

Anchorage Amateur Radio Club

Next Meeting August 6th

August Program

Craig Bledsoe, KL4E

Rick Goodfellow, the founder and CEO of KLEF(FM) and KASH(AM) has graciously offered to be our guest speaker at the August AARC meeting. He has a very interesting talk on his life in the world of Alaskan broadcasting that I heard a condensed version of at Rotary. I think that our membership will really enjoy his presentation.

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AARC Member Visits Marconi Site

Site of 1st Transatlantic Transmission

Below is a picture of Lynn Hammond, KL7IKV, at site of Marconi's first transatlantic QSO (Dec 1901). This is the footing for one of the antenna towers - essentially all that remains of one huge set up. They had a little exhibit with a model of the antenna used; there were also pictures of the antenna after an ice storm took it down. As we all say, if your antenna did not come down last winter, it wasn't big enough.



There is a well appointed ham station in the exhibit building - all Kenwood gear and definately QRO! Check out URL at: <http://www.marconicalling.com/museum/html/events/events-i=30-s=5.html>

Alaska State Fair - Special Event (KL7AA)

Corliss Kimmel (AL1G) will be hosting a special event for the Alaska State Fair at her home qth. **Club members are welcome to come and operate.** The event will run from Aug 26 through Sept 6. Modes available will be SSB, CW and RTTY. Hours of operation, rather than being "officially" set, will be informal and determined by operator available time, band conditions, fishing trips, etc.

Corliss will design a certificate for the event and will utilize her QSL manager to handle certificate and QSL requests.

Please contact Corliss if you are interested in operating during the special event. mailto:AL1G_ak@yahoo.com phone: 561-8902.

AT Sprint 2 Transceiver

by Jim Larsen, AL7FS



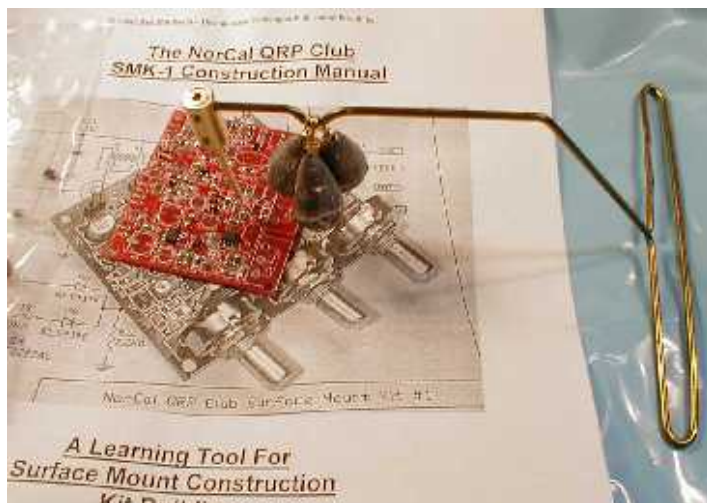
A few years ago, I tried building the Norcal SMK-1 SMD kit. It was a simple kit and got me started. I had always wanted to see if I could handle building a more complex Surface Mount Device (SMD) kit. KD1JV, Steve Weber, provided the perfect opportunity with his limited run AT Sprint 2 (ATS-2) Transceiver Kit. I just had to try it. Will it be fun or frustrating? It was fun!!

I have been involved with QRP since about 1970. Having built many of the kits that have been available over the years including the Elecraft K2 transceiver, I just felt I could handle this SMD type of kit. Knowing this I dived into the KD1JV ATS-2.

The Simple Tools

In order to work with Surface Mount parts I knew that I would need to have at least some of the right tools. These parts are very small and can flick away into the ether, never to be seen again. First off was a cake pan; I bought a new, shiny one. Also, I needed a few small little trays that would fit into the cake pan with my project. I found some nice white plastic ones that show up the tiny parts quite nicely. As luck would have it, my Weller WTCPT soldering pencil had a nice sharp, small tip on it and should work for this type work. I wear bifocals on my bifocals so that I can see the parts. Others use a large lighted magnifier. Others use a headset. You will have to find what works for you.

