Anchorage Amateur Radio Club

Next Meeting May 2nd, 2008, 7:00 PM

MAY PROGRAM:

TJ Sheffield, KL7TS will be discussing Near Vertical Incident Skywave (NVIS) antennas and our antenna design layouts and antenna modifications that will be used during this years Field Day operations.

Ground Resistance Testing & Ohms Law

By: John Howard
Part 2 of 3

This is the second of three articles explaining grounding system resistance and ground system testing. In the first article we learned that the ground system resistance is a finite resistance that exists between the grounding system and a point in the earth distant from the ground system. We also learned that this resistance is determined by the resistivity of the soil and the size of the grounding system.

Part One mentioned that there are two methods of testing a grounding system; the Fall of Potential (FOP) and the Clamp-On. This second article will explain the FOP test method and the typical difficulties and pitfalls in obtaining valid results.

The Fall of Potential (FOP) is recognized as the standard for ground system testing by most engineers. It is an IEEE Standard (81) and is nearly always the test called for in specifications.

Although Ground Resistance is a Finite Resistance, it is much like measuring a resistor on a circuit board without removing it. A simple Radio Shack multi-meter will not do the job. The ground you are testing and all other grounds in the area are tied together above grade with the utility's neutral conductor. It would be helpful in understanding that all grounds are routed to the service entrance where they are bonded to the utility neutral conductor (ground-neutral bond).

Much like on a circuit board you have to remove one end to test the resistance. In this case the end removed is the ground systems connection to the utility's neutral conductor. It does not matter where this "disconnect" occurs, but the ground must be isolated from any intentional or unintentional connection to the utility's neutral or the test will be invalid. By invalid, we mean the test results will always be in the 0.1 to 1.50 ohm range regardless of the actual ground resistance. Subsequent paragraphs will illustrate how this happens.

The summary version: So, how do we measure this finite resistance that has one end buried in the earth? After disconnecting from the utility's neutral (or before connecting with new construction) the ground test meter forces a current through the ground system resistance. Ohm's law says that current through a resistance will develop a voltage proportional to the resistance (E=I*R). While the current is flowing, we measure the voltage drop, also with the ground test meter. At this point, the meter knows the current that is flowing through the resistance and the voltage drop across the resistance. It merely solves ohm's law R=E/I and reads out in resistance (Fig 1). Nothing more complicated than ohm's law in theory.

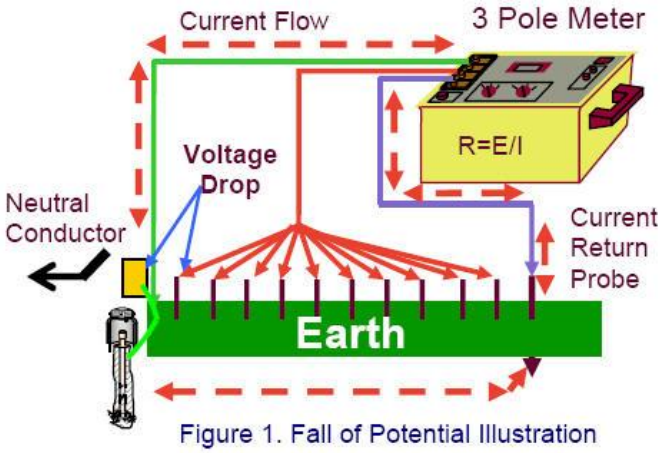


Figure 1. Fall of Potential Illustration

A bit more detail: A 3 or 4-Pole ground resistance test meter is used for the FOP testing. One conductor is connected to the ground system under test and a second conductor is connected to the "Current Return Probe".

The meter forces current to flow from the meter, to the ground system, through the earth to Current Return Probe and back to the meter.

An important factor to remember is that the **meter is a current source**. On older meters, the operator selected the test current (2, 20 or 50 milliamps). Newer meters are auto ranging and select the most suitable current.

After either the meter or operator chooses the current, the meter will vary its voltage as necessary to make the selected current flow. Most meters have a max of either 32 or 48 volts. The resistance the meter "sees" is the **sum of the resistances** of the grounding system and the Current Return Probe. The Current Return Probe is a ground system also, just an extremely small one with a resistance that will be many times higher than the resistance of the grounding system under test. As the current flows through the two resistances, a voltage will develop across each resistance.

Fortunately, **the ground test meter also reads voltages**. As the current is flowing though the grounding system and developing a voltage drop, we also use the meter to measure this difference in potential. This is accomplished with the third point, the voltage probe. The probe is inserted at 10% intervals between the ground system and the Current Return Probe. At each point, the meter reads the voltage differential between the grounding system and the point at which the voltage probe is installed. Again, the meter knows the amount of current flowing, the voltage drop the current causes, and simply reads out in resistance. Each reading is recorded and then inserted in a graph.

Recall from the first article that the resistance of a grounding system is made up of concentric shells extending out through the ground across an area called the Sphere of Influence (SOI). The first shell having the smallest cross sectional area, has the highest resistance and each succeeding shell adds less resistance because each cross sectional area is larger than the previous. Finally, a point is reached where each succeeding shell does not add any significant resistance to the current path and ground system. The FOP test takes voltage measurements across the SOI from the ground system out to the Current Return Probe.

Please refer to Part One for more information on how the ground resistance is developed.

Once all the readings are taken, the data is graphed as illustrated in Figure 2. The first few measurements show the resistance readings increasing steeply as the meter readings cross the sphere of influence (SOI) of the ground under test. At around the 30% point, the readings reach a plateau and remain relatively constant at a value of just under 125 ohms. This plateau at 125 ohms is the resistance of the ground system that was tested. The resistance is high, but it is a textbook perfect test.

As the voltage readings reach the 80% point, they start increasing again, steeply. At this point, the meter is beginning to read the voltage drop across the SOI of the Current Return Probe. Although it was only tested to the 95% point, you can see that it was at an extremely steep.

The math would be, if the meter is forcing 20 milliamps through the ground system and the system has a true resistance of 125 ohms, the voltage the meter would read would be 2.5 volts. Internally the meter will perform the calculation for resistance from the voltage and current (R=E/I) and display the reading of 125 ohms. The only reason to review the math is that it helps understand the low numbers achieved with invalid testing.

