

Anchorage Amateur Radio Club

Next Meeting March 5th 2010, 7:00 PM

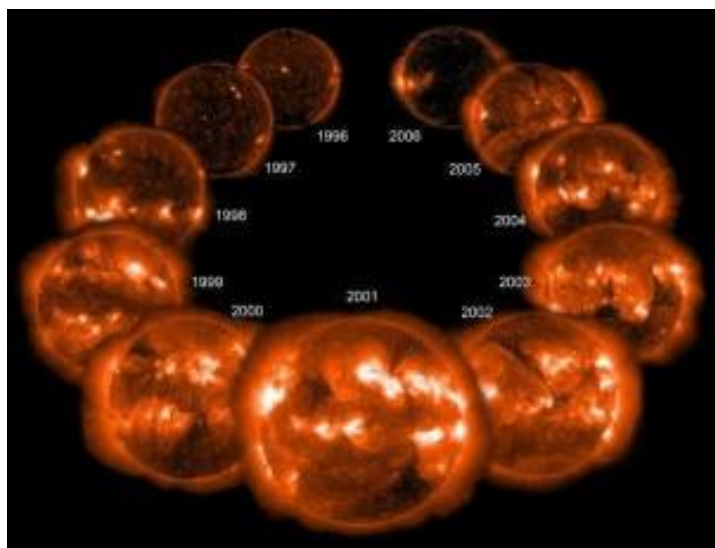


MARCH 2010 Meeting:

Hugh McLaughlin, KL7HM and TJ Sheffield will be discussing Field Day Operations and Sweepstakes as well as projects to improve our club HF operations.

Sunspots, Solar Cycles and the Little Ice Age

KL7AA

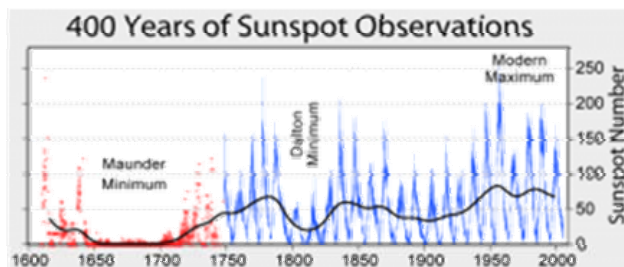


Images of the sun from a space satellite, showing the increase and decrease in activity from 1996 to 2006

The strange period from 1645-1715 when sunspots seemed to disappear, called the Maunder Minimum, this period coincided with the “Little Ice Age”, when Northern Europe and other parts of the world were plunged into a long period of cool summers and long winters when crop yields fell and rivers, harbors, and canals froze.

This quiet period of solar activity was closely followed by another, called the Dalton Minimum, from 1795-1825. It also matches up well with a period of cooler climate, though the eruption of the Tambora volcano in 1816 made some contribution as well.

The sunspot cycles since 1600, showing the Maunder and Dalton minima



So you may wonder... do periods of little sunspot activity lead to cooler climate on Earth? And do periods of increased sunspot activity, such as occurred from 1900-1950 account for periods of higher temperatures on Earth? Can sunspots explain the rise in temperature during the 20th century, perhaps, rather than greenhouse gases produced by human activity?

In fact, the sun does get hotter when there are more sunspots. Because although the spots are cooler, they're accompanied by hotter, brighter patches called faculae that cause the overall brightness of the sun to increase by 0.1% at visible wavelengths, and more at ultraviolet wavelengths.

Such increases in solar brightness are included in climate models. It seems the 11-year sunspot cycle as well as the increase in solar activity earlier in the 20th century lead to an increase in average global temperature of 0.1 to 0.2 Celsius... which is only about 20% of the observed increase of 0.5 to 1.0 degree.

So... case closed, right? It is greenhouse gases, and not solar activity, that are the main cause of climate changes this past century?

Well, not so fast. Because when sunspot numbers rise and fall, there's more going on than simply changes in solar brightness. Periods of reduced sunspot activity correspond to periods of reduced magnetic activity on the sun, and reduced outflows of charged particles from the sun (the so-called solar wind). The solar wind whizzes past the Earth and deflects cosmic rays from deep space from hitting our atmosphere.



2009 IARU HF WORLD CHAMPIONSHIP

Another recent theory suggests increased UV light from the sun drives energy flow from the upper to lower atmosphere by disrupting a layer of ozone high in the atmosphere. How this affects climate is unclear.

As it turns out (as far as we know), computer models of the climate do not take these indirect effects of solar activity into account when calculating the change in global climate. And while human activity counts for only 5% of carbon dioxide emitted into the atmosphere each year, the sun accounts for ALL the energy striking the Earth and driving its dynamic and enormously complex ocean currents and atmosphere.

So you see, despite what you hear in the media, there is still much uncertainty about how the Earth's climate really operates and changes over time, and how changes in solar activity drive climate change. Healthy and open skepticism, as always, is appropriate.

And remember... the Earth is so complex that even the best computer model in the world can't tell you with any certainty whatsoever whether you'll need an umbrella when you head out the door to go the office a week from today.

A recent proposal from Danish scientists suggest that when cosmic rays strike our atmosphere, they create tiny aerosol particles that lead to increased cloud formation and less sunlight hitting the Earth. So it's a double whammy... fewer sunspots mean a dimmer sun, which also means more cosmic rays into the atmosphere and more cloud cover which further cools the Earth. And vice-versa when there is more solar activity. □



W1AW Takes to the North for IARU 2009

by Larry Ledlow, Jr. N1TX
n1tx@arrrl.net

When Rich Strand KL7RA first suggested a W1AW operation from Alaska to a core group of KL7 contesters, the response was a resounding "YOU BETCHA!" Some

may have used more colorful terms but were equally supportive. A lot of hard work ensued, but the results were astounding, and the experience for the operators was very enriching.

The seed for W1AW/KL7 had been planted several years ago when Ralph "Gator" Bowen N5RZ traveled to Alaska to help Rich build a new multi-multi contest station on the Kenai Peninsula. During a discussion about contest plans, Gator mentioned it would be a great idea for KL7RA to host W1AW for the IARU, which

Gator later suggested to Dave Patton NN1N at ARRL Headquarters. At the time, Rich's station was in early stages of construction, but the story in 2009 would be quite different.

In the fall of 2008, Dave NN1N sent an e-mail to Rich asking if the KL7RA multi-op station was ready. Dave Sumner K1ZZ apparently hoped Alaska and Hawaii would get on during IARU in conjunction with their 50 years of statehood celebrations. Rich then asked Frank Hurlburt KL7FH, Corliss Kimmel AL1G, Wigi Tozzi AL7IF, and the gang at KL2R if they would help, along with the three owners of HC8N and all their CW crew. The head count seemed promising, so Rich replied to ARRL, "We are pleased to do this."

