



KB7ARA

Kamiak Butte Amateur Repeater Association

Summer 2014 Edition

KBARA Annual Meeting and HamOut aka: Campout

Our Annual Meeting will be at 1300 on Saturday, July 26th where we will elect the officers for the next year. A potluck will follow at approximately 1500.



Meeting will be held at Rotary Park in Oldtown, ID. Thanks to the assistance of Daryl, KF7LWI. Directly across the river from Newport. Seven power hookup sites are \$15 per night and tent sites are \$5 per night in a very nice grassy area next to an air conditioned building.. If you are a boater

well. Along with the great air conditioned building there is a covered picnic area down by the river for socializing later in the evening.

Scott, KA7FVV will be setup at the park by early to mid afternoon and be on a talk-in frequency of **147.400 simplex** if anyone needs assistance or directions.

Directions: Hwy 2 from Spokane to Newport. Continue through Newport into Oldtown and across the river. Make your first right across from Selkirk Ace Hardware. Then another immediate right into the park. If you are coming down Hwy 2 from Priest River take the last left before the bridge and then the immediate right into the park.



KBARA
CAMPOUT!



From the Desk of our President

KBARA Members;

I would like to thank the many KBARA members who attended and supported the recent KARS Hamfest in Post Falls, Idaho on June 14th. It was heartwarming to see members of the ham community talking shop and making those special purchases. Congratulations to Glen, AF7JB (KBARA secretary) who won the Grand Prize a Yeasu FT 857D and picked up his extra ticket at the same event.

Congratulations to our Vice-President Scott, KA7FVV who presented a seminar Working Your First Amateur Satellite with Equipment You Already Have, at the Sec Pac Convention at Seaside Or. June 6-8.

Randy, WA4LKS has done an outstanding job managing the KBRAR.org web site. It is on the cutting edge of design and information to folks on the internet. He is also is a tireless volunteer on technical and club issues.

Betsy N7WRQ for her vigorous involvement in keeping the club on the straight and narrow. She also has does an excellent job in lining up and informing people of testing sessions in the area. Betsy is a key factor in the success of the Spokane Hamfest.

Glen, AF7JB has been an owner of several repeaters, but continues to look for new technology that will enhance or increase the presents of KBARA in the Northwest. He is also active in providing radios to people who are unable to use the KBARA system because they lack the equipment.

John, W7OE thanks for your assistance as an owner and the Technical Director for KBARA. There are other repeaters in the area that have been down for better than and year. You figure out the issues and get the systems on line in a short amount of time.

I would like to thank Mike K7EHT and the net hosts for their tireless efforts to keep the nets on the air.

A big thanks to the KBARA members for their contributions this past year to the repeater fund, especially, Dennis KF7UTH for his generous gift.

As the President of KBARA I feel humbled by the above mentioned members actions and the membership in general. You make KBARA a successful organization that serves the Northwest, Canada and Alaska communication needs. Thank you for your efforts.

The annual meeting will be July 25-27th in Oldtown, Idaho. Please check the KBARA.org web site for additional information. (Click on Summer Meeting Flyer) Hope that you can make the annual meeting and camp out.

73

Roger Krug KF7JJC
President KBARA

Field Day with the VHF Club

Another Field Day is behind us. As most of you know we combined forces with the Inland Empire VHF Club this year for Field Day. Our location was at Selkirk Lodge on Mount Spokane. We were 4A EWA. We had a lot of fun operating and of course ate well on Saturday afternoon. Mike, KE7PG was our chef for the hamburgers and hotdogs and Harold, KD7QJ made wonderful pulled pork. We had probably 20 people on site on Saturday for the BBQ. Weather was a factor on Friday night and into Saturday morning with heavy rain. None of us made a lot of contacts but we did have fun and some great socializing. Pictured below is KA7FVV's trailer setup for Field Day. Slinky dipole, dualband vertical, UHF beam for D-Star and not seen is a Hustler 4-BTV vertical that was working great with my IC-706, LDG Z100 Plus Autotuner and Signalink USB. All running off of a deep cycle battery with a couple of charging sessions with the generator, I operated over 18 hours on SSB and digital and had battery life to spare.



Have you seen and/or heard ISS? by Scott, KA7FVV

SS at an altitude of 260 miles and as large as a football field is the brightest man made object in the sky. They also have amateur radio on board. Most of the time their radio is tuned to 145.825 and transmitting APRS packet. It is easily heard and if you have the right setup hams can communicate via packet. The only times when the packet is not operational would be if the astronauts are operating voice on 145.800 with a tx of 144.490 (-1.31 offset) as they were during Field Day this year or if a departure or arrival of a spacecraft is taking place. At the time of this newsletter there



are no visual passes over the Inland Northwest until July 15th in the early morning. Passes have all been during the day. If you are home near your hamshack tune to 145.825 and track ISS with Orbitron. A handheld with the stock rubber duck or a base radio with a vertical is all you need to hear ISS. You can even hear it inside with a handheld.

