

August 2013

(www.k7id.org)

P.O. Box 1765 Hayden, ID 83835-1765

## REGULAR

### CLUB MEETINGS:

**Monday, Aug. 12, 7:00 p.m.**  
Search & Rescue Bldg,  
Hayden, Idaho

**Topic:** ARRL Award Certificates

**Presenter:** ????

**Refreshments:** Gary Holland,  
N7DHL

**Monday, Aug. 12, 5:30 p.m.**  
ARRL VE Test Session  
Same Location As Above

**Monday, Sept. 9, 7:00 p.m.**  
Search & Rescue Bldg,  
Hayden, Idaho

**Topic:** TBA

**Presenter:** ????

**Refreshments:** Ron Phillips,  
KF6WKR

**Monday, Sept. 9, 5:30 p.m.**  
ARRL VE Test Session  
Same Location As Above

### Upcoming Events

**Pacific NW DX Convention**  
August 2-4, 2013  
Mirabeau Park Hotel  
Spokane Valley, WA

**KARS Summer Picnic and Ice Cream Social**  
August 17, 2 P.M. - ????  
Hosts: Bob and Bonnie Kesson

## President's Column

Hope you have all had a chance to take a few days of vacation this summer. I just returned from a week of volunteer work in Montana. Specifically, at the old US Forest Service Nursery in Haugan, Montana. Once a year, in the middle of July (so it is really hot) a group of approximately 40 people come from throughout the country to give a little tender loving care to the old facility. A great opportunity to do a little physical work and gain a new perspective.

If you were not able to attend the July meeting, you missed the announcement of a kit building project to construct a computer to radio interface. Elsewhere in this newsletter is a description of the project and how you can get involved. If enough people are interested, we will build the kit at one of our upcoming meetings.

Also don't forget the KARS Summer Ice Cream Social and Picnic, scheduled for Saturday, August 17, at Bob and Bonnie Kesson's home in Coeur d'Alene. See the announcement in this newsletter for time and directions to their home. They have some beautiful shade trees so even if it is hot, there is a shady place to sit and visit with club members and their families.

Also discussed at the July meeting was the success of our annual Hamfest. We made a little over \$3,000 this year. It was a rare occurrence and not something we can count on from year to year. Now we need to decide how best to utilize these funds. One option would be a chance for us to upgrade our existing repeater system. The repeater committee has developed a plan to replace our current VHF repeaters with more modern equipment. One repeater to be VHF and the second to be UHF, linked together with a UHF link. The VHF repeater would reside on Mica Peak and the UHF repeater on Canfield Mountain. Discussion will continue at the August meeting, with a yes or no vote to be taken upon the implementation of the repeater plan. If you have any questions or comments on this plan, please let one of the board members know. Please try to attend the August meeting so your opinion can be voiced.

See you at either the next meeting or the summer picnic.

Bonnie, KG6QQM

## Handheld Radios Available for Member Usage

Attention new technicians. Now that you have your ham license in hand, have you had a chance to get on the air? Can't decide what kind of radio to buy? KARS now has handheld radios available for loan to new technicians who are members of KARS. Hams under 21 are given priority. Hams under 21 may use the radios for 90 days. Hams under 18 will have to have a responsible adult sign as Guarantee. Hams 21 and over may use the radios for 60 days. The radios must be returned in good working order at the end of the usage period or the borrower will pay KARS the cost of replacing the radio.

All the radios have been programmed for our local repeaters. Interested in borrowing one? Please contact a board member for further information.

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Field Day 2013 (11AM 06/22 – 11AM 06/23) (At home of Rick, KI7I, Spirit Lake, ID)

Rick (KI7I) and *newly licensed* YL Carla (we don't know her call yet) [KG7DUS, (ed.)] have generously offered their home QTH as our Field Day site this year. The Field Day station will be operating as "Class D" (means "from home"), so it will be a more relaxed atmosphere. We will be simultaneously demonstrating the station to visitors; engaging in "RadioSport" (a competition of sorts); testing our equipment; practicing how to work together. We will gladly help new hams or prospective hams get on the air and make a contact, this is an opportunity to get young people more interested in science and technology. Everyone is welcome to visit – and to help with operation of the station. See the "Field Day Flyer" elsewhere in this newsletter.

