



September 2018

www.k7id.org

P.O. Box 1765 Hayden, ID83835-1765

REGULAR CLUB MEETINGS:

VE Testing

Monday, Sep 10, 7:00 p.m.
Search & Rescue Bldg.
10865 N Ramsey Rd.
Hayden, Idaho
Topic: Continuous Wave
Presenters:
Refreshments: ???

Monday, Sep 10, 5:30 p.m.
Search & Rescue Bldg.
10865 N Ramsey Rd.
Hayden, Idaho

Monday, Oct 8, 7:00 p.m.
Search & Rescue Bldg
10865 N Ramsey Rd.
Hayden, Idaho
Topic:
Presenters:
Refreshments:

Monday, Oct 8, 5:30 p.m.
Search & Rescue Bldg
10865 N Ramsey Rd.
Hayden, Idaho

Upcoming Events

Sep 22, 2018 - Doors open at 9 a.m,
Spokane Hamfest
12420 E 32d Ave
Spokane Valley, WA 99216

QRM FROM THE PRESIDENT

Larry Telles, K6SPP

Did everyone enjoy our three days of summer last week? At least it wasn't so bad in our booth at the Kootenai County Fair. I believe that is was a little warmer last year. The three times that I was there, we had a lot of friendly fair goers stop to chat. At our September meeting Vice-President Jim Peterson, AD0AZ, and his fair crew will give us a full report. I asked Jim to end his report with a few words about participating in the fair next year? I would also like to hear some opinions from the members present.

We are heading into the ninth month of 2018. I ask myself where did it go until I think about my four surgeries. That will bring you down to earth quickly. This year has four months to go. Our activities for that time period can be summed up simply. We have nominations of officers beginning in October, elections in November, and installation of officers at our Christmas Party in December. I will not be running again in 2019. I have failed to accomplish a few simple things

that were necessary for a smooth operation. I didn't get to re-write the club constitution and by-laws. Something that was a must for us moving forward. I could not recruit control operators for our repeater. In other words, my track record is non-existent.

Jim and I have been flying this KARS ship for the past eight months totally blind. As of this date we haven't received one idea or suggestion as to what you are looking for in our monthly speakers. There are a lot of facets to Amateur Radio and we don't have a clue as to what you are interested in seeing. I haven't given any of my previous nine presentations. Members are tired of hearing the same old material over and over again. So, I'm going out on a limb which just might stimulate this organization. The program at our September program is Morse Code, or CW! The speaker, with the use of a CPO (Code Practice Oscillator) will teach the group present eight letters (E, I, S, T, M, O, A, N) of our alphabet. Once you get the basic characters you take on the sounds of the remaining eighteen characters. We have two members who will teach the code. Jerry, W7KR and Frank, KD7FK. Members in the past have expressed a desire to learn CW, and here is your chance. You won't be in the process alone. Imagine yourself at a practice session on two meters. I remember back nearly one hundred years ago when I built an A2 adapter for my Heathkit Twoer. For those new to Amateur Radio, A2 is modulated CW or MCW. Your receiving equipment doesn't need an oscillator in inject a tone to hear CW. You are receiving and transmitting that tone. I think I will go back into my archives and find that schematic diagram.

In closing, remember, September is the Spokane Hamfest and November is election of officers. The year is going by at lightning speed.

See you at the September meeting. Pencils and paper will be provided. Thanks for taking the time to read this. Jim and I continue to need your input and support.

73, Larry Telles, K6SPP

p.s. 73 is singular, not plural.

August 2018 Meeting Minutes

The August 13, 2018 KARS meeting was held at the Search & Rescue Building located at 10865 N Ramsey Rd. Hayden, Idaho.

The meeting was called to order at 7:01 p.m. by Club Vice President Jim Petersen (AD0AZ). The Pledge of Allegiance was led by Becca and Abby.

Attendance: Twenty-five members and eight visitors were in attendance.

VE Testing: Two tests were taken this evening. Both candidates passed the technician exam.