The Plan and Preparations

KL7RA would form the core of IARU operations with all-band CW, but the IARU contest rules also permit headquarters operations to network multiple station locations. Alaska covers a vast geographic area with widely varying propagation conditions, and contestants trying to work W1AW/KL7 would benefit from SSB operations scattered across the state. Ideally, other stations would be located in the southeastern panhandle, in the south-central region near Anchorage, and finally in the interior near Fairbanks. In the end, no southeastern stations were activated, but W1AW/KL7 was radiated from Kenai, Anchor Point, Willow, Big Lake, and Fairbanks.

2009 IARU HF WORLD CHAMPIONSHIP CONT.



Muskeg near the sea with radials make for a hot vertical ground plane on 75 meters. (Photo - Kris Kerce AL2F)

thing extra special to him.”

Pre-contest, the W1AW/KL7 team estimated 2400 contacts, but only if 20 meters would stay open to Europe in the evening for a few hours. Despite the continuing low sunspot numbers, Rich hoped for some decent propagation on 20 and 40 meters so that the team around the state would have some fun and any contacts on 15 would be a bonus. Propagation on 80 meters SSB to the West Coast would be likely, and Kris Kerce AL2F promised to keep that band alive after putting up a new antenna at his Anchor Point location about 60 miles south of KL7RA. Meantime, Rich continued to update and shake down his shack to ensure comfortable, effective multi-multi operations.



Ken K1EA on 20 meters at W1AW/KL7 on the Kenai Peninsula (Photo - Ward Silver NØAX)

Frank KL7FH set about immediately for plans to improve his contest shack in the small community of Willow about an hour north of Anchorage. Sadly, though, Frank went Silent Key suddenly in mid-November. Nevertheless, his widow Corliss AL1G immediately promised to press on and to see Frank's dream come alive.

As she said, “He’d been contesting for over 30 years and really enjoyed it, but this was some-

Having recently retired his MS-DOS logging computers, the IARU contest required all new Windows XP PC's, flat-screen displays, Ethernet network, router, and server. Rich worked with Ben Buettner DL6RAI to determine Win-Test at all locations would support the network operation. Steve K6AW would wring out the new logging software during the WPX CW contest. Wigi AL7IF, Bob N6TV, and Herve F6HRY worked hard to ensure the server software and the virtual private network between stations were set up, tested, and reliable.



The 40 meter high beam at 180' and a 3-element 20 meter beam fixed on JA at W1AW/KL7 – the station of K L 7 R A . (Photo - Ward Silver NØAX)

Corliss AL1G originally planned to add a station from Anchorage, but she opted for a last minute change to Willow. The Willow station had some challenges, but KL7FH had spent a lot of time there with help from Randy Vallee KL7Z and Bob Engberg KL5E to get the station ready.

When Frank passed away in November, both continued to work on the station, contributing many hours and some of their own equipment. Corliss offered, “My thanks to them for their contributions in helping Frank to make the Willow cabin the great station that it is.”

The Big Lake station of Frank Chamberlain WL7O and Debbie Underwood KL7OU was pushed into service for the long-haul on 40 meters SSB, which would require a new tower and antenna installation. When Rich first mentioned that he was taking on the IARU contest, WL7O states he “had no idea what was to be involved.

2009 IARU HF WORLD CHAMPIONSHIP CONT.

Knowing that it would be a monumental task on Rich's part, I offered to help out." Frank credits Debbie for the drive and inspiration. "Without her, none of this would have taken place. Debbie is the champ!" Kevin Forster NL7Z proved instrumental in the Big Lake project. He loaned extra rigging, labored in his spare time, and provided supplies to finish the 40-meter antenna at the eleventh hour when all the stores were closed. WL7O said, "Kevin has a real love of this hobby and his support in this project shows just that." Steve Tolley KL7FZ assisted with parts and materials from his extensive inventory to ensure Big Lake was ready in time for the big event.

The Two Rivers Contest Club offered up the KL2R station located about 20 miles east of Fairbanks. Although plans for an additional tri-bander for Europe and the South Pacific went unfulfilled, Gary Pearse NL7Y loaned an ACOM 1000 amplifier for added kick behind the FT-950 transceiver. Elaine Larson N6PU delivered a five-kilowatt generator to power it all. Dan Wietchy KL1JP and I had only minor preparations to complete the RF and amplifier electrical cabling. We gathered spare equipment and double-checked antenna tuning and switching. Logging, control, and network software had been tested repeatedly during the previous two weeks and up to the final hours leading to the contest start. With three hours to go, the KL2R system was connected and synchronized with everyone else.

Three, Two, One...

Rich had the deck stacked in Kenai with world-class operators from the HC8N CW contest group. Those operators gave up their own IARU entry from the Galapagos Islands to support the Alaskan effort. KL7RA later told us, "If you think you are a good code man, work with these guys for a contest." Gator N5RZ, Ward NØAX, Ken K1EA, and Tom K1KI make an impressive team and have made significant contributions to contesting over the past three decades. They know how to work together as a team and exercise the technology at their fingertips.

At exactly 12:00:00 UTC on July 11th, the first calls went out. Immediately, all the bands were active. Even though 15 meters SSB netted only four contacts in as many hours at the beginning, someone was there calling, "CQ W1AW/KL7" to cover any possible contact. All the operators were excited to give out the special call. Despite a slow start in Fairbanks, the other stations racked up impressive rates. In the first hour, 450 contacts were in the log, and average rate for the entire 24 hours was around 250 per hour.



Left to right at W1AW/KL7: 15-meter stack, 160-meter vertical, 20-meter stack (Photo - Ward Silver NØAX)

Almost from the start, propagation far exceeded the team's collective expectations, and adrenaline flowed freely for the next 24 hours. As NØAX put it, "Conditions were simply fabulous. One guy from Washington said the conditions were scary, they were so unexpectedly good. We thought it might be a 'two band' contest (meaning only two bands open at any time) but at one point the KL7RA CW team was on 80 through 10 and making QSOs! The hundreds of QSOs on 15 and 10

meters were the best anyone had done in the past four or five years in any DX contest (from Alaska). 20 and 40 were bottomless pits of QSOs. I worked Europe on 20 nearly all the time. So we got quite lucky and it was great to be giving out Alaska." This was Ward's second W1AW portable operation for IARU.

The special Win-Test configuration for headquarters stations worked flawlessly, despite some initial loading issues. The Cisco VPN client needed for connectivity proved fairly predictable and easy to set up. Everyone found the Win-Test gab feature a real boon to coordinating activity across the state. Dan KL1JP said, "It was truly amazing to watch the Win-Test gab window; stations being passed from one band and op to another, reports of changing band conditions and of course, the camaraderie, issued personal challenges and the humor that were often displayed."



2009 IARU HF WORLD CHAMPIONSHIP CONT.

Our lost colleague Frank KL7FH was on everyone's mind before and during the contest, but Corliss had a particularly touching moment: "As I worked the contest late into the night, I got the feeling that perhaps he was there in spirit, watching over me as was his usual way when I was on the radio—looking at the score, checking the amp and the radio. Then squeezing my shoulder, patting my back and a kiss on my head before going back to whatever project he was working on."