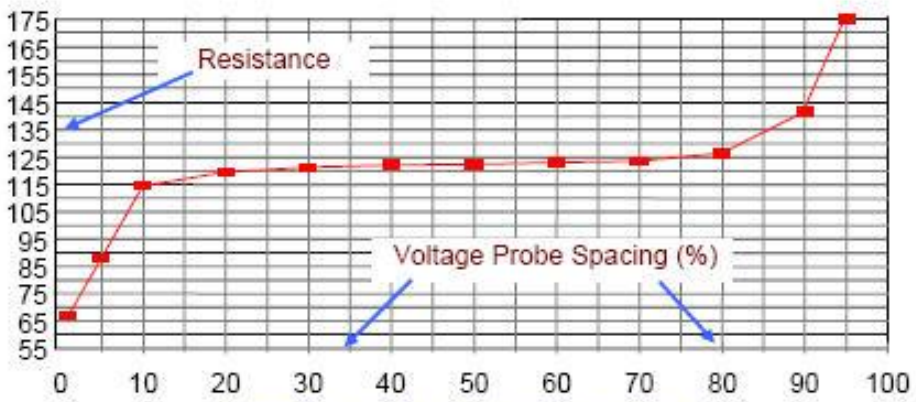


Figure 2. Ground System Test Results

95% of all ground resistance testing is invalid. We firmly believe that based on contacts we make at our grounding classes, conferences, tradeshows and numerous visits with engineering firms and other customers each year.

Earlier we discussed the importance of disconnecting the grounding system from the utility's neutral conductor prior to testing. Not disconnecting is the **primary reason for invalid testing**. The following discussion covers what happens when the ground is not disconnected from the utility neutral prior to the FOP test.

Remember that the **Utility neutral ties all the grounding systems** in the vicinity together, all in parallel, including the one being tested. When connected, the ground you are attempting to test is only one of several hundred grounding systems tied together. When performed properly, all the current generated by the FOP meter is forced to flow through only the ground system and return to the meter via the Current Return Probe. It is the only path.

When the neutral is still connected (Figure 3), the current now has many parallel paths (other grounds) to flow through, that bypass the ground system under test. The sum of the resistances of these parallel paths is normally very, very low. The ground you are testing may be from 5-100 ohms. If the meter generates 20 milliamps, 20 milliamps will return, but only a small amount (1% or less) will be returned through the ground systems under test.

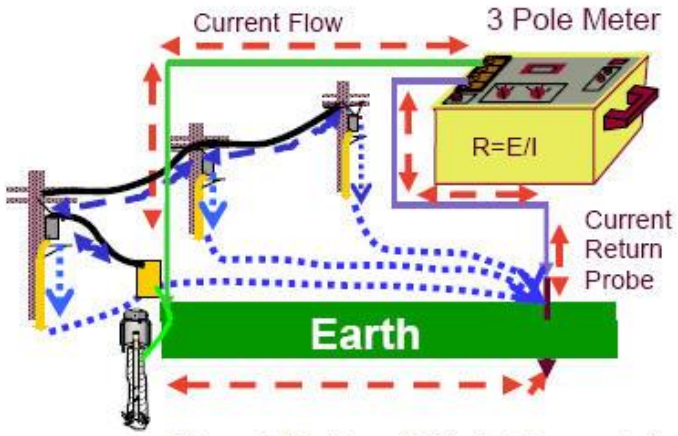


Figure 3. Testing with Neutral Connected

The meter assumes all the current it generates flows from the meter, to the ground system under test to the Current Return Probe and is responsible for developing the voltage across the grounding system. If the neutral is connected and 99% of the meter current flows through the neutral, that leaves only 200 micro amps to flow in the ground system and generate the voltage drop across the ground resistance. In our case, the voltage the meter reading would be 0.025 volts (.0002 amps X 125 ohms). The resistance for the ground system indicated on the meter would 1.25 ohms (0.025 volts / 0.02 amps). Remember that the meter does not know that 99% of the current it generated is returning through paths other than the ground system under test. In our experience as indicated previously, readings with the neutral connected vary from 0.1 to 1.5 ohms. As we can see in this case, it is a true 125 ohm ground.

Because the ground system under test is only one of hundreds of grounds in parallel, its actual resistance makes no difference in the reading if the neutral is still connected. It could be a good ground, or it could be 1000 ohms, the reading will be the same. This is the reason we refer to testing with the neutral connected as invalid. Inaccurate is 10 ohms versus 7, etc, **invalid is 1 ohm when the ground is actually 100 ohms or 1000 ohms.** We understand that normally the neutral-ground bond cannot be disconnected. If this case, do not perform the test or pay others to perform it for you.

Spacing the Current Return Probe. The second source of invalid testing is when the Current Return Probe is not placed far enough away. The proper distance that the Current Return Probe should be spaced depends on the depth, or size of the system. It should be placed 5-10 times the depth of as single electrode system, or 5-10 times of the widest two points of a grid or whichever is applicable. This ensures that the probe is outside of the Sphere of Influence (SOI).

This means for a 10 foot electrode (driven rod or XIT), the minimum distance is 50 feet and ideally 100 feet. Also for a 100X100 foot ring, the two widest points are about 140 feet apart; in this case the Current Return Probe should be a **minimum of 700 feet and ideally 1400 feet** from the ground system under test.

This is to ensure that meter readings are taken outside the SOI in the area of the plateau. If spacing is not sufficient, the readings will continue up the chart and never have a discernible plateau. Before the readings are out of the SOI of the ground system, they are in the SOI of the Current Return Probe.

A final note to remember. The FOP test utilizes very small currents and voltages. Under some circumstances the meter is measuring voltages in the milli-volt and microvolt ranges, in dirt. These small voltages are subject to interference from stray currents and other disturbances. Noise in the readings is very common. The example we used that resulted in 125 ohms is an actual test of a single driven rod although it is unusual in that it shows virtually no noise.

Hopefully, this article is helpful in your testing efforts, whether they are performing, reviewing, or specifying ground system testing. Certainly, only rarely can a facility be shut down or configured to allow the FOP test. What are the alternatives? Part of the answer lies in evaluating as best possible, the ground system without an actual test. Corrosion of components, exposing part of a buried ring could be actions to try to assess the health of the ground.

