

March 2012

(www.k7id.org)

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

REGULAR CLUB MEETINGS:

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

**Topic: Grounding, Generator
Safety, Smart Meters, etc.**
Presenter: Keith Brooks,
Kootenai Electric Cooperative
Refreshments: Bill Steinhour

**ARRL VE Testing Session at
same location 03/12/12; 5:30
PM Walk-ins welcome**
All exams administered.

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

Topic: Soldering Workshop
Presenter: Pat Patterson,
W7SGS, and Tom Macey,
W7UAT
**Refreshments: Garry
Beaudreau**

Upcoming Events

March 10, 2010
Idaho QSO Party

Mike & Key Hamfest
Puyallup, Washington

April 20
Idaho State Convention
Boise, Idaho

President's Column

The weekend of Feb. 25 was the ARRL International DX contest for CW. For those of you who were on the air, I hope you had a great time. For those of you that missed it, 10 meters was open and conditions were beautiful. March 3 is the ARRL International DX contest for phone. With that in mind, those of you who are DXers, will want to be checking the bands for improving conditions. After several years of marginal band conditions, things are looking up.

2012 is the 75th Anniversary of the DXCC award. For the newer hams, DXCC means that you have made verifiable contacts with at least 100 countries. To celebrate this Diamond Anniversary, the ARRL is sponsoring a Diamond DXCC Challenge. This challenge is based upon making at least 100 contacts from the list of 231 places that were listed in 1937. It should be fun. Go to the ARRL web page for further details. Oh to have my Extra Class license.

For those of us that are not DXers, remember March 10 is the Idaho QSO party. This is our chance to be a "DX" station for a day. Everyone will be trying to contact an Idaho station. For all the official rules see the link to the official Idaho QSO party web page on our web site, www.K7ID.org.

According to the calendar, spring is approaching, even though it doesn't feel much like spring. Time to start planning all those outdoor activities. Time to start planning for that antenna installation. Our March program will be given by Kootenai Electric Company. They will be offering hints on how to properly ground our equipment and make this a safe spring and summer. In addition, the soldering workshop in April will give you a chance to practice your soldering skills before you have to actually solder those coax connections. There is still time to order a soldering station if you would like to purchase one from the club. I hope many of you are planning to take part in this activity.

Coming up in April is our trip to the Sheriff's facility in Coeur d'Alene. Bob Kesson, K7CGA, is working on getting permission for us to tour the new 911 facility as well as the antenna farm.

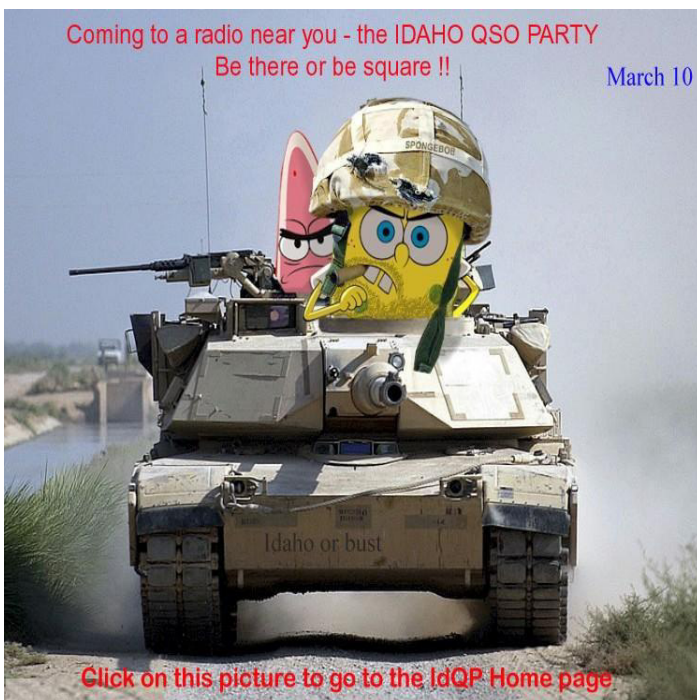
All of this depends upon your being a member of KARS. Don't forget dues will be delinquent on 1 April 2012 and that is not an April Fool's Joke. For those of you still contemplating renewing your membership see our treasurer, Pat Patterson, W7SGS, at the next meeting. Come April 1, our secretary, Tom Richmond, NI7W,

will be sending E-mails to those of you that have not paid your 2012 membership before deleting you from the club roster. You don't want to miss next month's newsletter.

Remember the roundtable each Wednesday evening. The time and operating frequencies for each evening are available on the club web site, www.K7ID.org.