Satellite News

The UK successfully launched it's second amateur radio satellite, UKube-1 on July 8th. The CW beacon has been heard by the control team and other amateur satellite enthusiasts around the world. If you capture data from FUNCube-1 this satellite carries a set of FUNCube board. On the Funcube website there is an update to the dashboard software. See www.amsat-uk.org for more information.

FM Satellite Communications by Scott, KA7FVV

There have been a large number of amateur radio satellites launched in the last several months. Unfortunately no more FM satellite except for LituanicaSAT-1. This is a Lithuanian satellite launched from ISS the end of February. It has been disappointing since it has been off more than on and predictions give it until the end of July before it reenters. Even though very few have made contact through the satellite it has been interesting to watch it's orbit. It has lapped ISS three times and is about to again. Satellites are launched in a retrograde fashion from ISS and downward so there is no danger to the station from collision. The satellite stays in a similar orbit as ISS but continues to get closer to the earth and moves faster as this happens. ISS is at an altitude of 260 miles and traveling at 17100 mph. LithuanicaSat-1 is at an altitude of 177 miles traveling at 17300 mph and will continue to loose altitude and gain speed until it reenters in the next month.

SO-50 continues to work well as our only active FM satellite. I continue to hear new stations working through the satellite. The FM sats are known as "Easy Sats" since they are relatively easy to work. Contacts have been successfully made with just a VHF beam even though the downlink is UHF. Successful contacts with a extended gain portable antenna but sometimes the satellite is tough to hear without a beam since it is only transmitting with 250 mw. If you have a dualband handheld it is possible to communicate through SO-50.



Below is programming information for your handheld. Since the satellite is moving so fast we must adjust for Doppler shift on the UHF downlink. No adjustment is needed for the VHF uplink since Doppler shift does not effect VHF as much.

Before you can hear the satellite you need to know where to point your antenna. There are several great satellite tracking programs available. The best free program for the PC is Orbitron. There are also some great ones for mobile devices as well. For iOS there is GoSat-Watch, Hamsat, Prosat, SatExpPro (free) Android has Amsat Droid Free and ISS Detector. ISS Detector has a small \$3 fee to be able to track amateur satellites and not just ISS.

I will have my portable equipment at the campout and also be doing a seminar on FM satellites at the Hamfest in September.

SO-50 FM	V/u	Transmit with a 74.4 hz tone to turn on the 10 minute timer if the satellite is off, then use the 67.0 hz tone.							
Doppler Adjust	Downlink	436.815	436.810	436.805	436.800	436.795	436.790	436.785	436.780
Tone: 67.0	Uplink					145.850			
		AOS		MID				LOS	
Channel Name Examples		SO50AOS	SO50A+1	SO50A+2	SO50A+3	SO50MID	SO50M+1	SO50M+2	SO50LOS



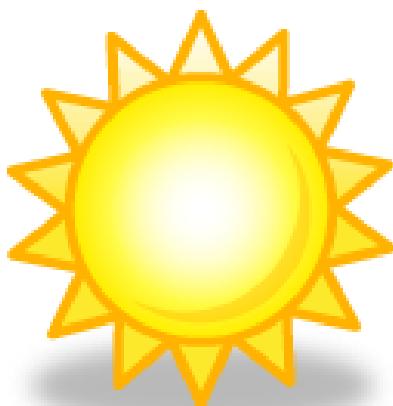
Solar Indices by John P. Dempster, W7OE

We hear the terms "Solar Flux", "A Index" and "K Index" bantered about over Amateur Radio--especially by those that like to work a lot of DX. Many of us use this information to anticipate activity on various Amateur Bands--especially the upper HF frequencies. In a condensed version the higher the Solar Flux the better the propagation on the upper HF bands. This reflects the amount of ionization of the upper "F- layer" which reflects our signals and allows multi hop contacts all over the world. I remember around the year 2001 working Japan almost every afternoon on 6 Meters when the solar flux was between 200 and 300. This occurs during the peaks of the 11 year sunspot cycle. When the solar flux is low (around 100) the ionization of the F-Layer is low and usually the bands above 20 Meters are dead and 20 Meters is open for shorter--higher angle--propagation during the day. However, don't despair, the lower bands such as 160 Meters are great. Why? When the sunspot level is low and the solar flux is also low, that dreaded "D-Layer Absorption" is reduced and the lower-angle long-distance skip is more effective. I recall working Europe and Africa almost every evening on 160 Meters during this sunspot low.

