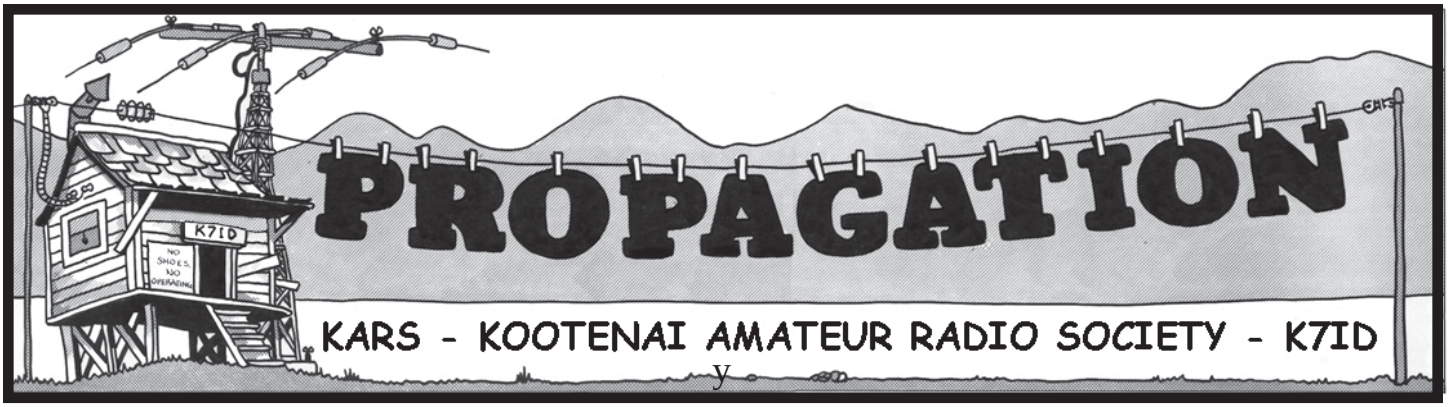


March 2019 (www.k7id.org) P.O. Box 1765 Hayden, ID 83835-1765

REGULAR CLUB MEETINGS:

Monday, Mar 11, 7:00 p.m.
Search & Rescue Bldg
10865 N Ramsey Rd.
Hayden, Idaho
Topic: VHF/UHF Repeaters in Our Area
Presenter: Lenny Gemar, N7MOT
Refreshments: ???

VE Testing
Monday, Mar 11, 5:30 p.m.
10865 N Ramsey Rd.
Hayden, Idaho

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

VE Testing
Monday, Apr 9, 5:30 a.m.
Search & Rescue Bldg
10865 N Ramsey Rd.
Hayden, Idaho

Upcoming Events

Mar 9, 2019 - Doors open at 9 a.m.; $10 admission
Mike & Key Hamfest
9th Ave SE & Meridian St S
Puyallup, WA 98372

QRM from the President

"Amateur Radio / Noun / A hobby, where people talk about their hobby, using their hobby."

What a great statement! I saw this printed on a T-shirt and I want one! It just captures the main idea about our hobby...and that is COMMUNICATING! Whether by CW, FLdigi, FT-8, slow-scan TV, RTTY, DMR, VHF/UHF, SOTA, SSB, AM, WSJT-X, QRP...well, you get the idea...so MANY ways to communicate! Just turn on your radio and listen to the exchanges taking place. Tune in an SDR receiver on your computer and LOOK at the entire band and all the activity taking place. It is amazing! We TALK! Usually we begin with discussing our equipment but that can quickly swerve into all sorts of topics and interests. It is NEVER boring!

I was in a 20 meter QSO Saturday morning with a friend in Kansas. As we were winding down, I heard a large group of hams very close to us trying to reach a French DX station. The DX was noisy and weak, but many east coast stations (1-2-3-4 callsigns) were trying to reach this guy across the Atlantic Ocean. I thought, "No way can he hear me...from IDAHO" but I ran the linear up to 800W and gave my call anyway. BANG! Got him first try! He returned my call and although I could not copy his full callsign due to a VERY heavy accent and QRN, we still exchanged greetings and acknowledged a contact from Post Falls to downtown Paris! We communicated! It still amazes me the distance our chat covered and at the speed of light.

