Anchorage Amateur Radio Club
Next Meeting on March 7

Officers
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AARC web page & Email contact addresses:
Homepage: **http://home.gci.net/~lawson/**
Email Reflector: KL7AA@QTH.NET
Webmaster: lawson@gci.net
President: KL7Z@gci.net
Membership: frederickson@iname.com
Newsletter: JimLarsen2002@alaska.net

News Letter Submissions, Information or corrections:
Submissions must be received 2 weeks before meeting
Email: JimLarsen2002@alaska.net
Mail: 3445 Spinnaker Drive, Anchorage 99516

KL7G CODE PRACTICE SCHEDULE
Schedule: 7:00am, 10:00am, 4:00pm, 7:00pm, 10:00pm
AK time, every day on 145.35 MHz @ 7 wpm

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Nets in Alaska:
The following nets are active in South-central Alaska:
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
Alaska Pacific Net 14.292 MHz 8:00 AM M-F
ACWN (Alaska CW Net) 3534, 7042 Daily @ 0700 –
1000, and 1900 - 2400 Alaska Time - AL7N or KL5T
monitoring.
　Net Purpose: Formal NTS traffic via CW.
No Name Net 146.85/.25 repeater Sundays 8:00 PM
Grandson of SSB Net 144.20 USB Mondays 8:00 PM local
Big City Simplex Net 146.520, 446.0, & 52.525 FM
　　　With Packet 145.01 Tuesdays 8:00 PM local
ARES net 147.30/.90 repeater Thursdays at 8:00 PM local
PARKA net 147.30/.90 Thursdays at 7:00 PM local

Anchorage & Mat Valley Area Repeaters
KL7AA systems at Flattop Mt., 2,200 ft
146.94/34 MHz, 80 watts, autopatch, 141.3 Hz PL
224.94/223.34, 25 watts, no patch, no PL
444.70/449.70, 25 watts, autopatch, 141.3 PL
147.27/87 MHz, no patch, Mount Susitna 100.0 Hz
KL7CC, Anchorage Hillside, SCRC & QCWA
146.97/.37 MHz, 30 watts, autopatch, 103.5 Hz PL
KL7M Anchorage Hillside
147.21/.81 MHz, on IRLP, 97.4 Hz PL
KL7ION at Mt. Gordon Lyon, PARKA 3,940 ft
147.30/90, MHz - 80 watts, no patch, 141.3 Hz PL
KL7AIR Elmendorf AFB, EARS
146.67/.07, 107.2 Hz PL
KL7JFU, KGB road, MARA club
146.85/.25, autopatch, no PL
KL7DOB, Alcantra (Wasilla Armory)
146.64/.04, simplex patch, no PL
KL7DJE at Grubstake Peak, 4,500 ft. <down >
147.09/.69 MHz, 25 watts, no patch, 100 Hz PL
444.925/449.925, 10 watts, no patch, 141.3 Hz PL
KL7AA, Mt. Alyeska, 2,400 ft. ??down??
146.76/16 MHz, 25 watts, no patch, 141.3 Hz PL
South Central Area Simplex Frequencies
146.52 Mhz Calling and Emergency frequency
147.57 / 447.57 (crossband linked) HF spotters & chat, 103.5
HZ PL
146.49 Mhz Anchorage area simplex chat
146.43 MHz Mat Valley simplex chat
147.42MHz Peninsula simplex chat

Internet Links, the favorites from our readers:

QRP and Hombrew Links
   http://www.njqrp.org/data/links.html
   http://www.qsl.net/al7fs
AARC   http://home.gci.net/~lawson/
SCRC   http://www.KL7G.org
EARS   http://www.qsl.net/kl7air
MARA www.kl7jfu.com
Moose Horn ARC http://www.alaksa.net/~kl7fg
ARES   http://www.qsl.net/aresalaska
KL7J   http://www.alaska.net/~buchholz
Fairbanks AARC: http://www.kl7kc.com/
Yukon Amateur Radio Association:
http://www.klondike.com/yara/index.html
HAARP Project: http://www.haarp.alaska.edu/
Amateur Radio Reference Library
   http://www.area-ham.org/library/libindex.html
Hamradio: http://www.hamrad.com/
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 JimLarsen2002@alaska.net.

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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 14 days prior** to the meeting or it may not be included.

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Regular HAM Gatherings:

Alaska QRP Club, Third Friday - 7:00 PM: Hams with QRP (low power under 5 watts) and Homebrewing interests meet for a social meeting monthly. Meet at Denny's on DeBarr & Bragaw in the back room. Hungry QRPers start showing up about 6PM. Info contact Jim Larsen, AL7FS, JimLarsen2002@alaska.net or 345-3190.

Tuesdays Lunch, 11:30 AM to 1:00 PM: Join the gang for lunch and an eyeball QSO at the Royal Fork, "South, on Old Seward Highway. Attendance varies from 8 to 24 each week.

Saturdays Breakfast, 7:30 AM: Here is a good way to get started on the week-end come and meet with some of the locals and have a great breakfast at Phillips Restaurant, at the corner of Arctic and International. Great Fun.

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THIS MONTH'S 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 147.30+ repeater.

1st Tuesday each month: 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.

1st Tuesday each month: EARS general meeting - 6:30PM in the club house/shack in the basement of Denali Hall (building 31-270) on Elmendorf AFB. Talk in on 147.67- repeater.

2nd Saturday each month: 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

2nd Saturday each month: PARKA Meeting at 11:00 AM. at Peggy's, across from Merrill Field

2nd Friday each month: SCRC general meeting at 7:00 PM at Denny's on Debarr & Bragaw. Talk in on 147.57 simplex.

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

3rd Friday each month: Alaska QRP Club. 7:00PM at Denny's on DeBarr in the back room. Info: Jim Larsen, 345-3190. Bring projects to share with the group. Some show up at 6:00PM to eat.

3rd Saturday each month.: ARES General meeting 9:30AM to 12:00 PM. Call Dick Block at 277-7260 for questions.

The last Friday each month: MARA meeting at 7PM in the MTA business office in Palmer.

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Elmendorf AFB Radio Club (EARS)

Ears meets the first Tuesday of the month at 6:30pm in the club house/shack in the basement of Denali Hall (building 31-270) on Elmendorf AFB. Talk in on 147.67- repeater. EARS has a club shack with two HF operating positions, one packet position, and a VHF position. For more information contact John Murray, NL7WW at nl7ww@corecom.net John is the current club President.

A Proposed Upgraded Repeater Plan for the Anchorage Area

Background:

One of the stated purposes of Amateur Radio is to provide support for local agencies in time of public need. Natural disasters, such as floods, forest fires, earthquakes and so on all too often disrupt "normal" communications facilities. Even when commercial systems are physically unaffected by the event, overloading, and attendant unavailability of facilities is likely to occur. Recent events have shown that non-natural events, such as acts of terrorism, have essentially the same effect. For example, the loss of the World Trade Center buildings in New York City crippled the NY police and fire department communications networks, because many of their most important radios were located atop those same buildings. In a similar manner, it has been shown time and again that commercial cellular telephone networks are unable to handle the traffic load generated by localized or regional emergencies.

In times such as this, Amateur Radio operators have traditionally offered their services to individual citizens, relief organizations, police and fire departments, and to other government agencies. Each incident is of necessity different in detail, but the overall mechanisms are similar. Typical tools used include emergency communications nets, portable and mobile communications equipment, and pre-staged hardware (stations) that are kept in readiness for the next event.