Submitted by Ed, AI7H

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### Field Day Report:

KARS members gathered for Field Day 2013 at the home of Rick and Carla Vanlandingham, in Spirit Lake, ID. This year our setup was primarily focused on demonstrating Amateur Radio to visitors, and indeed a number of newly licensed operators enjoyed the thrill of making their first short-wave contacts at the station! According to our sign-in sheets, a total of eleven operators and fifteen visitors enjoyed the experience.

We operated two stations; one from Rick's "radio shack" and antenna farm; and a second one from the opposite end of the house (aka "garage") with three temporary antennas built up for the occasion. (Newer hams note: Antennas sometimes have gender and names, one of

our vertical antennas was a female named "Lena", because she was leaning to one side).

The event also offered the opportunity for hams to socialize (which took place during the entire operating period), and eat (superb cuisine at the Saturday evening pot-luck and Sunday AM breakfast!).

The two stations managed to contact a total of 318 distant Field Day stations, but we didn't quite "Work All States".

We wish to thank Rick and Carla for opening their home to the visiting crowd, and hosting all that went on during Field Day 2013!

Submitted by Ed, AI7H

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## Kootenai Amateur Radio Society General Membership Meeting Minutes July 8, 2013

The meeting was called to order by President Bonnie Patterson, KG6QQM.

W7ENI led the Flag Salute.

*Newly licensed hams* were introduced as follows:

Robert Garth, KG7ENJ, Technician

Mike Hoskins, KF7WRQ, Upgrade to General

Kim Hoskins, KG7ENI, Technician

Drago Duncan, KG7ENH, Technician

Craig Phillips, W7CDP, General

Amanda Hammond, KG7ENK, General

Ralph Rise, KG7DDE, Extra

### *Guests*

Todd Silk brought his son Eric, a University of Idaho student. Gary Roth brought co-worker and friend, Debbie.

### *New Club Members*

Melanie Savage, KG7DOJ

Mike Hallstrom, KG7DUQ

Don Pischner, KG7DUZ

Robert Blume, W6CRA

John Rank, KG7DUJ

**Presentation:** Our program for the evening was on Family Emergency Preparedness. Our presenter was Kevin Creighton who is the Director of Adult Probation for Kootenai County. Kevin reminded us all of the basic fundamentals. Be ready now because you won't have

much time to prepare. Kevin had numerous booklets on various subjects that he left and you can obtain them from Kootenai County. Gary Holland, N7DHL, can give you all kinds of information about Emergency Preparedness since he is the ARES EC for Kootenai County. He is the person to contact if you are interested in joining the ARES/RACES organization in our county.

A short break for refreshments was next and thanks to Dave Boss, KF7YWR for providing the goodies.

**Business Meeting:** After the break we moved on to our business meeting. Bonnie announced that hard plastic engraved membership badges are available through her for \$10.60.

**Drawing:** Next up was the drawing. The \$8.50 “50-50” was won by Bonnie Kesson, KE7FPA. The Membership drawing was next and Jacob Cord, K7AJC was the lucky winner except he didn’t buy a ticket! Next time the Kitty will be \$369.

The **Minutes of the May meeting** were approved as presented.

Our **Treasurer** reports Cash on Hand of \$ 10,183.62.

The **Hamfest** was very successful. If you would like more details contact Pat Patterson, W7SGS via: [treasurer@k7id.org](mailto:treasurer@k7id.org).

**Field Day:** Thanks to Rick and XYL for hosting our event. AI7H has a report prepared for the July meeting which is similar to the one he had for the newsletter but forgot to push the button. Members are anxiously awaiting. Rick says everyone had fun and a lot of new hams got some operating experience.

**Tech Class:** We had a very successful class with at least 21 new hams among the students some even before the class was finished. Very good reports from the students about the class. Thanks to Dale, KE7VMN and anyone else who helped out.

**Canfield work party:** A group went up to our repeater site and got the weeds cleaned up which is part of our agreement with the county for use of the site.

### **NEW BUSINESS**

We have a new life member, Melanie Savage. Melanie is a family member with OM Bob, KF7VIH. Thanks for your support.

