



THE SHORT CIRCUIT



May 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.

o [Jim Movius](#) [KL7JM](#)

452-6347
452-6349 FAX

President

○ Linda Mullen	<u>AD4BL</u>	488-7046	Vice President
○ <u>Bill Beam</u>	<u>NL7F</u>	457-2727	Secretary
○ Cliff Cullings	<u>AL7P</u>	479-6659	Treasurer (Nov 8,'01 board action)
○ Bob Ball	<u>KL7AH</u>	479-7785	Board Member
○ <u>Rex Keirn</u>	<u>AL7BJ</u>	457-4025	Board Member
○ <u>Warren Tilman</u>	<u>KL0RA</u>	474-9484	Board Member
○ Michael Drury	<u>KL7GL</u>	488-0660	Board Member
○ Eric Nichols	<u>KL7AJ</u>	488-0483	Board Member
○ <u>Debbie Treb</u>	<u>WL7CRG</u>	451-1911	Board Member
○ <u>Myron Babcock</u>	<u>AL7QY</u>	455-4925	Board Member, Past President

Minutes of Arctic Amateur Radio Club meeting April 5, 2002:

Jim Movius, KL7JM, President, called the meeting to order.

Bill Beam, NL7F, Secretary, read the minutes of the previous meeting (April 5, 2002.)

MEDICAL REPORTS

Terry Preston, WL7TY is in the Anchorage Regional Hospital, Room 541. Terry is accepting visitors.

Richard Atwood, KL7B is in Fairbanks Memorial Hospital. Dick is not allowed visitors.

COMMITTEE REPORTS

Emergency Services

Jim Movius, KL7JM advises that an open house will be held in the newly constructed Fairbanks Police Station on May 15. They have invited hamradio participation. Anyone interested in operating a station at the event should contact Jim at <ajmovius@gci.net> or 452-6347.

Larry Ledlow, N1TX reminds us that the ARES net now operates on the KL7KC repeater every Sunday evening. Additional net control operators are requested. Contact Larry at <n1tx@amsat.org> or 488-8390. Larry advises that a traffic handling practice session will be held on May 18 from 10AM to 2PM at

the Borough Library. Contact Larry to participate. Larry notes that The ARRL will be offering emergency service training courses. For further information see the ARRL web site. A local ARES News Letter is now available. Linda Mullen, AD4BL advises that the local ARES net was activated last Tuesday during a weather event.

Jim Movius, KL7JM advises that a VE testing session will be held tomorrow.

OLD BUSINESS

Linda Mullen, AD4BL advises that the Eilson AFB CAP Cadet squadron has requested a ham radio presentation at their meeting on MAY 15. If interested, contact Linda at 488-7046 or <ad4bl@mosquitonet.com>.

Jim Movius, KL7JM reports that our next Hamfest will be held in Anchorage on Friday, September 13 and in Fairbanks on Sunday, September 15.

MAIN PROGRAM

Helen Brown, KL0CM and Steve Estes, KL7XO presented plans for our participation in the Tour de Cure bicycle tour to be held Saturday, May 18. Volunteers are solicited. Contact Helen at <hbrown@mosquitonet.com> or 451-8970 or Steve at <kl7xo@gci.net> or 479-5819.

ANNOUNCEMENTS

The next Board of Directors meeting will be hosted by Bob Ball, KL7AH. at 7 PM, Thursday, May 9, on Holden Ave. , second house on the north side. Holden is off east side of University Ave. between Davis Ave. and Sophie's Station. The appointment of a nominating committee for next year officers will be on the agenda. As usual, the Board meeting is open to all.

Meeting adjourned.

Submitted by
Bill Beam, NL7F
Secretary

Board Meeting Minutes:

Meeting hosted by Bob Ball, KL7AH .

Board members in attendance:

Mike Drury, KL7GL Jim Movius, KL7JM Bill Beam, NL7F Bob Ball, KL7AH Linda Mullen, AD4BL Cliff Cullings, AL7P Myron Babcock, AL7QY

Other club members in attendance:

Bill Mullen, KE4ITP John Slater, KL1AZ Jim Baldrige, AL1I Marty Baldrige, KL0ZD

Meeting called to order by President Jim Movius, KL7JM.

