



November 2009

(www.k7id.org)

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

**REGULAR
CLUB MEETINGS:**

Monday, November 9
Program: Election of officers
Refreshments: Bob Kesson,
K7CGA

Monday, December 14
**Christmas Potluck with ARES/
 RACES**
 Lake City Senior Center
 1916 North Lakewood Drive
 Coeur d'Alene, Idaho

SOCIAL EVENTS:

Christmas Potluck . December 14

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Dear Club Members:

What a great turnout! I believe the attendance was about 45 members and probably the largest I have seen all year. A lot of the club's growth is due to the stellar job the VE-Team is doing with their monthly license testing and then encouraging these new Hams to join our club. I would like to see a list of newly licensed Technicians going back to the beginning of the year and then encourage other club members to stay in touch over the radio. John Hollar has been pushing for a list of member's names and call signs in a concise format which we can keep in our cars. Thomas completed this task and sheets were passed out at the October meeting.

The nominating committee has selected a slate of candidates, which were presented to the general membership and will be voted on at the November meeting. Floor nominations will also be accepted at the November meeting, but remember that names are only valid if they are willing to serve in the position. A By-Law change was proposed and approved to allow terms of several elected members to be staggered. This will allow a smooth transition into the 2010 year.

As usual, John Hollar gave a detailed presentation using his polished Power Point skills to discuss the software generated CQ-100 radio. Once his presentation material is available on www.k7id.org and I have had a chance to review a few more times, then I personally will invest in this software. Looks like a fun project.

Thomas presented his survey results which gave a good overview of club members interests. This survey can be used to help plan next year events.

The "I-90 Highway Cleanup" club activity took place on Saturday the 19th a week after our last General Membership meeting. The weather was interesting with dense fog on the way to our rendezvous spot, which then cleared as we gained a little altitude at the pick-up site. Seven members turned out which is really too small a group to cover four miles of freeway plus four entry ramps. Fortunately, previous high winds and less traffic flow, possibly due to high gas prices, resulted in a pretty trash free roadway. I know my back is borderline for future "Trash Pickup Events" so the new slate of officers need to develop a plan to involve younger members in this activity. The fact that we did not go to a club paid lunch was kind of a downer and maybe needs to be reconsidered. Possibly a partially subsidized lunch, maybe \$100 a year to offset the cost of two events would fit in the club's budget.

To maintain the precedent set when the current officers took control of the club, the newly elected president will run the December Potluck Dinner / Christmas Party event.

See you on the radio!

Ed Hannigan, KE7FOW
Club President

Repeater Tools Explained by John Hollar, N7JU

DRILL PRESS: A tall upright machine useful for suddenly snatching flat metal bar stock out of your hands so that it smacks you in the chest and flings your beer across the room, denting the freshly-painted project which you had carefully set in the corner where nothing could get to it.

WIRE WHEEL: Cleans paint off bolts and then throws them somewhere under the workbench with the speed of light. Also removes fingerprints and hard-earned calluses from fingers in about the time it takes you to say, 'Oh sh—'

SKILL SAW: A portable cutting tool used to make studs too short.

PLIERS: Used to round off bolt heads. Sometimes used in the creation of blood-blisters.

BELT SANDER: An electric sanding tool commonly used to convert minor touch-up jobs into major refinishing jobs.

HACKSAW: One of a family of cutting tools built on the Ouija board principle. It transforms human energy into a crooked, unpredictable motion, and the more you attempt to influence its course, the more dismal your future becomes.

WISE-GRIPS: Generally used after pliers to completely round off bolt heads. If nothing else is available, they can also be used to transfer intense welding heat to the palm of your hand.

OXYACETYLENE TORCH: Used almost entirely for lighting various flammable objects in your shop on fire. Also handy for igniting the grease inside the wheel hub out of which you want to remove a bearing race.

TABLE SAW: A large stationary power tool commonly used to launch wood projectiles for testing wall integrity.

PHILLIPS SCREWDRIVER: Normally used to stab the vacuum seals under lids or for opening old-style paper-and-tin oil cans and splashing oil on your shirt; but can also be used, as the name implies, to strip out Phillips screw heads.

STRAIGHT SCREWDRIVER: A tool for opening paint cans. Sometimes used to convert common slotted screws into non-removable screws and butchering your palms.

PRY BAR: A tool used to crumple the metal surrounding that clip or bracket you needed to remove in order to replace a 50 cent part.

HOSE CUTTER: A tool used to make hoses too short.

HAMMER: Originally employed as a weapon of war, the hammer nowadays is used as a kind of divining rod to locate the most expensive parts adjacent the object we are trying to hit.

