found a free one called Satellite Tracking that is easier to see in bright sunlight since it has a white background. On an Android device try ISS Detector with the \$3 addon to track all satellites. Also AMSAT Droid Free works well.

A dualband beam is the best way to go for an antenna. Arrow, Elk or a homebrew. For AO-91 and 92 you can try an extended handheld antenna. They are easily heard. Some have had success with SO-50 as well but it is harder to hear.

Give the sats a try. They are a lot of fun.

We will have several more satellites in orbit by the end of the year or beginning of the next depending current launch schedules.

Fox-1Cliff—FM

Fox-1E - RadFxSat-2—FM

Diawata-2—FM/APRS

ExseedSat—FM/APRS

Duchifat-3—FM/APRS

K2SAT—FM

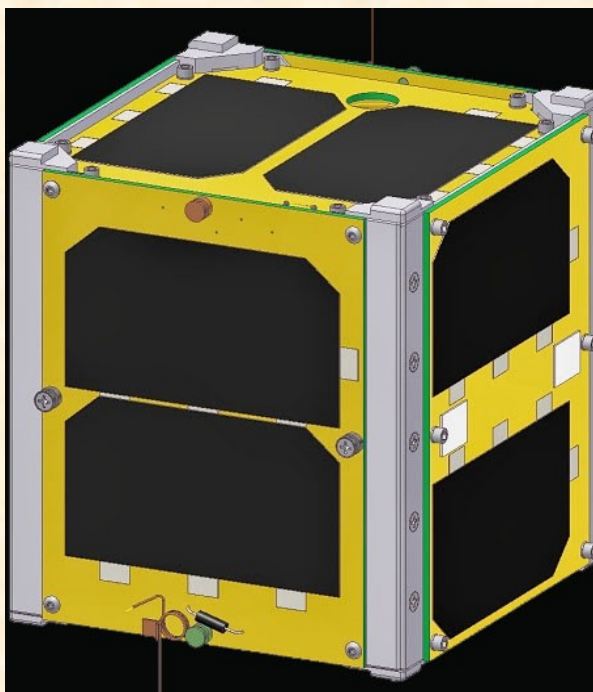
CAS-5A—FM/SSB

FUNcube on ESEO—FM (1.2 GHZ uplink only)

We have one other FM satellite but it is rarely operational. That is Lilacsat-2. Take a look at my website for details. Ka7fvv.net.

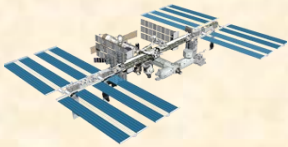
See the next page for a programming guide for the current FM satellites in orbit.

Look for my video/slide presentation that was to be my presentation at the hamfest on my website.



FM Satellite Frequencies

Satellite	PASS	TX	CTCSS	RX
		145.850	74.4	Activation
	AOS	145.850	67.0	436.805
SO-50		145.850	67.0	436.800
(SaudiSat 1-C)	MID	145.850	67.0	436.795
		145.850	67.0	436.790
	LOS	145.850	67.0	436.785
	AOS	435.170	67.0	145.980
		435.175	67.0	145.980
AO-85 (Fox-1A)	MID	435.180	67.0	145.980
		435.185	67.0	145.980
	LOS	435.190	67.0	145.980
	AOS	435.240	67.0	145.960
		435.245	67.0	145.960
AO-91 (Fox-1B)	MID	435.250	67.0	145.960
		435.255	67.0	145.960
	LOS	435.260	67.0	145.960
	AOS	435.340	67.0	145.880
		435.345	67.0	145.880
AO-92 (Fox-1D)	MID	435.350	67.0	145.880
		435.355	67.0	145.880
	LOS	435.360	67.0	145.880
	AOS	144.350		437.210
		144.350		437.205
LilacSat-2 (CAS-3H)	MID	144.350		437.200
		144.350		437.195
	LOS	144.350		437.190
	FM	145.800		144.490
International Space Station				
	APRS	145.825		145.825
	Use Aliases of RS0ISS or ARISS			
NO-84 (PSAT)	APRS	145.825		145.825
	Use Aliases of ARISS or APRSAT			