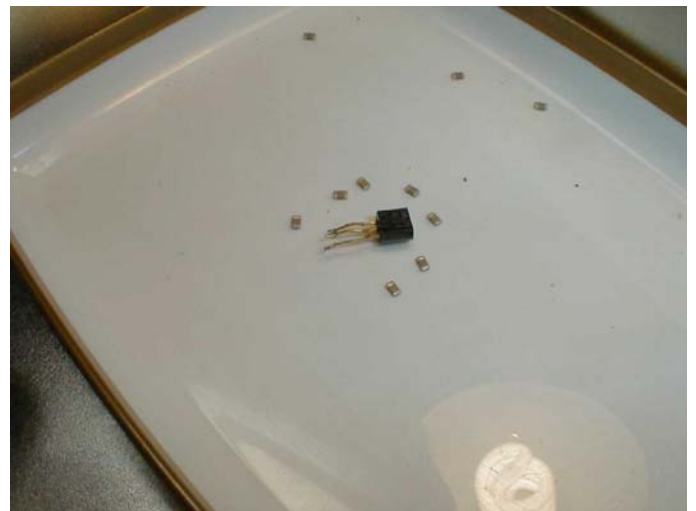
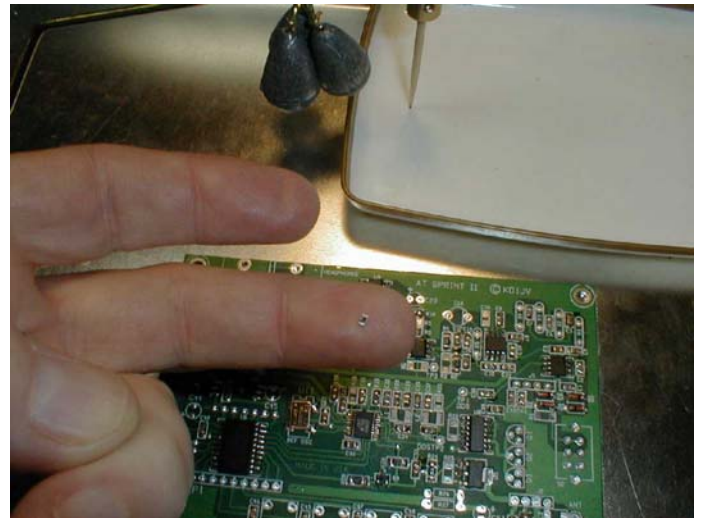
Past articles have demonstrated how to make a SMD Doofus to hold the parts in place while one does the soldering. There are several ways to do this. A good reference on this is found at (http://www.qsl.net/n5ib/surface_mount/). Of course I had to build my own and with the help of KL7CC, Jim Wiley, our version looked a bit different from the ones in the reference. Of course you don't need the fancy toothpick device on the end. Just bend down the coat hanger and file the tip the way you like. File down two or three for different uses such as one with a notch for doing diodes.



The pan and trays and board and doofus fit into the scheme like this:



Now that I had the simple tools, it was time to get to work. Being ever so careful with the tiny parts, I began to dig into the kit. Take a look at what you are dealing with for parts size.



Getting into the Project

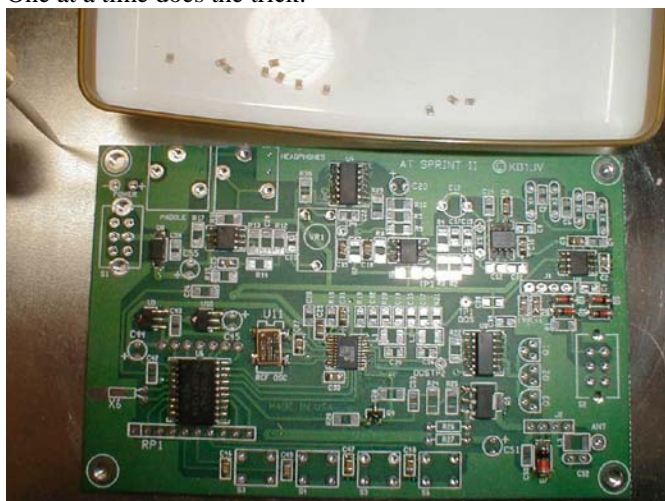
As I began I was struck by how small these parts were. They were not all the big 1206 size parts. There were going to be some of the 0805 sizes, too. Thankfully, there were none of the 0603 sizes although by the end of the kit, I think I could have handled a few of them. Practice does help.