When the clock ran out, Win-Test showed more than 6000 contacts in the log. It had been an amazing 24 hours. Ward wrote soon after, "I think the goal of 5 million points was assumed to be impossibly high at this point in the solar cycle, but we got over 5.5M!"

The Internet soon began to run with comments about W1AW/KL7. Many hams like Kenny Silverman K2KW posted compliments for the impressive operation: "Thanks for such a great job representing W1AW! I was also amazed you were able to hear my signals using a 20-meter inverted-V with the apex up 10 feet, and I could touch the ends. It was supported by my wife's feather duster! Running 100 watts." Dan KL1JP toughed out a fussy 15-meter band for the first 12 hours in Fairbanks, but he set a number of personal firsts. "First time I saw logging that rapid, first time as a multi-op, first time I used an amplifier (thanks Gary!) and of course first time I used the W1AW/KL7 call sign." Gary NL7Y ended his late shift with more personal determination. He said, "After over 12 hours of fun this weekend in the greatest hobby ever, I came home refreshed at 5 AM, and resolved to do more of the same and improve my operating."

I personally had a huge sense of relief when I powered off the generator at 1201Z Sunday. I had slept barely three hours in the previous 48. But I drifted off an hour later feeling a great sense of accomplishment, tremendous pride in everyone's teamwork, and above all, real honor in having been invited to participate in such a special event. Rich KL7RA was quick to recognize his XYL Jyl, who kept everyone fed and "fixed a super breakfast at 4:01 AM for the Kenai team." Jyl generously hosted an excursion to Homer for the non-hams during the contest, so everyone benefited. All our families deserve thanks.

W1AW/KL7 will definitely go down in the history books as a once-in-a-lifetime experience for most of us. We came together as a true, cohesive Alaskan community even though we were scattered hundreds of miles apart. The project might have required more duct tape than some others, but the fun we had was enough to fill a logbook many times over. You can read more details at the KL2R blog located at : www.kl2r.blogspot.com

Tom K1KI after finishing the contest on 80 meters at W1AW/KL7 (Photo - Ward Silver NØAX)



Table 1 – Radio Resources used in W1AW/KL7 operations

Band	Radio	Amp	Antennas
Kenai			
160	TS-850	Alpha	1/4-wave vertical
80	IC-781	Alpha	Four-square
40	IC-781	QRO	Full-size, three-element yagi (from <i>ARRL Antenna Handbook</i>)
20	IC-781	QRO	5/4 stacked mono-banders; three-element fixed JA
15	IC-781	Alpha	4/4/4 and 5/5 stacked mono-banders
10	TS-850	Alpha	5/5/5 stacked mono-banders
Two Rivers			
20-10	FT-950	ACOM A1000	Force 12 C3 at 55 feet fixed on Americas
Willow			
20-10	MkV Field	Drake L7	TH7 at 130 feet; TH6 at 90 feet; TH6 at 50 feet
Big Lake			
20	FT-1000MP	4-1000 tube	4-element Hygain at 90 feet
40	IC-756Pro	3-500Z tube	3-element Hygain at 132 feet
Anchor Point			
80	FT-857D	SB200	TET 43-ft vertical with 60 radials

SCHOLARSHIPS

FAR Scholarship information and an application may be requested by letter or QSL card sent to:

THE FOUNDATION FOR AMATEUR RADIO, INC.
MR. DAVE PRESTEL-W8AJR
FAR SCHOLARSHIP CHAIRMAN
P O BOX 911
COLUMBIA, MD 21044-0911

DEADLINE FOR OBTAINING INFORMATION:
MARCH 31st, 2010



AARC General Membership Meeting
APU Campus/ Carr-Gottstein Building
February 5th, 2010 7pm

The meeting was called to order by our president, Randy Vallee KL7Z at 7pm

Introductions were held.

The meeting then proceeded directly into the presentation of our guest Mr Del Smith, who is the program manager for the State of Alaska's ALMR system. He gave an excellent presentation on the history and current status of the system. He also took questions from the floor.

A short break was called at this point to give people a chance to mingle.

After resuming, we heard from our Section manager Jim Larson on several topics.

1. He referenced Del's previous comments regarding interoperability and stressed the need for training so that in the event of an emergency we are not a burden to the agencies we're trying to serve. The best way to do this is to be an ACTIVE part of ARES.
2. Jim then awarded Certificates of Achievement to several members who check into the ARES net every week without fail.
3. Jim also awarded Certificates to all the people who helped with the Winlink 2000 RMS install at the ANMC.

Jim then announced that Pete Summers KL2GY Is the new PIO for the Alaska Section.

The long awaited goodie bags from the MS150 were handed out to the patient volunteers who helped with the race.

Kathy O'Keefe, KL7KO was asking for volunteers for the February 7th Ski for Women race.

Don Lederhos, KL1OZ from Articcom was letting everyone know that he'll need help with two races starting in July, both the Fireweed 400 and the Race for Life.

Bob from Kotzebue, KL3BD indicated that Norm AL2II will be teaching a ham radio class in Noatak and will also be interested in remote testing.

Heather also reminded us of Alaska Shield upcoming and she still needs volunteers so contact her if you're interested in helping out.

Meeting adjourned at 8:39 pm



AARC Board of Directors
Monthly Meeting

Hope Community Resources Building
Tuesday, January 19th, 2010

Members Present: TJ Tombleson KB8JXX Activities Manager, Tom Rutigliano NL7TZ 3 year board member, Paul Spatzek WL7BF Secretary, Calex Gonzalez KL2BT Treasurer, Heather Hasper KL7SP Vice-president, John Orella KL7LL 1 year board member, Michael O'Keefe KL7MD 1 year board member, Kathleen O'Keefe KL7KO 1 year board member, Bruce McCormick KL7BM 3 year board member, Susan Woods NL7NN 1 year board member, TJ Sheffield KL7TS 1 year board member

Non Voting Members Present: Keith Clark KL7MM Trustee, Fred Erickson KL7FE Membership Chairman.

Members Excused: Pat Wilke WL7JA 1 year board member, Randy Vallee KL7Z President, Eric McIntosh KL2FM 3 year board member, Sean Jensen KL2CO 1 year board member

Members Unexcused: Jim Wiley 1 year board member and VE Coordinator

Vice president Heather Hasper opened the meeting at 7pm after determining that a quorum was present. She welcomed the new board members and thanked those returning for their continued service. Kudos was given to Paul and Kathy for doing the binder updates.

KL7AA Board Meeting Minutes~ JANUARY 2010

A request for added agenda items was made with title 21 and Fur Rondy being added. Acom amps were added as well as reports for ARES.

Reports

Secretary Minutes were presented and approved with corrections. Mike o' Keefe moved and Bruce McCormick seconded approval.