Amateur Radio operations and technology have changed over the years, moving from messages passed via Morse code, to HF and VHF voice operations, and changing yet again to systems involving computers. In the last 30 years, the importance of VHF and UHF links has steadily grown, until they have achieved their present status as the predominant way of communicating over local and regional areas. HF systems still remain useful in local situations, of course, and remain a favorite choice for long distance links, although the use of low-orbit satellites for these tasks is rising.

FM and Repeaters

The elimination of the Morse code requirement for access to the VHF and UHF amateur bands (frequencies above 50 MHz) has resulted in a considerable increase in licensed Amateur Radio operators, many of whom are interested in offering their services in time of need. Concurrently, the rise in the number of "repeater" stations, which allow VHF and UHF signal coverage to be expanded to cover very large areas, has been very beneficial to emergency communications planning.

In the Anchorage area, we are served by several VHF and UHF repeaters. Each of these systems serve different user groups and offer differing coverage areas. Unfortunately, no one system offers all of the desirable features needed for comprehensive emergency response. Most of the existing systems have undesirable gaps in their coverage areas, or have reliability problems, or are privately owned (meaning their operation is not subject to oversight by emergency response organizations), or have other problems of greater or lesser magnitude, or simply don't have the features we feel are important. Some of these systems are in reasonably good repair, others are not so fortunate. Even with these problems and disadvantages, the existing systems have been used for some time with generally good results. However, it may be time to consider a more unified approach to what has become our most important local resource for coping with the needs of our emergency response groups.

What we are proposing:

Because the "universe" of Amateur Radio operators (and equipment) has changed in favor of VHF and UHF operations, we have identified a requirement to strengthen our available infrastructure against future emergency and public service needs. Where we once relied primarily on the HF operators and systems, we now need systems that will enhance our VHF and UHF capabilities. The short response to this need is to provide robust and versatile VHF/UHF nodes (repeaters) that will tie together the individual emergency responders into a harmonious whole. To this end, we are proposing that the temporary demonstration system atop Mt. Susitna be replaced with a permanent, fully integrated VHF/UHF dual/crossband system, including dual redundant hardware and backup control systems. Once this system is fully operational, we are proposing that a similar system be installed atop Grubstake Peak (in the general vicinity of Hatcher Pass and Independence mine). The coverage from both the Mt. Susitna and Grubstake Peak sites is outstanding. These two sites, and these two sites alone, offer virtually complete coverage of the entire Anchorage – Eagle River – Palmer – Wasilla – Big Lake – Willow area.

Why Two systems?

Installing and supporting two independent repeater systems is obviously an expensive proposition, and it is reasonable to ask if this is truly necessary. We believe it is, and here are the reasons we think this is so. First, whatever event might befall the area requiring an emergency response could also damage one (or more) of the repeater systems we depend on to pass traffic. For example, a severe earthquake could cause a landslide that disabled one of our systems. Having two independent systems that are separated geographically (the sites are approximately 30 miles distant from one another) lessens the chance of the same event damaging or disabling both sites. Also, for whatever reason, an event might require a response into areas that are not well served by one of the sites. While the coverage from each site is very good over most of the area of interest, there may still be isolated "pockets" where one of the sites might experience inadequate

coverage, but those same areas tend to be covered adequately from the other location.

VHF <u>and</u> UHF? Why?

Experience gained from the operation of the DX Club crossband link (147.570 / 447.570) has shown that such a concept is very useful. UHF signals from mobile and hand-held sets penetrate the buildings and "urban canyons" of Anchorage much better than VHF signals. UHF signals also offer more efficient antennas (size-wise) for many operators. VHF signals, on the other hand, sometimes offer better distances or the ability to reflect off of obstacles, and of course there are several times more VHF sets available than UHF sets. Cross-coupling the repeaters so that regardless of which side "receives" the incoming signal, both transmitters are activated means that no matter which "side" a user is monitoring, he or she will receive the message. In a like manner, it no longer becomes important whether a user has a dual or single band set, because either works for all users! Another benefit (for users with dual band sets) is that it becomes possible to monitor your own signals to be sure you are reaching the repeater properly. This may not sound like much until you have tried it, but once you have, you will realize instantly how useful this is.

The financial impact of installing a dual band system is not insignificant (it essentially doubles the cost of the installation), but the advantages are so overwhelming that this seems a prudent thing to do. Again, dual band systems offer better access, linking possibilities, more versatility, more user confidence, and improved propagation under differing circumstances.

How about existing systems?

A legitimate question is raised about existing systems. Why can't we use these machines instead of installing new hardware. Couldn't existing systems provide the coverage we require while saving money on new hardware? Some of the repeaters we already have are very lightly loaded, and what is the matter with using them?
On the surface, these questions seem to indicate that we have an embarrassment of repeaters in the Anchorage area that are begging to be used, that could provide the coverage we need, and so on. But, is this really true, and what are the ramifications of such a choice? Let's break this part of the problem down into a few categories, and address each separately.

(1) Coverage area. No existing installation exhibits the coverage required. Note that the Mt. Susitna repeater (147.270+) has excellent coverage, but it is a "test" installation. All the other available repeaters offer less than the desired access. Two Anchorage area repeaters (146.940- and 146.970-) offer reasonable coverage of the Anchorage downtown area, but neither system covers Eagle River or Palmer adequately.   The 146.970- system offers reasonably good coverage of Wasilla, but again there are some shadowed areas. The 147.300+ system is shadowed in much of Palmer and parts of South Anchorage. None have the desired dual-

band (VHF/UHF) capability, and of course are not under the control of AARC. Other systems cover the Eagle River-Chugiak area but not Anchorage, some work well in the Palmer-Wasilla area but are weak elsewhere, and so on. Only the 2 sites mentioned in this proposal offer the type of area-wide coverage that is needed from a system that will be a primary access machine for emergency communications anywhere in the area.

(2) Ownership and access. Most of the local area repeater systems other than the ones proposed here are owned either privately or by other groups. As such, their availability and even access for use depends on the usage policies of the individual owners. While most of these parties are amenable to use of their property during times of need, there is no guarantee that such will always be the case. Individuals can and do decide to move to other states, experience changes in their interest level, and occasionally, even pass away. Sites that are obtained because of agreements between friends can become unavailable. All of these events can make a privately owned repeater unavailable without notice.

A note about Mt. Gordon Lyon (Site Summit): The 147.300+ repeater, now used as the primary ARES repeater, is owned, operated, and maintained by PARKA. This is an independent group, not subject to the decisions of the AARC board. There are also access considerations for the repeater site (it is on a military reservation), and as stated before, there are known gaps in the desired coverage area. The repeater is a VHF only installation, and no UHF capability is planned at this time.

(3) Operating and supporting a repeater system is a significant financial burden, particularly for a private individual. Only our club has the financial resources to guarantee continuing support for systems into the indefinite future. Even now, some of the AARC owned or provided systems are approaching the end of their useful service life. Some hardware is more than 30 years old, and due for replacement. Private owners might decide to simply shut down their system if it becomes too costly to continue operations. In order to guarantee that critical repeater systems are available when the emergency arises, the only logical answer is to have the hardware owned and operated by our club.

