THE REGULAR MONTHLY MEETING OF THE JARC WILL BE HELD ON HELD ON WEDNESDAY, OCTOBER 5th AT 7:30PM

NEWSLETTER
of the
Juneau Amateur Radio Club
KL7JRC

2011 JARC Club Officers:

President	AL7L	Pat Moore
V.P.	WL7BKA	Dave Bruce
Secretary	KL0KZ	Sam Smith
Treasurer	KL2QZ	Rich Anderson
VHF Chair	KL7HFI	Jerry Prindle
	AL7BP	Howard Sheperd (alternate)
Past President	KL1AS	Jack Gregson
Bd. Member at Large	KL7IG	Charley Gray

IN BRIEF:

- **BOARD MEETING:** A planning meeting of the JARC Board was held at the NWS meeting room on Wednesday, September 28th. The JARC Board of Directors gathered informally at the Forecast Office Wed., Sept 28 and discussed several recent and upcoming JARC events. We'll discuss these at the general membership meeting October 5. See following for details of each subject.

- **PROGRAM FOR OCTOBER 5TH MEETING:** The October meeting will be held October 5 at the National Weather Service Forecasting Office, 8500 Mendenhall Loop Road, beginning at 7:30 p.m. We'll briefly discuss upcoming events, hear a report on the state of the club's linked repeater system, report on JARC's participation in the Preparedness Expo Sept. 17-18, and watch a professionally-made 40-minute video of a truly amazing Field Day operation with 50 stations in a 1,000-foot circle at W3AO in Pennsylvania. Coffee and doughnuts will be served. All JARC members and interested parties are invited. We may meet some of the latest class of Technician candidates at the meeting. The business portion of the meeting will be kept short.

- **JUNEAU PREPAREDNESS EXPO:** The Club participated in the Expo at Centennial Hall on Friday and Saturday, September 23rd and 24th. Pat made two presentations at the Expo on amateur radio. This event is being sponsored by the USCG, CBJ, Juneau Local Emergency Planning Committee, Bartlett Hospital and KTOO. The Club had a booth featuring a VHF station and an HF station. Club volunteers organized by Larry Walter set up our mobile tower in order to demonstrate our capability. More information will be provided at the meeting on Wednesday. Does anyone have any knowledge as to where the 15-meter traps and the 20-meter end pieces from the club beam might have ended up? They were missing from the tower trailer when we set it up at the Preparedness Expo.

- **LICENSE CLASSES:** Jerry, KL7HFI, has begun JARC's first Technician class offered through Community Schools. We got wonderful publicity with a front-page mention, course information on the centerfold, and a KL0QZ photo of the tower trailer on the back of the community schools newsletter, distributed to all Juneau residents recently by mail and picked up by many from out Preparedness Expo operating position. We have 8 students. The class meets Monday and Thursday evenings from 6-9 in the Thunder Mountain High School Library, and then holds Saturday morning labs out at the Forecast Office where students can see ham radio in action at the club's WL7NWS station. Jerry and Pat, AL7L will be demonstrating elementary electronics principles in the conference room at NWS on the lab weekends. The class concludes October 15 with a testing session for all license classes to be held that Saturday afternoon in the Forecast Office conference room.

- **JAMBOREE ON THE AIR:** Ivan Hazelton, KL2UG and Ernie Mueller, KL2UH will co-chair a committee to put together this year's Boy Scout Jamboree on the Air (JOTA) operating event, coming up October 15 and 16. Ivan's going to try to get us space to set up the station at Mendenhall Mall. The plan is to be operational on 20 (and possibly 15) meters during the days and, if activity warrants, on 40 at night. The plan is to set up the tower trailer outside the mall where we sited it last year for the preparedness event. Ivan and Ernie will be recruiting a few of the club's newer members to help with arrangements. Everyone's invited to drop by and operate during this event. See following radio merit badge requirements.

- **SWEEPSTAKES PHONE EVENT:** Sweepstakes contest November 18, 4 p.m. to November 20, 4 p.m., probably at Fire Training Center
  Meeting December 7.

- **SKYWARN RECOGNITION DAY:** Skywarn Recognition Day most likely December 10, 24-hour operation as WL7NWS from Forecast Office

- **SUMMARY OF UPCOMING EVENTS:**

  - Lunch every Wednesday at Safeway
  - WL7NWS station at Forecast Office open to members 24/7 365; arrange to be checked out on operation by KL7HFI or AL7L
  - Meeting October 5
  - License Exams October 15 at Forecast Office - watch for times
  - Boy Scout Jamboree on the Air October 15-16, probably at Mendenhall Mall - watch for confirmation and times.
  - Meeting November 2
  - Sweepstakes contest November 18, 4 p.m. to November 20, 4 p.m., probably at Fire Training Center
  - Meeting December 7

- Skywarn Recognition Day most likely December 10, 24-hour operation as WL7NWS from Forecast Office

MEMBERSHIP:

Bob Simpson reports that we now have 67 paid members at meeting time. We continue to accept dues for the 2011 term. Membership information is available at monthly meetings and on our web site.

