



THE SHORT CIRCUIT



November 2002

THE NEWSLETTER OF THE ARCTIC AMATEUR RADIO CLUB

The Arctic Amateur Radio Club (AARC), Alaska's first amateur radio club, was formed in Fairbanks in 1939 and was incorporated as an Alaska non-profit organization in 1966. We have about 250 members and we meet September through May at 7:30 p.m. on the first Friday of the month at the Geophysical Institute University of Alaska. All interested persons are invited to attend.

Officers and Board Members

- Linda Mullen AD4BL 488-7046
 President
- Alex Cryan AL7EX 457-4040

- Vice-President
- Debbie Treb AL1S 451-1911
- Secretary
- Benny Benevento NL7XH 479-5203
- Treasurer
- Kevin Abnett NL7WO 479-0370
- Board Member
- Jim Baldridge AL1I 479-7185
- Board Member
- Steve Estes KL7XO 479-5819
- Board Member
- Larry Ledlow NL1TX 488-8399
- Board Member
- Eric Nichols KL7AJ 488-0483
- Board Member
- Rod Mitchel KL7YU 452-0584
- Board Member
- Jim Movius KL7JM 452-6347
- Board Member, Past President

Alaska Radio Nets:

- Alaska Sniper's Net 3.920 MHz 0300 UTC
(1800 L) daily
- Alaska Bush Net 7.093 MHz 0400 UTC
(1900 L) daily
- Alaska Motley Net 3.933 MHz 0600 UTC
(2100 L) daily
- Alaska Pacific Traffic Net 14.292 MHz 1900 UTC
(1000 L) daily
- Interior Net 146.88 MHz 0500 UTC
(2000 L) Sunday

November Club Meeting Minutes:

Nov 1, 2002 Club Meeting

Pre-Meeting Discussion on Antenna & Grounding Station grounding.

Main Meeting: Linda greeted everyone.

Club secretary AL1S Deb: gave last month's minutes of October.

Treasurer's Report NL7XH: Assets

Bank and Cash Accounts	
AARC General Account Checking	2,344.08
Repeater Account	187.66
Total Bank and Cash Accounts	2,531.74

Total Assets	2,531.74
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Net worth	2,531.74
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Old Business:

Cliff Cullings resigned as Treasurer.

Benny resigned as Vice President and was confirmed by the Board and General Membership as the New Treasurer.

The Board and General Membership as Vice President confirmed Alex Cryan.

Boy Scout Jamboree went well at Chena Lakes. There were over 100 boy Scouts who went through the "Radio Jamboree." The Trailer was able to be there as a new Furnace has been installed, so it was toasty inside. On Friday evening Benny Benevento, and Alex, Cryan, set up the trailer, radio, and PSK 31 interface equipment supplied from Benny's shack. On Saturday morning, Dan Schwiertert helped Benny set up a better HF antenna.

Benny Benevento, Larry Ledlow, and Eric Nichols helped the kids use the equipment in the correct Radio protocol manner. Every scout had a "hands on" contact with the equipment. They really had a great time with a contact we made with a scout troop in Hoonah (near Juneau). The Hoonah troop had four boys staying in the scoutmaster's home making DX contacts. We made contacts to California, Washington, and Oregon.

Rod Mitchell, Chuck Callender, and John Slater were on their radios at home talking with the kids when DX contacts were not possible.

Benny said the boys were amazing with the keyboard when they were using PSK 31, much more at home with the computer than the microphone.

The Trailer will be continue to be worked on as it still needs to be insulated, the roof does leak and the frame has a crack that needs to be welded still.

Dec. 6th and 7th is the National Weather Services 24 hr event. Help is needed.

Dec. 27th & 28th is the Chatanika Sled Dog Race if there is snow - other wise it will be cancelled and

NOT rescheduled. It is starting at Chatanika Lodge and ending in Fairbanks. It is a 200-mile race.

Dec. 14th the Fred and Helen Brown are having their annual “No Body’s Invited” but no one is turned away Christmas Party.

ARES have 26 members on role. A regular meeting day is still being worked on. ARRL is starting on Monday the 4th of November on-line training for a requirement for the hams involved in ARES.