Minutes of last board meeting (April 11,2002) presented by Sec. Bill Beam, NL7F.

Treasurer's report presented Cliff Cullings, AL7P. In summary:

Beginning balance 4/2/02 778.64

Dues received 70.00

Ending balance 4/30 848.64

COMMITTEE REPORTS

Emergency Preparation

Linda Mullen, AD4BL reports an ARES training session will be held on May 18 from 10AM to 2PM at the Borough Library. Contact Larry Ledlow, N1TX <n1tx@amsat.org> or 488-8399 to participate. An emergency callout list has been developed. The committee is in contact with local civil agencies.

News Letter

John Slater, KL1AZ advises that he plans a mailing to contact past members to recruit their renewal. John solicits contributions to the News Letter. Contact John at <slaternorthp@mosquitonet.com> or 488-5209.

Training

Bob Ball, KL7AH plans to hold a licensing preparation class in October. Contact Bob at <KL7AH@gci.net> or 479-7785 if interested.

OLD BUSINESS

Linda Mullen, AD4BL advises that Eilson AFB CAP Cadet squadron has requested a ham radio

presentation at their meeting on MAY 15. Rod Mitchell, KL0YU, Larry Ledlow, N1TX , Bill Mullen, KE4ITP and Linda will attend.

Nominating Committee

Jim Movius, KL7JM appoints Myron Babcock, AL7QY (as chairman) and Mike Drury, KL7GL to the Nominating Committee for next years officers and directors. They are empowered to add additional committee members. Any one interested in serving as an officer or director should contact Myron at <mbabcock@ptialaska.net> or 455-4925 or Mike at <kl7gl@arrl.net> or 488-0660.

Bill Beam, NL7F advises that he plans to call for volunteers to a work party to work on the club emergency services trailer some time in June.

NEW BUSINESS

Jim Baldrige, AL1I reports that the Fairbanks Police Department will be holding an open house at the newly constructed police station on May 15. We have been invited to operate a ham radio station from 11 AM to 2 PM. If interested in participating contact Jim Movius at <ajmovius@gci.net> or 452-6347.

Hamfest

Jim Movius, KL7JM advises that ICOM will be providing discounted prices for the purchase of door prizes. Amateur Electronics Supply plans to attend the Anchorage half of the Hamfest. Gordon West plans to attend both sessions. Jim asks that the board consider how much to set aside for hamfest expenses and a door prize and prepare to make a decision at a future board meeting.

Library donation

Jim Movius, KL7JM asks Bob Ball, KL7AH to survey the librerie's ham radio related holdings and recommend a list of books for the AARC to donate to the library.

ANNOUNCEMENTS

Linda Mullen, AD4BL will host the next Board of Directors meeting and club picnic at her home at 4:00 PM, Sunday, July 14. This will be a 'Pot Luck' affair. contact Linda 488-7046 or <ad4bl@mosquitonet.com> for further information and directions.

As usual, the Board meeting is open to all members.

There will be no general meeting in June, July or August.

Meeting adjourned.

Submitted by,
Bill Beam, NL7F
Secretary.

Repeater Report:

All repeaters are working normal except the following:

Healy, still out until we can get there to turn it on and figure out why it is interfering with the system

Eielson has a receiver problem. We are trying to coordinate with the Air Force contractors to get there and change out the receiver.

Fairplay is now working and Northway, Chicken, and Eagle can now talk to each other. The 220 link to Dot Lake is not working well. Here is the trip report from the Fairplay log.

May 19, 2002

Alex AL7EX and Benny NL7XH

We just got back from Fairplay and the results are not good.

We left Fairbanks about 8 am on Thursday morning and arrived in Dot Lake around noon to work on the system there .. arrived in Tok about 3 PM and stayed there for the evening. Left Tok around 11 Am and arrived at Mt Fairplay at 12 noon. The helicopter picked us up around 1215. We left Fairplay around 6 PM. And got back to Fairbanks around midnight Friday.