UTILITY KNIFE: Used to open and slice through the contents of cardboard cartons delivered to your front door; works particularly well on contents such as seats, vinyl records, liquids in plastic bottles, collector magazines, refund checks, and rubber or plastic parts. Especially useful for slicing work clothes, but only while in use.

Son of a b*tch TOOL: Any handy tool that you grab and throw across the garage while yelling 'Son of a b*tch' at the top of your lungs. It is also, most often, the next tool that you will need.

Consider a License Upgrade to Extra
(Lesson # 1) by Ed Hannigan, KE7FOW

If you know a few math / electrical basics, then many of the problems on License Exams can be answered almost intuitively. Let me give you a few examples from actual problems on the current Extra Class exam.

These problems deal with polar coordinates and impedance. All these problems can be worked on a piece of scratch paper by drawing a horizontal line (X-axis) and then a vertical line intersecting the X-axis called the Y-axis. A point in the right quadrant can be defined by values of "X" and "Y" or a vector from (0,0) to the point (x,y) which will also need an angle from the X-axis to the vector. Example: Point X=100 and Y=100 has polar coordinates of (square root of 2 time 100) and an angle of 45 degrees. If these values are in "ohms" then this result would be written as: 141 ohms at an angle of 45 degrees. Good, let's try some problems.

E5CO1— In polar coordinates, what is the impedance of a network consisting of a 100-ohm-reactance inductor in series with a 100-ohm resistor?

- A. 121 ohms at an angle of 35 degrees
- B. 141 ohms at an angle of 45 degrees
- C. 161 ohms at an angle of 55 degrees
- D. 181 ohms at an angle of 65 degrees

Note: Resistance goes on the positive X-axis, inductive reactance goes on the positive Y-axis and capacitor reactance goes on the negative Y-axis.

Ans.: Does this look familiar? We know that the vector to the point defined by X=100 and Y=100 has to be at an angle of 45 degrees. Since "B" is the only answer with 45 degrees then "B" is the answer. We could take the square root of $2 * 100$ and get 141, but this is not needed to identify the correct answer.

E5CO2 — In polar coordinates, what is the impedance of a network consisting of a 100-ohm-reactance inductor, a 100-ohm-reactance capacitor, and a 100-ohm resistor, all connected in series?

- A. 100 ohms at an angle of 90 degree
- B. 10 ohms at an angle of 0 degrees
- C. 10 ohms at an angle of 90 degrees
- D. 100 ohms at an angle of 0 degrees

Ans.: The 100-ohm-reactance inductor cancels out the 100-ohm-reactance capacitor and all that is left is the 100-ohm resistance value on the X-axis. Since there is no angle, then the answer is "D".

E5CO3 — In polar coordinates, what is the impedance of a network consisting of a 300-ohm-reactance capacitor, a 600-ohm-reactance inductor, and a 400-ohm resistor, all connected in series?

- A. 500 ohms at an angle of 37 degrees
- B. 900 ohms at an angle of 53 degrees
- C. 400 ohms at an angle of 0 degrees
- D. 1300 ohms at an angle of 180 degrees

Ans.: What you have is 300 ohms (600-300) on the Y-axis and 400 ohms on the X-axis. The 300 and 400 values form a 3,4,5 triangle so therefore 500 ohms is the vector and you do not have to calculate the angle since there is only one answer with 500 ohms which is "A"

E5CO4 — In polar coordinates, what is the impedance of a network consisting of a 400-ohm-

reactance capacitor in series with a 300-ohm resistor ?

- A. 240 ohms at an angle of 36.9 degrees
- B. 240 ohms at an angle of -36.9 degrees
- C. 500 ohms at an angle of 53.1 degrees
- D. 500 ohms at an angle of -53.1 degrees

Ans.: It is another 3,4,5 triangle so you know immediately that the magnitude is 500. Capacitor reactance is negative which puts the problem in the fourth quadrant and makes the angle negative, so the answer is "D".

Conclusion: All of the above comments and solutions make perfect sense to me and hopefully to you. If you have any questions then please ask and I will clarify at the next meeting.

By the way, you now have enough knowledge to answer 18 more questions (E5CO5 thru E5C23). There may be a POP quiz !

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Ham Radio Operators Assist in Catalina Island Rescue

Around 9:45 on the night of October 23, while attending an overnight event at the Boy Scouts' [Camp Emerald Bay](#) on [Santa Catalina Island](#), Karl Tso, KI6PCW, and his wife, Deborah Ava, KJ6CRZ, of Topanga, California, decided to climb a hill to check out the view — and to see if they could get into the repeater on the island with their handheld transceivers. As they climbed the hill, the two radio amateurs heard a sound; Tso turned his high-powered flashlight on the source, only to discover a man who had fallen 48 feet to the rocks below, bleeding and severely injured.