If an as-built drawing of the ground system and soil resistivity data is available, sophisticated software can be used to model the ground system and determine the performance. The weakness of this method is that predicting/modeling the deterioration of the ground over time is impossible. We do not believe this is a viable process unless the ground system is less than 3-5 years old.

Also often we must recognize that actual testing of the ground system may not be possible. Some of the invalid testing is a result of owners not willing to accept that it is not possible.

And finally, part of the answer is the Clamp-On test method which will be the subject of Part 3.❐

SPARK vs. CW

Last month I was over at another hams QTH and he was giving away a box of old QSTs. He warned me that there would be an article on how to tune your spark transmitter. The QST magazines from years ago were half the size and cost 25 cents.

I thought I had got a treasure so I call my friend from my cell phone as I drove away. He said to find the first dumpster and deposit the QSTs there. Well, I was down hearted and luckily I did not follow his advice.

Latter that week I was meeting another club member. Since there were so many QSTs that they all did not fit into the box and I still had those extra QSTs still in the truck. We looked through those QSTs and found some gems.

In the July 1946 QST was am article called "25 Years Ago" on page 60. This made us laugh and was so good that I will quote the first paragraph.

"Midsummer of 1921 is upon us and in The Operating Department of our July QST we read, "C.w. is fast supplanting the spark transmitter, and while this change is being made our message traffic is suffering…. There is no use trying to dodge the issue. C.w. is here to stay . …c.w. will be so far ahead of the spark that messages of unimportance will be lift for that means of communication, while the messages of importance will go via c.w. because they will get thru."

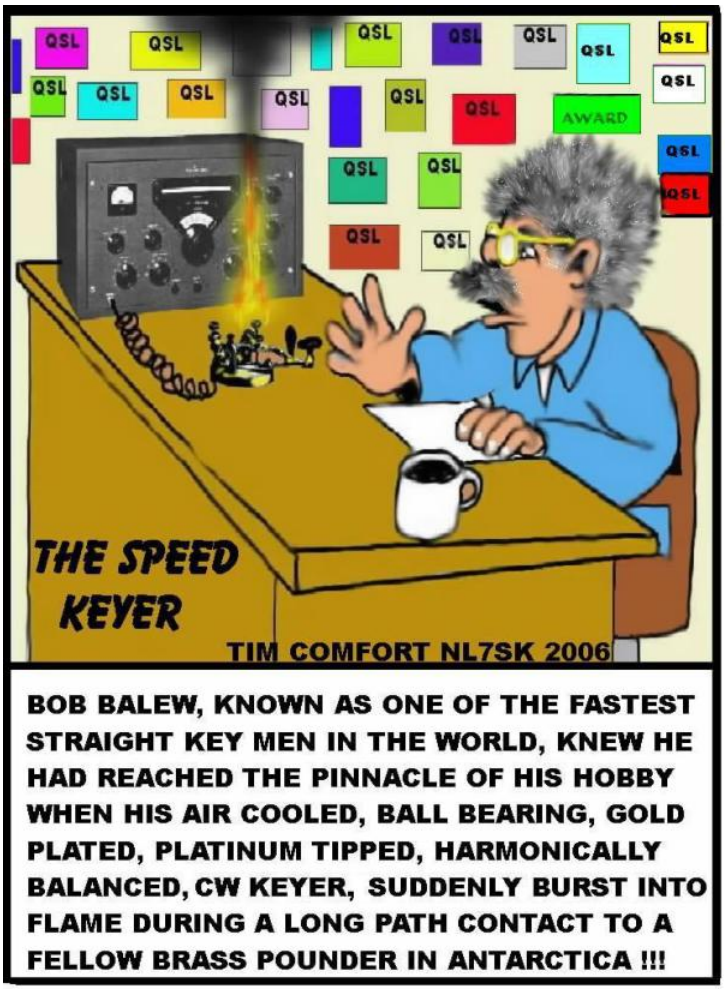
Yes, C.W. is here to stay. It is the first digital mode. Now we have RTTY, PSK, Dstar and etc. You may say that is a silly question for today. Internationally C.W. is no longer required for any amateur license, but several new amateurs just asked me from my last two classes if C.W. is still used.

When I was asked about C.W my mind went back only a couple of year to tell a story from TJ Sheffield, KL7TS. He was called out on a rescue 25 miles outside of Anchorage, Alaska. They were around a mountain, in a valley and just outside of the repeater coverage. He set up his HF radio and plugged in his key. Poof, he was communicating back to Anchorage the medical needs and rescue progress. CW will get through when other modes fail.

We never talk about spark transmitters any more since they cover all bands and are illegal to operate. Our big laugh was that "our message traffic is suffering". CW takes only a few cycles of bandwidth and thousands on communications can happen at the same time instead of one or two.

In the same QST was an article titled "CQ 2400 Megacycles". They were doing 2.4 gigs 60 years ago. And we think WiFi is new. More on that later. With 30 bands and 18 billion frequencies amateurs have more to explore.

73
Daniel Stevens, KL7WM
AARC past President



LIDS Cartoons are the creation of NL7SK, Tim Comfort and are available for purchase on CD for only $15. All sale proceeds go to support the Matanuska Amateur Radio Association.

www.kl7jfu.com.

AMATEUR RADIO

The Alaska DX Club

The current Alaska DX Club was formed by Corliss Kimmel, AL1G and Frank Hurlbut, KL7FH to promote contesting from Alaska as a club. The club has two callsigns, KL7CQ and the recently acquired KL7DX.

We acquired KL7CQ first and have used it in a few contest. It was great to work Wilse Morgan, the former holder of KL7CQ when he called us.

The family of Robert Rapuzzi of Skagway, the former KL7DX, graciously granted us permission to get his callsign upon his becoming a silent key in March of 2003.

Our first major contesting effort as KL7DX was a great success. We operated Multi-Op, Two Radios, High Power in the ARRL International DX phone contest: 3086 Q's, 1,833,084 points. The ops were KL7FH, AL1G and KL1MX.

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If you have questions about the Alaska DX Club please contact Corliss at al1g_ak@yahoo.com

The Alaska DX Club (KL7DX and KL7CQ) has been granted a third call sign which we will be using for a yearlong special event (2009) in honor of the 50th Anniversary of Alaska's Statehood. The call sign is KL5O.