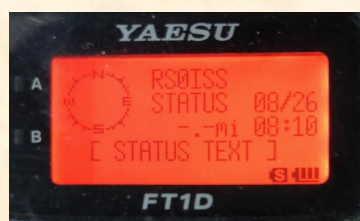
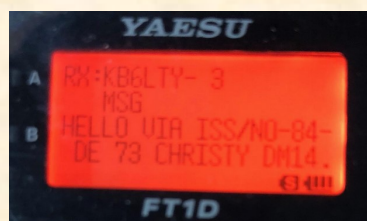
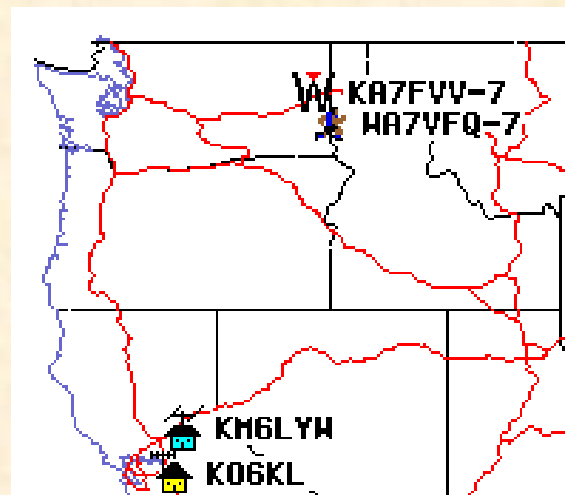
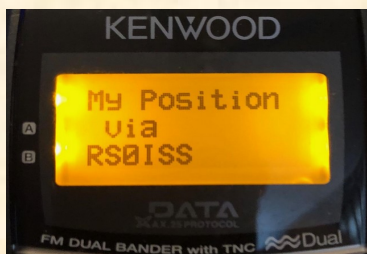
ISS APRS Beacons/Messaging

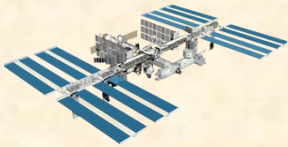
by Scott, KA7FVV

In August the APRS system mysteriously became active again after being silent since last winter. There was a SSTV event and they could not get the aging TNC attached to the Erickson handheld to power up. A backup unit was found and testing and there are plans to send it up on a Progress resupply flight in October. We hoped that it would be installed and would have APRS activity back by sometime in November. Everyone has been pretty rusty with no activity for that long. Now there is a flurry of activity on the ISS APRS Packet frequency of 145.825 MHz. You can once again watch a visual pass of ISS in the morning or evening when the orbit permits and listen or beacon and message.

Equipment for ISS APRS consists of a APRS enabled handheld is the easiest way. A computer/TNC combo can also be used. Current APRS handhelds are Yaesu FT1D and FT2D, Kenwood TH-D7a, TH-D72a, TH-D74a. All of these will work for terrestrial APRS on 144.390 MHz with a packet path setting of Wide 1-1, Wide 2-1. ISS APRS is on 145.825 MHz and the packet path needs to be changed to RS0ISS or ARISS. If the packet path is not correct ISS will not hear you. Once your radio is correctly configured use your favorite tracking program to predict when ISS will be visible at your QTH. Use a gain antenna. Preferably a beam. I have had success with 5 watts and an long antenna but it is spotty.

During a pass of ISS don't transmit unless you hear beacons from ISS. If you have a good signal you should see them decoded on your display. Manual beacon only after you have heard packets. If you are successful you will see a response from ISS like this on the Yaesu FT1D, DE>KA7FVV-7 or Kenwood TH-D72a, My Position via RS0ISS. If your beacon gets igated you will show up on the ISS Heard map at ariss.net. Messages can also be sent via ISS as well. Saving canned short messages in the radio makes exchanges quicker. I have a message that is sent with my beacon, Hi from DN17 in WA. If you beacon to ISS don't be surprised if you get a message sent to you. On the Yaesu FT1D it will beep and the white LED will flash and the call the message is from on the display. On the Kenwood TH-D72a the radio will beep and you will see who the message is on the display.