Stopped at Dot Lake and changed the 223.22 receiver to a 192.8 Pl tone and checked the system. The 220

system was "ping ponging " when the received signal was close to noise.

Re-adjusted the duplexer cans and it took care of the problem. The 223.22 receiver was .2 u volts or -120 dbm.

Checked the 224.82 transmitter and the output power was 60 watts with a VSWR of 1.2 : 1 . With a clean spectrum.

Everything else there checked out good so we went on to Tok.

Got to Fairplay on Friday around noon. Checked the 444.7 receiver and it was terrible the sensitivity was around 1 u volt, pr -110 dbm. Changed out the receiver and got the system to .2 u volts -120 dbm. Check the 449.7 transmitter and was putting out about 10 watts and vswr 1.3 :1 All this is now good.

Changed the 223.22 transmitter from 123.0 PL to 192.8 PL tone checked the output and it was 50 watts with a vswr of 1.2:1

Checked the 224.82 receiver (its Pl tone is 186.2) and it had a sensitivity of .19 a -121 dbm. This looked very good.

Made contact with Fairbanks and the return signal was about 20 percent quieting. One can make out what is said but very, very noisy and very hard to read. The signal to Fairbanks (listen to the signal via a cell phone that Sally WL7CIZ was putting by the radio at my house) was very noisy and lots of buzz. Almost unreadable. Tried to play with the PL tone to get rid of the buzz but could not do it. Listened to the 223.22 transmitter output at Fairplay and the signal was just fine the buzz was way in the background and not a problem at all.

Changed frequency to 146.82, Northway and talked to Fairbanks AL7BJ and had contact with him.

Changed frequency to 146.94, Mt Eldridge and talked to Fairbanks and had contact with them so both of these sites are still working as they should. Listened to the 444.70 signal output as we talked thru Northway and Eldridge and the signals were perfect.

Checked the system out as we drove to Tok from Fairplay and talked with WL7VO all the way to the Alaska highway through the 440 repeater and it worked fantastic. Almost full quieting until milepost 5 of the Taylor Highway. At this point we shifted to Northway, 146.82 and had full quieting signal from this almost into Tok. This worked fantastic.

The end results of all of this is WE DO NOT HAVE A 220 PATH TO DOT LAKE!!!

WE ARE BEATING A DEAD HORSE. So here is what I think we need to do.

We will change the link from 223.28 / 224.82 to the Dot Lake 2 meter frequency. FCC and ARRL have now change the rules to make linking via 2 meters possible. We will receive 146.88 and transmit 146.28 from Fairplay. We will use the same PL tones that we used for the 1 1/4 meter link. They will be 192.8 transmit and 186.2 receive at Fairplay. This will make the link unique and prevent any stray triggers. We will use the same antenna, X50A, that is now there as it is a 2 meter / 440 antenna. All of the 220 gear, the duplexers, antennas, transmitters, receivers will be removed from Dot Lake.

Dick Hammond, WL7VO, has made several contacts from Fairplay through Dot Lake with his 5 watt hand held radio with good results. I figure with the increased gain of the antenna and 50 watts out on the transmitter link we should gain about 16 dB over the hand held performance.

Cost of gas for the Motor Home was \$98.24 We used 63.9 gallons of gas on the trip.

We got a ride to the mountain via a ride provided by Brad Brooks through the forest service folks. He was putting in the repeater for the fire season.

Summer/Fall Events Schedule:

June 13 7:00 p.m. ARRC board meeting, location TBA

June 22-23 Yukon 800

June 29-30 Motley Group Picnic, Byer's Lake, Mile 147 Parks Highway (last weekend in June)

July 13 4:00 p.m. AARC picnic at AD4BL's QTH.