$36.00 for an individual membership including one autodial number, plus
$12.00 for any number of additional family members;
$5.00 for each additional autodial numbers; and
$10 for a youth membership.
Please bring your dues to the Annual meeting or mail to:

Juneau Amateur Radio Club
P.O. Box 35484
Juneau, Alaska 99803-5484
Attn: Treasurer

The Club needs your active participation and dues.

WEDNESDAY LUNCH MEETINGS:
We have had 8 to 10 members at our Wednesday lunch meetings. The informal lunch meetings continue to take place at the Safeway Deli at noon every Wednesday. There is a great selection of sandwiches and soups. Come join us!

ARES ACTIVITIES:
Participation in the ARES Net has been excellent. Although summer is waning, let's make a commitment to being on the air this fall. The net meets on the Mt Roberts repeater each Tuesday at 7PM. Now that all of the Club repeaters are linked, you can join the Net on any of our repeaters. It only takes about 10 minutes and provides good practice for any events that could overwhelm our community. The Northern Southeast Alaska Amateur Radio Emergency Service (ARES) net operates with participation from Haines, Gustavus, and Juneau. The purposes of this net are to check on the readiness of ARES members and their equipment, to make announcements pertaining to amateur radio, to conduct informal training and to give members experience in managing a net. All are welcome to check in. We hope to see you on the radio!

TELL US YOUR NEW E-MAIL ADDRESS: Sam Smith, KL0KZ, our Newsletter editor has been sending out our Newsletters electronically to the 95 percent of our membership who use Email. Please contact Sam at ssmith@ptialaska.net or at sam@borealcontrols.com if you obtain a new e-mail address.

THE NEWSLETTER: We are frequently able to include articles and information by Club members, which are far more interesting than the usual dry information produced by the editor. If you have time to put something together that would interest the membership, please send by e-mail to ssmith@ptialaska.net or at sam@borealcontrols.com. We will edit it for you; so don't hesitate to send something to us. The appropriate length is less than one page.

CLUB WEB SITE: The Club is looking for help keeping our web site working. If you have the skills or interest in taking over as our web master give Pat or one of our other officers a call. An archive of past Newsletters, Club Minutes and ARES information will be available on the site. It will also provide an excellent opportunity for selling used radio equipment. The URL is http://www.qsl.net/jarc/

REPEATER STATUS: The club's linked repeater system is again operational! Jerry, KL7HFI and Howard, AL7BP spearheaded an effort to mount a 30-foot tower next to the repeater shack on Mt. Roberts, They installed the repeater in the shack with its new 220 MHz linking transceiver and put up an antenna on the new tower, bringing 146.22/.82 back to full operation after years of noisy and intermittent service. The link that ties Mt. Roberts to Lena Point still has a little noise on it, but Jerry's next project will be to raise the linking antenna at Lena Point, which should increase link signal strength at both Mt. Roberts and the KL7HFI 146.04/.64 site. There were 11 check-ins on the ARES net Tuesday night, Sept. 27, with folks coming in on all three repeaters to KL0QZ, who ran the net on the Mt. Roberts machine.

Still to come on the repeater front, we're looking for helicopter rides to Pedersen Ridge, Haines, and Hoonah to pull all three repeaters and service them at Jerry's, and then put them back into service at each location. We're also seeking grant funding to replace equipment and install better antennas at all our repeater sites. We dream of a day when we have reliable, redundant noise-free linking, IRLP and Winlink access from 2 meter stations throughout the area.

REPEATER LOCATION	H-T FREQUENCY	CONDITION
Mt. Roberts Tramway	R146.82/T146.22	A new tower and antenna has been installed at the radio shack. The repeater and link are both working excellently.
Lena Point	R147.00/T146.40	Repeater is operating well since the new controller was installed.
Mendenhall Valley Repeater (formerly Heinzelman Ridge)	R146.64/T146.04	System is located at Jerry's home in the Valley. It is operating properly.
Hoonah Mountain	R146.70/T146.10	Repeater is now functioning, although the signal is a little weak.
Petersburg/Duncan Canal	R147.36?T146.76	Equipment has not yet been installed
Haines Repeater	R147.06/T147.66	Functioning, but with some problems.
Skagway Crossband	440 mHz band	Functioning
State Repeater	R147.30	Not functioning

REPEATER STATUS:

The work on the Mt. Roberts repeater has been completed for the winter. The treetop antenna which had become inaccessible had failed, due to water infiltration in the antenna and coax. This caused the link ADC radio to fail from high VSWR and the repeater radio to lose sensitivity. Due to these failures, the linking back to the hub system at Lena Point also failed.