**Repeater Committee:** The 2013 Repeater Committee consists of Gary Holland, N7DHL; Alan Campbell, KE7DFT; Dale DuRee, KE7VMN; Bob Schaff, KF7VIH; and Bob Kesson, K7CGA. Dale Duree presented their preliminary plan for both sites which includes using both VHF and UHF and purchasing some new equipment. President Bonnie has asked them to prepare their final plan and present it to the KARS Board meeting, Aug. 3, 2013. If the plan is accepted by the Board it will be presented to the membership for a vote for approval and funding at the August 12th meeting.

**KARS HISTORY:** President Bonnie has some photos of club members and activities over the years. She would like someone to take on the task of organizing them in photo albums so they won’t be lost. Contact Bonnie if that is something you would like to do.

The **Ice Cream Social** will be August 17 at Bob and Bonnie Kesson’s house. More info shortly on that event.

**Northwest Traffic Net** meets on the repeater nightly at 1830 hrs. (that’s 6:30 p.m. for you civilians).

The **PNW DX** convention is in Spokane this year, August 2-4. Check it out at [www.pnwdx.org](http://www.pnwdx.org). Yaesu has donated a FT DX 3000 for a raffle prize and there are also several other nice prizes to be given away.

The Washington State ARRL Convention (**Spokane Hamfest**) will be September 28 at University High School in Spokane. Check it out at <http://spokanehamfest.com>.

The speaker for the August meeting is unknown at this time.

There being no further business, the meeting was adjourned.

Submitted by: Tom Richmond, NI7W, KARS Secretary

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### RADIO DEVELOPMENTS: FORTY DOLLAR SDR RECEIVER

A Software-Defined Radio costing only \$40 is the subject of an IEEE article that describes how, with some cheap hardware and free software, you can listen-in on digital and analog signals across a wide range of radio spectrum. The author is Stephen Cass, KB1WNR, who used a Freeview P250 dongle, an indoor TV antenna and a Model B Raspberry Pi microcontroller to make it all happen. You can read the entire article and watch a video of the device on line at [tinyurl.com/inexpensive-sdr](http://tinyurl.com/inexpensive-sdr). (WIA, GB2RS, Southgate) (AR Newslines).



# SUMMER PICNIC

**Sat. August 17**

**Starting @ 2:00PM**

**Bob and Bonnie Kessons  
2531 E. Hanley Avenue  
Coeur d'Alene, ID.**

**If going north on Highway 95 turn right on W.  
Hanley avenue,**

**If going south on Highway 95 turn left on W.  
Hanley avenue (Silver Lake Mall on left) , and  
proceed 1.8 miles house on left.**

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RADIO RESEARCH: HERE COMES THE SUN –  
THERE GOES THE SUN

While the sun is currently at the projected peak of its 11 year solar cycle, our home star has been relatively quiet in the area of sunspots and their affect on radio propagation here on planet Earth. Amateur Radio Newsline's Norm Seeley, KI7UP, takes a look at what scientists believe is happening:

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Researchers say that this year's solar maximum is shaping up to be the weakest in some 100 years and the

next one could be even quieter. This according to scientists who study the solar cycle as it affects our home planet.

One of these is David Hathaway of NASA's Marshall Space Flight Center in Huntsville, Alabama. In an early July teleconference Hathaway told reporters that we are witnessing the smallest solar maximum we have seen in the Space Age. Also that the next one, cycle 25 could be even quieter.

About every 11 years, the sun goes through a cycle defined by an increasing and then decreasing number of sunspots. The current cycle known as Solar Cycle 24 has been underway since 2011. Its peak was expected in 2013 but there have been fewer sunspots observed this year compared with the maximums of the last several cycles.

Sunspots are the dark temporary regions on the surface of our home star that are thought to be caused by interaction between the sun's plasma and its magnetic field. They are also the source of the solar flares and Coronal Mass Ejections that in turn send charged particles into space. Those that hit Earth hold the potential of causing damage to satellites and producing surges in power grids. But they also affect radio propagation by causing short-term High Frequency blackouts while at the same time producing some dazzling auroras above the planet's poles that radio amateurs and others have long used for propagation experimentation. Ham radio operators on 6 meters and above have been known to make some amazing DX contacts by bouncing signals off auroral trails.