August 8 7:00 p.m. ARRC board meeting, location TBA

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

September 15 AARC Hamfest and annual membership meeting, location TBA

October 4 7:30 p.m. AARC general membership meeting at Geophysical Institute

October 10 7:00 p.m. ARRC board meeting, location TBA

November 1 7:30 p.m. AARC general membership meeting at Geophysical Institute

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

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

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

As a reminder the YLISSB Convention will be held starting on 17 Jun 02 here in Fairbanks for those who would like to attend. For further info please contact Rose Rybachek, KL7FQQ kl7fqq@yahoo.com

ITINERARY, V. MAYREE TALLMAN MEMORIAL CONVENTION

MONDAY, JUNE 17TH

7:15 AM The van will leave the Captain Bartlett Inn for the railroad station.

8:15 AM The train will depart for Denali

12:00 Noon Arrive at Denali, transportation to Grand Denali hotel

8:30 PM Cabin Night Dinner Theatre, including all you can eat salmon & bbq ribs

TUESDAY, JUNE 18TH

4:45 AM Departure from hotel for wildlife tour

2:45 PM Check in at train depot

3:45 PM The train will depart from Denali to Fairbanks

8:15 PM Arrive in Fairbanks, vans will take to Captain Bartlett

WEDNESDAY, JUNE 19TH

ARCTIC CIRCLE DRIVE ADVENTURE

6:00 AM Pick up at hotel...no breakfast provided with tour Lunch/snack can be purchased at a trading post, or you can have the Captain Bartlett pack lunch A picnic dinner is provided 12:00 AM Return to Fairbanks, and your hotel, by midnight or 1 AM

ARCTIC CIRCLE FLY/DRIVE ADVENTURE

12:30 PM Pick up at hotel...no lunch provided on trip. A picnic dinner is provided 12:00 AM Return to Fairbanks and your hotel, by midnight or 1 AM

ARCTIC CIRCLE NATIVE CULTURE ADVENTURE

4:45 AM Pick up at hotel lunch and 1 snack are provided Taking snack items is encouraged

7-8 PM Arrive back in Fairbanks for transportation to hotel

BOUTIQUE AND RADIO ROOM WILL BE SET UP AND IN OPERATION

THURSDAY, JUNE 20

9:00 AM Transportation will leave the Captain Bartlett for Santa Claus House in North Pole. 10:30 AM Bus will leave to deliver you to the Rybachek's for lunch Rybachek's do not have a large house, so seating will be at tables set up in the yard. Lunch will consist of spaghetti (made with mooseburger and caribou sausage) salad, garlic bread, and a little homemade wine. Dessert will consist of homemade Alaskan Blueberry & Rhubarb pie. Enjoy freshly smoked salmon for hors 'd ouvres. (Mosquito repellent provided)

12:30 PM Bus will leave to take you back to Captain Bartlett

1:55 PM Bus will leave for Little Eldorado Gold Mine

FRIDAY, JUNE 21

9:00 a.m. Breakfast in Fireside Room of Captain Bartlett

9:30 AM Welcoming ceremonies Mayor Steve Thompson, Robert Hisomoto, KL7AM John Hughes, Geophysical Institute, Space Weather and auroral effects on high-latitude radio wave propagation

12:00 noon Fairbanks Festival begins, street fair, transportation
????

2-5 PM Registration, Chart room, Captain Bartlett

6:00 PM Bus leaves for Salmon Bake (for those not staying for the Palace Theatre, the bus will take you back to the hotel. If you are staying for the palace theater, you will be asked to walk over to the theater

8:15 PM Show starts at Palace Theater

9:30 PM Show ends at Palace Theater (transportation back to hotel for those not staying for the Midnight Sun Baseball Game)

10:30 PM Midnight Sun Baseball Game

1:30 AM Transportation back to hotel

SATURDAY, JUNE 22

9:00 AM Business meeting starts

10:30 AM break (on or about)

10:45 AM Business meeting resumes

6:00 PM No-Host Cocktail Hour, Fireside Room, Captain Bartlett

7:00 PM Banquet food is served

8:00 PM Words of Wisdom from Flo, KU7F

8:30 PM Robert Service presented by Dexter Clark

9:00 PM Alaska's Ambassador of Country Music, Earl Hughes

SUNDAY, JUNE 23

9:00 AM Farewell breakfast

SPECIAL REPORT

Currently we have 1 of our members in the Hospital and this is the most current report on his condition:

Terry Preston, WL7TY is in Anchorage and doing better.