In a similar manner, while there are never any ironclad guarantees, our club is in a much better position to enter into space and power agreements with site owners than other area clubs or private individuals, for 2 reasons. First, and most obvious, is that our club has adequate financial resources to make these things happen. Second, and no less important, our club, and the District 7 ARES (Amateur Radio Emergency Service) group, have successfully obtained the cooperation of Municipal and State officials in achieving our goals. For example, ARES is an officially recognized part of the city's emergency response planning, and ARES participation is included in every applicable training exercise and drill. Having the backing of city officials is very valuable in obtaining and maintaining site leases, logistical support, and all the other things that are required or install and operate

these systems. No other clubs in the area, and certainly no private individuals, are so recognized.

It is useful to remember that many of the present systems (e.g.: the AARC 146.94, the SCRC 146.97, or the MARA 146.85 repeaters) were installed in their present locations because they were the best sites available, at the time of installation, all factors considered. Not as good as Mt. Susitna, or Grubstake Peak, but available, accessible, and certainly better than no system at all. These sites still offer useful coverage, but none are as good as the two mountain top sites, either singly or together. Sometimes we do what can be done until better becomes possible. This does not represent wasted money or manpower. Having partial coverage of an area is worth the effort, and infinitely preferable to no coverage. Also, remember that until just recently, access to both Susitna and Grubstake was impractical, unavailable, or too expensive, or a combination of all three. The local area sites will still be useful, and remain part of an integrated plan. They are not being abandoned.

The Sites:

The Mt. Susitna site is relatively new to the current crop of Amateur Radio operators, but is very familiar to commercial and government users. The site has been a favorite of industrial and government users for at least 50 years, even though it is costly to operate and difficult to reach physically. It is operated as a commercial site by Procomm, Inc.. Mt. Susitna offers virtually complete coverage of all of the Anchorage and Palmer-Wasilla area. Coverage extends North past the Talkeetna area, and up the Glenn Highway until at least King Mountain. Also covered are the Sterling - Kenai – Soldotna – Ninilchik area, and most of the Susitna River Valley. Coverage along Turnagain Arm is spotty but still usable in parts of the Girdwood and Portage area. Signal strengths from the 10 watt (output) repeater recently installed are strong to very strong over most of the area, particularly after the new VHF antenna was installed. The hardware atop Mt. Susitna is owned by AARC, and operated by District 7 ARES. Even though this is a commercial site, a lease has been procured at a very favorable rate because of the non-commercial, public service aspect of the operation. Electrical power is supplied by diesel engine driven generator sets, there being no commercial power available. Diesel fuel is supplied by monthly helicopter runs. Antenna height is roughly 4400 Ft. AMSL.

The Grubstake Peak site is the least familiar to most local amateurs. This is another commercial site, operated in this instance by Allcom, Inc., of Anchorage. The site has been in place only a few years. It is located near the top of Grubstake Peak, near Hatcher Pass and Independence mine. Another amateur repeater, KL7DJE on 147.090, has operated intermittently from this same general area, but was not located at the commercial site. Amateur Radio has been represented at this location by the Alaska DX Club's crossband link (147.570/447.570). This link has operated for about 2 years, and provides unbelievably good coverage for all of the Anchorage – Mat-Su – Kenai – Soldotna region. Like the other systems, it experiences some areas of difficult coverage,

mainly (again) in the Girdwood - Portage areas and towards Chickaloon, on the Glenn highway. It also runs 10 watts to the antenna, producing strong to very strong signals throughout the area. This system is owned by KL7CC, and supported financially by the SCRC (South Central Radio Club). In a manner similar to the Mt. Susitna site, this commercial site offers Amateur Radio access at a significant discount from commercial rates. Electrical power at this site is likewise provided by diesel engine driven generator sets, with fuel supplied by helicopter or snow-crawler. There is no commercial power available on site. Antenna height at this site is on the order of 4600 Ft AMSL. If an AARC dual cross-band repeater is installed at this site, the DX link will be moved to another location.

Are there any associated considerations and ideas that apply?

Yes, there are. The previous paragraphs mentioned that there are still some areas where coverage is marginal or nonexistent, even with the excellent mountaintop sites we are using or suggesting. One of the ideas being brought forth to solve these problems involves the use of "satellite" links that would operate into the main site using a small "cross band" link. The cross-band links could provide coverage into otherwise shadowed areas using small (10 watt) sets that would handle a localized area. The first place such a relay would be used would be to fill the gaps around Girdwood and Portage. If this is successful, other sites can be considered. Alternate possibilities include systems linked via "Echo Link" or IRLP (Internet Repeater Linking Protocol). There remains a good deal of engineering to be completed, including path studies and other technical details, before these links can be installed. For these reasons, the additional links are not being proposed at this time, but await further testing and development.

Who is in charge?

These systems would all be owned by the Anchorage ARC. AARC would likewise be the responsible party for the site space and power leases. These systems would be specifically optimized for emergency use, but would be available for all needs, including casual use. The system(s) would be available for actual emergencies, planned training exercises and drills, unannounced drills, and normal Amateur Radio traffic. The repeater and associated links will be available 24 hours, 7 days a week.

No special authorizations would be required to use the system for any normal operation. Normal operations would be defined to include drills, civic activities (such as dog race support), nets and other similar functions, and individual amateur conversations. Users would be permitted to use the system for any legally authorized type of amateur Radio communications. In times of actual emergency, it is anticipated that communications through the system would be coordinated with one or more net control stations, and usage would be restricted to traffic pertinent to the emergency situation until such time as the event was over, at which time the system would revert to "normal" traffic.

The Hardware:

The equipment configuration for the two new "hub" sites (Susitna and Grubstake) will consist of dual active and standby repeaters for each band, making a total of four units per site. One unit for each band would be active, or on air, while the other identical unit would be powered on, but "semi-asleep" – with it's receiver operational but it's transmitter disabled. In the event of failure, the "on line" unit would be commanded to shut down, and the standby unit would be activated. The failed unit would then be repaired on site or brought back to Anchorage for maintenance, as required. Each of the four transceivers would be equipped with it's own multi-function controller. While a single controller can in fact operate two separate repeaters, having each system completely independent from the others assures us that a failure of one component does not disable the entire system. Although separate electronics packages will be installed, only one set of duplexers, isolators, and antennas will be needed for each band. Coaxial relays will be used to direct signals between active and standby units.

Because the sites are shared with many other commercial users of both VHF and UHF systems, interference between systems is a very real possibility. To guard against this, specialized duplexers must be used, and each transmitter must be equipped with an "isolator" and a harmonic filter. The purpose of all this is to prevent, as much as is possible, intermixing of signals between adjacent transmitters, either "ours" or "theirs", which in turn reduces mutual interference between systems to manageable levels.

How much will it cost?

Capital funding would be in the area of $20,000 per site (less any existing hardware on hand that can be reused). It is suggested that this project be approved and installed in two distinct phases, with the Mt. Susitna upgrade happening in FY 2003, and the (separately approved) Grubstake Peak installation being deferred until FY 2004. A portion of the required hardware is already on hand at the Susitna site, which of course reduces the capital requirement at that site. The "test" repeater will be recovered for use in another area, or perhaps sold (at not less than our cost) to an interested party.

Aside from preventing too much capital outlay at one time, and potentially "starving" other worthwhile projects, the effort involved to build and install the Susitna upgrade will take the lion's share of available manpower and other resources. Also, new developments may suggest changes that could be incorporated into the Grubstake system before installation.

The $20,000 figure includes a 15% "contingency" of about $3000. This is money that is allocated, but may not be actually needed to complete the project. This is a standard procedure when budgeting for projects of this nature, and if unspent, would of course be returned to the club for use elsewhere.