Giuliana de Toma, a scientist at the High Altitude Observatory in Colorado says that the sunspots occurring during a calm maximum have the same brightness and area as the ones observed during a more turbulent peak. The only difference is that there are fewer of them and that's why this is why low cycles like this one are considered as being weak.

Scientists seem to agree that a small Cycle 24 also fits in with a 100 year pattern of building and waning solar cycles. They say that they don't know yet the exact cause of this trend, but they note that there were weak solar cycles in the beginning of the 19th and 20th centuries as well as now in the 21st. For ham radio this means that while the various bands are far from dead, that their full potential may not come about during this solar cycle.

For the Amateur Radio Newsline. I'm Norm Seeley, KI7UP, where the sun is keeping us rather warm in Scottsdale, Arizona.

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You can find out more about the Solar Cycle at [tinyurl.com/weak-cycle-24](http://tinyurl.com/weak-cycle-24) and [tinyurl.com/not-many-sunspots](http://tinyurl.com/not-many-sunspots) to mention only two. (Space.com, others)

## REGARDS TO YOU

“73” at the end of a message is often used by radio amateurs as a “short-hand” way of saying “Best Regards” or “Compliments to You.” It derives from a numeric code used by land line telegraphers as far back as the 1850s or before. The meaning has changed slightly over the years, but the current “Best Regards” has been pretty well fixed since the early 1900s.

The number itself has some interesting properties. 73 is the 21st prime number in our Base 10 system. Its mirror (37) is the 12th prime—note that 21 and 12 are mirrors of each other. Also note that 21 is the product (7X3) of the two elements of 73. Of interest to some is the fact that 73 converted to Binary Code is 100010001, a palindrome. And, the Morse Code equivalent (—... ..—) is also a palindrome. Ready for more? In the 7th decade, 3rd year to be specific, of the 1900s, 73 wise rock music aficionados voted Creedence Clearwater Revival to be the best rock band ever!

From Stevan McQuiston (WA7DU) somewhere in Apache tribal territory via iPod.

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## Broadband-Hamnet™ wins International Association of Emergency Managers Awards

Broadband-Hamnet™ (formerly HSMM-Mesh™) firmware, developed by Amateur Radio operators to provide hams with a high-speed digital wireless communication mesh network, has won both US and global awards from the International Association of Emergency Managers (IAEM). The USA Council of the IAEM International Association of Emergency Managers (IAEM) designated Broadband Hamnet as a Division 2 (state/regional national government, international, or nonprofit organization) Technology and Innovation Award winner. It went on to win the IAEM-Global Technology and Innovation Award in the same division. The awards will be presented in October at the IAEM’s annual conference in Reno, Nevada. The firmware was the subject of a cover story article in the July 2013 issue of *QST*, “A Broadband Ham Network Crosses the Finish Line,” by Lynn Jelinski, AG4IU. The firmware is available at no charge via the project website, which describes Broadband-Hamnet as “a high-speed, self-discovering, self-configuring, fault-tolerant, wireless computer network” with very low power consumption and a focus on emergency communication.

The current form uses Linksys WRT54G/GL/GS wireless routers and operates on channels 1-6 of the 2.4 GHz ISM band, which overlaps with the upper portion of the 13 centimeter Amateur Radio band. Glenn Currie, KD5MFW, David Rivenburg, AD5OO, Bob Morgan, WB5AOH, and Rick Kirchhof, NG5V, spearhead the effort, and there is a distributed development community with users in the US and abroad. — *Thanks to Broadband-Hamnet webmaster Jim Kinter, K5KTF* (ARRL Newslines)

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## KARS Construction Project Digital Mode (computer to radio interface)

Ok, so you attended the K6SPP, Larry Telles, “Digital Operating Mode” lecture series at regular KARS meetings. You got your complimentary CD from Larry chocked full of **FREE** software allowing you to load some programs into that “old” computer “tower” you haven’t used for a while (and don’t think anyone would want to buy at a hamfest or garage sale). Oh...you missed the KARS meeting and didn’t get a CD? Well we can take care of that too. Now what? All that’s required to get *on the air* in the digital modes is to obtain a “*computer to radio interface*”. Want to purchase a good one? How about a Rascal® for \$50+; or a Rigblaster® for a cool \$299; or their cheaper version for \$199? Then there is the Signal Link® for \$109 but it doesn’t include the radio cable they are asking another \$19. There’s always the MFJ Sound Card Interface® to the rescue with their “box” for a scant \$99 (plus a bunch of add-on extras needed). Hi-end interfaces include the Kantronics Multimode® at \$349, or the Timewave® for \$499! These devices will handle a bunch of digital modes many of which you may never want to try. It’s no wonder you might be a bit put off by the digital communication modes.