Place the part, put the doofus on top, use the solder provided or the smallest you can possibly buy, and go for it. It is actually pretty painless. When I built the SMK-1 kit, I first tinned a tiny bit of solder on one of the pads. I tried this again for this kit and did not like the results, at least for me. This method seemed to make the parts move off center and look bad. My three fishing-weight doofus held the part firmly enough that I could just go for it with my 700 degree soldering tip. This is what it looked like doing the small capacitors.

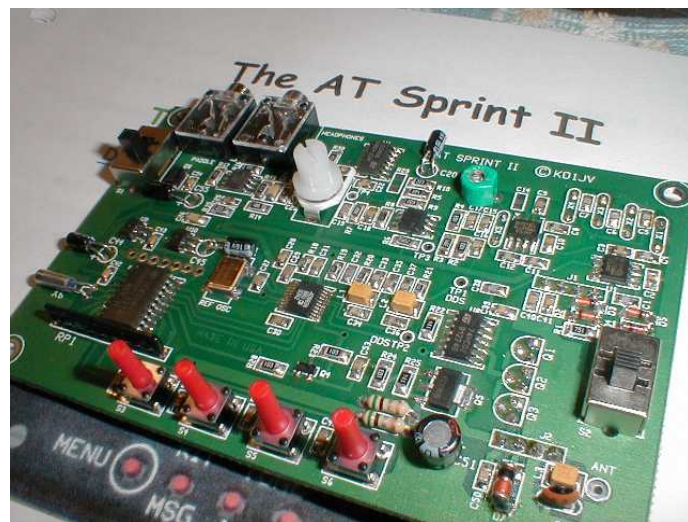


You probably notice that the ICs are already done. That was a bit of a challenge but if you have solder braid on hand, then go for it. If the solder bridges between pins, and it probably will, on the tiniest of ICs, then just lay on the braid and lift off a bit of the excess. Works very well. I had no trouble with most of the ICs...just the one IC that was really close spaced (up and left of the toothpick) and even then I only bridged one set of pins.

The project proceeded piece by piece. I tried to stay focused on each part and not feel overwhelmed by the tasks ahead. One at a time does the trick.



Finally, the main board was done. It looked pretty nice and I was excited to move on to the small boards for each band. Now came the time of the toroid winding but all the parts were full size now.

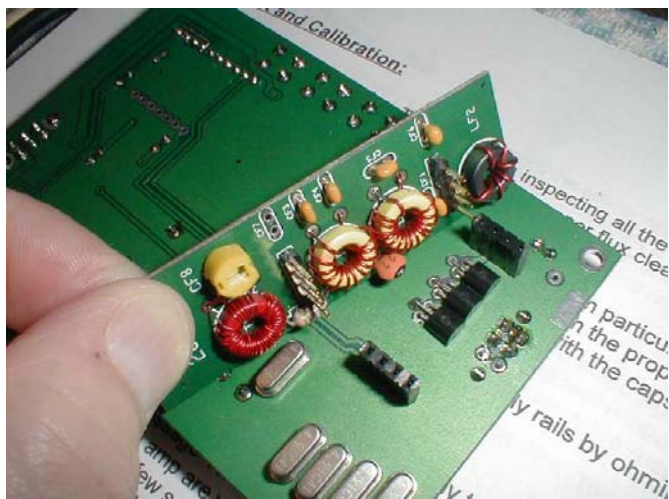


Winding toroids is not really a big deal although when there are as many as this radio had, I must confess my fingers got a bit sore. The 80 meter toroids just about killed me. It felt like 300 turns but of course it wasn't that many. Remember, every time the wire goes through the donut it counts as one turn. Instructions were well done in the manual and if you do a Google search on "how to wind toroids" you will find plenty of information.



The 20 meter board was soon done and it sure looked nice beside the main board.

The rig will operate on four bands from 80 through 20 meters and the band modules plug into the back of the board.