According to Los Angeles County Disaster Communications Service ([LADCS](#)) Recruiting Officer Norm Goodkin, K6YXH, Tso and Ava were on Catalina for an overnight Cub Scout event. While on the 26 mile boat ride to the island, the couple turned on their radios and got on the local repeater; a fellow ham passed them the frequency of the repeater on Catalina Island and they programmed it into their radios. "Just the weekend prior, both Karl and Deborah attended one of our classes and in that class, we showed them how to program frequencies in their radio. They are members of the Topanga Disaster Radio Team (DRT), part of the Topanga Coalition for Emergency Preparedness (T-CEP)," Goodkin told the ARRL.

That evening on their walk up the hill, they discovered Peter Koll, 61, had fallen, crashing down to the rocks below. At the accident scene, Tso and Ava got on their radios and quickly made contact with Scott Bastian, KD6QZX, of Fullerton, who called emergency services. Joyce Wood, KD6HYO, of Costa Mesa, who stood by in case further assistance was required. Koll was evacuated by Bay Watch and airlifted to St Mary's Hospital in Long Beach. According to the LA County Sheriff's office, his current condition is unknown.

"It was a surreal experience that Deborah and I will never forget," Tso told the ARRL. "We were horrified, yet very happy that we were there for the gentleman that was injured. At the same time, we strangely felt empowered, knowing that the ham radio system works. As we hoped, the ham community is for the most part made up of people who want to be helpful to others in times of need. Deborah and I are new to the ham community, but we would encourage others to become involved." (ARRL Website)

SumbandilaSat Now OSCAR 67 (Oct 23, 2009) — The South African Amateur Radio satellite [SumbandilaSat](#) has been officially designated [SumbandilaSat-OSCAR 67](#), or simply [OSCAR 67](#). Last weekend, the satellite was successfully activated and tested with a number of contacts made through its transponder, but it is not yet open for routine use. The satellite was launched from the [Baikonur](#)

[Cosmodrome](#) in Kazakhstan on September 17. The main payload is a multi-spectral imager, but the satellite also carries an Amateur Radio component consisting of a 2 meter/70 cm FM repeater. After [SumbandilaSat](#) is fully commissioned, the repeater will be activated with an uplink at 145.880 MHz and a downlink at 435.350 MHz; there will also be a voice beacon at 435.300 MHz. The transponder mode will be controlled by a CTCSS tone on the uplink frequency. [SumbandilaSat](#) was sponsored by the Department of Science and Technology and was built at [SunSpace](#) in cooperation with the [Stellenbosch University](#). In addition to the SA-AMSAT amateur module, the satellite carries Stellenbosch University's radiation experiment and software defined radio (SDR) project, an experiment from Nelson Mandela Metropolitan University and a VLF radio module from the University of KwaZulu-Natal.

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!

Attention: Kootenai County ARES/RACES Members!

Don't forget! The meeting location for the monthly KC ARES/RACES meetings remains unchanged: Civil Air Patrol, Sheprock Building, Coeur d'Alene Airport. The start time remains 6:30 p.m., on the third Monday of the month.

SPOKANE, WA - Register for ham license tests in Spokane by calling **Mary, AA7RT** at 509-991-2192 or e-mail: AA7RT@arrl.net for dates, locations and times.

The nominating committee made up of Jack McElroy, K7JMC, and Randy Carlson, KB6YAV, gave their report to the club on officer nominations:

President, John Hollar, N7JU;
Vice President, Garry Budreau, KE7UQM;
Executive Director, Allan Campbell, KE7DFT;
Treasurer, Tom Richmond, NI7W;
Secretary, Megan Barrett, KE7RCD.

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



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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.

2009 CLUB OFFICERS

President: Ed Hannigan, KE7FOW
208 818-7235 president@k7id.org

Vice-President: John Hollar, N7JU
208 765-5470 vicepresident@k7id.org

Executive Director: Gary Roth, KE7IAT
509 993-8468 excdirector@k7id.org

Secretary: Thomas Barrett, KD7JUS
208 818-2039 secretary@k7id.org

Treasurer: Tom Richmond, NI7W
208 772-0907 treasurer@k7id.org

Newsletter Editor: Gary Roth, KE7IAT

Repeater Trustee: Jerry Hooper, KA7RNX
ka7rnx@arrl.net

Repeater Tech: Jim Monroe, N7ESU
208 687-2251 n7esu@arrl.net

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

Past President: Ed Stuckey, AI7H
ai7h@arrl.net

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.