**How does \$12.00 SOUND?** Yes \$12 dollars and about an hour of “kit work” at a **club meeting** will get you all the components you need plus a plated double sided drilled PC board, that when populated and tested will net you a *Computer to Radio Interface* that will handle all the digital modes. What digital modes? There’s **PSK-31**, **RTTY**, **CW**, **Packet**, Amtor, MFSK, Throb, MT63, Hellschreiber, FAX, **SSTV**, Olivia, Contestia, **WSJT** (VHF weak signal moon bounce and meteor scatter communications modes) plus many more too numerous to mention. “But I’m only a Technician” you say. Technicians have plenty of HF spectra in the 80, 40 and 15 meter bands. The digital mode there is **Morse Code** a.k.a **CW**. You don’t need to learn the *stink’n* code either! A simple free program loaded on your computer and an HF radio can send and receive *machine* generated Morse code at speeds that even AI7H or W7CQW (code gurus) may not be able to copy by ear. Your sending speed depends on how fast you can type text on your computer keyboard. But ...you’ll

need a *Computer to Radio Interface*. The 10 Meter band allows Technicians the use of many digital modes with **PSK-31** being the most popular and the easiest to use. Check out **28.120 MHz. USB** (upper sideband) to “see” plenty of DX activity. If you are a General Class and above you might want to add Steve Ford’s **WB8IMN**, book “Get on the Air with Digital” (ARRL member price \$22.95) for all the modes your license has to offer. What’s the first step? Larry in his presentation told you to load the free program **Digipan 2.0** <http://www.digipan.net/> and enable your built-in (or plug-in ) microphone on your computer. It will be acoustically coupled to the receiver speaker...no wires yet (but don’t talk or you’ll interfere with the audio path from the speaker to the microphone. About 3 feet should do it.

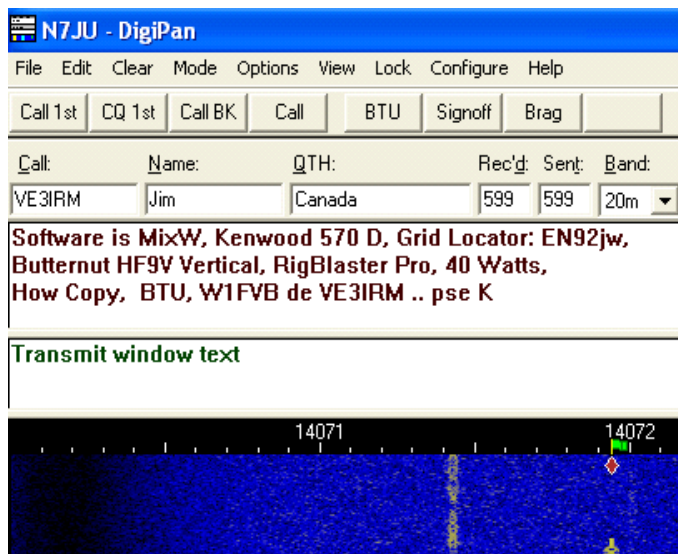
Anyone can listen to this mode and the best place to tune your HF Transceiver is **14.070 MHz**. (General portion of the band) to **copy** some **PSK-31** chit-chat signals (usually on 24/7). Actually **PSK-31** is a great way to start your quest into the digital world. Its easy and the signal to noise ratio is unbelievably good. With very low output power you can transmit a very long way.