Treasurer's Report Rod Anderson, K7ZBE):

July 2018

Checking	\$1,217.47
Savings	\$1,552.36
Petty Cash	<u>\$ 96.63</u>
TOTAL	\$2,866.46

Income: Savings interest (\$0.05), 50/50 Raffle (\$6.00), Memberships (\$165.00)

Expenses: CAT Controller (\$794.61), Facebook Boost for Field Day (\$7.00), KARS Banner (\$100.70)

Adam Crippen (N7ISP) moved to accept the Treasurer's report; Bob Kesson (K7CGA) seconded; the motion passed by member vote.

Treasurer Rod Anderson mentioned there are two upcoming expenses. 1) Rental for the Mica Peak repeater (\$300.00) and 2) The KARS Christmas party (\$175.00) to be held at the Rathdrum Senior Center.

Adam Crippen (N7ISP) moved to approve these two upcoming expenditures; Lindy Bryant (KE0AZD) seconded. The motion passed by member vote.

Minutes: Rod Anderson (K7ZBE) moved to accept the July 2018 minutes as written; Adam Crippen (N7ISP) seconded; the motion passed by member vote.

Repeater Report: Adam Crippen (N7ISP) reported that the CAT controller has been received and passed on to Dale DuRee (KE7VMN) for configuration. This controller will replace the one that is currently being used by the Mica Peak repeater. The current Mica Peak repeater will be removed and installed at the new repeater location on Little Blacktail. There is a balance of \$614.79 of the \$2,500.00 that was approved for this project at the June 2018 meeting. There is also a donation of \$90.00. There are still two link radios left to buy which will cost \$485.10 each (or \$970.20). An additional \$265.41 is needed to complete the equipment purchase. Mike Slothower (KG7KSJ) moved to allocate \$300.00 to finish what has been started; Mike Glauser (AI7MG) seconded; the motion passed by member vote.

Weed Cutting at Canfield Repeater Site: Bob Kesson (K7CGA) reported that the rent for the KARS repeater on Canfield Butte is \$120.00 per year as long as the KARS club cuts the weeds at the repeater location. Usually 5-8 people go each year to take care of the weeds. It is unclear at this time what equipment may be used for weed cutting. Jim Petersen (AD0AZ) asked Bob Kesson (K7CGA) to find out about any equipment restrictions and to get the key. Volunteers for weed cutting were taken at the meeting.

Upcoming Events:

Center Target Sports Customer Appreciation Day: August 11

North Idaho Fair: August 22-26

A form was passed around for signups to volunteer at the KARS booth at the North Idaho Fair.

Evening Presentation: Michael Glauser (AI7MG) gave a presentation on a large sling shot for putting up antennas.

Raffle Results: 50/50 \$7.00 Bob Kesson, K7CGA (claimed)

Membership \$68.00 Ben Ginter, KG7QIK (not claimed)

Mike Slothower (KG7KSJ) moved to adjourn; Martin Waller (KG7LRV) seconded. The motion passed by member vote and the meeting was adjourned at 8:25 p.m.

US Coast Guard Warns of LED Lighting Interference to Marine Radios, AIS Reception

The US Coast Guard says it's received reports from crews, ship owners, inspectors, and other mariners regarding poor reception on VHF radiotelephone, digital selective calling (DSC), and automatic identification systems (AIS) when in the vicinity of LED lighting systems. This could include interior and exterior lighting, navigation lights, searchlights, and floodlights found on vessels of all sizes.

“Radio frequency interference caused by these LED lamps [was] found to create potential safety hazards,” the Coast Guard said in an August 15 [Marine Safety Alert](#).

“For example, the maritime rescue coordination center in one port was unable to contact a ship involved in a traffic separation scheme incident by VHF radio. That ship also experienced very poor AIS reception. Other ships in different ports have experienced degradation of the VHF receivers, including AIS, caused by their LED navigation lights. LED lighting installed near VHF antennas has also shown to compound the reception.”

ARRL has determined a wide range of interference-causing potential from consumer lighting devices.

“While some are relatively quiet, other devices - even those that meet the required FCC emissions limits - can still cause harmful interference,” said ARRL Electromagnetic Compatibility Engineer Mike Gruber, W1MG. “My best recommendation is to try LED lights before you buy, especially if there is a possibility that the device will be used while you’re operating. “Once you have determined that a particular LED device is quiet, then purchase as many as you need from that same store.”