Treasurer: The treasury is healthy with several checks coming in from the bingo operation. Calex presented balance sheets and a financial report. Paul Spatzek moved to approve the report with Mike O'Keefe seconding.

VE Report: There was no VE report as Jim was not present.

Trustee: nothing to report

Membership: Fred reports 80 people have not yet renewed from 2009. That leaves us at 267 real hams (not business entities or other ham clubs that receive our newsletter).

Activities Manager: received the book from Pat and has February and March speakers booked.

Old Business:

ARES: January 16th exercise was a success for us, proving the ability to communicate on short notice with Cordova, Valdez and Kodiak. The exercise also provided the ability to test our fire alarm yet again. The amplifier appears to be triggering the alarm when transitioning between bands. Ferrite beads were applied with limited success. 15 traffic messages were passed. The CCV was deployed to the MUNI EOC and lessons were learned about the need for an operator for each band and the need for a tech/maintainer. The HF/VHF station at ANMC has been configured to prepare for the tower party to be held January 23rd.

Equipment Use Policy: No progress this month

Finance Committee: No progress this month, KL7MM requested that they meet before the next board meeting and would like to be invited.

By-Laws Committee: Mike O'Keefe will contact the other committee members and try to have a meeting during February.

IRLP on Mount Susitna: The morning road and weather report mysteriously showed up on the /27 repeater. After several conversations with Dave Cloyd, KL7M the problem was remedied. A power problem at the Palmer node and the programming of that node were responsible. Further discussion ensued about the rules for positive control of IRLP and simplex nodes in general

Title 21: The language is still favorable to Amateur Radio and is proceeding thru the system to a vote by the full assembly.

Fur Rondy: The car races are cancelled and the dogs will be carrying GPS this year. Heather is the go/to person but as of the meeting, she has yet to hear from the Rondy Race organizers.

New Business:

Grant updates: According to Marc Springer (president of BARK) the packet BBS is up and installed and has excellent coverage with Quinhagak hearing them during band openings. The Diamond antennas have been professionally installed on the KYUK tower and both repeaters (VHF and UHF) are up and running and present on Echolink and IRLP. The rest of the project in Bethel is on hold until conditions improve.

The Moosehorn Amateur Radio Club has almost finished the trailer and is using it for events. Further equipment has yet to be bought to finish the installation.

Program for February's General Meeting: Del Smith for the ALMR system.

Training for the Board from the Forraker Group: Set for Tuesday the 23rd at 6pm, with the board meeting to follow at 8 pm.

AACOMM amps: Investigate the tube rebuilding status.

Adjournment: John Orella moved and Michael O'Keefe seconded for adjournment.



EMCOMM: PORTABLE STATION

By: *Pete Summers, KL2GY*

ARRL: Alaska Section Public Information Coordinator

Greetings,

My name is Pete and my amateur radio call sign is KL2GY, I have a passion for emergency communications and realize that I may not be able to be in the comfort of my home or office when an emergency strikes. Situations may result that we may be displaced to a shelter, or remote location that does not have a pre-configured

communications system. I decided to create an emergency communications package that I could easily transport, and be able to power from multiple sources if need be.

This photo is of my second Emergency Communications or Em-Comm box that I have put together. I wanted a compact box, which is portable, and has easy access to all areas so that if I need to I can easily service the contents. I looked around and stumbled upon a website: www.iportableus.com out of Dayton Ohio. The manufacture Mark Mantia designed the box for just the occasion that I was attempting to prepare for.

The unit has a total foot print of 16" wide x 9" high x 12.5" deep, and a rack mount shelf that measures 8.5" x 11".

You are able to mount it at various heights as to the size of your radio(s) or gear that you have within. To the left side of the unit there is a speaker that is easy to hear in several environments, however if the information is not to be "blurted" out or you have several operators in a small area, you can attach a headset just under the speaker mount. There is also a power buss just under the speaker so you can plug in another unit (12 VDC) via Anderson Power Poles, or cigarette lighter style plug. A fuse buss also lives on this panel. To protect the equipment when not in use front and rear panel covers are also included.

Equipment:

Within the case I have mounted an Icom 706MKIlg Multi Band Transceiver radio. I chose this radio for its wide range of frequency / band usage from 1.8 MHz or (160m HF) to 450 MHz (70cm UHF) as well as its compatibility with other systems such as a PC for remote control, and digital use.

Below the radio I have an Alinco DM-330MVT 120 VAC to 12 VDC at up to 32 A switching power supply. This power supply can supply the Icom with solid power and has room to spare. The light weight and compact size of this powerful supply is what drew me to it, as it fits in the case wonderfully.

I have also included an LED light set to the top inside of the unit, more just for fun than anything else, however they do present a bright enough display that the radio is comfortable to use in the dark with just that lighting.

The case is also large enough for me to store almost 100' of RG58 coax in the back with a Magnetic Mount NMO antenna base for a dual band antenna to use the radio on local repeaters or simplex contacts. I also have a modified extension cord stored in the back that with the ends cut off and leads attached to connect to a 12 VDC power supply, say from a car battery, in or out of a vehicle.

I encourage you to look at this package and consider what kind of Remote Emergency Communications package you can create. All sorts of things can be used from old Ammo containers, to tool boxes to designed cases like this one; it all depends on your needs. Think of what areas you may be in from tents to buildings, and equipment that you may need to meet and overcome problems you may encounter.

Have fun and remember we may be the first line of communications when all else fails.

73

Pete – KL2GY

Note: Pete is the Alaska ARRL Section Public Information Coordinator. If you have information from your radio club or get asked to speak to the media about Ham Radio feel free to contact Pete, KL2GY for information. Pete is our liaison to several agencies ARES supports.



NASA Launches Space-based solar observatory

Cape Canaveral, Florida Feb 11, 2010

NASA launched a first-of-its-kind [solar](#) observatory into space Thursday in hopes of expanding scientists' understanding of the sun and its complicated workings.

A two-stage Atlas [rocket](#) roared off its launch pad from the Kennedy Space Center in Cape Canaveral, Florida at 10:23 am (1523 GMT), carrying NASA's Solar Dynamic [Observatory](#) (SDO) into space.

NASA said the solar probe successfully separated from the booster rocket about one hour and 48 minutes after the launch.

NASA missed its first launch opportunity on Wednesday because of high winds, but the weather cooperated Thursday despite partially cloudy skies.

The 3.2-tonne satellite was to be lofted into orbit some 22,295 miles (35,880 kilometers) from Earth, circling the planet once every 24 hours during its five-year mission.

"This is going to be sensational," said Richard Fisher, director of the Heliophysics Division at NASA Headquarters in Washington.

"SDO is going to make a huge step forward in our understanding of the sun and its effects on life and society."

Space physicists have called SDO the cornerstone of future NASA missions to study the sun, which is considered the next frontier for US space research.

NASA said the probe will be especially helpful in revealing how changes in the sun alter the levels of radiation and [energy](#) within our solar system, and will provide new information concerning the sun and solar system that directly affect Earth, its inhabitants and technology.