A further reminder: Hams wishing to join ARRL may submit their membership application through KARS and the club will receive \$15 from ARRL for each new membership. We still have the bright yellow lanyards available for free to the first nine people joining ARRL.

Bonnie, KG6QQM
KARS President



Biography for March

Hi, my name is Mitch Killegrew, KB7BYR. I hold an Extra Class license. I am a member of the KARS VE team.

When I was in my early teens, I liked to fix old TVs and radios. When I got into high school I took an electronics class with my friend Mel Baillie. It was a great class. We got to build an AM/FM radio using tubes. I was in that class for 3 years and really enjoyed it.

I took up CB radio and did a lot of crazy things. One time Mel and I went to the top of Wardner Peak to talk to a friend of ours. I gripped the mike and heard a woman come

back. She told us to get off of this channel because it was the Park channel. We tried to tell her that we were not in any park. We were on top of Wardner Peak, but she wouldn't believe us. We asked her what park we were in and she said Shasta Lake Park in California. We said goodbye and got off of the mountain.

I moved out of the Silver Valley and went to Libby Montana where I worked part time for a pawn shop. I would take TVs home and go through them to see if they were useable. I did that for 2 years. After several more years I went back to the Silver Valley.

I ran into Jerry Hooper and he told me that he was a ham and his call was KA7RNX. He wanted to know when I would be getting my license. He and Les Harry would be willing to give me the Novice test, so I said "Let's do it".

Somewhere around this time my good buddy, Mel, got his ticket KB7BTU. Both he and Jerry kept after me to take my test. Sometime around the end of 1986 I got my novice ticket KB7BYR. From there I kept progressing up the ladder. In December 1989 I received my technician upgrade. The no-code ticket came into being around 1993. I worked with my wife and kids to get their tickets too.

Somewhere around that time I joined ARRL. I was appointed the EC for Shoshone County. Jerry kept asking me to come to the KARS meetings. I also attended the Kootenai County Disaster services meeting.

During the ice storm of 1996, one of my daughters and I worked communications for a shelter in Spokane. We really enjoyed it. I also worked with the Red Cross doing family services for the Spokane Office during that time. Then, when the floods came that same year, I spent time up Latour Creek reporting to the EOC on the water damage.

In July 1996, I received my General ticket. Jerry kept telling me that if I had my Extra license I could work anywhere on the bands. I kept hitting the books and in February of 1999 I got my Extra ticket. I asked Jerry, "What is next"? Jerry asked me to become a VE. Jerry got me the necessary paperwork, I took the test, and sent the papers to W5YI. I was approved and received my VE Card. Jerry encouraged me to join KARS VE team. I have enjoyed it.

For those who remember Anthony Cavallucci, KF7TNC and NWS Skywarn Liaison, obtaining his Technician license in the KARS Jnauary testing session, he has since upgraded to General at a Spokane testing session.

Minutes of the January 28, 2012 KARS Board Meeting

Meeting called to order by President Bonnie Patterson.

Attending: Bonnie Patterson, President
Alan Campbell, Vice President
Pat Patterson, Treasurer
Jacob Cord, Executive Director
Tom Richmond, Secretary

Members Attending: Larry Telles, Dale DuRee.

- 1. Work Party for Repeater Upgrades:** Dale is going to work up a cost estimate and start gathering up supplies for a trip up to the repeater site. We will upgrade our grounds and cabling inside as well as antenna feed lines outside. We will clean up what belongs to us. Dale is going to make the necessary contacts to secure permission to use the cable ladder and the feed thru point. We will also look at sharing or obtaining our own equipment rack which can be securely fastened in place. This will replace our existing cabinet. Dale anticipates needing some Heliac@ \$6/ft with some expensive connectors around \$50 ea. We will need some copper wire for the grounds, i.e., #2 and #6 with clamps, doughnuts, etc.

As far as the work crew Dale estimated about 5 or 6 people that know what they are doing would be great. It was decided that if you can't contribute as a worker then you are discouraged from going on this trip. Anyone going must be authorized by Dale in order to be covered by our insurance. Dale wants to hold it down to 2 vehicles because of limited space and the need to maximize time working at the site. Dale will line up the crew he wants and what ever other details he needs to take care of. Dale will need 2 tower climbers, 1 ground man, and 2 people to work on inside wiring.

President Bonnie mentioned that the club would furnish sack lunches and something to drink. There is also a mileage allowance available to those who take their vehicles but must be approved in advance by Dale.

- 2. Web Page Updates:** Larry Telles, our webmaster talked about maintaining the K7ID.org and .com website. He is concerned that for the amount of time he has to put in to keep it updated, we have very few "hits" on the counter. Someone else said it would get used more if it was updated more.