Over the past few years, ARRL has provided the FCC with reports of LED and other lighting systems that are not in compliance with FCC regulations. In several instances, these devices greatly exceeded the FCC’s emissions limits, in one case by as much as 58 dB, creating as much noise as 650,000 legal devices.

“Several recent FCC enforcement actions involving LED manufacturers have been encouraging,” Gruber said. “These actions can and will make a difference. I would also like to emphasize that the ARRL remains committed to working with both the FCC and manufactures help facilitate that positive difference in any way it can. It is possible for LED and other lighting technologies to coexist with both amateurs and other users of the radio spectrum.”

The Coast Guard said that, while radio interference from LED sources may not be immediately evident, it’s possible to test for it through several steps, including turning off all LED lighting systems on board to see if the interference disappears. The Coast Guard suggested adjusting the VHF radio’s squelch just to the point where it cuts the audio on a vacant channel. If the noise returns, LED lights have raised the noise floor.

If this is the case, the Coast Guard said, it’s “likely” that shipboard VHF radio and AIS reception are being degraded by LED lighting. The Coast Guard has asked mariners experiencing this problem to report their experiences to the [Coast Guard Navigation Center](#), selecting “Maritime Telecommunications” from the menu on the left and providing details on the online form. - *Thanks to gCaptain.com and Frank Smith, WS1MH (ARRL News)*

New FCC Part 95 Personal Radio Services Rules Published in The Federal Register

Reorganized and updated FCC Personal Radio Services (PRS) Part 95 rules have been [published](#) in *The Federal Register*. Among other things, the PRS covers the Family Radio Service (FRS), General Mobile Radio Service (GMRS), and the Citizens Band Radio Service (CBRS).

The revised rules allot additional FRS channels and increase the power on certain FRS channels from 0.5 W to 2 W. FRS channels are in the 462.5625 - 462.7250 MHz range.

Effective September 30, 2019, it will be illegal to manufacture or import handheld portable radio equipment capable of operating under FRS rules and under other licensed or licensed-by-rule services. The FCC no longer will certify FRS devices that incorporate capabilities of GMRS capabilities or of other services. Existing GMRS/FRS combination radios that operate at power levels of less than 2 W ERP will be reclassified as FRS devices; existing GMRS/FRS radios that operate above that power level will be reclassified as GMRS devices, requiring an individual license.

Radios that can transmit on GMRS repeater input channels will continue to be licensed individually and not by rule.

Once the new rules are effective, CBers will be allowed to contact stations outside of the FCC-imposed - but widely disregarded - 155.3-mile distance limit. (ARRL News)

FCC Cites Baofeng Importer for Illegally Marketing Unauthorized RF Devices

The FCC has issued a *Citation and Order* ([Citation](#)) to [Amcrest Industries, LLC](#) (formerly Foscam Digital Technologies, LLC), an importer and marketer of popular and inexpensive Baofeng hand-held transceivers, alleging that the company violated FCC rules and the Communications Act by illegally marketing unauthorized RF devices. The FCC asserts that Amcrest marketed Baofeng model UV-5R-series FM hand-held radios capable of transmitting on “restricted frequencies.” The Baofeng models UV-5R and UV-5R V2+ were granted an FCC [equipment authorization](#) in 2012 to operate under Part 90 Private Land Mobile Radio Service (Land Mobile) rules.

“Under § 2.803 of the Commission’s rules, an entity may not market a device that is capable of operating outside the scope of its equipment authorization,” the FCC *Citation* said. “RF devices that have been authorized under Part 90 rules, such as the model as issue, must operate within the technical parameters established in those rules.” The FCC also maintained that the UV-5R 2+ is capable of operating at 1 W or 4 W, while the Part 90 Equipment Authorization limits the power output to 1.78 W.

Amcrest conceded that the units were capable of operating on restricted frequencies but told the FCC that, per discussions with the manufacturer, were “only capable of operating at 1 W, the FCC said. The company instructed the manufacturer to fix the problem and later confirmed with the manufacturer that all Amcrest inventory on order and in the future would operate only on 145 - 155 MHz and 400 - 520 MHz.