Again, we wish to make it clear that not all the funding would be required at one time. The anticipated installation schedule

suggests that the final version of the Mt. Susitna main repeater would be purchased and installed in FY 2003, and that the Grubstake system could be approved, purchased, and installed in FY 2004.

Maintenance:

Like any system, breakdowns will occur on occasion. The installation of redundant hardware will lessen the impact of failure. Maintenance can be accomplished in any of several ways. First, we may be able to get another site user to let us "piggyback" on a trip to the site, saving on transport expenses. The most likely scenario includes having the site owner's technicians remove and reinstall "block" hardware packages that we have previously assembled. This approach has been used with the DX club crossband link, and has been very successful. To date, all maintenance for that system has been accomplished at no additional charge. Breakdowns, in any case, are expected to be very rare. Actual experience with similarly designed commercial grade equipment indicates that several years can be expected to elapse between failures.

There has also been considerable support from the local government officials and emergency planning agencies. This comes to us in the form of helping us gain airlift support for both initial repeater installations and future maintenance, via training flights using Alaska Air National Guard helicopters and crew. The Mayor's office in particular has been instrumental in this respect, and we thank them.

Operation and Maintenance dollars:

Estimated site lease costs should run less than $200/month – probably less. At least one annual maintenance visit should be budgeted, and probably one unscheduled visit every other year, assuming the equipment meets normal reliability and service life predictions. Each maintenance trip can be accomplished by coordinating with the other site users or owners, sharing a ride with them, and saving all or part of the cost of helicopter flight to the site. If we have to pay for our own helicopter, then each visit may require an expenditure of up to $3000. Shared rides, on the other hand, can range anywhere from free to some sort of "split", depending on who is on site and what is going at the same time. We estimate that we should budget approximately $200 per month (not actually used every month, but averaged over the year) for the occasional shared ride, possible charges for having the site owner's technicians remove and reinstall hardware, or effecting whatever other solution we decide is the most practical way to accomplish needed maintenance. Again, note that we have been able to arrange for free (or very low cost) rides so far, and we intend to pursue this option vigorously in the future. Budget is one thing, actually spending the cash is something we will try to avoid whenever we can.

Summary:

This is a unique opportunity to provide a fully operational, area wide VHF/UHF relay system. This is also an opportunity

to showcase certain technologies that will attract potential new hams to the ranks of licensed Amateur Radio operators. It will provide a first line of defense against failures of the commercial communications network in the South-Central area of Alaska. While not inexpensive, the overall cost of providing services via this system is significantly less than installing a whole series of conventional repeater systems, and the whole will require less maintenance.

AARC is uniquely able to technically and financially support this operation. Once the initial capital investment has been made, annual upkeep and site charges are expected to be manageable even if income decreases. In any case, adequate funding is available for installation of the required hardware and maintenance costs for the foreseeable future.

Finally, and while not a justification for this (or any other) capital outlay, please remember that AARC is obligated to allocate the entire FY 2002 gaming income (about $145,000) to community service, charitable contributions, or other approved expenditures. State gaming law requires that this money must be allocated before the end of FY 2003, without fail. We can, and do, donate to various charities, use some of the money to fund ongoing projects, approved operating expenses, and other requirements, but all those things together still leave significant unallocated funds in the current budget.

What do we need from you, as club members?

We need each club member to examine this proposal carefully. We need to hear your suggestions, criticisms, comments, and alternatives. We plan to have at least one, more likely two planning meetings that will feature this project. The object of these meetings is to take advantage of as many useful ideas as we can, to give the club members (that's you!) an opportunity to raise objections, to find solutions, to reduce the potential for problems to the smallest value possible before spending club funds on this project.

If you think this is a bad idea, then please come to a meeting and tell us why, and offer your suggestions or at least your reasons for objecting. Do you object to some particular portion of the plan? Let us know. Do you think you have a better idea? Let us know. Do you think the whole concept is too expensive, impractical in some way, or should just be scrapped? Again, let us know.

Do you, on the other hand, think this is a good idea? Do you see some possibilities we have overlooked? Can you help us get the hardware assembled and ready to use? Then, again, let us know. Show up at the meeting to add your support, to learn more about the project, to get to know those involved.

Projects like this start with just a few people, and all too often good ideas and cost saving alternatives are not heard until it is too late. There are sure to be some considerations that we few who have assembled this report have overlooked. And please, if you object to some portion of the plan, be prepared

to offer at least one alternative idea. We as the initial planners are certain of one thing, if nothing else: We aren't the only ones with ideas to offer. Your ideas might well be better than ours, but we need to hear them so that everyone can hear all points of view, and make the best decision.

This is your invitation to be part of the planning process, to offer your input and ideas. If you cannot attend one of the special meetings, then send us your commentary by email or letter, but do it in writing so we don't miss an important point. Even if you come to a meeting in person, please be prepared to submit your comments in written form, again so they don't get overlooked or forgotten. Then, when we have all the technical, planning, financial, and other aspects figured out, please attend the board of directors meeting where this idea will be formally presented and discussed. Any club member can attend any board meeting, and if you have comments on an issue, you may speak when recognized.

If responding by email, please send your responses to either our club President, Randy Vallee, KL7Z (kl7z@gci.net), ARES District 7 DEC Richard Block, KL7RLB (rlblock@sinbad.net), or myself (Jim Wiley, KL7CC (kl7cc@arrl.net).

VEC Report – KL5T

Three AARC VEC testing sessions were held in Anchorage, one was held in Fairbanks, and one was held in Wasilla during January. No sessions were held in any other locations. The following table provides some basic statistics for January 2003 and the past 12 months:

	Jan 2003	Past 12 Mths
Sessions	5	57
Number Tested	26	236
Licenses Granted (new or upgrades)	6	118
Upgrade Rate	23%	50%
Upgrade Rate Change From Previous Month	- 34%	N/C
Passed Elements	12	152
Failed Elements	18	149
Element Pass Rate	40%	50%
Elem Pass Rate Change From Previous Month	- 17%	N/C

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Remember:

1. Remember the Anchorage Amateur Radio Club (AARC) **newsletter** can be read **online** at:

http://home.gci.net/~lawson/

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Alaska QRP Club

The QRP Club is a club interested in having fun and fostering QRP so nothing is formal with this group. We have no officers, no board, no dues, and no set program. Bring your project ideas and questions to each meeting. Between 12-15 QRPers have been attending this meeting and having lots of fun. With over a dozen RockMites in hand this month we can expect discussions about building this excellent project at future meetings. See you at the meetings at Dennys on Debarr at 7PM the 3rd Friday of each month. Jim, AL7FS

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Anchorage Amateur Radio Club Board Meeting,

(Unapproved)
Anchorage Amateur Radio Club Board Meeting, February 18, 2003

The AARC Board meeting was held on Tuesday, February 18, 2003 at Hope Community Resources Administrative Building, 540 West International Airport Road. The meeting was called to order by President Randy Vallee, KL7Z, at 7:00 PM. The following officers were in attendance: President Randy Vallee, KL7Z, Vice President Jim Larsen, AL7FS, Secretary Phillip Mannie, KL0QW, Treasurer Steve Jensen, KL0VZ, Activities Manager John Lynn, KL7CY and Trustee Jim Feaster, KL7KB. Also in attendance were Directors David Stevens, KL7EB, Craig Bledsoe, KL4E, Sue Hilton, NL7AV, Jimmy Tvrdy, KL7CDG, and Pat Wilke, WL7JA. VEC Chairman Jim Wiley, KL7CC, Roger Hansen, KL7HFQ, Kyle Sandel, AL7J and Gordon Hartleib, AL1W were also present.