KARS is committed to helping radio enthusiasts become better operators and enjoy their hobby more! For our March meeting, Lenny Gemar will lay out the entire VHF/UHF system of repeaters in our area and how they link together. It will give you a good picture of what happens when you use your "push-to-talk" switch. You are engaging many components and locations while many sets of ears perk up to the familiar tones and squawks alerting us to someone's comment or call.

So...here I am, talking about our hobby and using a computer! Not quite the same thing or near as much fun as radio but I will catch you on our nets or on the air using our hobby. Have fun with radio! Communicate!

73,
Frank, KD7FK

February 2019 Meeting Minutes

The February 11, 2019 KARS meeting was held at the Search & Rescue Building located at 10865 N Ramsey Rd. Hayden, Idaho. The meeting was called to order at 7:03 p.m. by Club President Frank Krug (KD7FK).

The Pledge of Allegiance was led by Jim Petersen (AD0AZ).

Attendance: Twenty-six members and four visitors were in attendance.

VE Testing: Two people tested and the results were as follows: Passed Technician: 2.

Minutes: The minutes for the January 14, 2019 meeting were not available.

The Treasurer's Report was given by Rod Anderson (K7ZBE):

January 2019 Checking $ 784.18
Savings $1,202.54
Petty Cash $ 83.56
TOTAL $2,070.28

Income: Savings interest ($0.03), 50/50 Raffle ($6.00), Memberships ($529.00), Coffee Raffle ($15.00). Total $550.03.

Expenses: Deposit—Rathdrum Parks and Recreation—Majestic Park ($75.00)

Rod Anderson (K7ZBE) announced that membership cards are now available for those who have renewed their membership. Jim Petersen (AD0AZ) moved to accept the Treasurer's report; Lenny Gemar (N7MOT) seconded; the motion passed by member vote.

Jim Petersen (AD0AZ) and Lee Wallace (K7MSI) were presented with life membership name tags by Treasurer Rod Anderson (K7ZBE).

Repeater Report: Jerry Hart (W7KR) reported that the Little Blacktail repeater is down. Efforts to restore the repeater back to use as soon as possible are on-going. The frequency coordinator is involved in the process to identify a frequency pair that will not cause interference with other repeaters.

K7ID Canned Ham Video: The video featured Jim Petersen (AD0AZ) and his mobile radio rig. Frank Krug (KD7FK) announced that the Club has a suggestion box for the submission of questions and ideas for future Club meetings. Also, there is space available at the back table to fill out index cards describing equipment needed or equipment for sale.

The Unknown Ham Video: The Unknown Ham answered a question regarding tone/tone squelch and encode/decode as these terms relate to repeater operation. Frank Krug (KD7FK) gave an update on Hamfest and the installation of an end fed antenna in the Search and Rescue Building. Hamfest: A location for Hamfest has not yet been identified. One idea that has been discussed is to combine Hamfest with Field Day and hold both events at Majestic Park. There would be no charge to hold the Hamfest event at Majestic Park.

End Fed Antenna Installation: Bob Kesson (K7CGA) has acquired approval for the installation of an end fed antenna in the Search and Rescue building. The antenna will support 10 through 80 meters.

Evening Presentation: Bob Kesson (K7CGA) presented on the Kootenai County ARES/RACES group.

Raffle Results: 50/50, $5.00, Rick Van Landingham KI7I (claimed) Membership, $36.00, Mark Rediger K7UIH (not claimed)

Mike Slothower (KG7KSJ) moved to adjourn; Gabbee Perry (KE7ADN) seconded. The motion passed by member vote and the meeting was adjourned at 8:44 p.m.

Cuban Radio Amateurs Respond to Severe Tornado

From the early morning of January 27, radio amateurs in Cuba's capital of Havana were keeping an eye on the weather. An extratropical low-pressure system in the southeastern Gulf of Mexico associated with a cold front approaching from the west was preceded by a line of pre-frontal storms, generating severe weather conditions that deteriorated considerably during the evening and night hours. Completely unexpected was an F4 tornado that caused considerable damage in Havana. While hurricanes and tropical storms are fairly regular occurrences, the tornado was reported to be the first ever to hit Havana.

