

February 2015

([www.k7id.org](http://www.k7id.org))

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

## REGULAR CLUB MEETINGS:

**Monday, Feb. 9, 7:00 p.m.**  
**Search & Rescue Bldg.**  
**10865 N. Ramsey Rd.**  
**Hayden, Idaho**  
**Topic: Antennas**  
**Presenter: Ed Stucjey, AI7H**  
**Refreshments: ???**

**VE Testing**  
**Monday, Feb. 9, 5:30 p.m.**  
**10865 N. Ramsey Rd.**  
**Hayden, Idaho**

**Monday, Mar. 9, 7:00 p.m.**  
**Search & Rescue Bldg.**  
**10865 N. Ramsey Rd.**  
**Hayden, Idaho**

### Upcoming Events

**March 7, 2015**  
**Mike & Key Club Hamfest**  
**Puyallup, WA**  
[www.mikeandkey.org/flea.htm](http://www.mikeandkey.org/flea.htm)

**March 21, 2015**  
**MicroHAMS Digital Conf.**  
**Redmond, WA**  
[www.microhams.com/mhdc](http://www.microhams.com/mhdc)

**April 11, 2015**  
**Communications Academy**  
**2015**  
**Seattle, WA**  
[www.commacademy.org](http://www.commacademy.org)

Letter from the President

February 2015

Dave Boss KF7YWR

[boss@infinityusers.com](mailto:boss@infinityusers.com)

208.290.8590

It is really hard to believe that February is here already. What is even more difficult believe is that at the end of January, that the temperature is 55 with mostly lawn showing, even at my QTH which borders the Spirit Lake snow belt! I am concerned that this is just a mean trick that will leave us shocked with feet of snow when we least expect it. We can only hope it stays nice, cuz this is really delightful!

Survey results

Tabulated by the accounting firm of: KF7YWR & CUPo'JO

The results have been tabulated from the January meeting for program topics and here is the list of items that the club was most interested in. The greatest interest in general was around the digital modes. Echolink, D-Star received the multiple votes, IRLP was also mentioned. Earth-Moon-Earth and Satellite Comms were also of interest as well as Broadband Hamnet. Hands-on classes were second in the interest level, with soldering, building antennas and testing them with an analyzer received multiple votes as well. Additionally building a VHF amplifier and a redo on the circuit board class was asked for. Setting up a Ham Shack was a request that would benefit many of our new Hams and even some old Hams might learn something too! (maybe, possibly, a chance). Interest in 222 MHz was mentioned, wanting to know its merits and about available equipment and such. As a side note, a year ago or so I called MFJ requesting info on their Mirage amp for 222 MHz only to find they had discontinued that item due to lack of sales. Miscellaneous other interests include the Yaesu System Fusion, NWS Weather Spotter training and a pre-Field Day run thru and primer. As this completes the survey results it leads us to the next step, that of finding Elmer experts to take on some programs. I am looking forward to the program line up.

Here is the pitch for some of you who are well versed in one of these subjects to share your wealth of knowledge or at least just bluff your way through a program.

#### Did you Know?

The Greeks were the first to discover electricity about 2500 years ago. They noticed that when amber was rubbed with other materials it became charged with an unknown force that had the power to attract objects such as dried leaves, feathers, bits of cloth, or other lightweight materials. The Greeks called amber electron.

The word electric was derived from it and meant “to be like amber,” or to have the ability to attract other objects. I would suggest if you use the bit of trivia to impress your YL/XYL, use the word “electric”, calling her “Amber” might just cause some issues.

#### Good Stuff To Know

Informative 74-page book on antennas can be found here. We can never know too much about antennas. (They are really just black magic)

<http://www.hamuniverse.com/basicantennas.pdf>

Great web site with lots info. (Get a cup of coffee, you'll be here a while)

[http://www.mds975.co.uk/Content/amateur\\_radio\\_01.html](http://www.mds975.co.uk/Content/amateur_radio_01.html)

#### Elmer, Hamlet and The Mystery Antenna

Hamlet: “Hey Elmer, look at this cool antenna! I'm gonna build it as soon as I get my General. I found it on this really cool website from some old guy in England.”

Elmer: “Hamlet, I've told you about that old guy stuff before! But let's see what you've got there young man. Hmm... that's a pretty interesting design but we can't operate on 70mhz in the states, look at the Band Plan I gave you.”