Greg Williams who is with the Red Cross Disaster Services provided Main Program. The International Red Cross was started in 1861. Clara Barton started the Red Cross during the Civil War. The American Red Cross Disaster Services was started in 1905 as a result from a flood in Jonestown, PA. The Red Cross was chartered by Congress, BUT they ARE NOT funded or a part of the Federal Government. FEMA who is part of the Federal Government CANNOT do anything to help UNTIL the Government authorizes it.

American Red Cross is part of the International Red Cross/Red Crescent but they do not have a lot of disaster services.

26 out of 27 services are part of the Federal Government that provides disaster relief – mass care. Red Cross is the first to be there to help with food, clothing, shelter, and emergency medical care caused by the disaster.

Larry Ledlow said the ARES group could help with inventory, etc for the Red Cross.

Rod Mitchel will give December’s program on PSK31.

Board meeting location for next month is still being worked on.

Phyllis Movius is doing well – she had to have emergency surgery.

There is no pre-program planned for December.

Deb Treb AL1S, club secretary.

Board Meeting Minutes: Nov. Board Meeting

In Attendance:

Larry Ledlow, Steve Estes. Kevin Abnett, Jim Movius, Eric Nichols, Linda Mullen, Deb Treb, Alex Cryan
Benny Benevento

Also, present:

John Slater, Bill Mullen

Expenses:

Printer Cartridge

Phone bill - \$100.00

Repeater: Benny and Alex went down to Dot Lake to work on repeater.

Club Address updated

John Slater and Eric Nichols working on Tech Corner for News Letter.

No one knows why we get 2 copies of e-mail on members list.

Old Business:

Propane Heater was bought for the trailer along with a large propane bottle and carpet for the floor of the trailer. Benny plugged the holes that were left in the trailer floor. The Trailer worked well very for the Boy Scouts Jamboree.

Larry Ledlow had a half dozen people for the National Weather Service Event that will be held on Dec. 6th & 7th for a Dxing Event.

Jim Movius is working on completing the 501C3. He said it is moving along.

Repeater fund has \$178 in account and the main fund has \$2004.

Gaming account has two hundred and some dollars in it. Linda Mullen would like to use \$150 of it to buy 15 books that cost \$10 a piece for ARES training.

Linda would like to have the club meeting moved to 7:00 start and 6:30 if a pre-meeting event is scheduled.

Kevin made a motion to have the meeting start time changed to 7:00 and Larry second it.

It was brought up that Hands on pre-meetings seemed to work the best.

Chatanika Race runs (roughly): Chatanika lodge to Skiland to Iowa Dome into Little Chena to 13 mile to Chena river then down to the Dam to Valley Center – 100 mile ends at Angel Creek. 200 mile continues to China River Convention Center.

Need to start gearing up for race.

Dave Rich is Yukon Quest Race Manager-an American. Dave wants the Hams involved. Feb. 9th the main Quest Starts in White Horse and Jr. Quest Starts here. 250 Quest Starts????

J-pole's and soldering an idea for pre-meetings.

January –Earthquake and emergency by Steve Estes.

Dirk Tordoff on Old Fairbanks – an idea as well as Joe Cross.

Scott Bailey on Satellites also another idea.

Bumped Club meeting to Jan 10th with the Boards meeting still on the 9th.

Linda will be "Outside" the Nov.23rd through the 4th of Dec.

Repeaters: Dot Lake - antenna up temporarily as the other antennas iced up.

Benny is hoping to go on Monday to Healy to get it up and running.

A new Repeater would be nice to replace the old one at the Denali Park.

Dec 6th is the next Club meeting and Dec. 12 is the next Board meeting.

Deb Treb AL1S – Secretary

Events Schedule:

December 6-7 SKYWARN Recognition Day 1500 12/6 through 1500 12/7 (AKST)

December 6 7:30 p.m. AARC general membership meeting at Geophysical Institute

December 12 7:00 p.m. ARRC board meeting, location TBA

December 27-28, 2002 The Two Rivers 200 [formerly the Henry Hauun] will take place.