The treetop antenna was replaced by installing a 30 foot tower near the repeater closet and installing a tri-band antenna on it. This became quite a project as tree limbs had to be cut to clear the area around the tower. The system was put on the air with partial success because

the link path to Lena Point was still marginal and noisy. Upon investigation, I found that the link antenna at Lena Point had turned 90 degrees, causing the signal loss. After that was corrected the path became strong and usable.

In the process of obtaining permission from Gastineau Guiding (the group that own the building that our repeater is housed), it was determined that they were planning on shutting down the power to the building for the winter, leaving our repeater without power. After some negotiation, we were able to persuade them to leave it on and we would pay for the electricity used. This caused some concern as the building is fed with 440 volts with a step-down transformer that is located underneath the building. The amount of electricity we will use is determined by a watt-hour meter on the 440 volt side of the circuit. This means that we will pay not only for the power we use but also for the losses in the transformer, which is an unknown amount. Therefore, on 9//27/11, I installed our own watt-hour meter in our closet that will measure exactly how much power we actually use, which includes the repeater power supply and a small thermostatically controlled heater. The idea here is if the losses in the transformer are great enough, it might persuade the Gastineau Guiding folks to rewire their building with 240 volts directly, eliminating the transformer.

I would like to give my sincere thanks to those that helped with this project, particularly Howard Shepard, who was in charge of putting up the new tower and antenna. Also helping Howard and me were Joe Johnson, Pat Moore, Charlie Gray, Estol Bellflower and Glenn Sicks.

At the moment, the State repeater on Pederson Hill is off the air. In the process of rewiring the repeater so that some technical problems that existed could be resolved, the machine failed. Parts were brought back off the hill and checked out on the bench. After much study of the circuitry, a way was found to rewire the interfaces to the controller to resolve the long standing problems this repeater has had. Another hike up the hill is now pending and so it should be back on the air soon. Many thanks for those that braved the bugs, bears, and the slippery slope as they hiked up to the repeater site with equipment and a battery strapped to their backs, Pat Moore, Howard Shepherd and Larry Walter.

One last project is still waiting for completion before the snow flies. The link antenna at Lena Point is partially blocked by a metal building so it needs to be raised by strapping it to the small tower attached to our building, clearing the top of the adjoining building. This should further improve the signal to the downtown and valley repeaters. Due to the age of the antenna the plan is to replace it next year as part of the ongoing projects to upgrade our system. That plan includes providing a better path to the Haines repeater, which is very poor to unusable now.

... Jerry Prindle, KL7HFI
VHF chairman

RADIO MERIT BADGE REQUIREMENTS:

1. Explain what radio is. Then discuss the following:
   a. The differences between broadcast radio and hobby radio.
   b. The differences between broadcasting and two-way communications.

c. Radio call signs and how they are used in broadcast radio and amateur radio
d. The phonetic alphabet and how it is used to communicate clearly.

2. Do the following:

a. Sketch a diagram showing how radio waves travel locally and around the world. Explain how the broadcast radio stations, WWV and WWVH can be used to help determine what you will hear when you listen to a shortwave radio.

b. Explain the difference between a DX and a local station. Discuss what the Federal Communication Commission (FCC) does and how it is different from the International Telecommunication Union.

3. Do the following:

a. Draw a chart of the electromagnetic spectrum covering 100 kilohertz (kHz) to 1000 megahertz (MHz).

b. Label the MF, HF, VHF, UHF, and microwave portions of the spectrum on your diagram.

c. Locate on your chart at least eight radio services such as AM and FM commercial broadcast, citizens band (CB), television, amateur radio (at least four amateur radio bands), and public service (police and fire).

4. Explain how radio waves carry information. Include in your explanation: transceiver, transmitter, receiver, amplifier, and antenna.

5. Do the following:

a. Explain the differences between a block diagram and a schematic diagram.

b. Draw a block diagram for a radio station that includes a transceiver, amplifier, microphone, antenna, and feed line.

c. Explain the differences between an open circuit a closed circuit, and a short circuit.

d. Draw eight schematic symbols. Explain what three of the represented parts do. Find three electrical components to match to three of these symbols.

6. Explain the safety precautions for working with radio gear, including the concept of grounding for direct current circuits, power outlets, and antenna systems.

7. Visit a radio installation (an amateur radio station, broadcast station, or public communications center, for example) approved in advance by your counselor. Discuss what types of equipment you saw in use, how it was used, what types of licenses are required to operate and maintain the equipment, and the purpose of the station.

8. Find out about three career opportunities in radio. Pick one and find out the education, training, and experience required for this profession. Discuss this with your counselor, and explain why this profession might interest you.