Hamlet: “Oh ya, I see now, hey we don't even have a 70mhz. Bummer darts, I really wanted to make that one cuz it's really cool looking and the guys on the internet said it worked really good, man what a bummer! I really wanted to build that though.”

Elmer: “Well Hamlet, all is not lost, let's see if a little math won't help us out here. Go grab the calculator over

there on the table and bring the tablet and pencil too and let's see if we can't make this work.”

Hamlet: “Can't we do this without math, I hate math! I'll just get back on the computer and find another one that I can build and use here. Those guys in England are really lame, what a dumb thing, putting plans on the internet that I can't even use.”

Elmer: “Settle down and bring the plans you printed out over here and let's get started. I'll show you a little formula I learned from my Elmer a long time ago. Now, let's look in my journal of Important Stuff and put an old formula to work. Ah... here it is and look, here are the calculations that I was going to use to build my first HF mono-band beam. I was really excited to build that antenna. Boy that was a long time ago what memories this brings back. Hmm...looks like my Elmer has been a Silent Key now for almost 20 years, really miss that old coot.”

Hamlet: “I thought we weren't supposed to talk about old guys!”

Elmer: “OK, OK, so my journal says you can take any HF mono-band beam of known dimensions and scale it to work on any band you want, just figure out the multiplier ratio and the apply that to your end results. Look Hamlet, here are the plans I found for the 20 meter 3 element beam, but I wanted to build a 40 meter 3 element beam. The 20 was centered on 14.2 MHz and the one I wanted was a 40 meter centered on 7.05 MHz. OK, Hamlet ready for some math?”

Hamlet: “I guess.”

Elmer: : “Let's start with what I did all those years ago. Write down 14.2 MHz and then put in the division symbol, now write down 7.05 MHz, now an equal sign. It should look like this;  $14.2/7.05=$ . OK?”

Hamlet: “Look I got 2.014, 2.014! That's what the calculator said, what do we do now?”

Elmer: “Good Hamlet that's our multiplier. Now we multiply all the dimensions on these old plans by 2.014 and see how I did that all those years ago. Now once you've got the hang of it we'll start on your 'cool' antenna.”

Hamlet: “Look Elmer, you made a mistake, the calculator says you made a mistake and you don't have as many numbers. You musta punched in the wrong number back then!”

Elmer: "No Hamlet, I did not punch in the wrong number as a matter of fact, we did not even have calculators back when I did those calculations. In those days we just had paper and pencil and besides the numbers are just rounded off."

Hamlet: "Really? That musta been a really long time ago, no calculators, bummer."

Elmer: "Yes it was. Now, let's review Hamlet. Frequency of the known antenna divided by the desired antenna frequency and that is your multiplier. Then take this number times all the dimensions on your known antenna plans and then you are ready to build your new 'cool' antenna. We're ready to start on yours now. Got it?"

Hamlet: "Ya cool! Hey, I've gotta go check into the 2 meter net, see ya Elmer."

Elmer: "Good-bye Hamlet, see you at meeting. Hmm... now I wonder why it was I never built that 40 meter beam way back then?" KF7YWR

#### Field Day June 27-28

Work has already started on the wireless network for our Field Day, well at least there has been talk about it. Please consider joining us for this next event. Those of us at the last one had a blast and could use some company come 3:00am. Ed Stuckey AI7H will brief us at the next meeting.

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#### Kootenai Amateur Radio Society

#### January 2015 Meeting Minutes

The meeting was called to order by returning Club President Dave Boss. The Pledge of Allegiance was led by Gary Holland (N7DHL). This month's testing session was very much a success with 6 individuals testing and all receiving a passing score. Congratulations are in order for: Ben Ginter, Karen and Bill Mossman who passed their Technician Licenses; James Knight (KG7PTJ) and Josh Eisenman (KG7XSV) who upgraded to General; and Katrina Valentine who passed both the Technician and General Exams in a single sitting. Great Job to all, and we welcome you onto the air. The December Meeting minutes have been postponed for approval due to computer issues and will be available for member approval at the February Meeting. The Treasurer's Report was also not "officially"

available as our newly appointed Treasurer (Rod Anderson, K7ZBE) gets settled in, however we were not without a report of "we still have money."