Attached a picture of what the QSL card will look like.

ANCHORAGE AMATEUR RADIO CLUB
GENERAL MEMBERSHIP MEETING

April 4, 2008
Carr Gottstein Building – APU Campus
Anchorage, AK

Call to Order

The meeting was called to order at 7:04 PM by President Kathleen O'Keefe (KL7KO). Members and guests introduced themselves.

Presentations

John Lynn (KL7CY) gave a presentation on Packet. John gave a few examples of brands of TNC's available as well as several radios with built in TNC's available, John gave an overview of the AX.25 protocol used, summary of commands and software used, local Packet frequencies. John provided a flyer with useful Packet information to those attending. A brief discussion was held on APRS.

Announcement

The presenter for the May meeting will be T.J. Sheffield (KL7TS) on the topic of NVIS - Near Vertical Incidence Skywave antennas.

Door Prize Drawing

KL7FE, Randy (guest), KL7FHX, NL7TZ, KL7CY, Roy Sursa, KL2BP, Nancy Moore, Dave Trevor, KL0FK, KL7GN.

The meeting adjourned at 8:25pm

Respectfully submitted as recorded on April 4, 2008 by:

Richard Tweet, KL2AZ
Secretary

FIELD DAY 2008
June 28 - 29, 2008

KL7AA will once again be hosting a field day event at Kincaid Park. Team Captains are needed to lead components of our event. If you are interested in participating or would like to be a team leader in any of the following categories, please contact our field day chairpersons TJ Sheffield, KL7TS@hotmail.com or Keith Clark, KL7MM at aksunlite@aol.com.

ANCHORAGE AMATEUR RADIO CLUB BOARD MEETING

March 18, 2008

540 WEST INTERNATIONAL ROAD
Anchorage, AK
(*UNAPPROVED* at Printing)

The meeting was called to order at 7:00 PM by President Kathleen O'Keefe A quorum was established: (2 Officers, 7 Board members needed)

BOARD MEMBERS PRESENT:
President Kathleen O'Keefe KL7KO, Vice President Jim Larsen AL7FS, Treasurer Heather Hasper KL7SP, Secretary Richard Tweet KL2AZ, Activities Director Richard Kotsch WL7CPX, Paul Spatzek WL7BF, Craig Severson KL2FN, Susan Woods NL7NN, T.J Sheffield KL7TS, Mike Romanello KL7BK,

NON-VOTING MEMBERS PRESENT
Fred Erickson KL7FE

EXCUSED
Tom Rutigliano NL7TZ, Diane Olson KL1MY, Michael O'Keefe KL7MD, John Orella KL7LL, Frank Pratt KL7RX

UNEXCUSED
Richard Block KL7RLB

REQUEST FOR AGENDA ITEMS
Ron Keech KL7YK requested discussion of a proposed a repeater replacement for EARS.
T.J. Sheffield requested to add Title 21 to Old Business.

GUESTS
Ron Keech KL7YK submitted a request to reuse KL7AA repeater assets by the KL7AIR club. Ron explained the age and condition of the equipment currently in use as well as the inability to find repair parts for the aged equipment. Ron proposed the AARC club review their assets to see if a current spare repeater in the clubs inventory could be utilized by the KL7AIR club as a replacement which would solve their problem as well as give the AARC a spare repeater on the air for use. Discussion included the need for AARC Long Term Plans to include plans for existing equipment, Capital Projects Committee review and involvement, Rabbit Creek equipment scheduled for removal, two commercial UHF repeaters at the AARC CCV facility.

SECRETARY REPORT
Previous Board meeting minutes for March Board Meeting and General Membership meeting minutes for April were presented. Motion made Richard Kotsch WL7CPX, seconded Craig Severson KL2FN to accept the minutes as presented. The motion carried unanimously.

TREASURER'S REPORT
Heather Hasper presented the Treasurers report for month ending March 2008. The annual report was submitted today as required. No grants are before the club, The 2008 Convention/Hamfest finances were presented. The Micro-Keyer equipment has been purchased and received, the Field Day antennas have been purchased. The Bookkeeper/replacement Treasurer committee has met to discuss the duties to be performed by the bookkeeping firm when selected and the involvement of the AARC Treasurer position. There has been no movement as to the selection of a bookkeeping firm. Motion made Richard Kotsch WL7CPX, seconded Paul Spatzek WL7BF to accept the Treasurer's report as given. The motion carried unanimously.

MOTION TO AMMEND
Jim Larsen moved to amend the previously approved March Board meeting minutes to reflect that under the paragraph *Ham Shack Alarm System*, Bruce returned the keys to Keith Clark. Richard Kotsch WL7CPX seconded the motion and it passed unanimously.

VE REPORT
There was no report as Jim Wiley was not in attendance.

TRUSTEE REPORT
Keith Clark KL7MM reported on the ARRL Logbook of the World and provided a sample report/printout for review.

MEMBERSHIP REPORT
Fred Erickson reported the membership roster has 298 members, Since January 1st $604 in membership dues has been received, 21 new members have been added and 26 memberships have expired. Discussion included total membership number as used to calculate a membership meeting quorum.

ARES TRAINING
T.J. Sheffield will be conducting the ARES training at the CCV garage on April 19th at 0930. Training will be on the setup of the SteppIR antennas.

OLD BUSINESS

REPLACEMENT TREASURER

Jim Larsen reported that the committee has postponed action for the selection of a bookkeeping firm until after April 15th.

CAPITAL PROJECTS

T.J. Sheffield gave a presentation on the status of the AARC Mission Statement; *Our club is dedicated to public service, emergency communications, and the advancement of amateur radio through education and technical excellence,* and its 5 elements use in ranking projects on the project list. Ranking according to the elements were explained. The top 4 ranked projects were; The KL7AA club station, Field Day antennas, Amateur Television, Micro-Keyer digital station. Two new Project Managers, Piet Van Weel KL2CR for the AARC Computers Project and Sean Jensen KL2CO for the Remote Testing project have been added. Meeting frequency for this committee has been proposed to reduce to once a month until after Field Day to allow for more time on the projects. T.J. Sheffield and Keith Clark were thanked for their availability and the training they make available at the KL7AA club station.