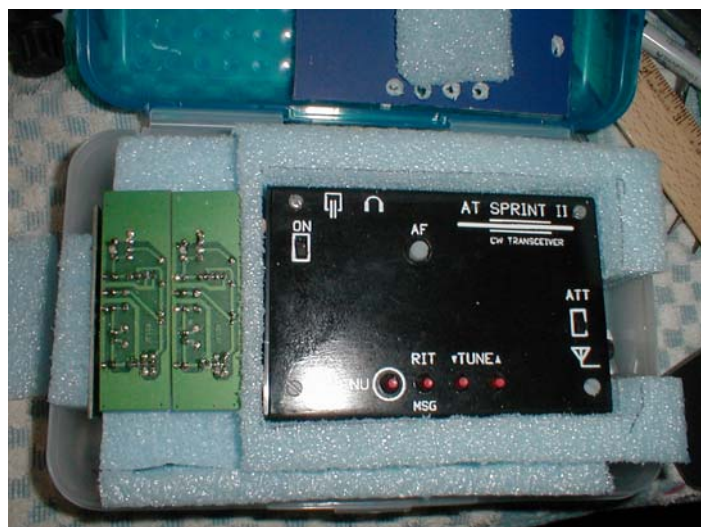
And when they are all done they look like this:



The boards were soon mounted in the AT Sprint II case; I had some trouble with mine. The mounting holes were drilled such that the jacks for the headphones and the paddle did not stick out far enough through the case. I tried to adjust but messed it up even worse. Steve, KD1JV, was kind enough to give me his prototype case and it fit perfectly. In fact, I like the prototype case better than the final kit case. The silk screening is just a bit different and for my tastes, I like it much better.

The radio puts out just a bit under two watts with the internal AAA batteries. I already worked KI0II in Colorado with this rig on my normal HF antenna. With 12 volts the radio puts out a solid four watts or more on all bands.

After the rig was completed and the first contact was in the log, I felt I needed a nice little case to carry the radio and boards. Using a very inexpensive Walmart school pencil box, I was able to put the main radio and boards neatly into the available space. There is room for all extra band modules, a spare set of batteries and on the right near the antenna jack there is room for the adaptors (to go from RCA to other type plugs). I even had room for my Sony headphones. There are foam inserts that hold the modules, batteries and radio in place while traveling. I also plan to carry a light-weight paddle, maybe a light straight key and the antenna in a Ziploc bag.



This was a fun kit. I don't hike in the field much so this radio may end up in the hands of someone in the Lower 48 states (Sold to Alan, N3BJ, Bent Mountain, VA). It will be better appreciated that way. It would even make a great radio for just sitting at a picnic table at a park and making a few QSOs. The specifications taken from the KD1JV website are as follows: .. (<http://www.qsl.net/kd1jv/>)

Features:

- * Covers four bands, 80/40/30/20 meters, using plug in filter modules
- * Very low operating current - just 25 ma.
- * Light weight, 8.0 oz with six "AAA" batteries installed.
- * Shirt pocket size, 4.7" long, 3.1" wide, 1.1" tall
- * 2.5+ watts output with 9 volts supply. Over 1 watt output at 6 volts with "dead" "AAA" batteries! Efficient MOSFET transmitter, now SWR protected by zener diode.
- * Push button control
- * Direct Frequency Entry using paddle. Just key in the frequency you want and it goes there!
- * Stable DDS VFO. (AD9834 low power DDS)
- * Classic NE612 receiver design, with switchable input attenuator. Four crystal IF filter for improved opposite side

band rejection, Audio band pass filter for peaking the audio response., 100 mw bridged output head phone driver.
 * Tunes lower 150 KHz of the bands. Sorry, cross mode operation (CW to SSB) not possible, due to the narrow IF and audio band pass filters designed for optimum CW operation.
 * RIT,
 * Audio Frequency Enunciator. Spots the operating frequency in Morse code output.
 * Built in iambic keyer with auto straight key detect. One keyer message memory, with pause, stop and beacon control from paddle.
 * Extensive use of surface mounted parts.
 * Operates with 6 to 12 volt supply
 * Internal 9V "AAA" battery pack and external power jack

Final Comments

These QRP kits made available through the QRP-L mail reflector are all high quality and fun kits. Each of you are encouraged to search out a kit that appeals to you. So far all the kits I have seen have had first rate instructions.