### BUILD THIS KARS KIT FOR \$12.00

At the July 2013 meeting, KARS President Bonnie, Patterson, **KG6QQM**, announced the project and quickly got 8 sign-ups for the *Computer to Radio Interface* construction project shown above. Unfortunately we don’t get the quantity discount unless we have a minimum of 20 members (or friends) who want to build this project. I’ve built a dozen of these units and they all work very well. In fact, I’m using one now with the same design for the past 5 year without a glitch.. The kit includes the parts, circuit board and several cables that interface to the computer’s sound card (microphone-in, line-out, and ground).

If you use it for CW just set your HF Transceiver to *break-in* and the transmitter will key up as soon as code characters appear on the computer’s audio line out. If you want to use the unit on **PSK-31**, **RTTY**, **SSTV**, or **Packet** you’ll need a custom microphone connector that matches your specific radio that can’t be included with the kit because of the numerous connectors in use today by the various transceiver manufacturers. Many use a RJ-45 connector (available at Radio Shack for about .50 cents) which by far is the cheapest way to go (newer models from ICOM and Yaesu use this connector). Older transceivers might need a special connector such as an 8 Pin DIN plug shown below. Check with <http://>



Screen shot of two **PSK-31** stations on the frequency, one having just turned it back (see the red diamond/green flag “selector) and the other in **QSO** with a listening station. Both were **Q5** copy. The display is referred to as the “water-fall”.

About 20 watts into a dipole on 10 Meters and you can *work the world* when the band is open. The other advantage of a digital mode is that you set your HF transceiver to a simplex frequency and you can “see” 10+ stations all at the same time! Take your pick, copy their **CQ** and give’em a call. **If you can “see” them (hear them), you can work them.**

[www.buxcomm.com/catalog/](http://www.buxcomm.com/catalog/) for any special microphone/data plug connector **you** might need. Be careful however with this site...they have many resellers who charge a whole lot more for the same connector than does Buxcomm.



**8-Pin Standard DIN  
microphone  
connector for many  
Icom & Yaesu model  
transceivers \$1.50**

The other connector you might need, when using **PSK-31, RTTY, SSTV** or **Packet** is an output from the computer to “hard key” your radio. On older computers this is accomplished with a COM (1) Port. All you need here is a 9-Position Type D-Female crimp-type connector to match the Male COM port connector on the computer. Radio Shack Part Number RS-276-1428. If you have a newer computer or laptop you won’t find a COM option, but rather you’ll need a USB port to COM port *serial adapter* such as the one shown. In either case, problem solved.



Plugable USB to RS-232 DB9 Serial Adapter

(Prolific PL2303HX Chipset)

**Buy Now! \$12.95**

If you’d like to participate in this KARS construction project meeting, email your order to <mailto:President@K7ID.org> to *reserve your kit*. Remember ...we need 12+ more orders to obtain the quantity discount **and schedule a meeting date**. If you have an questions please contact me at <mailto:N7JU@arrl.net>- **John – N7JU**

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### HAARP Facility Shuts Down

The High Frequency Active Auroral Research Program (HAARP) - a subject of fascination for many hams and the target of conspiracy theorists and anti-government activists - has closed down. HAARP’s program manager, Dr James Keeney at Kirtland Air Force Base in New Mexico, told ARRL that the sprawling 35-acre ionospheric research facility in remote Gakona, Alaska, has been shuttered since early May.

“Currently the site is abandoned,” he said. “It comes down to money. We don’t have any.” Keeney said no one

is on site, access roads are blocked, buildings are chained and the power turned off. HAARP’s website through the University of Alaska no longer is available; Keeney said the program can’t afford to pay for the service. “Everything is in secure mode,” he said, adding that it will stay that way at least for another 4 to 6 weeks. In the meantime a new prime contractor will be coming on board to run the government owned-contractor operated (GOCO) facility.

HAARP put the world on notice two years ago that it would be shutting down and did not submit a budget request for FY 15, Keeney said, “but no one paid any attention.” Now, he says, they’re complaining. “People came unglued,” Keeney said, noting that he’s already had inquiries from Congress. Universities that depended upon HAARP research grants also are upset, he said.

The only bright spot on HAARP’s horizon right now is that the Defense Advanced Research Projects Agency (DARPA) is expected on site as a client to finish up some research this fall and winter. DARPA has nearly \$8.8 million in its FY 14 budget plan to research “physical aspects of natural phenomena such as magnetospheric substorms, fire, lightning and geo-physical phenomena.”