February 1 The Junior Yukon Quest

February 9 The Yukon Quest

Tec Corner:

AN A.M. PRIMER

Submitted by: Eric Nichols, KL7AJ

A lot of hams licensed in the present generation find it hard to believe that there was anything before Single Sideband on the H.F. Bands. Actually, Single Sideband is a relatively recent innovation, as far as amateur radio is concerned. In fact, all of the following techniques were developed BEFORE widespread acceptance single sideband: FM, Amateur Television (both slow and fast-scan), radioteletype, facsimile, Moonbounce, coherent CW, time-share multiplexing, and automatic message forwarding, to name a few.

For the first several decades of amateur radio, the ONLY method of voice communication was by means of plain old Amplitude Modulation (also known as Ancient Modulation, Amazingly Melodic, and a host of other endearing terms.)

In the mid-1950's, some amazing developments of "Full-Carrier" amplitude modulation made a rather brief appearance in the ham ranks...unfortunately, some of these suffered a sort of still-birth, as Single Sideband made its first tenuous appearance. In particular, the broadcasting industry made HUGE strides in the development of extremely efficient A.M. Transmitters....a lot of 24 hour, 50,000-watt stations were gracing the airwaves at the time, and at that kind of power level, every smidgen of increased efficiency made a huge difference in power bills. A few of these techniques managed to trickle into the amateur ranks, but for the most part, too little, too late. Some hams successfully deployed one particularly

promising technique, known as "supermodulation". As it turned out, almost any high-level modulated A.M. Transmitter.... which most of the existing ham transmitters were at the time...could be readily modified to yield supermodulation. Supermodulation was generally defined as anything more than 300% modulation on positive peaks. (I will discuss these definitions in the next few articles.)

WHY?

Since Single Sideband works so well, why would anyone want to revert to A.M.? Is Amplitude Modulation the exclusive domain of a small group of romantic old geezers...on the luddite fringe of hamdom?

Well....yes and no. I wrote an article in November, 1993 QST called, "Solder to Talk," which described just one such quirky fellow. No doubt, there is an indescribable charm in watching a box full of "glowing transistors" perform on the air....the same warm feeling that seeing a sweet-running '57 Chevy roll down the road evokes in the soul of the typical All American gearhead.

A.M. engenders a different kind of operating on the air...as anyone who has listened to 14.286, on twenty meters, or in 10KHz increments above about 29.010 on ten meters will attest. Transmissions are longer, less terse. People actually TALK on A.M., not just exchange vocal data. Part of this civility is a product of the technology itself....it can take a while to switch between transmit and receive modes on a classic A.M. station. (Again, this was the premise of my aforementioned article). You haven't really operated a ham station unless you've had to throw three or four switches to go from transmit to receive. And perish the thought that each of those switches were within reach of your operation position...or in close proximity to each other....or even in the same ROOM, for that matter! Because this was such an ordeal, one generally tried to wedge as much of one's life story in as possible during one's transmission....when you finally did revert to the receive mode, you were rewarded with an equally lengthy dissertation by the distant party, as you went for a cup of coffee, soldered away on your latest project, or typed away on your latest technical article, while your contact "broadcasted" to you in the background. This also gave your own tubes got a merciful chance to cool down for ten minutes or so.

I am not kidding.

Ideal for Homebrewers

Probably, what I like most about A.M. is that you can build an A.M. transmitter...and learn a great deal about radio in the process....which, unless I've missed something...is one of the main reasons we are allowed to exist as radio amateurs. Home-brewing a Single Sideband transmitter is not for the faint of heart. I've done it, and I wouldn't do it again. However, building an A.M. transmitter from scratch is nowhere near as daunting a project. A lot of hams in the nineteen fifties used hi-fi amplifiers to modulate their low cost CW transmitters with a great deal of success, and some incredible audio.

A.M. does not require anywhere near the frequency stability of Single Sideband.....what this means is that you can actually build a VFO that is more than stable enough for excellent A.M. operation. (This is NOT true for some of the newer incarnations of A.M. which I will describe in later installments.) However, for plain vanilla A.M. operation, there is little that requires any critical adjustments or expensive components.

There are TONS of A.M. boat anchors lying about...even in Fairbanks. You don't have to build your transmitter from scratch to really get your hands dirty in this fascinating cranny of hamdom.