You CAN build these kits. Give it a try. You may discover ham radio all over again or even just discover it for the first time. Building is fun and those of us who have tried it seem to always want more. Check out the links at <http://www.amqrp.org/misc/links.html> Everything you could possible want can be found on these links or on links branching off from these sites. And if you need help, just join the QRP-L mail reflector <http://mailman.qth.net/mailman/listinfo/qrp-l>

I hope you enjoyed this view of the AT Sprint 2 as seen from my workbench. It has been fun for me and I enjoy sharing with you.

Take care.

73, Jim Larsen, AL7FS

AL7FS was originally licensed as WN0LPK in March 1965 (WA0LPK from 1965-1985). Jim is a member of AARC and SCRC and he has participated in HF from 160-10 meters (CW and SSB), packet, satellite, 6 meter, UHF, VHF, ATV, EME (2 meter WAS #36), DX, and QRP. QRP has lasted the longest and the strongest - 1970 to the present.

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.

Anchorage Hamfest and Flea Market is scheduled for September 11th and 12th time frame. Please contact John Lynn (KL7CY) or Judi Ramage (WL7DX) if you can help with the arrangements.

kl7cy @ arrl.net 337-1091

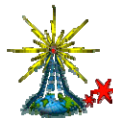
damage @ gci.net

Michael Borer, WL7CKB-SK

Another silent key (SK).

Date: Mon, 26 Jul 2004

Michael passed away over the weekend losing his battle with heart disease and blood poisoning. Mike was the ARES District Emergency Coordinator just a few years ago and was a past AARC Board member. There will be a memorial service for Mike Borer, 53, WL7CKB on this Sunday, August 1st at 5PM in the north lot of Earthquake Park (outdoors). A potluck will follow at Safety Inc. (where Mike worked) located between Fireweed & Northern Lights on Fairbanks Street.



Repeater Report

Doug Dickinson, KL7IKX

The 147.960 Node KL7IKX-3 is back on the air from the hillside. This Node provides a link to the Valley Node (KL7JFU-2) 'VALLEY' from other common packet frequencies, of 145.01, 145.05, 440.050, and 3.605. Users on any of those frequencies by connecting to their nearest Node and asking for a Connect to Valley will be tied automatically to the Valley Node. A software / hardware glitch caused the outage. Nothing like a total blowing of the volatile memory to get things working again. And while I was doing that, I serviced the radio transceiver. So everything is back to normal...(whatever normal is...). Yearly maintenance at the KL7AA-10 HF80 Node is scheduled for the next two weeks, as work permits. Yearly service checks of NL7C-2 Eagle and NL7C-4 Eagle4 are also scheduled in the next several weeks. If you experience a short loss of access please bear with us. I try not to breakup on going QSOs, but sometimes this is not possible.

73 Doug KL7IKX

Friends of Pets Dog Jog - 2004

This is the seventh year amateur radio operators have supported the Friends of Pets Dog Jog and this was the best turnout ever!

Friends of Pets is an organization dedicated to matching dogs, cats and other animals in animal shelters with individuals and families interested in adopting these deserving creatures.

The annual Friends of Pets Dog Jog invited the public to Kincaid Park on Saturday, July 24, 2004 where activities were set up on the infield near the Nordic Ski Club Timer's Shack. The main event was a One Mile and a 5K "fun run" with the family dog(s) on existing cross-country ski trails.