Larry is going to work on some things that were brought up such as complete the section of the web page "under construction" or remove, correct picture of officers under Meetings section, move constitution and by-laws to Home page, add an upcoming program section, and an event calendar. Larry was going to see about a "For Sale" page but we may need a member to run it so that info stays current.

- 3. Soldering Program for April:** Pat, W7SGS, and Tom, W7UAT, are going to give the program. Dale is going to see about bringing in some surplus circuit boards. Alan has a few soldering stations he can bring. Others probably will be needed. Bonnie and Alan were going to look at ordering pre-sold soldering stations from somewhere like MCM for members who want one. Hopefully we can get a good price if we have a quantity. The club will buy any necessary materials for the session.
- 4. Hamfest:** American Legion is reserved for the 8th of June evening and Saturday the 9th until 3pm. There is a room available for a speaker. Have to be out of Bingo room by noon. A chairperson was not appointed yet. Alan and Caleb seemed interested.
- 5. Field trip to Sheriff's facility (EOC?):** Bonnie is going to follow up.
Possible problem with security issues. Another possibility is 9-1-1.
- 6. Celebrating KARS 40th Anniversary** Do this at the May meeting. Special invite to charter members. Publicity article in QST and/or local paper. Acknowledge past presidents. Have a cake. Other ideas from members at Feb meeting?
- 7. Speciality Badges** Bonnie is checking into have a special badge for Charter Members and for Life members. We have 2 charter members left and 9 Life members. Badges would be purchased only for those who come to the meetings or are otherwise active in club.

There being no further business, the meeting was adjourned.

Submitted by: *Tom Richmond, KARS Secretary*

FCC Releases New Rules for 60 Meters

On November 18, the FCC released a *Report and Order (R&O)*, defining new rules for the 60 meter (5 MHz) band. These rules are in response to a *Petition for Rulemaking (PRM)* filed by the ARRL more than five

years ago and a June 2010 *Notice of Proposed Rulemaking* ([NPRM](#)). In the *R&O*, the FCC replaced one of the channels in the band, increased the maximum authorized power amateur stations may transmit in this band and authorized amateur stations to transmit three additional emission designators in the five channels in the 5330.6-5406.4 kHz band (60 meters).

The Amateur Radio Service in the United States has a secondary allocation on 60 meters. Only those amateurs who hold General, Advanced or Amateur Extra class licenses may operate on this band. Amateur stations must not cause harmful interference to — and must accept interference from — stations authorized by any administration in the fixed service, as well as mobile (except aeronautical mobile) stations authorized by the administrations of other countries.

Here is a summary of the changes. Please note that these changes have not yet taken effect. These new rules will take effect 12:00 EST, March 5, 2012

- The frequency 5368.0 kHz (carrier frequency 5366.5 kHz) is withdrawn and a new frequency of 5358.5 kHz (carrier frequency 5357.0 kHz) is authorized.
- The effective radiated power limit in the 60 meter band is raised by 3 dB, from 50 W PEP to 100 W PEP, relative to a half-wave dipole. If another type of antenna is used, the station licensee must maintain a record of either the antenna manufacturer's data on the antenna gain or calculations of the antenna gain.
- Three additional emission types are authorized. **Data** (emission designator 2K80J2D, for example, PACTOR-III), **RTTY** (emission designator 60H0J2B, for example, PSK31) and **CW** (150HA1A, i.e. Morse telegraphy by means of on-off keying). For CW, the carrier frequency must be set to the center frequency. For data and RTTY the requirement to transmit "only on the five center frequencies specified" may be met by using the same practice as on USB, i.e. by setting the suppressed carrier frequency of the USB transmitter used to generate the J2D or J2B emission to the carrier frequency that is 1.5 kHz below the center frequency.

Automatic control on data and RTTY is not permitted; a control operator must be in a position to exercise either local or remote control over the transmitter. The FCC noted that "amateur operators must exercise care to limit the length of transmissions so as to avoid causing harmful interference to Federal stations." This is a very important

caveat: If a Federal station requires amateurs to cease using a frequency, the amateur station must be able to do so without delay.

A reasonable person might wonder what the difference is between data and RTTY. According to former ARRL Chief Technology Officer Paul Rinaldo, W4RI, there used to be a difference, but there's not much of one today. "Years ago, a B designator (telegraphy for automatic reception [i.e. narrow-band direct-printing telegraphy emissions]) meant decoding and display on a teletypewriter (TTY) or other mechanical machine," he explained. "A D designator signified transmission of data, telemetry or telecommand intended for data processing or just storage for possible future use. When computers or computer-like devices were introduced to emulate RTTY transmission and/or reception, the line between telegraphy and data transmission blurred to the point of little or no practical distinction."