Resurrecting an old Johnson Viking or Heathkit DX-100 is a great way to get your feet wet, and your nostrils accustomed to the smell of radio.

BACK TO THE FUTURE

As mentioned earlier, several refinements of A.M. were abandoned just on the verge of brilliance, because more immediate results were obtained with the fledgling SSB. Some of the really cool ideas floating about...such as Pulse Duration Modulation...were just too expensive or exotic to contemplate by the average ham...back in 1956. However....they would be a snap to implement today. Among the A.M. techniques that merit some serious development are:

Supermodulation: Modern digital audio techniques can do wonders here.

Coherent Modulation: This is the where you can use several stations on EXACTLY THE SAME FREQUENCY, separated only by phase difference. Up to eight different stations have been used on a single frequency on a closed circuit test setup. Can we actually do that on the air? The only way to find out is to try it! You NEED a carrier to do this...something SSB doesn't have! Techniques used so successfully for PSK31 can also be applied here.

Digital AM: This is not true A.M...but a technique where a carrier wave is modulated in amplitude in binary steps, in accordance with one's voice...a very broadband technique. Numerous "protocols" abound here.....more possibilities than PC Clover, even!

Exalted carrier: This is a technique adopted by many shortwave broadcasters, where the carrier level is modulated at a syllabic rate in addition to the "real" modulation.... a real power saver, that, nevertheless, maintains all the advantages of full-carrier A.M.

Vestigial sideband: A semi-single sideband mode...uses less bandwidth than A.M. but maintains all the fidelity of true A.M.

High Level modulation double sideband: This is where you use your "finals" as a balanced modulator. A weird but interesting technique. This is actually uses at microwave frequencies in some commercial services. Never caught on in ham land...yet!

I'm sure I missed a few...but I think you got the point. There is still a lot to be done with A.M. I will discuss all of these in detail in further articles. I hope I've piqued your interest in this fascination mode, in its various flavors. So haul out the soldering iron, crank up the plate voltage, and let's have some fun!

73s, Eric Nichols, KL7AJ, Your Local ARRL technical dude.

ARES:

Section ARES Report:

The Section which comprises the State of Alaska is arranged into Districts using the State Local Emergency Planning District lines. There are 29 LEPD's and 29 ARES Districts. Out of the 29 LEPD's, we have 10 that have some kind of ARES organization. Some of the LEPD's cover areas where there is very sparse population and mostly wilderness.

For a map of the LEPD's go to: <http://www.ak-prepared.com/serc/lepd1.htm> and the second map is

at: <http://www.ak-prepared.com/serc/lepd2.htm>.

We are working to build up the ARES groups within the Section. Amateur Radio Emergency Service is not an option, it is part of our licensing. We are privileged to have all the band width that we have in order to provide emergency communications services to our comunitites and our state.

We have developed the minimal training requirements for the ARES groups. Those requirements are:

Level I of the ARRL Emergency Communications Course
Proficiency in the National Traffic System and handling traffic
Incident Command System

I have been trying to find ways that minimized the financial impact on those who are taking the ARRL course. Some are taking it under the new Homeland Security Grant. I am also looking into other ways that the course can be provided. There is no cost for the NTS training, just a willingness to participate.

A good website for information on NTS is at:

http://www.gis.net/~ka1tuz/national_traffic_system.htm.

Free training on the Incident Command System can be had by going to the FEMA website and taking their on-line courses. The URL for the courses available is:

<http://training.fema.gov/EMIWeb/crslist.htm>.

The Section maintains a website with all the documents generated in the Section and other very good information at: <http://www.qsl.net/aresalaska/index.html>.

It would be good if you look up and read the Section Plan and your District Plan. There are specific rules and regs in the Section Plan for how the ARES groups are to operate within the Section.

I see a lot of good things happening in ARES within the Section and I want to encourage those who are working so hard to make this happen. It is not a matter of “IF” we have an emergency but “WHEN”. This year we have already had floods and a major earthquake. Will you be prepared WHEN we have the next one?

Just because you have a radio and can operate doesn't mean that you would be effective during an emergency. It takes training and knowledge of how to operate within the system or else you cause more problems than you help. I encourage you - each one of you - to join ARES and get the training so that WHEN the next emergency happens you can make a difference!