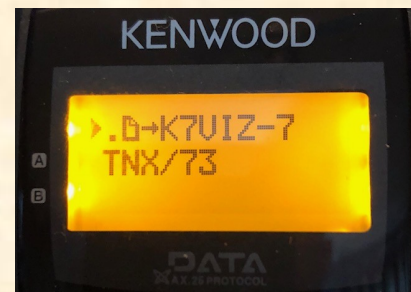
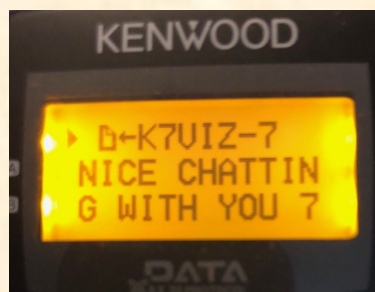
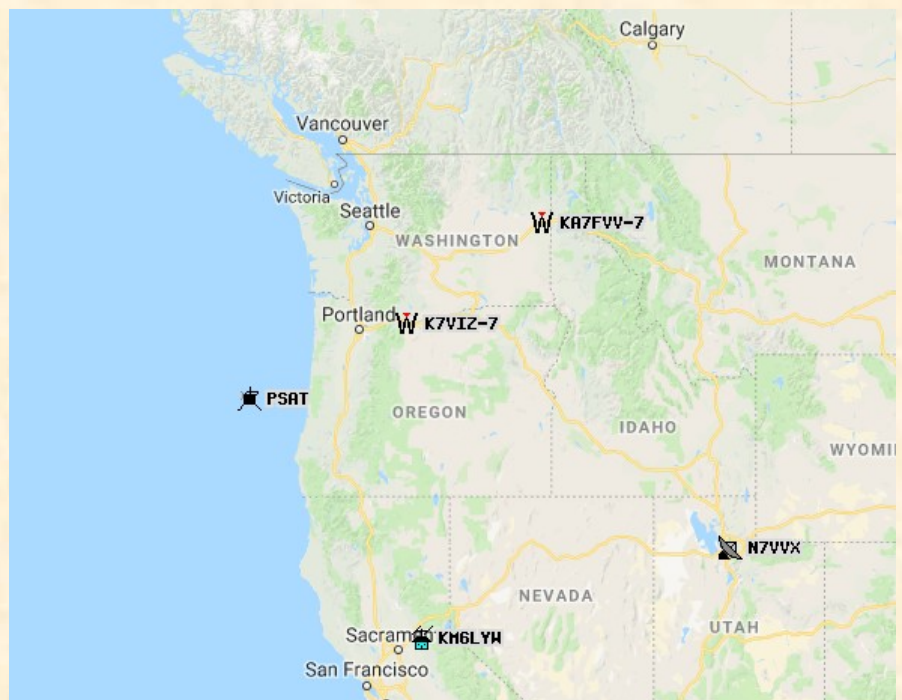
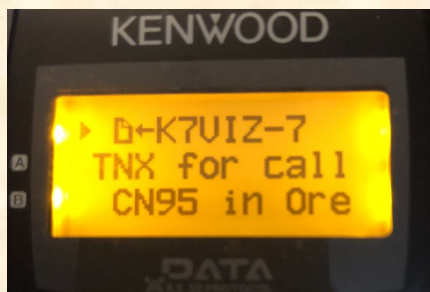
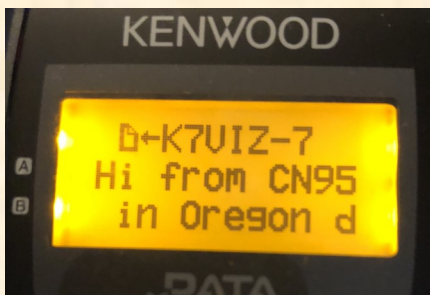




NO-84 Beacons/Messaging

by Scott, KA7FVV

Along with ISS we have another APRS satellite we can play with, NO-84. It is in a similar orbit as ISS. Offers the same beacon characteristics. What is different with using NO-84 is the packet path. Use ARISS or APRSAT. If you set a packet path of ARISS in your radio it will work for both ISS and NO-84. The frequency is the same as ISS, 145.825 MHz. This satellite also does PSK31 with a 10 meter uplink and UHF downlink. For full information see <http://aprs.org/psat.html>. Beacons through NO-84 show up on <http://pcsat.aprs.org>.



W7DP Tailgate Party!

Come for fun, friends, food, demonstrations, plus buying & selling stuff!