The "K" and "A" Indices represent the amount of geomagnetic disturbance--usually brought on by solar flairs (not to be confused with the flared pants worn in the 70s). Basically the "K" Index is the immediate measurement and the "A" Index is the average over and longer measurement period. A solar disturbance--with an associated high "K" Index" will completely destroy propagation on the mid HF bands such as 20 and 15 Meters with a lesser effect on the lower HF bands. I recall working a station on 20 Meters and all of a sudden he and all other stations completely disappeared on the band in a matter of a few seconds. The term "the solar curtain has dropped" describes this phenomenon. Again, don't despair, Auroral and Auroral-E propagation develops on the upper bands (10 Meters, VHF, and UHF). I recall a contact on 2 Meter CW with a station in Colorado with just a 5/8 wave mag mount antenna on my metal chimney cap. Usually I would assemble one of my yagis and point it north toward the auroral curtain and go from there for better results. If you see an Aurora Borealis by all means get on 6 or 2 meters and take a whack at it. Your success on FM may be limited due to the Doppler Shift. Why? The Auoral Curtain is moving in many directions at a significant speed. When components of the curtain approach you the received frequency goes up and the frequency goes down when components of the curtain recede from you. This movement is very rapid so the received signal is spread out over several KHz. On 2-Meter CW the received signals have a buzzing sound with no discernible tone. SSB is impossible to copy above 6 Meters. FM should even be worse since it has an even larger bandwidth.

I have provided a link for a more detailed summary of the Solar Indices provided by the ARRL which is--in my opinion--harder to understand than my simpler more interesting version.

<http://www.arrl.org/files/file/Technology/tis/info/pdf/0209038.pdf>



2014-2015 Membership Dues



Name: _____

Call Sign: _____

Address: _____

City/State: _____ Zip: _____

Telephone: _____ Amount Paid: _____

E-Mail: _____ ARRL Member #: _____

Would you rather receive the newsletter via computer, instead of receiving it in the mail? YES NO

Dues are a minimum of \$15.00 per year for individuals and \$20.00 for a family (all must be living at the same address). 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. And any additional amount going toward the Repeater Fund will be graciously accepted. To support **KBARA**, please send your contributions to:

KBARA, PO Box 30801, Spokane WA 99223-3013

Please visit our **KBARA** website for more information: <http://www.kbara.org>



via our web page. No check or stamp needed.

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Application 1

Digital voice (DV mode)

Analog audio is modulated to a digital signal and transmitted in the digital mode signal by the D-STAR radio.



Internet connection*

The Internet gateway allows linking of D-STAR repeater sites over the Internet. You can uplink to your local repeater and downlink from a remote repeater, even from a foreign country!

Application 5

IP camera (DD mode)

You can transmit live images in DD mode and watch real-time images from a remote location.



Application 2

Short data message (DV mode)

HELLO



Call sign identification and short data messages are available.

Repeater B



Application 3

GPS tracking (DV mode)

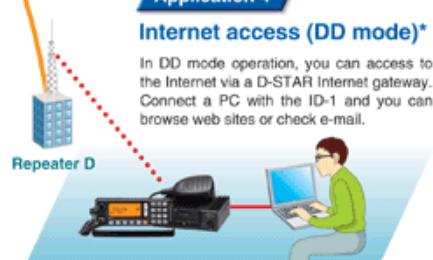
With a GPS receiver, you can send your current position information to another radio.



Application 4

Internet access (DD mode)*

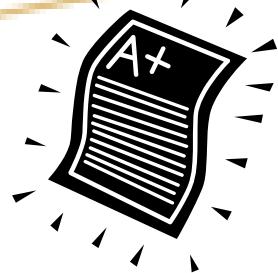
In DD mode operation, you can access to the Internet via a D-STAR Internet gateway. Connect a PC with the ID-1 and you can browse web sites or check e-mail.



- Internet
- DV mode (4.8kbps)
- DD mode (128kbps)

* Some restrictions may apply depending on specific countries' regulations.

Amateur Radio Testing Sessions



Chewelah, WA, ARRL VEC

Abundant Life Church (Basement) E 2nd & Clay St, Chewelah WA 99109-9660

Contact: Karl Miller, WX7DX: (509)258-8922 email: wx7dx@arrl.net

Coeur d'Alene (Hayden), ID, ARRL VEC

Second Monday of every month starting at 5:30PM at the Search & Rescue Building, 10865 N. Ramsey, Hayden, ID 83835.near the South end of CDA Airport

Contact John Hollar, Jr., N7JU, (208) 968-0703 email: n7ju@roadrunner.net

College Place, WA, ARRL VEC

Walla Walla University, 100 SW 4th 1st Door Bldg, Chan Shun Pavilion, Lecture Hall RM 154, College Place WA 99324-9999