"Once again, Amateur Radio operators proved how they could handle emergency traffic during the severe weather event, when the 2G and 3G mobile cellular phone systems collapsed due to damage and the excessive traffic generated by the event," Radio Havana's Arnie Coro, CO2KK, reported on his *DXers Unlimited, Weekend Edition* program. "Using the Havana Metropolitan Area main repeater on 145.190, stations with handheld FM transceiver[s] could keep in touch from even the most difficult places in the affected areas comprising the municipalities of Regla, San Miguel del Padrón, Habana del Este, and 10 de Octubre."

According to media reports, the storm, with winds approaching 260 MPH, left at least six dead and more than 200 injured; damage to homes and buildings was

substantial. The severe weather also took out electrical power lines and utility poles in various areas, leaving much of Havana in darkness and disrupting wired and wireless telephone systems.

A Havana repeater on 145.33 MHz was pressed into service for the first time for this sort of event. A 144.410 MHz repeater in the affected area of 10 de Octubre proved very useful in handling traffic with medical workers, firefighters, and government emergency managers, Coro said in his broadcast.

More than a dozen radio amateurs responded to assist in the weather emergency, handling message traffic, a Federación de Radioaficionados de Cuba (FRC) report said. "It is worth mentioning the speed with which the emergency information was handled via radio, since everything happened so fast, complicated by a lack of electrical power, land-line, and cell communication. [E]verything was in chaos. In seconds, everything stopped working," the report added.

While power and telecommunications were promptly restored in many areas, repair or replacement of homes, buildings, and infrastructure lost in the severe storm will take a lot longer.

"At times like these, it can be said, radio amateurs are useful for the benefit of society," the FRC report said.

VE7DXW's "RF Seismograph" May Be Real Seismograph

Alex Schwarz, VE7DXW, in British Columbia, Canada, is exploring the possibility that "RF signatures" detected by the RF Seismograph propagation tool could also be indicating earthquakes, and may even be able to predict them shortly before they occur. A real-time HF propagation-monitoring tool developed by Schwarz and the MDSR team, the RF Seismograph shows both band noise and activity or band activity alone on six HF bands. It's a project of the North Shore Amateur Radio Club (NSARC).

"We had been doing the solar eclipse experiment, and we developed the RF Seismograph software to look for changes in propagation during the eclipse," Schwarz explained. "After the eclipse, we decided to leave the RF Seismograph running, and we have now collected 4 years of data."

The system uses an omnidirectional multiband antenna to monitor JT-65 frequencies (±10 kHz) on 80, 40, 30, 20, 15, and 10 meters. Recorders monitor the background noise and display the result in six color-coded, long-duration graphs displaying 6 hours of scans. When signals are present on a band, its graph trace starts to resemble a series of vertical bars.

Most recently, the RF Seismograph recorded the magnitude 7.5 earthquake in Ecuador on February 22. Schwarz recounted that noise on 15 meters began to be visible about 1 hour before the quake; then, 2 hours after the quake released, 15 meters started to recover. The US Geological Survey said the quake was about 82 miles below ground. It did not affect 80 meters. Schwarz speculated that the quake was easy to see on the RF Seismograph because 15 meters typically is not open during hours of darkness - especially when the solar flux is only 70.

Following a magnitude 5.0 earthquake off the coast of Vancouver Island, his RF Seismograph picked up changes. Canada's government-run Earthquakes Canada was able to provide Schwarz with a list of magnitude 6.0 or greater events since the RF Seismograph went into operation, and the two teams have been collaborating to find a correlation between HF propagation anomalies and earthquakes. With the measurements, Schwarz has been attempting find a correlation between the list of past geological events and what his RF Seismograph may have sensed on those occasions.

"The earthquakes show up as RF noise because of the electric field lines, now scientifically confirmed to change the way the ionosphere reflects RF," Schwarz said. He cited an article in the October 2018 edition of *Scientific American*, which, he says, "explains it really well." (See Erik Vance's "Earthquakes in the sky," *Scientific American*, October 2018, p. 44).