Amateur radio was used in support of race logistics, trail assessment, trail sweep, checkpoint setup, tear down and to supply water and remove trash for both people and pets. The following individuals provided communications for the event:

Ray Hollenbeck	KL1IL	Viola Swamp
None	None	Sherwood Forest
Phil Mannie	KLØQW	Arlene's Way
Mark Kelliher	KL7TQ	Short Cut No. 1
Jim Wardman	N9RNL	Puffin Climb
Dave Bauer	KLØDA	Pia-Magrethe's
- - - - -	-	Overlook / Repeater / Truck Driver
Greg Martin	KLØOM	Short Cut No. 2
Keith Clark	KL7MM	Arlene's Overlook
Josh McDonald	KL1RI	Sven's Turn
Heather Hasper	KL7SP	Electrical Box
None	None	5K Sweep (Bicycle)
None	None	One Mile Sweep (Bicycle)
TJ Sheffield	KL7TS	One Mile Tunnel
Bob Hufford	KL1JX	One Mile Junction
Judi Ramage	WL7DX	Race Director's Shadow
Linda Martin	No callsign	Short Cut No. 2
Luke Smith	No callsign	One Mile Tunnel



Trail Crew ready to deploy

Alaska District 7 Amateur Radio Emergency Services (ARES) organized the radio communications portion of the event and ARES treats all Public Service events as an opportunity to practice emergency communications.

Training for this event involved setting up the South Central Amateur Radio Club (SCRC) 440 MHz Public Service Repeater (KL7G) in an "emergency portable" configuration on a hill overlooking the trail system.



The view from the repeater site

An "emergency portable" configuration means placing the repeater in a temporary location using a portable antenna, mast and battery power. This technique should be considered in an emergency communications situation where existing repeater systems are down or in areas where there is no repeater coverage. The portable repeater provided 10 watts to a Diamond X-300 antenna, rated at 9 dBi gain, on a 40 ft. push up mast and was powered by a 125 Ah battery.



Installation Crew at the portable repeater site

Individual operators used 440 MHz or twin-band HTs to access the repeater. Each operator configured their equipment based on personal experience, but in general followed the Public Service standard, using:

Walkman style headsets: To improve receive audio in areas of high ambient noise. These headsets do not distract race officials as would a speaker-mic broadcasting radio traffic.

Boom mic / headset: Use only push-to-talk (PTT) mode since voice-operated transmit (VOX) coupled with high ambient noise can trigger a "hot" mic. An open mic can significantly reduce the communications team's effectiveness and barking dogs will provide sufficient noise to key up most VOX rigs. Radio operators familiar with sled dog races are well aware of this phenomenon.

Speaker mic / headset: The speaker is disabled by jacking in the headset, which reduces "noise pollution" for race officials and spectators.

Extra batteries or larger capacity, external gel-cells are mandatory for uninterrupted radio communications. A small, 1.2 Ah gel-cell battery allows most HTs to operate at high power for extended periods. Rubber-duck "gain" antennas improve both transmit and receive signal quality and take the abuse of field conditions better than the telescoping metal variety.



Temporary Repeater Antenna

Using a temporary repeater in lieu of simplex operation enables many stations to operate at the 250 mW power level and minimizes louder stations stepping on stations they cannot hear. The "roger beep" on the repeater lets everyone know they are keying-up the machine.

Lessons Learned

The event had nearly full staff coverage this year. Unfortunately, bicycle mobiles were not available and interested volunteers should consider equipping a "mountain bike" with a VHF / UHF radio and a gain antenna.

We had excellent staff support from new-to-the-event volunteers Ray Hollenbeck (KL1IL), Jim Wardman (N9RNL),

Greg Martin (KLØOM), Josh McDonald (KL1RI), Heather Hasper (KL7SP), Bob Hufford (KL1JX) and Judi Ramage (WL7DX). Not-yet-licensed volunteers Linda Martin and Luke Smith helped out at two of the checkpoints.



Typical checkpoint activity

Expect equipment problems. Do radio checks before the staff is deployed to the field, where it is more difficult to provide feedback and offer assistance. Enable the "key lock" feature on your HT after a successful radio check to avoid inadvertent changes.

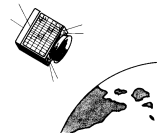
The repeater and temporary antenna provided excellent coverage of the course. One consideration when using a repeater (or cross-band mobile rig) is the need for a control link. The KL7G repeater has a standard three minute time-out timer and a 10 minute CW ID'er, however no "control link" was established, either by radio (operating above 222.15 MHz) or by telephone, to provide positive control over the system on frequencies other than the input. Recognizing that a licensed control operator was within a few feet of the repeater, "local control" was considered established for this event.

Event-specific "lessons learned" will be incorporated into next year's planning effort and should make a successful event even better. Thanks again for your support!