- WHEN: Sunday, October 14, 2018, 9 AM to 3 PM
- WHERE: W7DP Club House, at the corner of Tamaurson Road and SE Justice Avenue, in College Place, Washington (46.035628, -118.367872)
- WHAT: A gathering of hams, friends, and family taking part in some or all of these activities
- !FREE SHOPPING! Eyeball QSOs for all!

Details

- The club house is in a residential neighborhood; please be respectful of our neighbors.
- Parking for non-sellers is free but limited, so please be courteous.
- Toilet facilities are limited.
- Tailgate and/or table sales are \$5 per spot; space is limited, sold on a first-come, first-served basis. Tables are not available, please bring your own.
- Setup starts at 8 AM. Sales are not allowed before 9 AM.
- Limited AC power is available for an extra \$5, but bring an extension cord.
- Coffee, water, and munchies are available for donations. Lunch may be purchased nearby.
- A club table will be set up to sell donated items.
- There will be a Lewis Peak Amateur Repeater Association (K7UH) meeting at 1 PM.

ALL PROCEEDS SUPPORT THE W7DP AMATEUR RADIO CLUB

Talk in frequencies:

146.96(-) PL74.4 | 443.45(+) PL123.0 | 147.50 simplex

Questions? Contact Jeff Stidham, AL1Q
(AL1Q@ARRL.NET, or 509.629.2060)





Upcoming Hamfests and Events

Courtesy of N7CFO.com

October 12th & 13. **Pacific Northwest VHF Society Conference.** Seaside, OR. *This is an ARRL sanctioned event.* <http://www.pnwvhfs.org/>

October 13. **Kitsap County ARC Hamfest.** Bremerton, WA. *This is an ARRL sanctioned event.* hamfest@kcarc.org <http://www.kcarc.org/> [Flyer in PDF](#). (167K)

October 20. **Swap-Tober-Fest.** Mid-Valley ARES. Polk County Fairgrounds, Rickreall, OR. *This is an ARRL sanctioned event.* [Flyer in PDF](#) (64K) www.swaptoberfest.net