Contact Mable Babbitt WB5AVH, (509)525-7003, email: wb5avh@msn.com

Colville, WA, ARRL VEC

Community Colleges of Spokane, 985 S Elm St, Colville WA 99114-2662

Contact Tommy L Howe, (509)684-5565; email: thowe@hotmail.com

Kennewick, WA, ARRL VEC

July 20, 2014; September 21, 2104, November 16, 2014; 2PM; Boy Scout Office, 8478 W Gage Blvd, Kennewick WA 99336-1075

Contact: Michael Tesky, KC7CCK (509)783-6236; email: kc7cck@frontier.com

Pullman/Moscow, WA, ARRL VEC

Contact: Tom Storer, KI6DER, (509)334-6979; email: KI6DER@AmSat.org

Spokane, WA, ARRL VEC

Monthly at Outpost (behind Conley's Restaurant) 12624 E Sprague Ave, Spokane Valley WA 99216

Contact: Mary Qualtieri, AA7RT, (509) 991-2192; email: aa7rt@me.com

Spokane, WA, W5YI VEC

August 19, 2014; October 21, 2014; December 16, 2014; 7PM, Tuesday; 2nd Look Books, 2829 E 29th Ave Ste C, Spokane WA 99223, 509-535-6464 (at 29th Ave & Regal in Lincoln Heights Shopping Center)

Contact: Betsy Ashleman, (509)448-5821 email: n7wrq@aol.com

Please bring two pieces of identification, one having a photo, radio license, if any, plus a photocopy, & any outstanding Certificates of Completion, plus a photocopy, & Social Security number or FCC Registration Number (FRN), and cash or check made out to the "ARRL" (\$15) or "W5YI" (\$14). If you pass a lower class license, you may sit for the next highest class on the same exam fee. You may retake any failed exam for an additional fee at the same testing session

KB7ARA REPEATERS and IRLP/Echolink Nodes

Frequency / Callsign	CTCSS Tone	Location	Owners	RF Linked?
Repeater:				
146.74 Mhz / W7HFI	None	Kamiak Butte near Colfax and Pullman, WA	Bob-W7HFI Jay-N7ZUF John-W7OE	Yes - AK2O (223.90)
223.90 Mhz / AK2O	None	Stensgar (Stranger) Mt. Northwest of Spokane near Chewelah, WA	Karl-AK2O	Yes - Hub
147.38 Mhz / W7OE	None	Mica Peak, East of Spokane	John-W7OE	Yes - AK2O (223.90)
147.36 Mhz / KF7QLH	None	Stensgar (Stranger) Mt. Northwest of Spokane near Chewelah, WA	Glen-KF7QLH John-W7OE	No - Hard wired to hub controller
147.02 Mhz / K7HPT	None	Lookout Pass on the Idaho-Montana border	Mark-K7HPT John-W7OE	Yes - W7OE (147.38)
147.28 Mhz / KD7DDQ>	None	Pikes Peak, SE of Walla Walla	Ken-KD7DDQ Mark-K7HPT	Yes - AK2O (223.90)
443.125 Mhz / KB7ARA	D-Star Digital Voice Module B	Providence/Sacred Heart Medical Center in Spokane	Glen-KF7QLH Randy-W4LKS	No D-Star Only
1293.3 Mhz / KB7ARA	D-Star Digital Voice Module A	Providence/Sacred Heart Medical Center in Spokane	Glen-KF7QLH Randy-W4LKS	No D-Star Only
1249.0 Mhz / KB7ARA	D-Star Digital Data 128kbps Internet	Providence/Sacred Heart Medical Center in Spokane	Glen-KF7QLH Randy-W4LKS	No D-Star Data
Links:				
IRLP Node 3636 (KB7ARA)	None	East Tiger Mt, Issaquah, WA	Jack-W7HNH	Yes - K7NWS (145.33) & IRLP Reflector 9075
IRLP Node 3638 (KF7QLH)	None	South Hill, Spokane, WA	Glen-KF7QLH	Yes - AK2O (223.90) & IRLP Reflector 9075
IRLP Node 3282 (KF7QLH)	100 hz	Simplex Node on 147.40 Mhz, NW Spokane	Glen-KF7QLH	No - IRLP Only

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. The repeaters' frequencies, call signs, locations and owners are as follows:

All licensed Amateur Radio operators are welcome to use this open repeater system. Your support would also be greatly appreciated.

Please visit these sites for more information: <http://www.kbara.org> and visit <http://groups.yahoo.com/group/evergreenintertie>



Follow us on Facebook

Like



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.

KAMIAK BUTTE AMATEUR REPEATER ASSOCIATION

PO Box 30801

Spokane WA 99223-3013