Minutes from the January 21 Board meeting were reviewed and accepted.

Reports

Treasurer's Report
Treasurer Steve Jensen submitted a written report stating that the Club's finances are healthy and proceeding in accordance with the approved budget. No special events in January affected the Club's financial condition.

Gaming Committee Report
John Lynn reported that copies of the state settlement would be made available for the club records. The Club will make donations pursuant to the settlement in the third quarter of 2003 and 2004.

VHF Committee Report
There was no formal report from the committee. John Lynn reported that the 94 phone patch levels are low to the telephone side. The UHF phone patch is working correctly and the 27 repeater is working well. The packet dial up is still down.

VEC Report
Jim Wiley reports that the remote testing project is making progress and that volunteers have come forth to assist him. There have been a couple of large exam sessions and a fair number of candidates have passed. The new Technician exam question pool will be effective July 1, 2003. In answer to a question from a previous Board meeting the AARC VEC is not a corporate entity separate from the AARC.

ARES Report
Jim Wiley reported on the February 13 ARES staff meeting. Anchorage ARES will focus on the Iditarod start and HQ.

HAMfest

David Stevens again reported that the Anchorage and Fairbanks HAMfests have been approved by the ARRL as state conventions. No confirmations yet on ARRL speakers. Jim Wiley will seek to confirm Riley Hollingsworth as a speaker for the HAMfest.

Old Business
Jim Larsen led the Board in a brainstorming session to suggest Club projects. He will also begin investigation of acquiring 501C3 corporate status for the Club.

The Alyeska repeater is currently in Anchorage for IRLP reconfiguration. The MoU regarding this repeater has been drawn up and is ready to be signed.

New Business
Jim Larsen will investigate the use of Pay Pal for payment of Club dues.

Membership Chair Fred Erickson, KL7FE, is to advise the Board on restructuring Club membership to run from January 1.

Jim Larsen asked for 2003 Club projects to present to the Club membership. Jim Wiley proposed augmentation to the Susitna repeater. He will write an article for the March Newsletter explaining the project and inviting comments from the membership.

David Stevens made available an ARRL library set for the Board's inspection. Randy Vallee proposed that the Club acquire seven ARRL library sets for Anchorage, Palmer and Soldotna public libraries at a cost of $200 each. The motion passed. It was further proposed that the question of acquiring additional sets for other libraries around the state be brought before the membership. The retail value of a set is about $240 and all shipping is included in the $200 ARRL price.

John Lynn proposed to recommend to the membership an expenditure of not more than $3000 to acquire a video projector. The motion passed.

Iditarod Start Coordinator Gordon Hartleib requested that the CCV and at least one operator be made available for the race start. It will need to be in place at 4th and E Friday, February 28. One or more volunteers will be needed to man the vehicle from Friday night through the end of the start Saturday.

Jim Larsen proposed that a brochure of Alaska amateur radio information be made ready for the upcoming tourist season. John Lynn has a copy of last year's brochure and will make it available to the Board for revision.

Steve Jensen reported that APU has acknowledged Club donations and that he has letters from scholarship recipients and accounting material from APU.

There being no further business, the meeting was adjourned at 8:38 PM.

Respectfully submitted by Phillip Mannie, KL0QW, Secretary

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N2CQ QRP CONTEST CALENDAR
March 2003

40 METER FOXHUNTS (Ends on March 12)
Fox Hunt - Thursdays - 9pm EST, 8PM CST, 7PM MST and 6PM PST.   Info: http://www.cqc.org/fox

Cub Fox Hunt - Tuesdays - 9pm EST, 8PM CST, 7PM MST and 6PM PST.   Info: http://www.zianet.com/k5di/fox/

Truffle Hunt - Tue & Thur - 30 min before Fox Hunt
         Info: http://fpqrp.com/pig_hunt.html
~~~~~~
ARRL International DX Contest (SSB) ... QRP Category
Mar 1 - 0000z to Mar 2 - 2400z
Rules: http://www.arrl.org/contests/rules/2003/intldx.html
~~~~~~
Adventure Radio Society - Spartan Sprint (CW) ... QRP Contest! Mar 4 - 0200z to 0400z (Monday evening in US/Canada) Rules:
http://www.natworld.com/ars/pages/spartan_sprints/ss_rules.html
~~~~~~
Second Class Operator's Club (SOC) Marathon Sprint (CW) .. QRP Contest! Mar 8 - 1800z to 2400z
Rules: http://www.qsl.net/soc/
~~~~~~
Spring QRP Homebrewer Sprint (CW/PSK31) ... QRP Contest!!!!
Mar 24 - 0000z to 0400z (Sunday evening in US/Canada)
Rules: http://www.njqrp.org/data/qrphomebrewersprint.html

Thanks to WA7BNM, SM3CER, ARRL and others for assistance in compiling this calendar.

72 de
Ken Newman - N2CQ
N2CQ@ARRL.NET
http://www.njqrp.org/data/contesting.html

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Great QRP web pages

http://www.njqrp.org/data/links.html

http://www.qsl.net/al7fs/

QRP - Getting Started - Using your current rig on QRP
http://www.qsl.net/al7fs/AL7FS1.html

Elmer 101 and Low-Cost QRP Transceivers - SW40+, SST
http://www.qsl.net/al7fs/AL7FS3.html

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Mount Susitna Repeater!!

The Mount Susitna 2 meter repeater is on the air on 147.27 with plus offset and a tone of 100.0 Hz. It's really way up there so give it a try. This is a KL7AA repeater that is being operated by ARES for the benefit of SouthCentral Alaska hams.

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Ham Stuff for Sale

Yaesu FT-817 – Nearly all band HF and VHF/UHF Tranceiver. $ 450.00 not counting shipping

Almost new, never used mobile, Has external cable for connection to 12 volts, A "D" battery holder pack, Both antenna's, Carry Strap, all documents and manual. The radio has the mars mod done.
--
Bruce W McCormick   WL7YR
home phone 333-0340

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Icom IC736 transceiver --- $650.
Good condition.
AM, SSB, CW, FM
160 through 6 meters.
100 watts.
Built in antenna tuner, power supply, keyer.
one cw filter installed....

Lynn KL7IKV 345-2616

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New For classified Ad page
An Announcement from KL7G Sysop

The KL7G webpage url, http://www.kl7g.org will be hosting a classified ads page software donated by the FAA Amateur Radio Association (KL7FAA) for all hams to use..also there DXCluster is up and running smoothly now on telenet.. to access the cluster just telenet **to 24.237.4.235 port 8000** and **login with your callsign**. The Telenet program that came with windows is lame..I recommend using a free program call puTTY it is downloadable from the net..just search for puTTy.. The 2 meter radio access is going to be back online soon. A full set of instructions are online for the cluster at the KL7G webpage..Also, any members wishing to host a webpage on the KL7G server is welcome..just drop me an e-mail I will set them up with an account. Accounts also come with an e-mail address @kl7g.org .
73 es have fun!