Every month I send in a report to ARRL HQ concerning the activities of the ARES units within the Section. I need your reports in order to do that. The report has a list of the ARES units and if I have received information, I add it by your District Name.

If anyone has any questions feel free to send me a radiogram or an email at: ad4bl@arrl.net .

Linda Mullen AD4BL
Section Emergency Coordinator Alaska

Section Traffic Report:

Currently in Alaska we have 12 organized nets that have been reported to me. They are:

- *Alaska Morse Wire
- Big City Simplex Net
- *Snipers Net
- Parka Net
- Motley Group
- Mara No Name Net
- *Bush Net
- *Anchorage Area VHF ARES Net
- *Interior VHF Net
- Anchorage HF Pactor Gateway
- Northern SE AK ARES Net
- *Alaska CW Net

The net frequency that the Snipers Net uses becomes the Alaska Emergency Frequency when we have an emergency. That frequency is 3920 and was utilized as a meeting point during the 7.9 earthquake on Nov 3.

The folks working on long haul and State-wide traffic handling have worked out our communications links to the lower 48 using HF CW and Pactor to reach the west coast. Traffic bound to Alaska uses the same routes.

We need CW operators all over the State to help manage traffic. Those of you who check into the nets via CW please consider working with the ACWN to help move traffic. They will work at any speed and will do any training you might need to handle traffic.

Every month I send in reports of our nets and traffic to ARRL HQ. I need you to send in the reports for every net both local and state-wide. The report is simple: number of sessions, number of check-ins, number of traffic handled, and signed by the net manager. Please use the ACWN to send in your reports. If you don't know how to format a formal message, the operators will help you do that. I have been getting regular reports from the nets that have * in front of the name. Thank you much!! If there are other nets operating in the Section that are not listed above, please advise me and I will add them.

The National Traffic System is very efficient and works well. I received a message from my friend in Northern Florida in 1 day. You can't do that via postal service. When we have a full scale emergency, we may lose our commercial communications services, that is when the NTS system shines. We can still operate and send messages. I send birthday, Thanksgiving, Christmas, and general messages. It is free! It is very personal! My family love to get the messages. It is a way to tell folks about amateur radio and the services we provide.

I can be contacted via the ACWN or email at: ad4bl@arrl.net.

Amateur radio is all about communication, both local and long haul. Come join us and see how much

fun it is. Every day handling of traffic is good practice for traffic handling during emergencies. It is an automatic response. The Section Plan on the Alaska ARES website has some instructions for handling traffic during emergencies, I recommend it for your reading pleasure.

See the SEC Report in this newsletter for Internet sites for information on the Section Plan and NTS.

Linda Mullen AD4BL
Section Traffic Manager Alaska

AARL NEWS:

ANNUAL SKYWARN RECOGNITION DAY IS DECEMBER 7

The fourth annual SKYWARN Recognition Day (SRD) is <http://hamradio.noaa.gov/> is December 7 (UTC). That's when Amateur Radio operators set up stations at National Weather Service (NWS) offices and contact other operators around the world. The event is sponsored by the ARRL and the National Weather Service.

"The purpose of the event is to recognize the vital public service contribution that Amateur Radio operators make during National Weather Service severe weather warning operations," said David Floyd, N5DBZ, warning coordination meteorologist, at the NWS Goodland, Kansas, office. "It also strengthens the bond between Amateur Radio operators and the local National Weather Service office."

For several decades now, hams have assisted the NWS by providing real-time reports of severe weather and storm evolution. The information radio operators locate near a storm can provide plays a key role in aiding forecasters. SKYWARN operators in several states activated to spot and track an outbreak of severe thunderstorms and tornadoes November 10.

Scott Mentzer, N0QE--the meteorologist-in-charge of the NWS office in Goodland, Kansas, and the creator and annual organizer of SRD--says more than 90 stations are registered to participate, up from 80 last year. Most participating NWS stations will operate on 80, 40, 20, 15, 10, and 2 meters using SSB and FM. Mentzer says a number of NWS offices will be equipped to support Internet Radio Linking Project (IRLP) stations.