The *Scientific American* article explores measurements in Japan looking into how earthquakes can

create electric field lines that extend into the atmosphere. "Could they be used to detect earthquakes before they cause damage on the planet?" Schwarz asks.

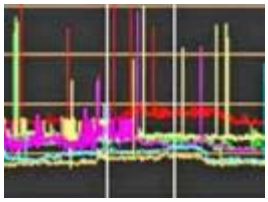
Schwarz said 171 earthquakes - all magnitude 6.0 events or greater - were studied, and only 15 of them had no RF noise associated with them. In 26 cases, the time of the disturbance detected by the RF Seismograph failed to match the USGS-reported time of the quake.

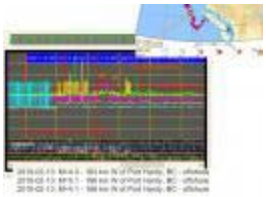
Schwarz said that in 72% of the earthquake studies, the RF Seismograph was able to detect an increase in noise on 80 meters, typically before and after the event.

"More analysis is needed," Schwarz has concluded. "The study is still continuing and we need your help to set up more monitoring stations."

RF Seismograph is now a project on Scistarter.com, facilitated through Arizona State University. Schwarz said Scistarter hosts "interesting projects for all ages and backgrounds" and "provides a vehicle for young people that are interested in science to get real live experience in this field."

Contact Schwarz (alexschwarz@telus.net) for additional information. (ARRL News)





Russian "Sunflower" Coastal Radar Showing Up on 60, 40, and 75 Meters

The January issue of the IARU Region 1 Monitoring System (IARUMS) newsletter reports the Russian "Sunflower" coastal radar, located east of Vladivostok, is being heard at nights on 3,716 kHz and 6,860 – 7,005 kHz, as well as on several 60-meter frequencies.

A Chinese wideband over-the-horizon (OTH) radar also appeared on 7.000 MHz in early January.

While 60 meters and 80/75 meters are shared bands, the 7.000 – 7.200 MHz segment of 40 meters is currently allocated exclusively to the Amateur Radio Service worldwide. True intruders are those appearing on exclusive Amateur Radio frequency allocations.

Some domestic Amateur Radio HF allocations outside Region 2 (the Americas), such as 7.200 to 7.300 MHz, are either shared with other services or not available to radio amateurs. On HF allocations such as 30 and 60 meters, Amateur Radio is secondary to other users. The 20-, 17-, 15-, 12-, and 10-meter bands are exclusively available to the Amateur Radio Service worldwide. (ARRL News)

New Plan Aligns ARES with the Needs of Served Agencies

The new ARES Plan (http://www.arrl.org/ares-plan) adopted by the ARRL Board of Directors at its Annual Meeting in January represents an effort to provide ARES with a clearly defined mission, goals, and objectives; specific training requirements, and a system for consistent reporting and record-keeping. The Board's Public Service Enhancement Working Group (PSEWG) spent more than 3 years crafting the ARES Plan which, ARRL officials believe, provides a much-needed update of the program's role in public service and emergency preparedness in the 21st century. Concerns focused on bringing ARES into alignment with the National Incident Management System (NIMS) and Incident Command System (ICS), and creating more consistent and standardized ARES training requirements. Given dramatic changes and upgrades in national, regional, and local emergency and disaster response organizations, ARRL faced a major challenge, said ARRL Great Lakes Division Director Dale Williams, WA8EFK, who chaired the PSEWG.

"If we didn't address these issues, such as training standards and organizational management, ARES faced the very real possibility that it would no longer be viewed as a valid and valuable partner in emergency and disaster relief situations," Williams said.

With input from ARES members and a peer review team, and the assistance of emergency response officials with some partner organizations, the PSEWG came up with a plan that provides guidelines to ensure that ARES remains a service of organized, trained, qualified, and credentialed Amateur Radio volunteers who can provide public service partners with radio communication expertise, capability, and capacity, Williams added.

A drafted ARES Plan was circulated among ARRL Section Managers (SMs) and Section Emergency Coordinators (ECs) to gather feedback. During the

comment period from August through October 2018, the PSEWG heard from 55 ARRL Sections, representing 40 states — more than 125 pages of feedback in all. The PSEWG expressed appreciation to all who submitted comments and ideas.