TITLE 21

T.J. Sheffield reported that the language in Chapter 5 remains favorable to the amateur radio community. This has been through the Municipality Planning and Zoning Commission, Public Comment and Issues Response and is now referred to the Assembly Committee. This has been scheduled for its first Assembly hearing on June 10th.

T.J. also reported on an issue before the Matanuska Susitna Borough that is slated to affect large commercial towers. Currently, draft language is favorable towards amateur radio. Heather Hasper reported that she has attended the MatSu hearings and reported that a Tower Working Group has been formed by the Borough under the Planning Commission and the MARA club has outreached to clear up some misunderstandings of the group. MARA has been attempting to attend all meetings regarding this issue.

REAL ESTATE

Keith Clark reported that he has nothing new to report on this. A couple of properties have been viewed and listings are continuing to be reviewed. Metal Buildings are being researched in case the AARC wished to look into a raw land purchase.

STATEWIDE CONVENTION/HAMFEST

Heather Hasper reported that David Sumner, ARRL Executive Secretary and W1AW Trustee has approved the request for the Arctic Circle Special Event Station W1AW/KL7. Jim Movius KL7JM is designated as the control operator for this station; Frank Hurlbut KL7FH is assisting with the logistics of the station. Corporate Sponsorship of equipment for the event has been obtained and operators have begun to sign up to operate the station. Operator signup can be done on the Akhamfest.com website for both the Arctic Circle and the Anchorage stations. Early Bird Registration ends on May 1st. After this date, rates increase slightly. Attendees are being encouraged to register early and be included in the Early Bird prize drawing.

Heather reported on Marketing efforts, Corporate Sponsors supporting the event, the Augie Hebert memorial luncheon efforts to date, sponsor opportunities available, and guest speakers committed to attending including recent signups of Clint Hurd KK7UQ, Lyle Johnson KK7P and the KL7DX Cleveland Volcano team.

NEW BUSINESS

MERCHANT SERVICES

Heather Hasper reported on the possibility of the AARC to accept credit card payments for Convention/Hamfest attendees. Some are currently paying by PayPal however not all have availability to this service. First National Bank of Anchorage can provide this service and Heather has obtained the forms to initiate this service. Discussion included the ability to maintain this service past the requested 6 month agreement to allow for membership dues payments, banks fees to provide the service, fee varies based on volume. Motion made Jim Larsen AL7FS, seconded Richard Kotsch WL7CPX to create a merchant account for the purpose of processing credit card charges for the convention using the six month process at the bank. Motion carried unanimously.

The MODULATION TIMES is the monthly newsletter of the Anchorage Amateur Radio Club, published by and for its members.

PROPER BUSINESS PROCEDURE FOR MOTIONS

Richard Tweet provided a summary of procedure for motions to the Board to insure motions are handled in their proper order, and receive proper attention. This summary will be added to future Board Member Binders updates.

PROGRAM FOR MAY MEETING

A discussion was held regarding the July membership meeting which would fall on the Fourth of July. This meeting will not be cancelled as there will not be an August meeting due to the Convention/Hamfest. A suggestion was made to hold the July 4th meeting at the CCV garage in the form of a Barbeque. Scheduled speakers are as follows; May - T.J. Sheffield NVIS antennas, June – John Mears Submarine Communications, July – TBD, August – no meeting, September – Richard Block APD Search Team, October – TBD, November – Governor Palin (proposed), December – Holiday party.

APPROVALS, KL7AA IN THE NEXT MONTH

Gold Nugget Triathlon

ADJOURNMENT

Motion made Paul Spatzek WL7BF, seconded Richard Kotsch WL7CPX to adjourn. Motion carried. The meeting adjourned at 8:17pm.

Respectfully submitted as recorded on 4/15/08 by
Richard Tweet, KL2AZ
Secretary

Silent Key

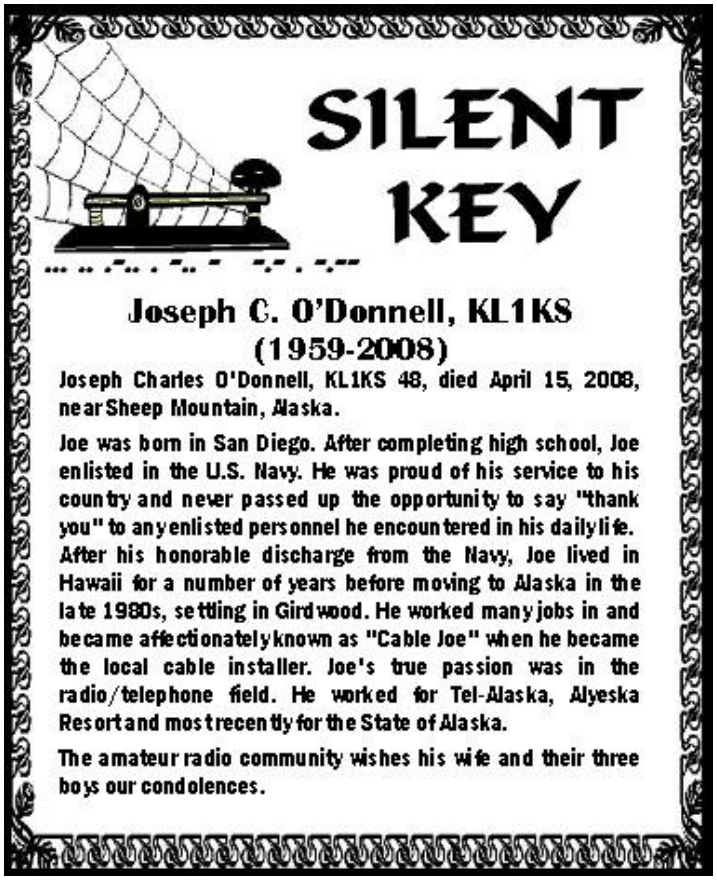
Charles Robert Comer, 71, KL7CR died March 28, 2008, at Providence Alaska Medical Center of natural causes.

Mr. Comer was born Feb. 9, 1937, in Oakland City, Ind., on Feb. 9, 1937. He was a high school graduate and a member of the U.S. Air Force from 1954 until 1974. During that time he served in Vietnam for one year.