All contacts will be made utilizing the General or Novice portion of the bands. Stations will exchange signal report, location and a one-word description of the current weather at their respective locations ("sunny," "partly cloudy," "windy," etc). This is not a contest, so no scoring will be computed.

SKYWARN Recognition Day will take place December 7 from 0000 UTC to 2400 UTC. Since SRD is being held on Pearl Harbor Day, each NWS office will transmit a special message from approximately 1800 to 1900 UTC--approximately the time of the Pearl Harbor, Hawaii, attack on December 7, 1941--to honor the World War II veterans.

The deadline to register an NWS site is December 1. Contact Mentzer to register:

scott.mentzer@noaa.gov. Complete information is available on the 2002 SKYWARN Recognition Day Web site <<http://hamradio.noaa.gov/>>.

COMMENTS FORM THE PRIESIDENT:

Time is drawing short to make preparations for all the activities we will be having in the next few months. Please put the following activities on your calendar and contact the appropriate folks to volunteer. It takes many hands to manage some of the events we have scheduled.

Dec 6-7 National Weather Service Special event station in the NWS office. Here is a chance for all you amateurs who don't have HF privileges or radios to have fun on the bands and support the NWS office here. Please contact Larry Ledlow N1TX to get a place on the schedule. n1tx@amsat.org .

Dec 27-29 Two Rivers 200/100 Dog Race. This is a new race to take the place of the Henrey Haun. There are a number of stations that need to be manned. We are still looking for amateurs to work: Mark Mays place, Valley Center, Angel Creek, and the finish line on the Chena River. Contact Linda Mullen AD4BL to claim your checkpoint. ad4bl@arrl.net .

February 1 The Junior Yukon Quest

February 9 The Yukon Quest. We will be assisting with this event. I have already met with the race manager Dave Rich and we have ironed out a number of the problems that we had last year. Benny is hard at work on the web page. We will try PSK31 this year along with packet, fax, phone, VHF and HF radios, and inputting the data on the website. There is plenty of opportunity to go around both at the Log Cabin and on the Trail Check-points. The race will start in Canada this year. If you have a special spot you prefer to work, please let me know so we can put you where you would like to work. For those of you who are new – the Log Cabin is the main data site and we man it 24/7 for 2 _ weeks. This is not an activity for a few chosen few, it takes all of us. More on this as we get closer.

The December meeting will begin at a new time! The meeting will start at 7PM, gathering at 6:30. The program will be on PSK31 and Rod Mitchell KL7YU will be the presenter. Try not to miss this one!!

I wish to all of you a very special Blessed Thanksgiving. A time to reflect on all the good things that we have in this country.....a warm place to live, food on our table, and clothes to keep us warm. More than a lot of folks thru out the world are able to have.

Linda AD4BL

For Sale/Help Wanted:

1. Received from Steve Estes

Dear Steve:

I am a middle school teacher in Los Angeles, California. I am also the sponsor of a radio club at school. Our school Website is at <http://home.earthlink.net/~darrellglen>.

My students and I are interested in talking to someone in Alaska during our school hours. Is it possible that someone from your club would like to try to talk with us? If so, please e-mail me. Our school call sign is KG6HYK, and my personal call sign is KA6OSC. 73, Darrell

1. David DeVoe, WL7CRD, is looking for a used ARRL handbook no more than 5 yrs old. He can be contacted at 455-4577

2. Extra Class Elmo, KL1AZ John is looking for a Extra Class Elmo who lives in the North Pole area and is willing to help in learning the Extra Class requirements, not just how to pass the exam. Can contact me either on the 146.88 machine, 3.920 Sniper Net at 1800 L, home telephone- 488-5209, or e-mail at slaternorthp@mosquitonet.com (when using e-mail address please include call sign)

NEWSLETTER EDITOR COMMENTS:

All input and comments/articles are welcome. If you have an e-mail address this is one way to save the club money, with the recent rise in postal rates it is going to become more expensive to mail out the newsletter. I would like to that this time to remind all that the one's who make the club are the members, and we are the only one's who can help it to grow. As a reminder if you wish to have something put into the newsletter you may e-mail me at slaternorthp@mosquitonet.com and be sure to include your call sign in the subject so I will know it is from another ham, or it will be deleted, or you may call me at home 488-5209.