Scientists said space weather caused by the sun can affect communications and satellite signals, electrical power lines and other objects and energy transmissions in our atmosphere and beyond.

Telescopes and other gear onboard the probe will scrutinize sunspots and solar flares using more pixels and colors than any other observatory in the history of solar physics.

NASA said the spacecraft will send about 1.5 terabytes of data back to Earth each day -- the equivalent of streaming 380 full-length movies.

US physicists said that if they can get a better understanding of the sun's magnetic field, they can predict how it affects the solar system and near-Earth space to create space weather.

Among the questions researchers hope to answer is how the sun's magnetic field is generated and how stored magnetic energy changes into kinetic energy, in the form of solar wind and energy particles.



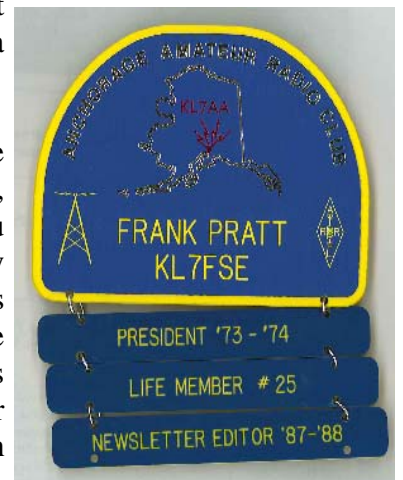
AARC BADGES

The badge comes with your Name and Callsign engraved, the club logo on an arch 3 inch dome as well as the option of purchasing individual name plates for each position you have served for AARC. If you are interested in purchasing an AARC badge, the costs is \$20.00 per member for each badge and \$2.00 per customized name plate. Badges have the option of a pin or magnet attachment.

For more information about this project or to order your badge today in time for the convention and outdoor public activities, please contact Michael O'Keefe, KL7MD at 907-351-4038 or via email at:

mok@gci.net.

When ordering, please indicate your name, Callsign and if you wish to have any additional name plates added. Orders take approximately 10 days for printing and our made locally in Anchorage.



SILENT KEY



Mark J Kelliher
1942-2009

KL7TQ

You would be hardpressed to find a nicer operator than KL7TQ. Mark loved the Iditarod Sled Dog Race and provided communications and aviation support to the event for more than 20 years.

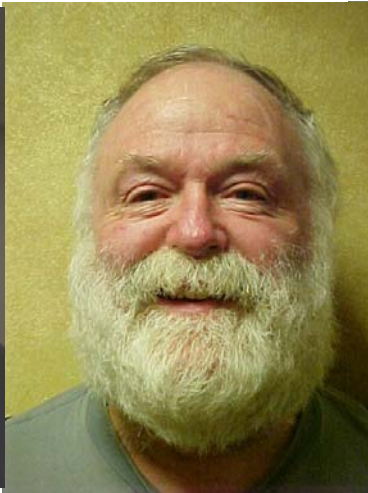
Many will remember KL7TQ as our local Santa Claus as he could say Merry Christmas in almost every language in the world. Mark had no boundaries for public outreach.

Mark was a great volunteer and ambassador of Amateur Radio. He set an example for all operators to follow as an Elmer and as human being. The amateur radio community in Alaska sends their condolences to his friends and family.

73 Mark, KL7TQ ~Silent Key~



**Santa Claus shaves his beard
in JAN 2009!**



**ALWAYS SMILING and
Laughing!**



**KL7TQ at the W1AW/KL7 ARCTIC CIRCLE Station
JULY 2008**

Mark Kelliher, KL7TQ sadly passed away on 27 FEB 2010.

Mark was doing his annual public service with the Iditarod Sled Dog Race in McGrath Alaska when he suffered a massive heart attack. Two Quacks as he was known by in the ham radio community was a fun loving, happy, kind person. As a retired FAA Air Traffic Controller he provided his logistics expertise to his hobbies and passion supporting the Iditarod Air Team and communications support.

Mark enjoyed his retirement spending most of the summer out at his cabin 90 miles west of Anchorage. For more photos of Mark and his fun times at his cabin visit his website at:

<http://www.mtaonline.net/~kelliher/>

Mark was Life Time member #71 of AARC. The members of the Anchorage Amateur Radio Club send our condolences to his wife Hanne Kelliher, (AARC Life member#107) and his children and family. We have a tribute to Mark on the KL7AA silent key website http://www.kl7aa.net/SILENT_KEYS/KL7TQ.htm



**KL7TQ and WB0CMZ(SK) at the W1AW/KL7 ARCTIC
CIRCLE Station**















March 2010

ARES DISTRICT 7 & 5
KL7AA & KL7JFU

Anchorage Amateur Radio Club
PO BOX 101987
Anchorage, AK 99510-1987



**ARES NET: Thursday Nights 8:00 PM 147.27+ PL:103.5
or 443.30+ PL 103.5**

Sun	Mon	Tue	Wed	Thu	Fri	Sat
	1	2 VE Testing	3	4 	5  AARC General Meeting 7PM	6 
7	8	9	10	11 	12	13 PARKA Meeting 11 AM VE Testing
14	15	16 AARC Board Meeting 7PM	17  MARA Board Meeting 7PM	18 	19	20 ARES 930 EARS 3PM 
21	22	23	24	25 	26  MARA Meeting 7PM	27 VE Testing
28	29	30	31	Parka, meets at Peggy's restaurant, 11AM Contact: Lil Marvin NL7DL, 277-6741 EARS: R1 North, Third Saturday of each month. Contact: Ron Keech: KL7YK@arrl.net		

ARES NETS:

1st Thursday: HT / Portable
2nd Thursday: Mobile Madness
3rd Thursday: RED CROSS
4th Thursday: Emergency Power



**MARCH 20th: Statewide
ARES Training Exercise**

www.aresalsaska.org



AMATEUR RADIO EMERGENCY SERVICES

Do you work for the following companies:

SAFEWAY

AlaskaUSA

Service • Value • Convenience

Both Safeway and Alaska USA have approached ARES about assisting them with both teaching ham radio classes to their employees and how to incorporate ham radio in their emergency response plans. We are working with both organization and are looking for ham operators that work for either company. If you know someone who works for these organizations who does not have a license but might be interested of if you have a license and work for these two companies, please contact Heather Hasper, KL7SP, Anchorage Emergency Coordinator for more information on this corporate outreach. kl7sp@arrl.net While ham radio CAN NOT be used for pecuniary interest or commercial purposes, during times of emergency to assist with Essential Service Functions as defined in the national response framework ham radio can be used by these corporations to ensure the welfare and safety of their employees when commercial systems fail and the welfare of the customers they may have in their facilities at the time of and during disaster operations. That is what this effort is an attempt to incorporate for these corporations. EMERGENCY COMMUNICATIONS.