SILENT KEY

Richard Atwood, KL7B passed away on 28 May 02.



SPECIAL THANKS



Tour de Cure for 2002:

Took place on 18 May 02 and was a great success and lots of fun for all came out to ride and volunteer. We had 22 hams that provided communications for all the riders and assisted at the check points. There were 114 rides and 3 of them did the new 100 K ride. Hams that worked are:

Net control: KL7GL, WLYCRG at Pikes; NITX College & University; KL0YU, KL1FD Valada; KL1HM, WL7CCPS, KL7YR Fox; KL0JM, KL1AZ Steese & Johansan; AL7FG, KL7MAX Danby & Johansan; NL7HU Mobile w/Herb; KE41TP, AD4BL Dog Musers Hall; KL0UE, WL7IJ, WL7CIV Biking; KL7XO Everywhere: AL7BJ Medivac.

One person assisted by WL7IJ and AL7BJ when they became dehydrated. Thanks to WL7IJ for medical care and AL7BJ for the Medivac.

Tec Corner:

Well summer seems to have finally arrived making this one of the best times to erect an HF antenna or two. Sure we all usually wait until it's at least 20 below before stringing wire but trust me it's a whole lot easier during the summer! If you're new to HF operations it's probably a little confusing trying to get all the gear setup to make you're first contact and just what kind of antenna to put up is

probably one on the most confusing of all. You ask a number of other hams what they think is the best for your needs and you'll get just as many contradicting answers. Thanks a lot but that really doesn't help.

Ok, so lets start at the basics to see if we can work through this together and end up with a functional antenna of some kind. First we will not be talking beams since most of us never started with a big tower topped by a classy hi-dollar beam being twisted around by biggest, meanest rotator available. No, we're going to discuss something a whole lot simpler like vertical and wire antennas. Right from the start I'll admit that I'm not a big fan of vertical antennas for HF operations here in Alaska because the ground conductivity is so poor that they just don't perform well. I'm not saying you won't make any contacts, just saying that they don't compare very favorably to a wire dipole band for band. A lot of hams will surely argue with me on this because they have made "zillions" of contacts all over the world with great success, but I still stick with my statement. The best test is to put one of each up, run the two coax lines to an antenna switch and then tune the band for signals of all strengths and switch between the two antennas.

Guaranteed the dipole will give the best performance - in the direction broadside to the wire direction that is. A vertical provides omnidirectional propagation while the wire dipole produces a figure eight pattern broadside to the wire. The vertical isn't a total loser by any means and actually "shines" in some aspects. For example they only require a single mounting point, usually a pole on the roof or eave, they provide full coverage with the omnidirectional pattern, most commercial verticals are multiband capable, they need only a single coax feed, and usually do not require any type of antenna tuner, all desired qualities when you want to get on the air NOW. Besides the less than stellar performance, these commercial verticals can be a little tricky to put together with the numerous pieces needed for assembly and the cost is a trifle high. If these still sound interesting to you then check some of them out on the web such as MFJ (www.mfjenterprises.com), GAP (www.gapantenna.com), Cushcraft (www.cushcraft.com), or Butternut (www.texastowers.com), to list just a few.