Frank KL7FH sysop KL7G

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Alaska QRP Club meets the Third Friday of every month - 7:00 PM (Some show for dinner at 6PM): Hams with QRP (low power under 5 watts) and Homebrewing interests meet for a social meeting monthly. Meet at Dennys (in the back room) on DeBarr near Bragaw. Contact is Jim Larsen, AL7FS, JimLarsen2002@alaska.net or 345-3190. Information on the QRP Club and what kits we are building can be reviewed online in the past two AARC newsletters at http://home.gci.net/~lawson/

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Anchorage Amateur Radio Club
Summary of Financial Affairs

January 2003 thru February 2003

Assets

Gaming Account		$154,344
All other current assets		$126,719
Fixed assets		$195,874
Boniface Bingo		$19,989
Total Assets		$496,926
Liabilities		$0
Equity		$496,926
Operating Income		$387
Operating Expenses		$2,454
Gaming Income		$7,000
Contributions		$10,000
Gaming Funds Transferred to General Account		$0

This summary does not include notes or other information which are integral part of a complete Financial Statement and should not be relied upon as a complete or accurate statement of the Club's Financial Condition.

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SEC Report
David W. Stevens, KL7EB

I want to thank the many hams who made the Yukon Quest and the Junior Yukon quest a success. Linda Mullen AD4BL in Fairbanks, David Stevens KL7EB Anchorage, and Gordon Hartlieb AL1W Anchorage are getting volunteers for the Iditarod Dog Sled Race. Warm weather has forced the Iditarod race to have a ceremonial start in Anchorage then restart in Fairbanks to Nenana, on to Manley, Tanana, Ruby then south. Dave Cloyd KL7M has given the 146.76 in Alyaska a new home in Girdwood with IRLP. Dave has

promised to coordinate this machine so it appears on the repeater coordination site at http:\\alaskarepeater5port.com Matanuska Amateur Radio Association (MARA) is planning on having their Hamfest at Alcantra Armory on May 17 2003 said Len Betts KL7LB MARA president. Fairbanks ARES Net 2000 Sunday KL7KC repeater, Anchorage ARES net 147.30 Thursday 2000, Snipers Net 3920 at 1800, Bush Net 7093 at 2000, Motley Group 3933 at 2100, and Alaska Pacific Net M-F 14.292 at 0830.

PSHR (Public Service Honor Roll) gives 10 points for up to three ARRL Field Organization positions and one point for each message (traffic) that is handled. Example S (sent), A (originated or delivered), and R (received), and 5

points per hour of public service.
http://www.arrl.org/FandED/field/pshr/

January 2003 reports
SAR AL7N   R/23 D/6 O/11 S/28 total 68
PSHR AL7N 1/34 2/40 3/20 total 94
SAR WL7O   S/2 R/1 O/2 D/1 total 6
SAR KL5T   S/13 R/6 O/11 D/6 total 36
PSHR KL5T 1/40 2/17 3/20 6/10 total 87
SAR AD4BL S/5 R/11 total 16
PSHR AD4BL 1/4 2/11 3/30 4/175 total 220
Anchorage ARES Net sessions 4 checkins/voice 108/ packet 20 NM KL0QW
Interior Net Sessions 4 Checkins 41 NM NL7HW
No Name Net Sessions 4 Checkins 88   NM NL7SK

ARRL Alaska Section
Section Manager: David W. Stevens, KL7EB
kl7eb@arrl.org

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A Word to the Wise, again and again

http://www.google.com **is the place to** go for help in finding almost anything. Google is a great search engine and if you go to the advanced search, you can search for exact phrases. Give it a try with your callsign or name.   AL7FS

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Technical Committee
this month in review.
Doug Dickinson, KL7IKX

The UHF repeater is finally back to normal. Last weekend when I got up there and got the battery chargers running again I must have bumped the power to the audio pre-amp from the receiver to the controller. I noticed about mid week that the repeater was keying up, but I wasn't hearing anyone. And sure enough I managed to skate up there this afternoon, and the connector had separated, since I was the only one behind the rack it had to have been me. In any case the connection is now back together, and nylon tied to be sure it stays that way. The repeater is passing audio and phone patch is once again available.

Road was a 'challenge' I never have a great problem (save two particular spots) going up, it's the semi-controlled slide coming down that bothers me, and today was no exception, down here it was raining, up there there was two new inch's of powder snow atop a sheet of Ice. Could hardly get from the car to the building, and coming down I was extra careful not to break traction. Kept it between the berms, and as long as the wife doesn't see the extra snow packed into the wheel wells I will have gotten away with it.

 I had put up an announcement on the repeater that there was a problem; I've cleared that announcement, also. Everything is back to 'normal'.

73 Doug

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STANDARD WIRELESS KEY.

The Last Mile
Ed Trump, AL7N

Handling third party written message traffic is a well established activity in the Amateur Radio Service, and has been around about as long as the hobby itself has.

It is one of the reasons we exist. Amateurs are always helping out when commercial communications fail, sometimes we are the only service that can. The rules and conventions for this activity are well spelled out in a number of available publications. Most of the time we handle messages just for

practice. In the doing of that, here are some things to think about.....

If you check into any of the statewide nets, you might sometime get called upon to handle a third party written message. Do you know how to do it properly?

Message handling work takes a certain amount of commitment on the part of all amateur operators who engage in it. If it is to be done at all it is important that it is done correctly.

For now, we'll talk about message delivery...
It could be called "The Last Mile" the message travels.

Consider the following scenario:

You are checked into one of the statewide evening nets, and old Joe down at Two Harbors comes on with a piece of formal traffic for your town. Net control asks you if you can handle it. Be kind of silly to decline, wouldn't it? So you take it on, and NCS sends you and old Joe off frequency to handle the traffic.

You tune to the assigned frequency, and give old Joe a call. You get to call Joe, because you will be the one receiving the message. Joe comes on, and his signal has gone down a little, but you can still hear him pretty well. You tell him to go ahead with the message.

You copy the message down...the band is not the best tonight, but you think you get everything OK, even though you had to ask for a couple of repeats along the way.

Now think about it (#1).....Are you sure you have the entire message exactly correct? Don't say "Roger" or send the signal "QSL" on CW unless you are ABSOLUTELY SURE you have the message OK ("OLL KORRECT"). If there is ANY doubt about ANY part of it, fix it RIGHT NOW, before you let old Joe get away. Otherwise, there will always be a nagging doubt.

Now that you have this message copied out, what are you going to do with it?

Now think about it (#2)....How are you going to deliver it to the addressee?

How you handle this step in the process probably has more impact on the public's perception of the Amateur Radio Service than anything else you can do. More about that in a minute.

Look at the message content....(Message precedence notwithstanding). Is it of a routine nature, or does it look like it might be something someone would want to know about right away? Is there a local telephone number on the message? This is a judgment call. If the message is of a routine nature, and the hour is late, say after 830 or 9 PM or so, probably the best thing will be to wait until the following day, and then try to phone it. If the message looks like it might be of an urgent nature, a phone call late in the evening might be OK. You just

don't want to get someone out of bed in the middle of the night and scare hell out of them over nothing. So think about it before you make that call.

Lets suppose you elect to deliver the message by telephone the following day, but the number comes up no good. What to do? You might look in the local directory, and see if there is a newer listing by name, and try that. If still no-go, your only recourse is to attempt delivery by mail.

The message should have some sort of a mailing address on it. If it does not, is there enough address so you could hand-carry it to the addressee someplace? If there is no way to physically send or give the message to the addressee, all you can do is file it "undelivered" and originate a return service message (now you get to send one!) to the originating station, and say so. Give a good reason for non-delivery, what ever it is. Bad address/bad phone number/moved-no forwarding address/deceased, etc.