Starting in 1974, he worked as a flight instructor for Aero Tech. He was a pilot for various flight service companies. His last days of flying were spent as flight manager for Crowley Maritime. He moved to Alaska in August 1970 and was a member of the Anchorage Baptist Temple for 37 years. He loved flying and riding his motorcycle until his health wouldn't allow it. Another love was his ham radio. He also loved to cook.

His family wrote: "Charlie was a lover of life. His family was his joy, especially his grandchildren and great-grandchildren. He loved camping with family and spending times with them. He was a quiet man who possessed a strong character and faith in God. His hardships suffered in early life didn't change who he was. He will be remembered as a loving, devoted husband, father, grandfather and friend."

He is survived by his wife, Mary Lou Comer of Anchorage; daughter and son-in-law, Barbara L. and Patrick C. Bills all of Anchorage.



AARC BADGES

KL7AA BADGES are AVAILABLE!

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. Thanks to Frank Pratt, KL7RX for helping us track these down. Also thanks to Kl7MD for picking up this project.

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 has been an ARRL affiliated club for more than 50 years. Consider becoming a member of ARRL today. www.arrl.org

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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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NEWSLETTER ARTICLES: 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.

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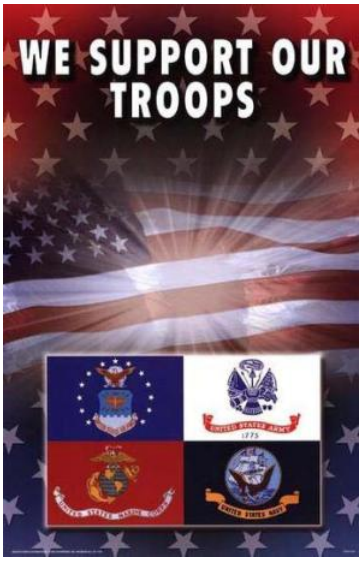
OPINIONS expressed in The Modulation Times are not necessarily those of the Anchorage Amateur Radio Club. **MEMBERS** and **non-members** are invited to submit articles of interest. AARC assumes no responsibility for contributed items or their return without a self addressed stamped envelope. Sources of the items must be provided and ALL material is subject to editing required to conform to space limitations.

CLUB COATS

With a removable liner, lots of pockets, and waterproof, the coat gives the radio club great publicity with a full back, club logo and a Name and Call-Sign Personalization on the left chest. For those of you interested in purchasing a coat, the costs are **$50 per club member**. This is a great price for a coat than can be used during summer amateur activities or as a winter coat during Sled Dog races or November Sweepstakes. Must have a current club membership.

If you are interested in ordering a coat, a sign up sheet will be available at the club meeting or feel free to contact Craig Severson, KL2FN; chipman at clearwire.net



ARMAD:
Amateur Radio Military Appreciation Day
MAY 24, 2008

ARMAD is an annual NON - POLITICAL Amateur Radio Public Service project that stands for **Amateur Radio Military Appreciation Day**. We work with **National Military Appreciation Month** during the Month of May. We also provide other events, and work with other groups as requested during the year. Amateur Radio Operators from around the world team up during this effort to allow the people from our communities to gather at public locations such as shopping centers, parks, VA hospitals, and sporting events to express verbal positive support "LIVE" over two way radio for members of the Military, Veterans, Reserves, National Guard, Retired, Coalition Forces, First Responders, and Military Support Groups. Many of us have friends, relatives, and neighbors that are active duty, and past members of the armed forces. **ARMAD** gives us the chance to support one another, and to express our thanks and appreciation to those that sacrifice and serve in the Armed Forces.

Amateur Radio Military Appreciation Day has become a popular event, spreading to other communities. Several military support groups have developed an interest in having Amateur Radio as a part of their activities.

The Elmendorf Amateur Radio Society (EARS) will be setting up a station outside of the BX on Elmendorf Air Force Base to promote this event and provide and opportunity for military personnel to learn about amateur radio. The Matanuska Amateur Radio Association (MARA) will also be participating and will bring their communications trailer to the BX for display and operations. If you are interested in participating in this event and show your support to our military personnel, please contact Ron Keech, KL7YK at kl7yk@kl7yk.us.

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.

ARES TRAINING: 5/17/2008
Emergency Power Operations

In an effort to plan for emergency operations and Field Day, we will be discussing power generation of our diesel generators. We will discuss how to properly setup the CCV, power distribution spider boxes and our two power trailer Diesel generators. The training will be at

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/cce/ for more information.

ARES District 7 Contact Information
Michael O'Keefe, KL7MD
DEC7 at kl7aa.net

ARES DISTRICT 7 & 5
KL7AA & KL7JFU

May 2008

Sun	Mon	Tue	Wed	Thu	Fri	Sat
EARS: R1 North, Contact: Ron Keesch: KL7YK@arrl.net Parka, meets at Peggy's restaurant, 11AM Contact: Lil Marvin NL7DL, 277-6741				1	2 AARC Meeting 7PM	3
4	5	6 2008 HAMFEST Planning MTG 5:30 PM	7	8	9	10 PARKA Meeting
11	12	13	14 MARA Board Meeting 7PM	15	16	17 ARES Training 0930 EARS: 3PM
18 Gold Nugget Triathlon	19	20 AARC Board Meeting 7PM	21	22	23	24 Military Awareness Day
25	26	27	28	29 Emergenc Operations Center	30 MARA meeting 7PM	31

ARES Training: 5/17/2008

5/3 Walk for Hope:
Contact: John Lynn, KL7CY@gci.net: 337-1091

5/18 Gold Nugget Triathlon
Contact: Heather Hasper, KL7SP@arrl.net: 275-7474

To add to the Calendar please contact: John Lynn at Johnlynn@gci.net

Emergency Power Operations.
In an effort to plan for emergency operations and Field Day, we will be discussing power generation of our diesel generators. We will discuss how to properly setup the CCV, power distribution spider boxes and our two power trailer Diesel generators. The training will be at the CCV Garage, KL7AA Hamshack.

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

Anchorage Amateur Radio Club
PO BOX 101987
Anchorage, AK 99510-1987
www.KL7AA.net

ARES NETS:
1st Thursday: HT / Portable
2nd Thursday: Mobile Madness
3rd Thursday: RED CROSS
4th Thursday: Emergency Power
5th Thursday: EOC

Summer is here!