While the *Citation* does not mention Amateur Radio, the UV-5R series radios can be programmed in a channelized configuration to function on 2-meters and 70-centimeters. According to the *Citation*, Amcrest had added a warning in its user manuals and marketing and sales materials implying that the UV-5R V2+ could operate on unauthorized and restricted frequencies, including Part 87 Aviation Services frequencies, Part 80 Maritime Services

frequencies, and frequencies reserved for federal government use. The FCC said Part 90 radios that permit the operator to use external controls to program and transmit on frequencies other than those programmed by the manufacturer are “generally prohibited.”

Amcrest told the FCC that it had ceased marketing four models in the Baofeng UV-5R series “a few years ago,” but it did not remove them from its website until last February. Numerous online retailers continue selling UV-5R series radios for less than \$25, with some ads indicating that these are “ham” equipment.

Amcrest Industries, LLC, which owns and operates Baofengradio US, is an import, distribution, and marketing company based in Houston, Texas. It also sells hand-held transceivers under its own label.

“While we recognize Amcrest’s efforts to date to achieve compliance with the Commission’s rules, the company must nonetheless ensure the version of the UV-5R V2+ it is marketing operates only on frequencies specified in its Equipment Authorization,” the FCC said in its *Citation*. The FCC directed Amcrest “to take immediate steps to come into compliance with the Commission’s equipment authorization rules and cease marketing unauthorized RF devices in the United States.” Amcrest could face fines of nearly \$20,000 per day if it fails to comply. (ARRL News)

Company Established by Inventor Nathan Cohen, W1YW, Advances Cloaking Technology

Fractal Antenna Systems, Inc., established by noted radio amateur and inventor Nathan Cohen, W1YW, continues to stretch technological boundaries of belief. In an August 15 [news release](#), the firm confirmed the issuance of its newest patents that will enable the next generation of stealth-like invisibility and absorptive shielding. The technology has both commercial and military applications. The firm pioneered and invented invisibility cloaks and holds both the “source” patent (8,253,639) and the related comprehensive intellectual property portfolio. Recently issued patent 10,027,033 is a continuation of that state-of-the-art innovation. It discloses a novel means of turning invisibility cloaks on and off, by changing the characteristics of a boundary layer.

“The person or sensor inside the cloak is thus no longer blind,” Cohen said. He explained that not being able to sense the outside has previously been the top impediment to the use of invisibility cloaks.

The newest patent (10,030,917) describes related technology, where electromagnetic energy is absorbed by fractal-based metamaterials. Called “fractal absorbers,” the innovation uses evanescent waves to divert such impinging energy off to the sides, where it is absorbed in a resistive layer. Previously, absorbers relied on the thickness, not the width, of materials to accomplish this. Now these very thin fractal absorbers accomplish the same result with dramatic reductions in thickness and weight.

Fractal absorbers have been known and recognized as important for many years, and Cohen minces no words in reminding where the technology originated - with ham radio. "Did you know they started with very modest circumstances on the ham bands with gear bought from the MIT ham radio flea market?" he asked. Cohen said he overcame a lot of negativity early on and now "hamming and fractals have led to a new evolution of the antenna art."

"It is outrageous and bizarre to see teams from China claiming invention of fractal absorbers," he said. "They have received unusual attention for their alleged invention, under the premise of so-called 'supermaterials.'"

"I believe PRC obtained information on the fractal absorbers, a spinoff of cloaking, by illegal means without my knowledge, let alone assistance, via the internet eavesdropping of my email," Cohen told ARRL. He said his firm's new patent conclusively establishes fractal absorbers as an American invention that pre-dates anyone else's claims. The latest technology was developed under intense secrecy. "We held it under wraps, waiting for this patent issuance," he said. "The patent application was withheld from publication," he said.

Cohen called it ironic that the Chinese "have unwittingly established credibility for our invention and its American uses. And, in my opinion, they are now very far behind in the game."

Earlier this year, China announced that a state-owned and -operated laboratory in Shenzhen is mass producing so-called metamaterials that can function as invisibility cloaks and might be used to make military aircraft invisible or undetectable. The announcement did not disclose the function of the new materials, however.

Cohen sees a variety of commercial applications for fractal absorbers, whose broad bandwidths and ultra-thin form factor are especially sought. Demonstrations targeting specific applications will be completed this fall.