The PSEWG reviewed every comment and suggestion, identifying about a dozen key items commonly cited by those in the Field Organization to improve the plan.

Based on input from ARES participants, the training requirements in the final ARES Plan consist of the free FEMA Professional Development Series. The series comprises these independent study (IS) courses: 120.c, 230.d, 235.c, 240.d, 241.b, 242.b, and 244.b (as they may be amended), as well as the ARRL's EC-001 and EC-016 emergency communication courses. As part of adopting the ARES Plan, the ARRL Board approved a proposal to make the ARRL EC courses free for ARES members.

The plan highlights some additional training programs that ARES participants are encouraged to consider taking, but that are not required, such as AUXCOMM and training courses like ICS-300 and ICS-400.

The ARES Plan outlines a three-tiered membership structure based on increased responsibility levels and accompanying training requirements. Although the tiers are not a required path, they serve to define three distinct ways to participate in the ARES program; it's up to the participant to determine his or her level of involvement.

The ARES Plan points out that public service events such as parades and marathons are within the realm of ARES activity and are, in fact, a key part of it, because such events are an integral part of effective training.

In recognizing the local and regional nature of emergency communication needs in disaster response activations, the Plan notes that training requirements are ultimately the responsibility of the Section Manager, with each SM approving training for local ARES teams, as local conditions and needs dictate.

The ARES Plan also highlights the relationship between ARES and the National Traffic System (NTS). The PSEWG indicated that it will continue moving forward with efforts to find ways to refine and strengthen that relationship.

While the intent of the ARES Plan is to align the ARES organizational structure with the NIMS and ICS systems, Williams noted that, within the ARES structure, the Emergency Coordinator (EC) will continue to lead the ARES team locally during an incident, while the District and Section Emergency Coordinators will continue to serve as resources and support for the EC. (The emergency preparedness staff at ARRL is in the process of updating the EC manual.) The ARES Plan stresses that ARES participants are not first responders, and it encourages ARES leaders to develop and grow their group's partnerships with state emergency management agencies and officials. Williams said the adoption of the ARES Plan is not the end of this process.

"ARES cannot remain stagnant only to be updated once every few generations," he said. "The ARES Plan, and the ARES program, must be able to evolve." Williams added that the ARRL Headquarters emergency preparedness staff will review the program annually to ensure its continued relevance. (ARRL News)

New D-Star ONE Nanosatellites Launched; Es'hail Testing Under Way

A December 27 *Soyuz* launch deployed the two German Orbital Systems D-Star ONE satellites D-Star ONE - Sparrow and D-Star ONE - iSat. Beacons have been successfully received from both satellites, which carry a D-Star repeater with an uplink at 437.325 MHz and downlink at 435.525 MHz. The D-Star ONE - Phoenix 3U CubeSat, launched last February, was lost. This winter's D-Star mission was to include three D-Star CubeSats. A pair of *Kanopus V* remote-sensing satellites was the primary payload. The flight carried 28 satellites in all.

"During the first low-elevation pass over Berlin, our team established successful contact with both satellites," German Orbital Systems said. "The received telemetry confirms nominal status of all systems."

The December *Soyuz* flight also deployed the *UWE-4* 1U CubeSat carrying an electric propulsion experiment and a 70-centimeter 9.6 k AX.25 digipeater, with an uplink/downlink frequency of 437.375 MHz.

Elsewhere, AMSAT-DL (Germany) has reported that in-orbit testing of the P4-A ham radio transponders on Es'hail-2 has begun. AMSAT-DL cautioned that, under no circumstances, should anyone attempt to transmit on the Es'hail-2 uplink.

"Like everyone, we are very excited by the received signals so far, and we do appreciate any monitoring and

receiving reports from the Amateur Radio community," AMSAT-DL. Unsolicited transmissions on the Es'hail-2 uplink not only could delay commissioning and adversely affect relations with satellite owner Es'hailSat.