The proximate cause of HAARP’s early May shutdown was less fiscal than environmental, Keeney said. As he explained it, the diesel generators on site no longer pass Clean Air Act muster. Repairing them to meet EPA standards will run \$800,000. Beyond that, he said, it costs \$300,000 a month just to keep the facility open and \$500,000 to run it at full capacity for 10 days.

Jointly funded by the US Air Force Research Laboratory and the US Naval Research Laboratory, HAARP is an ionospheric research facility. Its best-known apparatus is its 3.6 MW HF (approximately 3 to 10 MHz) ionospheric research instrument (IRI), feeding an extensive system of 180 antenna elements and used to “excite” sections of the ionosphere. Other onsite equipment is used to evaluate the effects.

Larry Ledlow, N1TX, of Fairbanks, Alaska, said HAARP ionosonde and riometer data have been “invaluable, especially being more or less local, to understand current conditions in the high latitudes.” He said data from other sites “simply do not accurately reflect the unique propagation we endure here.”

To fill the gap, Ledlow said, several members of the Arctic Amateur Radio Club - including Eric Nichols, KL7AJ, author of *Radio Science for the Radio Amateur* and articles in *QST* - have discussed building their own instruments. “It’s all very preliminary,” he said, “but we really feel the pinch losing HAARP.” Nichols, of North Pole, Alaska, has conducted experiments at HAARP. He called the shutdown “a great loss to interior Alaska hams and many others.”

The ultra-high power facility long has intrigued hams, even outside of Alaska. In 1997, HAARP transmitted test

signals on HF (3.4 MHz and 6.99 MHz) and solicited reports from hams and short-wave listeners in the “Lower 48” to determine how well the HAARP transmissions could be heard to the south. In 2007 HAARP succeeded in bouncing a 40 meter signal off the moon. Earlier this year, HAARP scientists successfully produced a sustained high-density plasma cloud in Earth’s upper atmosphere.

As things stand, the Air Force has possession for now, but if no other agency steps forward to take over HAARP, the unique facility will be dismantled, Keeney said. He pointed out that it would cost less to bulldoze the antenna field than it would to replace the 180 antenna elements.

Splashy web postings abound, blaming HAARP for controlling the weather - most recently in the case of Hurricane Sandy and the spate of tornados - and for causing other natural disasters. Quipped Keeney, “If I actually could affect the weather, I’d keep it open.”

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#### CANADIAN TEEN DEVELOPS BODY POWERED FLASHLIGHT

And finally this month, the story of a fifteen year old Canadian student used her knowledge of electronics to develop an innovative flashlight. One that could eventually revolutionize portable lighting because all it needs for power is its owner’s body heat. Amateur Radio Newsline’s Cheryl Lasek, K9BIK, has the rest of the story:

The UK Daily Mail newspaper says Ann Makosinski is a high school junior in Victoria, British Columbia. In deciding on a science project she realized that Peltier tiles, which produce electricity when one side is heated and the other is cooled could use body-heat to create energy for a flashlight. So she set off to do just that.

The result is a LED flashlight that lights simply by holding it on the outside. That causes the tiles to heat up on one side while the ambient air cool down the tile on the inside. The power created by the tiles was enough so she created a four component voltage multiplying circuit that would provide the level she required.

As a result of her efforts, this September Ann will be one of fifteen finalists presenting their projects at the Google Science Fair in Mountain View, California. The winner gets a prize of \$50,000 and a trip to the Galapagos Islands.

For the Amateur Radio Newsline, I’m Cheryl Lasek, K9BIK, in Zion, Illinois.