The South Central Alaska ARES group will be working with these partners to promote amateur radio and ensure that companies that provide essential services such as food and water will be able to communicate in times of emergency.

ANNOUNCEMENT:

AL7N is the Alaska Section Traffic Manager. Ed is looking for Code operators for passing formal NTS traffic throughout Alaska on the AK CW Net.

For more information Please contact: AL7N@arrl.net

ARES - Section 7, District 7 (Anchorage, ALASKA)



Mission statement:

Dedicated to amateur radio as it pertains to disaster services. The history of amateur radio operators' involvement in sending life-saving information in and out of disaster areas [and] providing help during and after earthquakes, floods, hurricanes and tornadoes. "HAM's have been there to assist local, state, and federal agencies and relief organizations such as the American Red Cross and Salvation Army." When All Else Fails, Amateur Radio.



<http://training.fema.gov/>

The **ARRL Certification and Continuing Education Program**, was approved by the ARRL Board in January 2000. Volunteers from all over the country assisted in pulling together information for the course. Because the topic of emergency communications is so diversified and so much information is available, the material is broken into three levels: Introductory, Intermediate and Advanced **Emergency Communications (Levels I, II and III)**.

Each on-line course has been developed in segments -- learning units with objectives, informative text, student activities, and quizzes. Courses are interactive and include direct communications with a Mentor/Instructor and other students.

Check out: <http://www.arrl.org/ccel/> for more information.

ARES South Central Alaska District Contact Information

Don Bush, KL7JFT@arrl.net





FOR SALE

FOR SALE

HAM RADIO GEAR

SteppR

4 element
SteppIR,
with 6 meter
elements,

140' of control cable. Not working again this winter. Extended warranty good through October 2010. As is where is. On top of 80' guyed tower. \$1,200. Price will go up if I take it down this summer.

KL7GS 376-3865



HAM OPERATOR LEAVING ALASKA: ENTIRE STATION for SALE!

- ⇒ Kenwood TS 950 SD - HF Radio
- ⇒ SP 940 - Speaker
- ⇒ Kenwood TM 721 - 2m/70cm Radio
- ⇒ MC-85 - Microphone
- ⇒ Kenwood TM-261 - 2m Radio
- ⇒ Kenwood TR-7800 - 2m Radio (for packet)
- ⇒ Kenwood TS-50 - HF Radio
- ⇒ Kenwood SW-2000 - Meter
- ⇒ MFJ Versa Tuner V - Antenna Tuner
- ⇒ MFJ Model - 422B Keyer
- ⇒ Astron RS 50 M - 50 A Power supply
- ⇒ Astron RS 35 A - 35 A Power Supply
- ⇒ Icom IC 25A - 2m Radio
- ⇒ HeathKit SB221 - 2kw Amp
- ⇒ Packrat PK232
- ⇒ Ham IV Rotor and Control
- ⇒ TH5 HF Antenna (5 element - 3 band)



There is still lots more that I haven't dug out yet.
Any interest call 561-0340 and make an offer.
Simon NL7VR. EMAIL:carraway@gci.net

Slow Scan TV Transmitter, with Power Supply & Hub. \$50 or best offer. For more information or to see equipment contact KL7SP@arrl.net 275-7474.



1. **ICOM ICR7000..... \$550.00**
Description: 25 - 1000/ 1025 - 2000 MHz multimode communications receiver with 99 memory channels. Operator's manual and service manual
2. **Yaesu FT-530,\$250.00**
FNB-26S AND FNB-26, MH-29A2B. 2M, 70CM (LCD Display mic with remote functions), VINYL CASE, NC-42 QUICK CHARGER
3. **Brand new Simpson 260-8 volt-ohm meter \$200.00**
4. **SGC SG-2000, no microphone \$750.00**
This is an extremely high quality 150 watt HF SSB, CW and AM Transceiver for Marine or Ham use
5. **SGC SG-230 smart tuner \$450.00**
6. **ICOM R3 Wideband Receiver, CP-18 Cigarette lighter adapter with filter \$300.00**
7. **Alden 9315 HF (Radio) Weather Fax.....\$30.00**
8. **Motorola MICOR Base radio 25-20 MHz.....\$30.00**
9. **AVMap G4T GPS \$300.00**
10. **(3 each) Fluke Y8101A Clamp on AC current probe.....\$35.00**
11. **Garmin GPS 45 \$25.00**
12. **(2 each) Garmin GPS Antenna.....\$20.00**
13. **BIRD 4410A Wattmeter, 2 slug w/case.....\$650.00**

CONTACT:

NL7TZ, TOM RUTIGLIANO, 376-2857 anytime
or via EMAIL: NL7TZ@arrl.net





**GRANDFATHERED
RADIO/BROADBAND TOWER
ON THE ANCHORAGE HILLSIDE!
\$259,000.00**

5861 KALGIN DR.

1920 sf Split-Level
Fixer-upper
3 BD/1.5 BA
Excellent Potential
22,500 sf Corner Lot
Well-established
Hillside Neighborhood



INCOME PROPERTY!
This property has current rental
income without the hassle and
inconvenience of tenants
residing in your house!



Contact Calli at 841-5250 or
RC at 244-1996 for more information
or to view the property.



**KL7TS & KL7MD meet with Boy Scouts
working on their Radio Merit badge
at the CCV Garage**

KL2BL, Ventis Plume on his new home station



Photo provided by KL4E: Craig Bledsoe



KL2QB MAISI BETTRIDGE, shimmies up a tree to
help hang an antenna during Christmas Break!
12 years old hanging antennas in the WINTER at
2 degrees! Go MAISI!




Data You Can Use:

Freq	Tone	Call Sign	Features	Area
147.18 (-)	88.5	ADES		Ft. Richardson
146.88 -	no tone	AL7LE	Phone patch	Kenai Soldotna
146.82-	103.5	KB8JXX	IRLP	Anchorage
146.76 -	123.0	KL3K	IRLP	Seward
146.94 -	103.5	KL7AA	Phone patch	Anchorage to Wasilla
224.94 -	no tone	KL7AA	Phone Patch	Anchorage
444.70 +	103.5	KL7AA	Phone Patch	Anchorage
146.67 -	103.5	KL7AIR	MARS Station	Anchorage & Highway North
147.30 +	141.3	KL7ION		Very Wide Area
146.85 -	no tone	KL7JFU	Phone patch	Mat Valley
146.91 -	no tone	KL7JL		Homer
147.15 +	107.2	NL7J	Phone patch	Eagle River & Chugiak
147.33 +	103.5	WL7CVF	Cross linked to 443.900	Very Wide Area **
443.900 +	103.5	WL7CVF	Cross linked to 147.330	Very Wide Area **
147.27 +	103.5	WL7CVG	Cross linked to 443.300	Very Wide Area *
443.300 +	103.5	WL7CVG	Cross linked to 147.27	Very Wide Area*



Any AARC sponsored repeater, with or without an auto-patch, will always be open to all licensed amateur radio operators in the area who are authorized to operate on those frequencies. **IRLP is not authorized on KL7AA repeaters except for special events as approved by the board and trustee.**