Note:
We will not have a Wasilla Hamfest Planning meeting on 5/18 due to conflicts with the Gold Nugget Triathlon

Data You Can Use:

2007 Board of Directors

President: Kathleen O'Keefe, KL7KO president at kl7aa.net
Vice Pres: Jim Larsen, AL7FS vicepresident at kl7aa.net
Secretary: Richard Tweet, KL2AZ secretary at kl7aa.net
Treasurer: Heather Hasper, KL7SP treasurer at kl7aa.net
Activities Chairman:
Richard Kotsch, WL7CPX 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

Frank Pratt, KL7RX kl7rx at arrl.net (3rd year)
Paul Spatzek, WL7BF Paul.Spatzek at acsalaska.net (2nd Year)
Michael O'Keefe, KL7MD mok at gci.net (1st Year)

One Year Board Members

Diane Olson, KL1MY, oldwoman_69 at hotmail.com
TJ Sheffield - KL7TS, kl7ts at arrl.net
Craig Severson - KL2FN, chipman at clearwire.net
John Orella: KL7LL, kl7ll at arrl.net
Susan Woods: NL7NN, NL7NN4606 at yahoo.com
Richard Block: KL7RLB, kl7rlb at clearwire.net
Tom Rutigliano, NL7TZ, tomr at alaska.net
Mike Romanello, KL7BK, kl7bk at mtaonline.net

AARC web page & Email contact addresses:
Homepage: http://www.KL7AA.net/
Webmaster: webmaster at kl7aa.net
Membership: membership at kl7aa.net
Newsletter: editor at kl7aa.net

News Letter Submissions, Information or corrections:
Submissions must be received 2 weeks before meeting
Email: editor at kl7aa.net

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.

Anchorage & Mat Valley Area Repeaters-a/o Feb 28, 2007

KL7AA: Flattop Mountain 2,200 ft
146.94/34 MHz, 80 watts, auto-patch, 141.3 Hz PL
224.94/223.34, 25 watts, no patch, no PL
444.70/449.70, 25 watts, auto-patch, 103.5 PL

WL7CVG: Mount Susitna 4,396 ft
VHF: WL7CVG/R1 147.270/147.870 PL 103.5, no auto-patch
UHF: WL7CVG/R3 443.300/448.300 PL 103.5, no auto-patch

WL7CVF: Grubstake: Hatcher Pass 4,536 ft
VHF: WL7CVF/R1 147.330 / 147.930 PL 103.5 Hz (no patch)
UHF: WL7CVF/R3 443.900 / 448.900 PL 103.5 Hz (no patch)

KL7ION at Mt. Gordon Lyon: PARKA 3,940 ft
147.30 / 147.90, MHz - 80 watts, no patch, 141.3 Hz PL

KL7AIR Elmendorf AFB: EARS: 146.67/146.07, 107.2 Hz PL

WL7CWE: Cliffside Amateur Radio Association

KL7CC, Anchorage Hillside, SCRC & QCWA
146.97/.37 MHz, 30 watts, auto-patch, 103.5 Hz PL

KL7M Anchorage Hillside
147.21 / 147.81 MHz, on IRLP, 97.4 Hz PL

KL5E Chugiak: 147.15/147.75, 123.0 Hz PL, auto-patch

KL7JFU, KGB road, MARA: 146.85/146.25, auto-patch, no PL

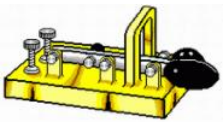
Palmer IRLP: 146.64/.04, simplex patch, no PL
Mile 58.3 Parks Highway IRLP: 147.09/.69 MHz, 97.4 Hz PL

KL3K, Girdwood - IRLP
146.76 / 146.16 MHz, 25 watts, no patch, 97.4 Hz PL

KL7AX: South Anchorage IRLP - 146.79/ 146.19 MHz, 100 Hz PL

WL7CWE Anchorage IRLP
2 Meter: 146.82/146.22MHz PL 103.5
6 Meter: 51.65 output / 51.15 input, PL 103.5Hz
70 cm: 444.85/449.850 MHz PL: 103.5 Hz (Node 3400)

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



Nets in Alaska:

The following nets are active in South-Central Alaska:

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) 3534, 7042 Daily @ 0700 –1000,
Net Purpose: Formal NTS traffic via CW.
Alaska Pacific Net: 14.292 MHz 8:00 AM M-F
ERC HF Net: 3.880 MHz – Sunday 8:30PM local

VHF

ARES Net: 147.27/87 103.5Hz - Thursdays at 8:00 PM local
PARKA Net 147.30/.90, 141.3 HZ Thursdays at 7:00 PM local
No Name Net: 146.85/.25 repeater Sundays 8:00 PM
and 1900 - 2400 Alaska Time - AL7N or KL5T monitoring.
Alaska VHF Up Net: 144.200 USB Saturdays 9:00 AM local
Big City Simplex Net: 146.520, 446.0, & 52.525 FM
Grandson of SSB Net: 144.20 USB Mondays 8:00 PM local
Statewide LINK ARES Net:
147.27/87 103.5Hz Sunday 8:00 PM local

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
ARES http://www.qsl.net/aresalaska
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
Bethel Amateur Radio Klub: http://www.al7yk.org/
Yukon Amateur Radio Association:
http://www.klondike.com/yara/index.html
Links for Propagation
http://www.haarp.alaska.edu/
http://www.amqrp.org/misc/links.html
QRP and Homebrew Links http://www.AL7FS.us
Solar Terrestrial Activity http://209.130.27.95/solar/
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

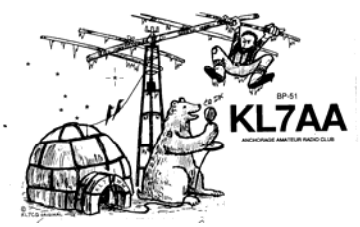
Regular HAM Gatherings:

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 American Diner, at the Northeast corner of Arctic and International. Great Fun.

Who Do I Contact to Join AARC

Fred Erickson KL7FE
12531 Alpine Dr
Anchorage, AK 99516-3121
E-mail: 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.

2nd Saturday each month: PARKA Meeting at 11:00 AM. Polar Amateur Radio Klub is the only YL club in Alaska. All amateurs welcome. Peggy's, across from Merrill Field. 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.