Low Earth Orbit (LEO) Net

The **9 AM LEO Road and Weather Group** has moved to the **147.27/87 WL7CVG Mt. Susitna repeater** with a + split and **103.5 Hz tone**. Remember to check your tone encode and make sure it is set to 103.5 Hz as that is the only tone the 147.27 WL7CVG repeater will now accept.

Thank you,
The Gahleo Group Moderator
Dan O'Barr, KL7DR
Wasilla, AK
KL7DR@ARRL.net





From the SEC Section Emergency Coordinator

By now most of you should have gotten the news that ARRL is implementing a new program of Emergency Communications employing the WinLink protocol. It uses a system of RF and Internet. I have already told the powers-that-be that Alaska will not be part of that program. There are too many problems with running it here and they haven't even mentioned how we are supposed to pay for the additional equipment. Suffice it to say, it is not going to happen here.

Emergency Communications in Alaska is not in very good shape. (Editor added bold) We have a few small groups around the state that are functioning and training their operators. Problem is, in an emergency I know that the amateurs will be available. However, since 9/11 everything has changed. Agencies want better trained operators, security is a problem, it isn't "have radio, will travel" any more. We also operate under the IC system. If operators are not familiar with the setup, how many times do you think they will call us to assist in an emergency. (Do you even know what IC stands for? Incident Command (System) – editor)

Truth is, emergency communications is a big part of our licensing. Do you really think that the FCC would give us huge chunks of spectrum so that we can do DX, Ritty, PSK31, APRS, etc? All the different things we can do with our systems are great fun but there is a serious side as well. **When we have 500-1000 amateurs in an area and 15 or 20 sign up for emergency comms something is really wrong.** (Editor added bold)

In an emergency, we will be forced to set up staging areas to sort out the amateurs who are volunteering, do training, and then assignment. This takes valuable time and sends the wrong message to the very agencies that we are trying to assist.

We have some very capable folks running the ARES program here in Alaska. We have groups in Juneau, Valdez, Kodiak, Kenai, Anchorage, and Fairbanks. Please volunteer your services, get the training, be prepared to operate WHEN we have the next emergency. You serve not only the agency or the community but also your families.

If you don't know who to contact, send me an email at: ad4bl@arrl.net and I will put you in touch with your local ARES group.

Linda
Linda Mullen AD4BL
ALASKA SEC STM
ad4bl@mosquitonet.com
Fairbanks, Alaska

Emergency Response Communicators (ERC) Net

Dan O'Barr, KL7DR reports that there are some new nets on Sunday nights. The ERC Net is designed to help hams get on the air more often, stay familiar with their equipment, and get to know their fellow hams in the area so that they can work together better in an emergency. Check it out.
Sunday, 7:30PM on 147.27 Repeater (103.5 tone)
Sunday, 8:30PM on 3.880 MHz HF SSB

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N2CQ QRP CONTEST CALENDAR

August 2004

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Summer FOX Hunt - CW:

Every Friday (UTC) through August 20 (UTC) 0100z to 0300z (9 PM - 11 PM EDT Thurs evening US/Canada)  
Info: <http://www.cqc.org/fox/>

Truffle Hunt - CW: 30 min before CW Fox hunt.  
Info: <http://fpqrp.com/struffle.html>

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Summer SSB Fox Hunts:

Every Friday (UTC) through August 20 (UTC) 0000z to 0100z (8 PM - 9 PM EDT Thurs evening US/Canada)
Info: <http://www.zianet.com/k5di/ssbfox.htm>

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Adventure Radio Spartan Sprint (CW) \*\*\* QRP CONTEST!  
Aug 3, 0100z to 0300z (Monday Evenings US/Can local time)  
Rules: <http://www.arsqrp.com/>

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North American QSO Party (CW) ... 100W Max. (/QRP noted on entry)

Aug 7, 1800z to Aug 8, 0600z
Rules: <http://www.ncjweb.com/naqprules.php>

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RUN FOR THE BACON (CW) \*\*\* QRP CONTEST! \*\*\*  
Aug 16, 0100z to 0300z  
Rules: <http://fpqrp.com/fpqrpapun.html>