With the New Year the time has come to remind members that their 2015 Club dues are due, if you are unsure if you are current please check with the Club Treasurer. Last year there was a problem with members trickling in throughout the year paying their 2014 dues and we need to avoid this. Our dues go to help fund club projects, ham fests, club picnics, and of course mountain-top usage fees and other such expenses for our club repeaters. It is hard to balance the expenses when the Club is not sure who will be paying and who is not. We need to get all club members current in their dues by the March meeting to help fund and facilitate our events. Membership applications are available at the end of the Club Newsletter or at any Club Meeting.

Gary Holland (N7DHL) announced that on January 19th at 6:30 pm (local). Kootenai ARES/RACES will have their January meeting at the Kootenai Search & Rescue Building and the topic will be about Traffic Handling. All are welcome.

Dave Boss has continued his work with the I.R.S. to get the Club's 501(C)3 reinstated and back on the up and up. For those who are not aware 501(C)3 is the our Non-Profit Status. If anyone is interested in assisting Dave in this process please contact him ASAP. I believe he may be tired of listening to their music.

The topic of the Meeting tonight was "Our Club." With the start of a new year has brought about the need for new monthly meeting topics and presentations, committees to have input in various club events, and what we all as club members would like to see or learn about. Those in attendance were asked to fill out a quick info sheet about what they want. We are always looking for input from members about what we should be doing and we would love YOUR INPUT. Want to see more digital tech stuff? How to learn CW? Get into contesting? Maybe you want to see stuff about homebrew projects or kits? Electrical Circuits and solder burns? Maybe you are completely new to the hobby and would like to see a class to get your Tech ticket? On this topic, we are getting some new Techs in the ranks (four passed their first ticket this month alone)

and it is my recommendation that we should look at investing some time into them to get them on the right page.

We are looking to gather folks to serve on all sorts of committees. We need members to serve on Committees for the Ham Fest, Christmas Party, Field Day, Club Picnic, and some other. This is our club and if you would like your opinions heard then this is a great opportunity.

Club Treasurer, Rod Anderson, is working at putting together a MESH network and is in need of some Linksys WRT54GL Routers for it. If you have one and are willing to loan it or better yet donate it to his efforts it would be appreciated. Contact Rod Anderson if you can help out.

The 50/50 Raffle was won by Alan Campbell (KE7DFT) which added \$9 to Alan's pocket and \$9 to the club's. The Membership Drawing has reached a total of \$136 (highest in a long time) and was won by Dave Boss (KF7YWR), however Dave did not purchase a ticket so he had to forfeit his winnings. A good reminder to get those membership dues paid and if you don't buy a ticket you can't win.

The meeting was closed at 8:10pm following a motion by Rick VanLandingham (KI7I), 2<sup>nd</sup> and approved by the members.

Your 2015 Club Officers are:

President	Dave Boss (KF7YWR)
Vice-President	Alan Campbell (KE7DFT)
Executive Officer	Lenny Gemar (N5IEX)
Treasurer	Rod Anderson (K7ZBE)
Secretary	Adam Crippen (N7ISP)

We will see you next month and hear you on the air in the meantime.

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### **The February Presentation: More Antenna Stuff**

Newer hams (as well as hams of all ages) frequently have trouble getting on the air because their antenna doesn't work well. Most of the trouble comes from incorrect placement or bad connections, but sometimes it's just the wrong antenna for the job.

The February presentation by Ed Stuckey (AI7H) will include some general comments on types of antennas in

use by hams, then concentrate on a few of the things that might help your antenna performance, including "resonance", "SWR", "orientation", and good construction practice. He will also demonstrate an "antenna analyzer" and a "SWR Meter". This 30 minute (or so) event will include show-and-tell, so everyone will have an opportunity to get up close to the apparatus being shown.

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### **Ham "Things To Do"**

March 7, the Western Washington ARRL Convention (aka "Puyallup Hamfest"), see [www.mikeandkey.org/flea.htm](http://www.mikeandkey.org/flea.htm) for details

March 8 (2AM), (Not ham radio but important), Daylight Savings Time begins, set your clocks ahead one hour.

March 14-15, the Idaho QSO Party (IDQP), see <http://idahoarrl.info/qsoparty/index.html> for details.

Spring Cleaning: Although details of the annual KARS Hamfest are undecided, the Club appreciates donations from members and other parties. So, if you will be cleaning up your shack over the next several months, and have pre-loved items no longer needed at your station, please consider donating such items to KARS for re-marketing at the Hamfest. (Donations have been a significant source of funds for the Club in past years!).