9. Do ONE of the following: (A OR B OR C)

A. AMATEUR RADIO

1. Tell why the FCC has an amateur radio service. Describe some of the activities that amateur radio operators can do on the air, once they have earned an amateur radio license.

2. Using proper call signs, Q signals, and abbreviations, carry on a 10 minute real or simulated radio contact using voice, Morse Code, or digital mode. (Licensed amateur radio operators may substitute five QSL cards as evidence of contacts with amateur radio operators from at least three different call districts.) Properly log the real or simulated ham radio contact and record the signal report.

3. Explain at least five Q signals or amateur radio terms you hear while listening.

4. Explain some of the differences between the Technician, General, and Extra Class license requirements and privileges. Explain who administers amateur radio exams.

5. Explain how you would make an emergency call on voice or Morse code.

6. Explain the differences between handheld transceivers and home "base" transceivers. Explain the uses of mobile amateur radio transceivers and amateur radio repeaters.

B. BROADCAST RADIO

1. Prepare a program schedule for radio station "KBSA" of exactly one-half hour, including music, news, commercials, and proper station identification. Record your program on audiotape or in a digital audio format using proper techniques.

2. Listen to and properly log 15 broadcast stations Determine the program format and target audience for five of these stations.

3. Explain at least eight terms used in commercial broadcasting, such as segue, cut, fade, continuity, remote, Emergency Alert System, network, cue, dead air, PSA, and playlist..

C. SHORTWAVE LISTENING

1. Listen across several shortwave bands for four one-hour periods - at least one period during daylight hours and at least one period at night. Log the stations properly and locate them geographically on a globe.

2. For several major foreign stations (BBC in Great Britain or HCJB in Ecuador, for example), list several frequency bands used by each.

3. Compare your daytime and nighttime logs ; note the frequencies on which your selected stations were loudest during each session. Explain the differences in the signal strength from one period to the next.

-Ivan Hazelton

JUNEAU AMATEUR RADIO CLUB
MEETING MINUTES

September 7, 2011

Meeting called to order by Vice President Dave Bruce at 1935 hrs**.**

Attendance: David Bruce WL7BKA, Sam Smith KL0KZ; Rich Anderson KL2QZ; Gary Parker KL7GP; Glenn Sicks KL0QZ; Bob Simpson NL7XZ; Jerry Prindle KL7HFI ; Larry Walter KL7IWC; Howard Shepherd AL7BP; Rob Kindred KL1FA: Ernie Mueller KL2UH; Jack Gregson KL1AS; Ivan Hazelton KL2UG; Steve Byers KL1MB.

Minutes of the June 1, 2011 Meeting:
The following correction was made to the June 1, 2011 Minutes concerning the tent donated to the Club: "We received supporting hoops for a 10'X16' tent. A cover will be constructed from a tarp." It was moved, seconded and passed to accept the meeting minutes sent out with the newsletter with the above correction included.

Treasurer Report:
Rich reported that the balance in the bank is $3,181.05. There are some more bills to be paid.

VE Report:
There will be VE sessions available associated with the technician and general class license examination classes planned for fall. The examinations will be on October 15 and December 10.

VHF Report:
It was reported that the repeaters are operating with some problems. The State repeater, 147.30 is not functioning, and the repeater link at Mt. Roberts is not functioning properly. Repairs to the Mt Roberts repeater are being planned.

Our grant request submitted to the Anchorage Radio Club for upgrading our repeaters is still on hold. We are optimistic and hope to hear from them soon.

Membership:
Bob Simpson reported that we currently have 67 paid up members.

Old Business:

- The results of the Club's very successful Field Day were discussed. All of the participants were thanked, especially Glenn Sicks for his organization of the event.
- Larry reported on planning for the upcoming Preparedness Expo on September 23 and 24 at Centennial Hall. Work assignments for the event are:
    - Jerry will move the mobile tower to the site.

- Larry will confirm our booth location and a location for our mobile tower. Volunteers are needed for setup on Friday morning September 23rd. We may require more coax.

- Sam will bring display tower sections, bases, VHF antennas, pamphlets and other miscellaneous stuff.

- Dave reported that we are very close to having all of the remaining documentation on our ownership of the mobile tower so that it can be properly licensed.

- Dave reported that our grant request to the AARC for repairs to our repeater system is still pending.

New Business:

- The Boy Scout Jamboree on the Air (JOTA) will be held October 15 to 16. We have advised the Scouts that we would like to participate with them. David is looking at using the Fire Training Center. We are also trying to find a public accessible location. We would like to help the scouts with Radio Merit Badge counseling. Ivan Hazelton is coordinating our participation.
- We are still working on participating in the Sweepstakes Contest.
- Rich gave a report on Grant writing for emergency equipment.

Adjournment: The meeting was adjourned at 20:20 hours.