November 4. **Maple Ridge Swap Meet.** Pitt Meadows, BC. https://secure.eton.ca/rac/events/detail.php?event_ID=1951

~~~~~2019~~~~~

February 16, 2019. **Salem Hamfair & Computer/Electronics Swapmeet.** Rickreall, OR at the Polk County Fairgrounds. <http://www.w7sra.com>.

March 9. **Mike & Key 38th Electronics Show & Fleamarket.** Puyallup fairgrounds exhibition hall, Puyallup, WA. <http://www.mikeandkey.org/index.php>

March 23. **MicroHams Digital Conference.** Redmond, WA. <https://www.microhams.com/mhdc/>

April. **Yakima Hamfest.** Yakima, Washington. <http://yakimaamateurradioclub.com/yakima-hamfest/>

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

May. **Stanwood Camano Amateur Radio Club Flea Market and Hamfest,** Stanwood Middle School, Stanwood, WA. Contact: Fred Laun, w7pig@arrl.net

May 4. **Electronics, Ham Radio and Experimenters Swap Meet,** Kennewick, WA. Contact: Dan Durflinger KD7KJJ, DANCAR68@AOL.COM OR KD7KJJ@ARRL.NET

May 18 & 19. **River Radio Campout 2019.** Pateros WA. Sponsored by the Okanogan County Amateur Radio Club. Free "dry" camping along the Methow River at Pateros. Always the weekend prior to Memorial Day Weekend. w7orc1@gmail.com. <http://www.w7orc.com/>. Contact Mike W7MCM, skippermike53@gmail.com. (509)689-3164.

May 31-June 2, 2019. **SEA-PAC Hamfest and ARRL Northwestern Division Convention.** Seaside Convention Center, Seaside, Oregon. info@seapac.org. www.seapac.org/.

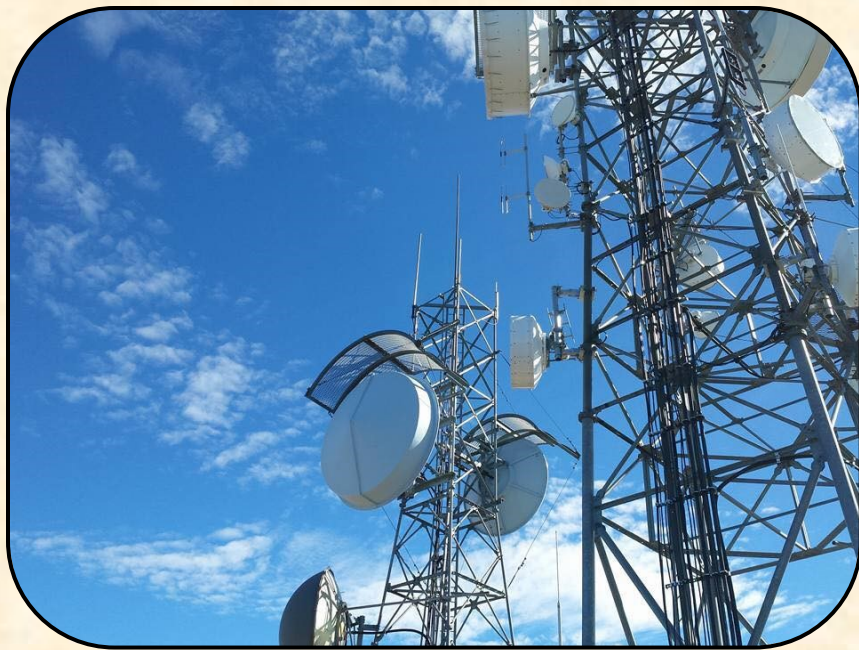
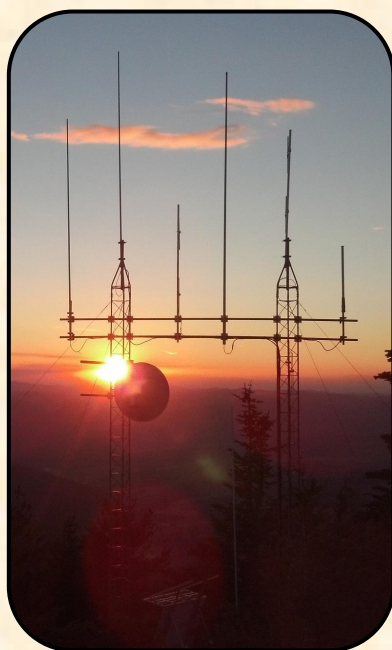
June 2019. **51st Annual Apple City ARC Hamfest.** Apple City ARC. Dryden, WA. (Five miles east of Leavenworth on Hiway 2). <https://www.applecityarc.com/>

June 2019. **Port Ludlow ARC Old Fashion Tail Gate'r.** Port Ludlow, WA. <https://www.n7pl.org/>

Area Repeaters

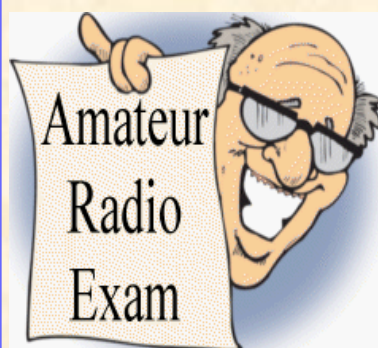
KBARA Repeaters and Echolink/IRLP Nodes

Frequency	CTCSS Tone	Location	Call sign	RF Link
Repeaters				
223.90 MHz	None	Stensgar Mtn	AK2O	Hub
147.38 MHz	None	Mica Peak	W7OE	AK2O—223.90
147.36 MHz	None	Stensgar Mtn	K1RR	Hard wired Hub
147.02 MHz	None	Lookout Pass	K7HPT	W7OE—147.38
147.28 MHz	None	Pikes Peak	KD7DDQ	AK2O—223.90
145.19 MHz	None	Elk Butte	K1RR	AK2O—223.90
147.32 MHz	103.5	West Twin, Moscow	KA7FVV	IRLP
Links				
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



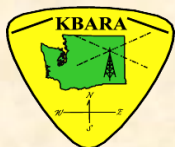
KBARA Membership / Support Information: The KBARA repeater system consists of several privately owned linked Amateur Radio repeaters. It covers an area from northeastern Washington to northeastern Oregon, and from western Montana to central Washington. The KBARA system is also part of the Evergreen Intertie, 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> and visit http://groups.yahoo.com/group/evergreen_intertie



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 or 509.216.0666.

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.

KAMIAK BUTTE AMATEUR REPEATER ASSOCIATION

PO Box 30801

Spokane WA 99223-3013