When all in-orbit testing has been successfully completed, the satellite will be moved to its final orbital position at 26° E. (ARRL News)

Earth's Magnetic North Pole Shifts toward Siberia

National Centers for Environmental Information (NCEI) scientists have updated the world magnetic model (WMM) mid-cycle, as Earth's northern magnetic pole has begun shifting quickly away from the Canadian Arctic and toward Siberia, an NCEI report said this week. The new WMM more accurately represents the change of the magnetic field since 2015. The alteration could have an impact on government, industry, and consumer electronics.

"Due to unplanned variations in the Arctic region, scientists have released a new model to more accurately represent the change of the magnetic field," the report said, noting that updated versions of the WMM are typically released every 5 years. This update comes about 1 year early.

"This out-of-cycle update before next year's official release of WMM 2020 will ensure safe navigation for military applications, commercial airlines, search and rescue operations, and others operating around the North Pole," said NCEI, which is part of the National Oceanographic and Atmospheric Administration (NOAA). "Organizations such as NASA, the Federal Aviation Administration, US Forest Service, and many more use this technology. The military uses the WMM for undersea and aircraft navigation, parachute deployment, and more."

Other governmental entities use the technology for surveying and mapping, satellite/antenna tracking, and air traffic management. Smartphone and consumer electronics companies also rely on the WMM to provide consumers with accurate compass apps, maps, and GPS services.

Airport runways may be the most visible example of a navigation aid updated to match shifts in Earth's magnetic field. Airports around the country use the data to give runways numerical names, which pilots refer to on the ground. The declination has changed slightly more than 2.5° over the past 2 decades or so. Compasses use declination - the difference between true north and where a compass points - to help correct navigation systems for a wide variety of uses.

As Earth's magnetic field evolves between the 5-year release schedule of the WMM, these predicted values can become off as the rate of change in Earth's magnetic field evolves due to unpredictable flows in Earth's core. The NCEI report said Earth's north polar region is experiencing one of these erratic changes.

DXer and Contester Frank Donovan, W3LPL, said the slowly drifting *geomagnetic* north pole has much greater significance to DXers and contesters because the northern auroral oval - which greatly affects HF propagation over the north Atlantic and north Pacific Oceans - is closely centered on the geomagnetic north pole and *not* on the magnetic - or dip - north pole discussed in the NCEI report.

"The geomagnetic north pole has been drifting generally northward at only about 3 miles per year," Donovan pointed out. "The location of the magnetic north pole is important to navigation but of relatively little importance to space-based phenomena such as HF ionospheric propagation." - *Thanks to NOAA-NCEI*

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

Kootenai Amateur Radio Society (KARS)
MEMBERSHIP APPLICATION

One year membership Rates:
{ } New Member: $15.00 { } Renewal: $15.00 { } Family Membership: $23.00

Two year membership Rates:
{ } New Member: $28.00 { } Renewal: $28.00 { } Family Membership: $42.00

Lifetime membership:
{ } Member: $150.00

{ } Information Update Only

Are You An ARRL Member? Yes / No (Please Circle One)

Callsign: _____ Class: _____ Expiration: _____

First Name: _____M.I. _____ Last Name: _____

Nickname: _____

Address1: _____

Address2: _____

City:_____ State: _____ ZIP: _____- _____

PHONE NUMBER: (____) _____
OK to publish phone number? Yes / No (Please Circle One)

EMAIL ADDRESS: _____
OK to publish Email address? Yes / No (Please Circle One)
Do you want to receive the emailed Newsletter? Yes / No (Please Circle One)

Note: If this is a family membership, (all members with the same address), please complete the following section for your family.

Name: _____ Call:_____ Class: _____

Name: _____ Call:_____ Class: _____

Name: _____ Call:_____ Class: _____

Name: _____ Call:_____ Class: _____

RETURN THIS FORM WITH YOUR DUES, (CASH OR CHECK), TO THE KARS TREASURER, OR, MAIL TO: ***KARS MEMBERSHIP, P.O. BOX 1765, Hayden, ID. 83835-1765.***

(Office use only.)

Cash:		**Check #:**		**Money Order:**	
Membership Card:		**Roster:**		**Newsletter:**	

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 contributers 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 $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.