NEVER throw a message away unless the originator cancels the message or otherwise instructs you to do so. Might be a good idea to keep a copy on file for a year or so anyway...just in case.

Think about it (#3)...Lets say you end up having to mail the message (or maybe you delivered it over the phone and the addressee wants a hard copy...it is always a good idea to offer one). Type it or write it neatly on a radiogram blank or a plain half sheet of paper in PROPER MESSAGE FORM. Put it in a neatly addressed envelope with your return address on it, and mail it. You buy the stamp.

Nothing makes a better impression on a person receiving a message than a neatly typed radiogram on an official-looking blank; especially these days when radiograms or telegrams are a VERY rare event for the average person. By the same token, a sloppily copied and poorly delivered or non-delivered message will leave a negative impression as well. People do talk, you know.

Consider this....If Aunt Minnie sends Nephew John a radiogram from some county fair someplace, she sort of expects it to get there. If Aunt Minnie and Nephew John have a phone conversation sometime after the fair, Aunt Minnie might ask Nephew John if he ever got the radio message she sent. If Nephew John remembers getting a neatly typed message in a timely manner, he will probably say "Yes, I Sure Did", because the event left a good impression on him..."Hey…This is kinda neat!" The esteem of the Amateur Radio Service goes up a few points with both of these people, as well as anybody else they tell about it, because the message delivery was handled in a professional manner.

Yeah, I know..... "Fair Messages" are considered "junk traffic" but look at the impact this can have. Suppose Aunt Minnie asks Nephew John if he got her message, and John says "Huh? What Message?"....because he never got anything. Now the Amateur Radio Service takes a BIG hit in the eyes of these people. Aunt Minnie probably will say..."The heck with ever doing THAT again...They're Amateurs, all right...Phooey!"

You could apply this scenario to any message activity, not necessarily traffic from County Fairs... It might be traffic from a Disaster Shelter someplace, where people are trying to find out the status of relatives and loved ones. The positive or negative impact on the public would be even greater in this instance.

So think about it (#4). ANY message involving a third party could have considerable positive or negative impact on how the Amateur Radio Service is perceived by those who send and receive that message, depending on how YOU handle it. It will have even more of an impact on messages of a more important nature, such as welfare inquiries and the like.

So you have to come up with a 37 cent stamp and an envelope to mail a message...So What? That's pretty cheap "good" PR, is it not? A short paid toll call to deliver an urgent message would likely be very well received in almost any circumstance. It buys a lot of good PR with the folks who get the message. They are usually grateful you went to the trouble. And the cost is small. Even if the message preamble bears the handling extra code "HXG", (way too many do these days, by the way), you might want to consider a nice delivery anyway, for the above stated reasons.

What it boils down to, is simply this....If you are going to engage in handling message traffic, resolve to learn how to do it and how do it right, and then commit your efforts to always doing it so. Especially when dealing with "The Last Mile". A little practice now and then will help too.

The Amateur Service will be the better for it, and so will you.

AL7N

Emergency Vests - Blue "KL7AA" Club coats

Attached are the **Radio Geek** photos I mentioned to you at the meeting. Also if you want to let Hams know that we are considering placing an order for both **Emergency Vests** as demonstrated in the ARES meeting and **Blue "KL7AA" Club coats** with Call signs and the Club logo embroidered on the back. So we can get an idea of how many people are interested please email **KL7SP** at **747sp@arctic.net** if you are interested in purchasing either item. Please indicate which item you would like to order, the vest or the coat or both, the proper spelling of your name as you would like it embroidered, and your Call Sign. Depending upon the response, we will attempt to get a discount on both purchases. The more people who want to purchase the items, the less expensive they will be.

73, Heather Hasper, KL7SP

And now the Radio Geek. Note the stylish antenna sticking out of the top of this man's hat. We wonder what he is laughing about as he displays his new outfit.

Also, note the fancy use of horizontal polarization with the do-all handi-talkie. This ensemble is topped off with a one-of-a-kind zipper pull, color coordinated to make the transistion from the lighter hues of hair coloring, through the strong statement of the vest and on to the designer jacket.

**One Ham's story of the Shuttle Recovery Efforts
(forwarded by KL7HO, Arlene Steward)**

Sent: Saturday, February 08, 2003 11:38 PM
Subject: Trip to Nacogdoches

From: Ken Winters (N5AUX) < ken@basicomputer.com

What I did this Saturday:
Well it was too cold (and no sunshine) to ride the Harley today but I got a call from one of my Ham Radio friends who said they could use a couple more experienced Net Control Radio Officers at the Emergency Operations Center (command post) in Nacogdoches where they were coordinating the recovery of debris from the Columbia Space Shuttle so I loaded up my portable radios, maps, bunker gear and IDs and headed off straight down 287 and 3 hours later I was sitting comfortably in one of the biggest, most luxurious motor homes I've ever seen. (One of the RV dealers in Nacogdoches had decided to let the Ham Radio Operators use it for their mobile command post.)

When any kind of major disaster (such as airliner crashes, train derailments, etc.) occur the police, fire, EMS, DPS, FBI, etc., all converge on the scene and their radios are not capable of communicating with any other agencies except their own (and in rugged terrain like East Texas some of them even have trouble talking with each other) so they use Ham Radio Operators with hand-held and mobile radios to communicate with the coordinators and search teams.

We usually set up net control operations in a tent but some cities and counties have donated trailers and even motor homes for "mobile command centers". Fort Worth and Dallas have really nice RVs with radios and operator positions for every agency set up inside side-by-side. In Nacogdoches they have two Ham nets running, one in a trailer and one in that new RV on loan.

As I type this message local TV station Ch.8 (ABC) is running tonight's coverage on the recovery efforts and they're showing some really good shots of parts of the command center and some of the recovery teams.

Anyway, the Hams set up a radio network (called a "net") and every team in the field and every agency operating a command post within the operations center has a HamRadio Operator assigned to them and when one team needs to communicate with another team or unit they use Ham Radio when their own radios (and cell phones) won't work - which is most of the time in these situations... especially when they need to talk to a different agency. In this case we had (have) the FBI, FEMA, TX DPS, local sheriff, police, fire, EMS, search & rescue and of course, NASA people all needing to talk with each other. The "Net Control Station" operator maintains order and everyone requests permission from Net Control before passing their traffic on the net. It makes order out of chaos and we always get very high praise from all those agencies for the effective and professional way we run these "nets". Same thing happens during severe weather, in which case it's called a "Skywarn Net". TMI? Just thought you'd like to know a little background.

Before I took my turn as Net Control today I visited all the other units and operations including the "Recovery Point" where they were bringing back all the bits and pieces found out in the field. I saw quite a lot of parts... it really brings it home when you see the level of destruction. All kinds of materials and most looked like they'd been through a shredding machine.

One funny story came up today... one team had just found a piece of debris and they had just marked it's location with a circle of spray paint and were photographing it and mapping it's location with their GPS gear when one of the property owners' dogs - obviously not a trained search dog - ran up and grabbed the piece and ran off with it !!! They chased the dog (obviously untrained "trackers" too since chasing a dog just makes him run farther and faster) and eventually got the shuttle part back by distracting the mutt - they picked up a branch and teased him with it and when they threw the branch the dog dropped the shuttle debris and ran off to fetch the stick. One of the recovery guys took the piece back to the original location and put it back inside the painted circle. When the little old lady who owned the place told the guy "Oh, my Goodness... isn't that poisonous?", he just replied, "Ma'm, if your dog gets sick tonight, call me!".