Now for the wire antenna, sometimes scorned my many, but capable of very good performance especially considering the cost factor. Remember what your Momma told you, "there's no free lunch" and the wire dipole is no different. Right up front there are some downsides to a dipole such as single band operation,

directional propagation, and requiring two points for erecting. Lets balance that with a couple of positives like being far less dependent on ground conductivity for decent propagation, capable of multiband operation, and darn cheap to build yourself. A commercial multiband HF vertical lists in the current AES catalog, (www.aesham.com), from \$200 to \$470 depending on model plus a little for shipping. A "homebrew" wire dipole can be built for just the cost of the coax if you care to scrounge a little, or essentially zero bucks. If you do any camping or traveling with your ham rig then one of the commercial multiband verticals are nearly impossible to take along while the wire dipole, even multiband, is small enough to pack with ease. A dipole antenna is simply a 1/2 wavelength of wire fed in the center with a coax cable, pretty simple. So lets see what we need to build an 80-meter dipole for use on 3922 kHz. First a 119.3' length of wire (remember the formula, 468 divided by the freq. in MHz. gives the length in feet), two end insulators, and preferably a balun at the coax fed point. The center feed point balun isn't mandatory but suggested as it helps create a more balanced radiation pattern and keep stray RF off the coax shield that can create some problems in the shack. A new balun should cost between \$15-20, the wire about \$5 if not free, and the end insulators about \$2 or less. If you want to save some time or just don't like scrounging (is that even possible?) then there are a number of commercial dipole antennas available ranging from \$32 for an 80 dipole that includes wire, balun, insulators and 100' of nylon rope. Ok, not happy with a single band antenna, then there are multiband dipole kits available also, starting at about \$50, just check the AES or HRO (www.hamradio.com) catalogs.

Depending upon the method of "multibanding" employed some antennas may require an antenna tuner while others will not so check before shelling out any hard earned cash. When you erect this dipole you'll need two points to secure the ends, preferably as high as possible (something that goes for all HF antennas), such as trees, push up poles, the house gable end, etc. If you don't have two points then you can tie one end as high as possible and the other to a 6-7' stake in the yard ending up with a dipole sloper. Just keep the low end high enough that kids or neighbors can't touch the wire since it is a high voltage point and can result in a nasty RF burn. If you're lucky enough to have a number of trees in the yard then try to orient the broadside of the wire toward the southeast, basically stateside where the majority of the contacts will be made. Building your own dipole or

even a multiband dipole is not a difficult task, something anyone can do and learn a whole lot more than you can imagine in the process. For wire use anything you can get, such as electric fence wire, old roadside telephone wire, or if all else fails buy some copperweld antenna wire. Insulators can be nearly anything also, like plastic plumbing parts, short lengths of plastic water pipe, or when all else fails buy some Radio Shack antenna insulators. When it comes time to buy the coax, please DO NOT scrounge old CB coax, or buy the cheapest thing around, this is no place to go cheap. Get the best coax available, it's not that much more expensive, with care will last nearly forever, and will have the lowest loss. If this has inspired you even a little then there are innumerable sources of antenna information on the web or in ham books. For the web, start at www.ac6v.com and for books check the local Noel Wein library for the amateur handbook and antenna books. The library may not have the newest editions available but antenna basics haven't changed a lot so any year copy will be sufficient. You can string up a half dozen wire antennas in your yard and not have \$100 invested, so think about it, plan the project, gather the parts, do the usual procrastination, and then you too can enjoy stringing wire at 20 below!

Just one pointer - you may see an ad for a B & W Broadband Folded Dipole antenna, well save your money on this one, it's a real loser. As usual, if you have any questions then just call or e-mail. Enjoy. 73, Bob KL7AH

For Sale/Trade

Free to a good home. Citizen wide carriage printer and a full box of paper as well as various ribbons. The printer works fine need to find a new home for it. For more info please contact Linda Mullen AD4BL at ad4bl@mosquitonet.com I'm looking for someone who has the current Extra Class book. If you do please reply via email or call me at 457-4407. Thanks Fred WL7IJ

NEWSLETTER EDITOR COMMENTS:

Thanks to all who have sent items to be in the letter. Sorry for it running late this month but summer and company from the lower 48 have kept me busy. As always if you have something of interest to have put in just contact via e-mail or on the radio (I am on the 146.88 repeater going to and from work and try to check into the Sniper net and Motley Group each night as well as the Interior net on Sunday). If sending items by e-mail then be sure to include your call sign in the subject line so I know it is from another ham and not junk mail. John KL1AZ