PACTOR-III and PSK31 are cited in the new rules as examples of data and RTTY emissions, respectively, that will be authorized; however, in paragraph 28 of the *R&O*, the Commission states that amateur stations will be permitted to use "any unspecified digital code, subject to the requirements of Section 97.309(b)." Therefore, as a practical matter it appears that any J2D data emission is to be permitted up to a bandwidth of 2.8 kHz, provided that care is exercised to limit the length of transmissions.

Amateur Radio and the 60 Meter Band

The 60 meter band is part of the larger 5.060-5.450 MHz band, which is a federal/non-federal shared band that is allocated to the fixed service on a primary basis and to the mobile (except aeronautical mobile service) on a secondary basis. The 5.060-5.450 MHz band is primarily used by federal agencies for ship-to-shore and fixed point-to-point communications. Non-federal use of the 5060-5450 kHz band includes state government licensees and licensees in the Industrial/Business Pool that operate standby and/or backup communication circuits for use during emergency and/or disaster situations, entities prospecting for petroleum and natural gas or distributing electric power, coast stations and aeronautical fixed stations.

The Commission added the Amateur Radio Service as a secondary allocation after determining that such frequencies could be useful to the Amateur Radio community for completing disaster communications links at

times when existing frequencies in the 3.500-4.000 MHz (80 and 75 meter) and 7.000-7.300 MHz (40 meter) bands are not available due to ionospheric conditions. It concluded that such an allocation represented the best compromise available to give the amateur service access to new spectrum while assuring the federal government agencies that their use is protected.

At the request of the National Telecommunications and Information Administration (NTIA), the Commission restricted amateur stations operating on the five channels in the 60 meter band to upper sideband (USB) voice transmissions (phone emission 2K80J3E), and to a maximum effective radiated power (ERP) of 50 W peak envelope power (PEP). The Commission adopted these operating restrictions to decrease the interference potential between amateur stations and federal stations.

In October 2006, the ARRL filed a *Petition for Rulemaking* with the FCC, requesting that the Commission amend Parts 2 and 97 of its Rules to replace one of the allocated center frequencies (5368 kHz) with a less encumbered frequency (5358.5 kHz), to increase the maximum ERP from 50 to 100 W PEP and to authorize the use of additional emissions types, limited to emission designators 150HA1A, 60H0J2B and 2K80J2D. In its *Petition*, the ARRL pointed out that its proposals were designed to facilitate more efficient and effective use of the secondary Amateur Radio Service allocation in the 60 meter band. As part of its petition, the ARRL attached a letter from NTIA, indicating that it would “look favorably” on the ARRL’s proposed modifications. (ARRL News)

New Licensees

On January 28, the VEs held testing for a large group of potential hams. At the end of that testing period, the following people were proud holders of Technician Class licenses.

Edward Felsing	KF7TUZ
Linda Felsing	KF7TUX
Grant Webb	KF7TVB
Sonja Webb	KF7TUV
B’Shaun Reed	KF7TUW
David Asper	KF7TVA
Gary Roylance	KF7TVH
Alan Griffitts	KF7TVF
Travis Coffey	KF7TVC
Evelyn Dan	KF7TVG

Lorien Cord	KF7TUY
Robert Shirts	KF7TVE
Erik Nemeck	KF7TVD

Congratulations to you all.

Car Radios – A Little History

Radios are so much a part of the driving experience, it seems like cars have always had them. But they didn’t. Here’s the story.

One evening in 1929 two young men named William Lear and Elmer Wavering drove their girlfriends to a lookout point high above the Mississippi River town of Quincy, Illinois, to watch the sunset. It was a romantic night to be sure, but one of the women observed that it would be even nicer if they could listen to music in the car.

Lear and Wavering liked the idea. Both men had tinkered with radios – Lear had served as radio operator in the U. S. Navy during World War I – and it wasn’t long before they were taking apart a home radio and trying to get it to work in a car. But it wasn’t as easy as it sounds: automobiles have ignition switches, generators, spark plugs, and other electrical equipment that generate noisy static interference, making it nearly impossible to listen to the radio when the engine was running.