Don't worry... they do put us all through a brief training class complete with pictures of things like the unexploded explosive bolts (a few have been found "undamaged") and other items that shouldn't be touched... but most of the parts are actually safe to handle... they just put it out on TV that it's all dangerous to try and deter sightseers and news crews from disturbing the evidence.
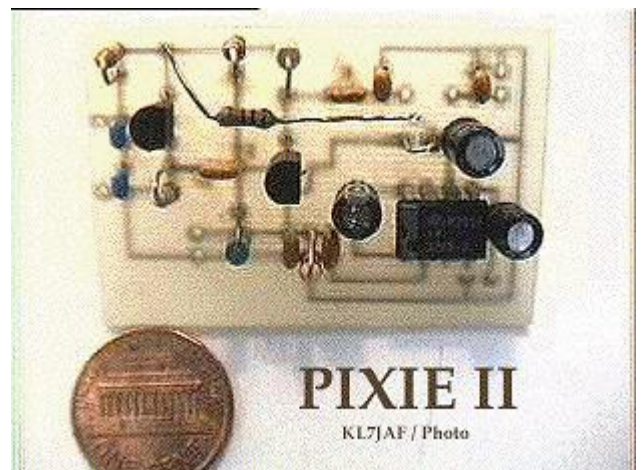
Anyway... that's how I spent my Saturday... what did YOU do today?

-Ken

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Pixie 2 Transceiver

The first under $10 transceiver that has been very successfully

PIXIE II
KL7JAF / Photo

built and used on the air is called the "**Pixie 2**" transceiver. This kit has had a history over the past three to four years and has seen much experimentation and modification. The big kickoff for this rig came from Doug Hendricks, **KI6DS**, and QRPp magazine (The publication of the NorCal QRP Club). It was originally Published: QRPp June 1995 pp. 45-48 and was billed as "The Great Dayton Building Contest 1995" and was sponsored by the NorCal QRP Club.

This building contest was an endeavor to have fun, promote fellowship, and provide a learning atmosphere. Chuck Adams, **K7QO (ex-K5FO)**, came up with the idea and gave Doug Hendricks, **KI6DS**, the job of finding a suitable project that could easily be completed in less than an hour, have readily available parts, and preferably a circuit board. The project that Doug came up with was the Pixie 2, which is a transceiver that can be put on 40 or 80 meters, determined by the crystal frequency chosen and changing one coil. This little rig traces its origins back to where the circuit first appeared in an issue of the G-QRP Club's "SPRAT" (The QRP Club in Great Britain)

Although most of the QRP circuits today have evolved into using superhet receivers, a diversion back to direct conversion is not unusual...since QRP, after all, is a unique part of amateur radio and simplicity is certainly a part of it.

The Pixie 2 is a tiny rig, with a standard two-transistor transmitter. It's a Colpitts oscillator, left running, and a keyed power amplifier. There is no external mixer used to feed the audio amplifier. Instead, the mixing is done at the final amplifier itself with the resulting audio taken off the emitter.

There's no Receiver Incremental Tuning (RIT), a simple switch and capacitor in parallel, between the crystal will work as an offset though. You'll lose QSK but, here again lies the call for enhancement. The whole idea here was to make a tiny rig that worked, with LOTS of room for improvements, using a minimum of parts.

Many contacts using a simple end fed quarter wave wire, worked against a good ground, have been made with this rig. Most of them have been over hundreds of miles away. The transmit signal is very clean as the oscillator is always running. There are no key clicks. Just listen to it!! Power output is in the 200 to 300 milliwatt range. You'll be amazed what happens at this power level with a decent antenna.

This rig makes contacts spanning hundreds of miles on 80 meters. Band changing is simply a matter of pi-network and crystal changing. If you build one, I'm sure you'll have fun with it. Construction can be by any method, perfboard, "ugly" and pc board. Complete parts kits are available for those of you who are interested.

KL7H, Bruce Hopkins, (AK QRP #001) has used the Pixie extensively to check into the Alaska **Snipers** SSB net on 3.920 MHz (6 PM daily) and the Alaska **Motley** Group SSB Net on 3.933 MHz (9 PM daily). He has modified his rig to operate at

this higher part of the 75-meter band. In his own words, this is what he has done: Bruce Hopkins - KL7H [KL7H@arrl.net]

"I have used my modified Pixie II for over a year to check in to both the **Snipers** net on 3.920 and the **Motley** Group on 3.933... The only part needed to allow the basic Pixie II, as supplied by HSC Electronics, to work on these frequencies is the proper crystals... I ordered my crystals from JAN Crystal many years ago to use with simple QRP rigs that I used in the
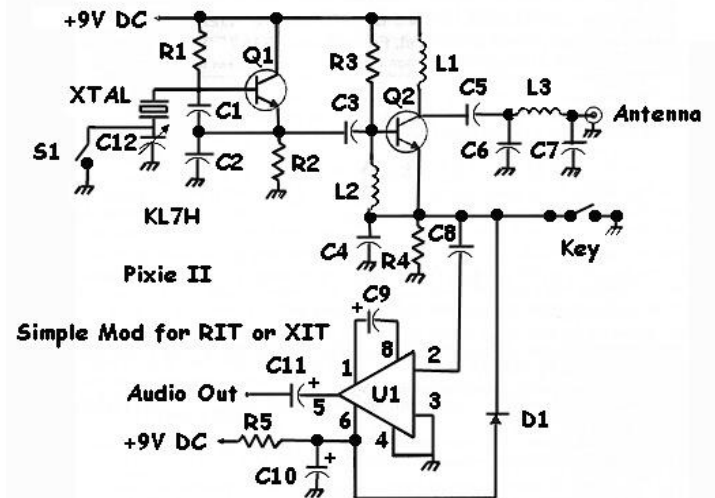
bush, they are a standard crystal so if you already have a box full of surplus FT-243 rocks, they will work just fine...

The Pixie front end is quite wide so copying SSB is not a problem...Many folks have put a 50pf variable capacitor in the ground lead of the crystal to allow transmitter offset... You parallel this variable capacitor with a SPST switch and bypass the capacitor for receive... For SSB receive, I do just the reverse... I open the switch in receive which allows me to tune the receiver enough to clarify the voices... When it is time to transmit, I short out the capacitor which gives the Pixie enough offset to be heard by net control... My Pixie runs about 150 mWatts depending on the state of my 9V battery... I have rarely been unable to check in at this power if I can hear the net... To optimize the transmitter, one needs only to replace the molded chokes with inductors wound on toroids, and the output caps to silver mica... The Pixie II is capable of nearly 1/2 watt output with a 12 volt supply...Another modification that I use, and find very helpful, is the addition of a **TICK** keyer chip... The TICK does two things for me, it gives me a full iambic keyer in an 8 pin Dip package, and it gives the Pixie sidetone... (The Tick is further described later in this article.) A complete 80 meter transceiver, keyer, key, battery pack, and ear buds can be carried in two Altoid tins... Take care and have fun...KL7H   Remember, all that's needed to change bands on this rig is change one inductor and the crystal, and you have a rig for another band!! You can use Walkman style headphones, with a mono adapter. This transceiver can be purchased from HSC in California. Almost all available Pixie information available online has been compiled by Brice Hornback, KA8MAV, at (http://www.QRPp-I.com)