2010 Board of Directors

President	Randy Vallee	KL7Z	president at kl7aa.net
Vice President	Heather Hasper	KL7SP	vicepresident at kl7aa.net
Secretary	Paul Spatzek	WL7BF	secretary at kl7aa.net
Treasurer	Calex Gonzalez	KL2BT	treasurer at kl7aa.net
Activities Chairman	TJ Tombleson	KB8JXX	activities at kl7aa.net
Trustee	Keith Clark	KL7MM	trustee at kl7aa.net
Membership Chairman:	Fred Erickson	KL7FE	membership at kl7aa.net
News Letter Editor	Heather Hasper	KL7SP	editor at kl7aa.net
Three Year Board Members			
3rd Year	Eric McIntosh	KL2FM	KL2FM@arrl.net
2nd Year	Bruce McCormick	KL7BM	KL7BM@arrl.net
1st Year	Tom Rutigliano	NL7TZ	NL7TZ@arrl.net
One Year Board Members			
	TJ Sheffield	KL7TS	KL7TS@arrl.net
	Michael O'Keefe	KL7MD	mok@gci.net
	John Orella	KL7LL	kl7ll@arrl.net
	Susan Woods	NL7NN	NL7NN4606@yahoo.com
	Pat Wilke	WL7JA	w7ja@clearwire.net
	Sean Jensen	KL2CO	KL2CO@arrl.net
	Hugh McLaughlin	KL7HM	KL7HM@arrl.net
	Kathleen O'Keefe	KL7KO	kok at woodscross.net

South Central Area Simplex Frequencies

146.52 MHz	Calling and Emergency frequency	
147.57 MHz	National DX Calling / Coordinating frequency	
146.49 MHz	Anchorage area simplex chat	
146.43 MHz	Mat-Su Valley simplex chat	
147.42 MHz	Peninsula simplex chat	
447.57 MHz	DX Calling / Coordinating frequency	
<u>WINLINK</u>	<u>Callsign</u>	<u>Frequency</u>
Anchorage ARES RMS	WL7CVG-10	144.9
Palmer (MATSU) RMS	KL7JFT-10	145.19
FAIRBANKS RMS	KL7EDK-10	147.96
South Central Digipeater	WL7CVG-4	144.9

Nets in Alaska:

VHF

ARES Net: 147.27/87 103.5Hz - Thursdays at 8:00 PM local
No Name Net: 146.85/.25 repeater Sundays 8:00 PM
Big City Simplex Net: 146.520, 446.0, 52.320 FM, 29.6 FM, 28.400 USB With Packet 145.01 and 147.96, Tuesdays 8:00 PM local
Grandson of SSB Net: 144.20 USB Mondays 8:00 PM local
Alaska VHF Up Net: 144.200 USB Saturdays 9:00 AM local
Statewide LINK Net: 145.15(-) PL 123.0Hz; Sundays 8PM local
ALASKA ARES Statewide ARES NET:
 IRLP Alaska Reflector (9070) Thursdays at 830PM Local
Alaska Morning Net: 145.15(-) PL123.0Hz; Daily at 9:00 AM

HF

- ⇒ **Alaska Sniper's Net:** 3.920 MHz 6:00 PM daily
- ⇒ **Alaska Bush Net:** 7.093 MHz 8:00 PM daily
- ⇒ **Alaska Motley Net:** 3.933 MHz 9:00 PM daily
- ⇒ **ACWN (Alaska CW Net)** 3540 kHz 7042 kHz 14050 kHz Non-directed, CW calling and traffic watch For relaying NTS or other written traffic AL7N monitors continuously. Receivers always on WL2K RMS connection available (AL7N@winlink.org)
- ⇒ **Alaska Pacific Net:**
14.292 MHz 8:30 AM M-F
- ⇒ **ERC HF Net:** 3.880 MHz – Sunday 8:30PM

Internet Links, the favorites from our readers:

AARC <http://www.KL7AA.net>
SCRC <http://www.KL7G.org>
EARS <http://www.kl7air.us>
MARA <http://www.kl7jfu.com>
Moose Horn ARC <http://www.moosehornarc.com>
PARKA <http://www.parka-kl7ion.com>
ARES <http://www.aresalaska.org>
Practice Exams : <http://www.AA9PW.com>
Fairbanks AARC: <http://www.kl7kc.com/>
ALASKA MARS: <http://www.akmars.org>
Alaska VHF-Up Group: <http://www.kl7uw.com/avg.htm>
B  thel Amateur Radio Klub: <http://www.al7yk.org/>
Yukon Amateur Radio Association:
<http://www.yara.ca/>

Links for Propagation

<http://www.haarp.alaska.edu/>

QRP and Homebrew Links <http://www.AL7FS.us>

Solar Terrestrial Activity

<http://www.spaceweather.com>

<http://www.swpc.noaa.gov/>

ARRL <http://www.arrl.org/>

Propagation Report Recording 566-1819

Please let us know if there are other clubs pages or good starting points that should appear here.

Report dead links or bad info to editor@kl7aa.net

Regular HAM Gatherings:

Tuesday Lunch, 11:30 AM: Denny's on Denali behind Sears. Several old timers show for this and have lots of stories to share about amateur radio in Alaska.

Saturdays Breakfast, 7:30 AM: Here is a good way to get started on the weekend. Come and meet with some of the locals and have a great breakfast at **Peggy's Restaurant at the corner of Concrete Avenue and 5th Avenue across from Merrill Field.** Great Fun.

Friday Lunch: Kenai Peninsula: Members of the Moosehorn ARC get together at one of the local Soldotna-Kenai area restaurants that change every week.
Call on 146.88-repeater for location.

Who Do I Contact to Join AARC

Fred Erickson KL7FE

12531 Alpine Dr

Anchorage, AK 99516-3121

E-mail: [membership \(at\) kl7aa.net](mailto:membership(at)kl7aa.net)

Phone number: 345-2181

Annual Dues are \$12 (prorated as appropriate)

Additional Member in same household is \$6.

Full Time Student is no charge.

Ask about Life Memberships



MONTHLY EVENTS

1st Friday each month: AARC general meeting - 7:00 PM in the Carr-Gottstein Building, on the APU Campus. Talk in will be on 147.27+ repeater.

1st Tuesday each month (except for holidays):

VE License Exam 6:30 PM, at the Hope Cottage offices, 540 W International. Bring photo ID, copy of license (if any) and any certificates of completion. Contact: Jim Wiley, KL7CC 338-0662.

1st Thursday each month: Moosehorn Amateur Radio Club General meeting - 7:00 PM location changes monthly so call on 146.88-repeater for info. Contact George Van Lone, KL7AN: [:donnavl@acsalaska.net](mailto:donnavl@acsalaska.net)

2nd Saturday each month: PARKA Meeting at 11:00 AM. Polar Amateur Radio Klub of Alaska. All amateurs welcome. Denny's on Denali Street in Anchorage. Talk in on 147.30+.