SIGNING ON

One by one, Lear and Wavering identified and eliminated each source of electrical interference. When they finally got their radio to work, they took it to a radio convention in Chicago. There they met Paul Galvin, owner of Galvin Manufacturing Corporation. He made a product called a “battery eliminator” a device that allowed battery-powered radios to run on household AC current. But as more homes were wired for electricity, more radio manufacturers made AC-powered radios. Galvin needed a new product to manufacture. When he met Lear and Wavering at the radio convention, he found it. He believed that mass-produced, affordable car radios had the potential to become a huge business.

Lear and Wavering set up shop in Galvin’s factory, and when they perfected their first radio, they installed it in his Studebaker. Then Galvin went to a local banker to apply for a loan. Thinking it might sweeten the deal, he had his men install a radio in the banker’s Packard. Good idea, but it didn’t work –half an hour after the installation, the banker’s Packard caught on fire. (They didn’t get the loan.)

Galvin didn’t give up. He drove his Studebaker nearly 800 miles to Atlantic City to show off the radio at the 1930 Radio Manufacturers Association convention. Too broke to afford a booth, he parked the car outside the convention hall and cranked up the radio so that passing conventioners could

hear it. That idea worked – he got enough orders to put the radio into production.

WHAT'S IN A NAME

That first production model was called the 5T71. Galvin decided he needed to come up with something a little catchier. In those days many companies in the phonograph and radio businesses used the suffix “ola” for their names – Radiola, Columbiola, and Victrola were three of the biggest. Galvin decided to do the same thing, and since his radio was intended for use in a motor vehicle, he decided to call it the Motorola.

But even with the name change, the radio still had problems. When Motorola went on sale in 1930, it cost about \$110 uninstalled, at a time when you could buy a brand-new car for \$650, and the country was sliding into the Great Depression. (By that measure, a radio for a new car would cost about \$3,000 today.)

In 1930 it took two men several days to put in a car radio – the dashboard had to be taken apart so that the receiver and a single speaker could be installed, and the ceiling had to be cut open to install the antenna. These early radios ran on their own batteries, not on the car battery, so holes had to be cut into the floorboard to accommodate them. The installation manual had eight complete diagrams and 28 pages of instructions.

HIT THE ROAD

Selling complicated car radios that cost 20 percent of the price of a brand-new car wouldn't have been easy in the best of times, let alone during the Great Depression – Galvin lost money in 1930 and struggled for a couple of years after that. But things picked up in 1933 when Ford began offering Motorolas pre-installed at the factory. In 1934 they got another boost when Galvin struck a deal with B. F. Goodrich tire company to sell and install them in its chain of tire stores. By then the price of the radio, installation included, had dropped to \$55. The Motorola car radio was off and running. (The name of the company would be officially changed from Galvin Manufacturing to “Motorola” in 1947.) In the meantime, Galvin continued to develop new uses for car radios. In 1936, the same year that it introduced push-button tuning, it also introduced the Motorola Police Cruiser, a standard car radio that was factory preset to a single frequency to pick up police broadcasts. In 1940 he developed the first hand held two-way radio – the Handie-Talkie– for the U. S. Army.

A lot of the communications technologies that we take for granted today were born in Motorola labs in the years that followed World War II. In 1947, they came out with the first television to sell under \$200. In 1956, the company introduced the world's first pager; in 1969, it supplied the radio and television equipment that was used to televise Neil

Armstrong's first steps on the Moon. In 1973, it invented the world's first handheld cellular phone. Today, Motorola is one of the second-largest cell phone manufacturer in the world. And it all started with the car radio.

WHATEVER HAPPENED TO ...

The two men who installed the first radio in Paul Galvin's car, Elmer Wavering and William Lear, ended up taking very different paths in life. Wavering stayed with Motorola. In the 1950's he helped change the automobile experience again when he developed the first automotive alternator, replacing inefficient and unreliable generators. The invention led to such luxuries as power windows, power seats, and, eventually, air-conditioning.

Lear also continued inventing. He holds more than 150 patents. Remember eight-track tape players? Lear invented that. But what he's really famous for are his contributions to the field of aviation. He invented radio direction finders for planes, aided in the invention of the autopilot, designed the first fully automatic aircraft landing system, and in 1963 introduced his most famous invention of all, the Lear Jet, the world's first mass-produced, affordable business jet. (Not bad for a guy who dropped out of school after the eighth grade.)

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W4CLM@foxtango.org The FoxTango group is for people interested in Yaesu equipment especially vintage equipment such as the FT 101 series. The name comes from the “FT” that Yaesu uses in their model numbers i.e. “FT897D”.

Visit the web site by going to: www.foxtango.org

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

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!

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 _____

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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 _____

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

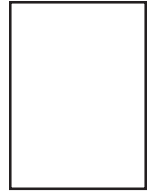
Please Select a Password _____

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.

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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.