"Fractal antennas are ham grown," Cohen said earlier this year in accepting Hamvention's Technical Achievement Award. "I am proud to be a ham. You should be too." - *Thanks to Business Wire for some information* (ARRL News)

Texas Volunteer Examiner Setting Sights on Next 1,000 Exam Sessions

In July, Franz Laugermann, K3FL, of Houston, achieved a milestone that no other VEC has before by taking part as a Volunteer Examiner in his 1,000th exam session. And, he told ARRL, he's far from finished.

"As long as I can be here, I'm gonna go on doing this," he said, adding that he's set his sights on 2,000 sessions. "It's so rewarding to help other people through this." He estimated that he's helped about 5,000 people get their Amateur Radio licenses. At one recent session, a 10-year-old boy who passed the exam became the fourth generation in his family to get licensed through Laugermann, who also had conducted the testing sessions at which the boy's father, grandfather, and great-grandfather earned their ham tickets.

Laugermann became an ARRL-accredited Volunteer Examiner (VE) in 1991. His wife Barbara, KA5QES, has been a VE nearly as long as her husband. Both are ARRL members.

Retired from the US. Army in 1975, Laugermann, 78, has been licensed since 1978 and has served as an Official Observer for 27 years and as a member of ARES®. He supported the ARES effort for Hurricane Harvey at the Harris County Office of Homeland Security and Emergency Management's Emergency Operation Center at [Houston TranStar](#).

Laugermann is also as an ordained deacon of the Galveston-Houston Roman Catholic Archdiocese.

He has been running VEC sessions at Houston TranStar for more than 16 years. "I like meeting new people," Laugermann says, adding that when he talks to people young or old, he always encourages them to give Amateur Radio a try. "I tell them, 'I don't know everything, but I'll tell you everything I do know,'" he said with a laugh.

He's taken to telling his recent exam graduates to text him with their new call signs so he can keep an ear out for them when he's on the air. "I'm retired, so I'm on the radio all day long," he said. (ARRL News)

Indonesian Hams Take Advantage of Satellite for Post-Earthquake Communication

Amateur Radio volunteers in Indonesia have been taking advantage of the LAPAN-ORARI (IO-86) ham satellite in addition to HF on 7.110 MHz as the Lombok area recovers from two recent earthquakes. The death toll now has topped 400. A second powerful earthquake in the area on August 5 killed at least 98 people and seriously injured more than 200 others.

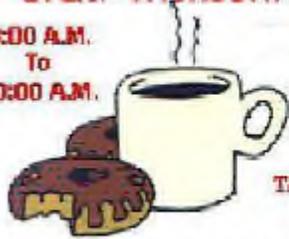
Power in the area has been disrupted, and Kardi Wibisono, YB9KA, and Untung "Adi" Riadi, YB9GV, of the West Nusa Tenggara Region chapter of [ORARI](#), the Indonesian national Amateur Radio organization, have been leading efforts to provide communication to areas lacking cellular coverage. That has included hauling batteries to run repeaters taken down by the power outage. Four repeaters are reported to be operating in the disaster area. ORARI Headquarters has asked for more repeater support from its Bali Island region and issued an official request to help with logistics and additional volunteers in Lombok

In addition to designating the HF National Emergency Frequency of 7.110 MHz, VHF frequencies have been established and the LAPAN-ORARI (IO-86) satellite has been activated to assist with communication. Launched in 2015, IO-86 carries an FM transponder and an APRS digipeater. The Central Java Region of the Indonesian Search and Rescue Council sent in a team headed by to join the national rescue operation in Lombok and ORARI volunteers.

Indonesian President H. Joko "Jokowi" Widodo is YD2JKW. - *Thanks to Southgate Amateur Radio News via IARU Region 1; Dani, YB2TJV, and AMSAT News Service*

**COFFEE & DONUTS
EVERY THURSDAY MORNING**

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



**Community Mtg Rm.
Silver Lake Mall
Coeur d'Alene**

**TALK-IN: 146.980, PL127.3
443.975, PL136.5**

Bring a writing instrument. **Community Mtg Rm**
has the napkins for our breakfast table, engineering!

**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.

2018 CLUB OFFICERS

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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 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 \$23.00 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.