73,  
Ed AI7H

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### **FCC "Paperless" Amateur Radio License Policy Goes into Effect on February 17**

Starting February 17, the FCC no longer will routinely issue paper license documents to Amateur Radio applicants and licensees. The Commission has maintained for some time now that the official Amateur Radio license authorization is the electronic record that exists in its Universal Licensing System (ULS), although the FCC has continued to print and mail hard copy licenses. In mid-December the FCC adopted final procedures to provide access to official electronic authorizations, as proposed in

WT Docket 14-161 as part of its “process reform” initiatives.

Under the new procedures, licensees will access their current official authorization (“Active” status only) via the ULS License Manager. The FCC will continue to provide paper license documents to all licensees who notify the Commission that they prefer to receive one. Licensees also will be able to print out an official authorization — as well as an unofficial “reference copy” — from the ULS License Manager.

“We find this electronic process will improve efficiency by simplifying access to official authorizations in ULS, shortening the time period between grant of an application and access to the official authorization, and reducing regulatory costs,” the FCC Wireless Telecommunications Bureau (WTB) said. According to the WTB, the new procedures will save at least \$304,000 a year, including the cost of staff resources.

In comments filed November 5, the ARRL had strongly recommended that the FCC “give serious consideration to continuing a default provision for sending an initial paper license document to new licensees in the Amateur Radio Service, along with detailed, simple instructions for how to make the elections set forth in the notice relative to future modified or renewed licenses.”

Under the new procedures, a new license applicant who already has an FCC Registration Number (FRN) and provides a valid e-mail address under “Applicant Information” in the ULS will receive an official ULS-generated electronic authorization via e-mail. New license applicants lacking an FRN will receive in the mail an FRN and a temporary password to access the Commission Registration System (CORES).

New applicants will no longer automatically receive a license document and must request one by changing their “Paper Authorization Preference” in the ULS License Manager.

The ARRL and other Amateur Radio commenters also worried that unless a license document is printed on distinctive paper stock, its authenticity could be questioned

in such situations as obtaining vanity call sign license plates. To address this, the FCC said the watermark “Official Copy” will be printed on each page of an official authorization that a licensee prints out from the ULS. The WTB recently stopped using distinctive paper stock to produce hard copy licenses and has been printing these on “standard, white recycled paper.” The Bureau noted that the distinctive paper stock it had used was six times more expensive than the plain recycled paper it now uses.

The ULS License Manager now includes settings that allow licensees to notify the WTB that they prefer to receive official authorizations on paper. Once the final procedures go into effect designating electronic access as the default, licensees can change the ULS License Manager setting so that the Bureau will print and mail a license document. Licensees also may contact FCC Support via the web, telephone or mail to request paper licenses.

The FCC rejected as “outside the scope of this proceeding” an ARRL argument that Section 97.23 of the Amateur Service rules be amended to replace “licensee mailing address” with other alternatives, including e-mail, for use in Commission correspondence. The rule, which requires that any licensee mailing address be in an area where the licensee has US Postal Service access, has precluded FCC issuance of location-specific call signs in such areas as Navassa Island (KP1) and some Pacific islands.

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## FCC LICENSES WIDEBAND HF DATA COMM EXPERIMENTS

The FCC recently granted two companies experimental licenses to use High Frequency bands for data communications at far greater bandwidths and data rates than have been used by amateur radio operators in the USA.

Writing in TV Technology, Doug Lung says the license application by MITRE is to use HF modes with emission designators of 5K00Q3N, 500KD7D, 500Q3N,

500W7D, 1M00D7D, 1M00Q3N and 1M00D7W.  
1M00 has a necessary bandwidth of 1 MHz.

The company hopes to achieve reliable HF communications at a data rate between 1 and 4 bits per Hertz per second. MITRE said it will develop a 100 kHz bandwidth waveform that can achieve approximately 256 kbps with forward error-correction coding. More is at [tinyurl.com/nprsuje](http://tinyurl.com/nprsuje) (TV Tech, Southgate)

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### FLIGHT OF VK PICO BALLOON ENDS

The small pico party-type balloon launched from Australia we have been reporting on did not make it home to V-K land. It reportedly crashed near Madagascar just east of Africa. This according to Andy [Wynn] Nguyen, VK3YT, who released the balloon from Melbourne on December 27th. He says that it went down early on January 16, just 25 hours short of three weeks in the air.