2nd Saturday each month (except for holidays):

VE License Exams at 2:00 PM. at Hope Cottage 540 W. International. Be sure to bring photo ID, copy of license (if any) and any certificates of completion. Contact: Jim Wiley, KL7CC 338-0662.

3rd Saturday of each Quarter month: EARS general meeting at 3:00 PM. EARS meetings are held formally each Quarter during the first month: Jan, April, July, and October. Meetings are held informally each month at R1 North. Contact info - PO Box 6079, Elmendorf AFB 99506 or email Ron Keech, KL7YK for information. EARS: 552-2664 (recording); Talk in on 146.67-. Email: KL7AIR@arrl.net or KL7YK@arrl.net

3rd Tuesday each month: AARC Board meeting at 7:00 PM at Hope Cottage 540 W. International. All hams are invited and encouraged to attend.

4th Saturday of each month: Valley VE Testing at 7PM. sessions will be held at the Wasilla Red Cross at 7 pm on the fourth Saturday of each month unless it is a major holiday weekend. Wasilla Red Cross is in the Westside Mall, next to Speedy Glass...it's just a click up from AIH hardware.

The last Friday each month: MARA meeting at 7PM Fire Station 61, located two blocks up Lucille Drive, from the Parks hwy. Talk-in help for the meeting can be acquired on either the 146.640 or 146.850 repeaters. Further details can be found by contacting Tim Comfort, NL7SK, [NL7SK at arrl.net](mailto:NL7SK@arrl.net).

AARC web page & Email contact addresses:

Homepage: <http://www.KL7AA.net/>

Webmaster: [webmaster at kl7aa.net](mailto:webmaster@kl7aa.net)

Membership: [membership at kl7aa.net](mailto:membership@kl7aa.net)

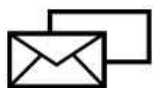
Newsletter: [editor at kl7aa.net](mailto:editor@kl7aa.net)

KL7AA HAMSHACK

The KL7AA station is available for training in HF operations. Learn from an experienced HF operator about propagation, voice and Morse code modes as well as best practices and legal operations. The station is fully integrated with a PC and soundcard to operate in many digital modes. There are weekly contests to participate in even if just helping Hams all over the world gain points and multipliers to win awards.

Your club station is quite capable and has great ears. Club operators have made many QSO's with all modes on all continents. Recent activities have seen SSTV QSO with New Zealand, hearing a Fallujah Iraq operator on PSK, a 15 meter contact to Peru during the CQ WW Phone contest. Common contacts are made with the lower 48 states and Caribbean, Canada, Japan, Korea, Taiwan, China, Russia and islands in the Pacific.

Take advantage of this unique benefit! Arrange a session by contacting the club trustee, Keith Clark, KL7MM to meet at the KL7AA station on Rowan Street.



KL7AA Mail Reflector

If you like to **stay in touch on KL7AA news** and other posts of local interest.

Step #1: First point your browser to:
<http://mailman.qth.net/mailman/listinfo/kl7aa>

Step #2: On the web page you will see a section titled "Subscribing to KL7AA". Enter your e-mail address in the "Your email address" entry box.

Step #3: Pick a password for your account and enter it in the box marked "Pick a password" and then enter the same password in the box marked "Reenter password to confirm". This password will be used to change your settings on the list such as digest mode, etc.

Step #4: If you would like the e-mails in daily digest form click yes on the line marked "Would you like to receive list mail batched in a daily digest?"

Step #5: Click on the "Subscribe" button below the information that you just entered.



Are you a member of ARRL?



ARRL is the American Radio Relay League. This is the national organization that advocates on behalf of amateur radio operators to

the FCC and the communications industry. **KL7AA** is an ARRL affiliated club with more than 50 years. Consider becoming a member of ARRL today.

For more information about the ARRL DXCC Program check out: <http://www.arrl.org/awards/dxcc/>

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News Letter Submissions, Information or corrections: Submissions must be received 2 weeks before meeting Email: editor@kl7aa.net
Mail: PO BOX 101987, Anchorage, AK 99510-1987

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News Letter Submissions, Information or corrections:
All articles from members and interested persons are very welcome. If you wish to submit any articles, jokes, cartoons, please have it typed or neatly handwritten. It can be submitted by mail, computer disk or E-mail to the newsletter editor at the address listed above. Submissions must be in the hands of the editor **no later than the 10 days prior** to the meeting or it may not be included. Email: editor@kl7aa.net

The MODULATION TIMES is the monthly newsletter of the Anchorage Amateur Radio Club, published by and for its members. The entire contents of this newsletter are copyright 2008 by the Anchorage Amateur Radio Club. Permission is hereby granted to any not for profit Amateur Radio Publication to reprint any portion of this newsletter provided both the author and Anchorage Amateur Radio Club are credited.



Anchorage Amateur Radio Club Membership Application / Renewal

Membership Chairman: Fred Erickson, KL7FE
Email: membership@kl7aa.net
Phone Number: 345-2181

**All annual memberships
expire on
December 31st.**

Mail - In Membership Application

NAME: _____ CALL SIGN: _____

ADDRESS: _____

CITY: _____ STATE: _____ ZIP CODE: _____

PHONE: _____ HOME _____ E-MAIL: _____

_____ WORK _____

_____ MOBILE _____

Are you a member of ARRL?

YES _____

NO _____



DUES:

Dues for the calendar year (Jan through Dec) are as follows:

Individual Membership	\$12.00 (\$6.00 for each additional member at the same address)
Full Time Student	No Charge

Dues for **New** Members, joining the club for the first time will have their dues pro-rated from the month they first join to the end of the year at a rate of \$1 per month. For example, if you join in the beginning of August, your dues for the remainder of the year are \$5

Life Time Membership	\$250.00 (if over 65, inquire about reduced rates)
----------------------	--

I am enclosing payment for:

Subscription / Renewal for _____ year(s).

Total US Dollars Enclosed: \$ _____

What year did you get
your first Ham
License? _____

Please mail your payment and completed application to:



Anchorage Amateur Radio Club
c/o: Fred Erickson, KL7FE
12531 Alpine Drive
Anchorage, AK 99516-3121



THE MODULATION TIMES

Anchorage Amateur Radio Club, Inc
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*ARRL Affiliated
Club for more
than 50 years*

AMATEUR RADIO

QST, QST, QST!

The MODULATION TIMES will no
longer be sent out by US MAIL!

In an effort to control club cost and to continue to modernize our resources, the board of AARC has decided that as of 5/31/2010 all future newsletters will be in ELECTRONIC format only. If you have special needs or concerns please send your comments to editor@kl7aa.net to bring to the attention of the board of AARC. MAY 2010 will be the last month HARDCOPY will be mailed to members of the club. Current and newsletters from years past can be found on the club website at www.KL7AA.net