3rd Saturday each month: ARES General meeting 9:30AM to 12:00 PM. Call Michael O'Keefe, ANC DEC: dec@kl7aa.net HM: 243-4675 for additional information. Also check for ARES Info at: http://www.qsl.net/aresalaska/

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.

2008 ALASKA ARRL Convention

WHEN: August 1 –4, 2008

WHERE: Anchorage Sheraton

The ARRL Alaska State Convention will be the largest hamfest and gathering of ham radio operators in Alaska in over 30 years.

TABLES

Local Amateur Operators: $20.00/ Table

In an effort to accommodate our national vendors, tables are available to local operators on a first come, first serve basis. Operators wishing to reserve a table prior to the hamfest to ensure space and availability may do so by submitting a request via email to: info(at) akhamfest.com This does not include the admission cost of entry into the Exhibit Hall. Tables will only be available on Saturday. Sunday will be dedicated to National Vendors and out Country store auction.

VENDORS

Ham Radio Outlet, ICOM, VIS Amateur Supply EZ HANG, Idiom Press, Yaesu, AMSAT, HEIL Sound, NGC, Comet Antennas, VIS Amateur Radio Supply, W5YI, Gordon West Radio School

CQ CQ CQ, HOUSING OPTIONS

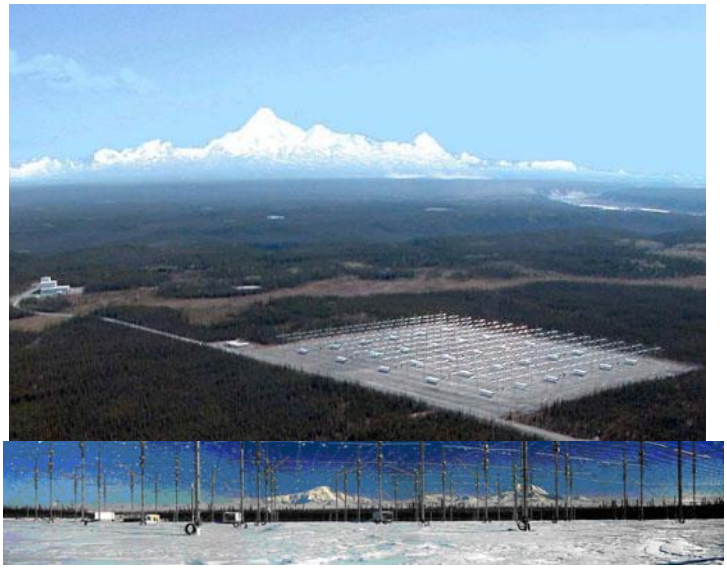
Attention all Anchorage and Mat Valley Amateurs

We are looking for housing and motor home/trailer space for our Alaska Out of Town Amateurs. Anyone who can graciously provide a spare room or space to park a camper, please contact Carol Bush/ KL2FA at cbush@gci.net or call 907 746 6844. We are not looking for hook ups for the campers, just a place to park them during the HAMFEST. We'll list your information and any details or requirements you may have for your visitors, so as to match the folks up the best we can. This will definitely help our Out of Town Hams.

Thank you
Carol Bush, KL2FA

For More information, Feel free to contact:

- ➔ Heather Hasper, at KL7SP@arrl.net,
- ➔ Mike Romanello,KL7BK, KL7BK@mtaonline.net
- ➔ Richard Tweet, at KL2AZ@arrl.net, 907-244-4335



High Frequency Active Auroral Research Program (HAARP) Tour

August 4th 2008

On Monday, August 4, travel 125 miles through the Matanuska Valley and along scenic views of the Chugach Mountains to the town of Gakona. Then tour the High Frequency Active Auroral Research Program (HAARP), a world class ionospheric research facility. Tour includes round trip transportation, facility tour and a box lunch. Due to Air Force regulations, all visitors must be U.S. citizens. Tour cost $100.

Sign up for this tour on the Registration page at www.akhamfest.com

2008 ALASKA ARRL Convention

HAMFEST 2008

W1AW/KL7

UPDATE

Arctic Circle Special Event Station

Thinking of doing something fun and unusual this Summer that involves ham radio? Want to become part of a once-in-a-life-time experience that YOU can participate in and enjoy the magic of amateur radio? Join fellow ham radio operators from all over the world in activating Special Events Station W1AW/KL7 on the legendary Arctic Circle 66°33'N in northern Alaska's Land of the Midnight Sun!

The ARRL executive committee has approved our request to operate the ARRL national organization callsign in Alaska for our ARRL Convention.

All amateurs, regardless of license class, are cordially invited to help make this special amateur radio event a success and a memory that will not soon be forgotten. The Special Event will operate from the Arctic Circle during the week preceding the upcoming 2008 ARRL Alaska State Convention. Operations from the Arctic Circle will begin with setup on Friday, July 25th and plan to be on the air July 26th through August 10th, with at least four stations including two all-band HF stations, a two-meter FM station and a Satellite setup. Six-meter operations may also be available.

Visitors can sign up to operate any of these stations or, if you prefer, you are encouraged to bring your own radio equipment to Alaska and set up a temporary operation on the Arctic Circle adjacent to the Special Event station with your own call sign. (Grid Square BP-56)

Guest operators will receive a certificate of operation from this unique location and QSL cards with this special unique callsign will be available.

Commercial sponsorships are being pursued and we are currently planning the logistics of what equipment will be used. Keep checking www.akhamfest.com for more updates about our special event stations.

Transportation up to Alaska's Arctic Circle can be made at any of the Tour companies that offer daily round-trip service to Alaska's Arctic Circle and even beyond to Deadhorse-Prudhoe Bay on the North Slope. You can return back down to Fairbanks Alaska and motor your way down through Mt. McKinley-Denali Park or you can just fly straight down to Anchorage, Alaska.

Make your Travel Plans Now!

Tours, Hotels and Transportation book up fast during Alaska's busy summer season.

Don't delay, make your reservations ASAP!

CQ, CQ, CQ

AMATEUR RADIO

ALASKA HAMFEST 2008 "THE LAST FRONTIER"

ARRL ALASKA State Convention

Anchorage Amateur Radio Club, Inc
Post Office Box 101987
Anchorage, Alaska 99510-1987
www.kl7aa.net

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AMATEUR RADIO

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