A number of radio amateurs from South Africa also reported that the tiny floater balloon had stopped flying and was down. It had traveled easterly across to the southern tip of New Zealand, the Pacific Ocean to South America, then to Southern Africa, and had a forecast path back to Australia. (VK3PC, via ARNewsline)

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### CZECH REPUBLIC HAMS GET EXPANDED 60 METER SPECTRUM

Following last year's 5 Hz amateur operation in the Czech Republic and elsewhere in Europe, the Czech telecommunications regulator, together with the Czech Ministry of Defense, have agreed to changes in 5MHz permits for that nation's radio amateurs.

The number of 5 MHz channels available under the new 2015 permit has been increased from 6 to 12, and a substantial number of these have been aligned internationally, primarily with the UK and also the US allocations.

This action brings the Czech Republic's 5 MHz allocation in line with that found in various nations, and will give that nation's hams greater access to contacts worldwide in the 60 meter band. (GB2RS)

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### VK TO ONE WAY ON 600 METERS

It has yet to be certified as a record, but using the new OPERA Dynamic Medium- and Low-frequency beacon mode, VK5CV transmitted at 16.30 GMT on 15th January using 477kHz and was spotted by G8HUH, receiving at -37dB.

Data recovered from the PSK-Map database shows the capture to fit exactly with the OPERA Dynamic time signature. Opera Dynamic provides an additional 5 or 6dB gain over the conventional Opera Beacon, and is automatically engaged should the decoder fail. The facility is linked to the OP8 477kHz and OP32 136kHz modes only.

VK5CV reported using 50 watts carrier power into a 160 meter inverted L with a base-loaded variable inductor to resonate it to the 477 kHz frequency. Those involved say that this may have been one of the 'Flash' propagation events linked to that Medium Frequency band. To date, a two-way contact on 600 meters between Australia and Europe has yet to be achieved. (GB2RS)

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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: 146.980, PL127.3  
443.975, PL136.5

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 1765, Hayden, Idaho 83835-1765

Please complete the entire form and return with your payment

## Single Year membership

New member \$15.00     Renewing \$15.00     Family \$23.00     Info Update Only

## Two Year Membership

New member \$28.00     Renewing \$28.00     Family \$42.00

Call Sign \_\_\_\_\_ Class \_\_\_\_\_ Expires \_\_\_\_\_

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

If renewing, only fill in information below that has changed since last application, otherwise complete.

Address \_\_\_\_\_

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

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

ARRL Member \_\_\_\_\_ May we publish Limited information \_\_\_\_\_ (Y/N)

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

Signature \_\_\_\_\_

## K7ID.org Request Form

First and Last Name \_\_\_\_\_ Call Sign \_\_\_\_\_

Would you like your (call sign )@k7id.org email 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     Webmail access     POP Access  
(Please complete the bottom & Sign)     I wish to opt-out of K7ID.org

Please select a user name \_\_\_\_\_@K7ID.org

Please select a Password \_\_\_\_\_

For forward request only

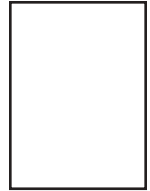
Email address \_\_\_\_\_

Signature \_\_\_\_\_

### 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"/>		

**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.

## **2015 CLUB OFFICERS**

President: Dave Boss, KF7YWR  
president@k7id.org

Vice-President: Alan Campbell, KE7DFT  
vicepresident@k7id.org

Exec. Director: Lenny Gemar, N5IEX  
excdirector@k7id.org

Secretary: Adam Crippen, N7ISP  
secretary@k7id.org

Treasurer: Rod Anderson, K7ZBE  
treasurer@k7id.org

Newsletter Editor: Gary Roth, KE7IAT  
509 993-8468 ke7iat@comcast.net

Repeater Trustee: Rick Van Landingham, KI7I  
ki7i@arrl.net

Repeater Tech: Dale DuRee, KE7VMN

Webmaster: Larry Telles, K6SPP  
208 762-2548 ltelles@icehouse.net

Past President: Bonnie Patterson,  
KG6QQM

## **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 repeaters on 146.980 and 443.975, and a packet repeater on 145.510 Mhz.

Anyone interested in Amateur Radio is welcome to join. Dues are \$15.00 (individual) and \$20.00 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.