You can read the full story and watch the video of Ann Makosinski explaining and demonstrating her invention on the web at [tinyurl.com/heat-powered-light](http://tinyurl.com/heat-powered-light). An interview with Ann Makosinski conducted by writer

Alexander Baron on how she actually developed her amazing human powered flashlight can be read at [www.digitaljournal.com/article/353536](http://www.digitaljournal.com/article/353536). (Southgate, Daily Mail) (AR Newsline)

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#### Harness Saves Canadian Ham After Fall from Tower

An unidentified ham in Edmonton, Alberta, Canada, avoided serious injury or worse after falling July 16 from a ham radio tower he was disassembling. The man, whom media reports called “a certified tower expert” fell backward from the tower and became trapped about 35 feet in the air. The *Edmonton Journal* quoted District Fire Chief Lorne Corbett: “He had on the proper harness, that’s what saved him. He also had his legs entangled in the tower itself.” When the rescue team showed up, the man was upside down, and firefighters went up the tower to stabilize him and orient him upright. Firefighters got the man down using a bucket on a fire ladder. Although bruised, he was able to walk to the ambulance. The ARRL offers antenna and tower safety tips on its website. Universal Radio also has posted a list of general recommendations for installing outdoor antennas. — *The Edmonton Journal; The Edmonton Sun*

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### COFFEE & DONUTS EVERY THURSDAY MORNING

8:00 A.M.  
To  
10:00 A.M.

The Golden Spike  
Community Center  
Rathdrum



TALK-IN: 146.98  
100 PL

Bring a writing instrument. The Golden Spike has the napkins for our breakfast table engineering!

Deadline for submitting articles, stories, reports, etc., is the 25th of each month for the following month’s newsletter.



# Kootenai Amateur Radio Society

PO Box 17□5, Hayden, Idaho 83835-17□5



Please complete the entire form and return with your payment.

## Single Year Membership

New Member \$12.00    Renewing \$12.00    Family Membership \$18.00    Information Update Only

## Two Year Membership

New Member \$22.00    Renewing \$22.00    Family Membership \$33.00

Callsign \_\_\_\_\_ Class \_\_\_\_\_ Expiration \_\_\_\_\_

First Name & Middle Initial \_\_\_\_\_ Last Name \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_ Zip Code \_\_\_\_\_

Phone Number \_\_\_\_\_ E-Mail Address \_\_\_\_\_

ARRL Member \_\_\_\_\_ May we publish limited information \_\_\_\_\_

Internal Use Only

Cash	<input type="checkbox"/>	Check	<input type="checkbox"/>	Money order	<input type="checkbox"/>
Roster	<input type="checkbox"/>	Membership Card	<input type="checkbox"/>		

For Family Membership, Please complete an application and staple together.

Signature \_\_\_\_\_

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## K7ID.org Request Form

First and Last Name \_\_\_\_\_ Callsign \_\_\_\_\_

Would you like your (callsign)@k7id.org email to be forwarded to an existing email account or would you like to access it through a web or post office protocol (POP) system?

Please Forward to My existing Email (Please Complete the Bottom and Sign.)    Webmail Access    POP Access  
 I wish to opt-out of K7ID.org

Please Select a username \_\_\_\_\_ @K7ID.ORG

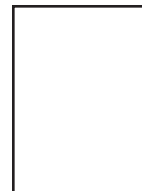
Please Select a Password \_\_\_\_\_

### For Forward Request Only

Email Address \_\_\_\_\_

Signature \_\_\_\_\_

**KOOTENAI AMATEUR RADIO SOCIETY**  
**P.O. Box 1765**  
**Hayden, ID 83835-1765**



## **DIRECTIONS TO KARS MEETING:**

Take U.S. Highway 95 to Miles Avenue (Miles is about 1 mile North of Hayden Avenue). Instead of proceeding west from the corner of Miles and Ramsey, go north about ¼ mile, to the first building on the left (West) side of the road.

## **2013 CLUB OFFICERS**

President: Bonnie Patterson, KG6QQM  
president@k7id.org

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## **Notice**

Propagation is published monthly by the Kootenai Amateur Radio Society (KARS). The club is located in Coeur d'Alene, Idaho and serves the North Idaho and the Spokane, Washington areas.

All opinions expressed in this newsletter are those of the individual contributors and not the radio club as a whole.

KARS operates a voice repeater on 146.98 and a packet repeater on 145.510 Mhz.

Anyone interested in Amateur Radio is welcome to join. Dues are \$12.00 (individual) and \$18.00 for a family membership. Contact the Treasurer if you wish to join.

If you know of anyone interested in joining KARS, you can notify the newsletter editor as to that parties email address. A copy of this newsletter will be sent with no obligation to join.

Material can be submitted for publication in Propagation. The deadline for articles, etc., is the 25th of each month for the following month's issue.