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North American QSO Party (SSB) ... 100W Max. (/QRP noted on entry)

Aug 21, 1800z to Aug 22, 0600z
Rules: <http://www.ncjweb.com/naqprules.php>

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BUBBA Summer QRP Sprint \*\*\* QRP CONTEST! \*\*\*  
Aug 28, 1600z to 2200z  
Rules: <http://www.extremezone.com/~nk7m/>

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Ken Newman - N2CQ
N2CQ@ARRL.NET

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ARES Contact Information

District Emergency Coordinator:
Phil Mannie, K10QW
Contact via Pager: 268-7609
Email via k10qw@alaska.net

Additional information on ARES can be found at the following URL:

<http://www.qsl.net/aresalaska/>

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Alaska CW Net (ACWN)

Alaska CW Net (ACWN) still maintains a daily traffic watch on 3534 7042 and 14050 Khz....from Fairbanks. ACWN is a registered ARRL Section Net in Alaska.

Starting at about 0230Z every evening, AL7N in Fairbanks **maintains traffic watch** simultaneously and as continuously as possible on all three frequencies, until the following morning about 1700Z. Also guards 2 meters 144.100 Mhz (CW mode) in Fairbanks area.

Weekends, monitor continuously whenever in the house where can hear the speakers, day and night.

Saturday schedules with K6KPH on 14050 at or after 1800Z, whenever we can get thru depending on 20 meter band condx and contest QRM. K6KPH is relay to lower 48 NTS; closes down about 0100Z.

ACWN encourages other operators around the state of Alaska to participate and will gladly exchange WX and signal reports if nothing else...just to keep the pipe open. Will handle legal 3rd party written traffic to anywhere, even to e-mail addresses if specified. Working CW speed is regulated to suit the operator receiving...

If other nets have traffic they can't move, send 'em down to ACWN! "Listeners" on the ACWN watch frequencies probably won't hear anything unless they call with traffic or just call for a signal check/report which will be gladly supplied to anyone if we can hear 'em at all.

Ed Trump, AL7N ACWN Net Manager

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Frequently Asked Questions About Amateur Radio and Broadband Over Powerline (BPL / PLT)

An excellent resource for understanding BPL can be found at:

<http://www.qrpis.org/~k3ng/bpl.html>

and also at:

<http://www.arrl.org/tis/info/HTML/plc/>

Amateur Radio Examinations in Remote Areas

- An Alaskan Challenge

by Jim Wiley, KL7CC

AARC VE Chairman and NCVEC Member

Jim Wiley has just recently returned from the NCVEC conference in Gettysburg, PA where he represented the AARC VE Committee. He was elected as the NCVEC chairman in charge of the FCC question pools for the entire VE program. - AL7FS

From the onset of testing in the earliest years of radio, the responsibility for giving exams was vested in the Federal Government, using various agencies, the most recent being the Federal Communications Commission (FCC). However, due to a number of different reasons, the FCC chose to remove itself from the day to day examination process and instead, after changes in the Communications Act of 1934 (as amended), enlisted the assistance of qualified Amateur Radio volunteers as examiners.

The use of volunteer examiners for testing applicants wanting to obtain an Amateur Radio license began 1984. The Anchorage Amateur Radio Club VEC (Volunteer Examiner Coordinator) was the very first VEC in the nation to give an Amateur Radio exam using this new procedure. There were at one time almost 40 VECs, but that number has slowly declined until as of this writing there are 14 active VECs in the nation.

This process has, for the most part, worked well, and served the citizens of this country adequately. However, a small minority of potential applicants found that the new procedures made obtaining a license very difficult if not impossible, primarily due to their inability to find a suitable exam location.

In considering which of several alternative solutions to the above problem might be the best choice, several factors were considered. These factors were (1) Cost, (2) Security, (3) Coverage, (4) Time to implement, and (5) Future needs. Of all the alternatives considered, conducting exams using internet links seemed to offer the best combination, assuming the FCC would agree to a minor re-interpretation of the existing rules. At the NCVEC / FCC Conference held in July, 2002, agreement was reached whereby a limited test of an internet based system would be authorized. After a development period of almost 2 years, the system is ready for it's first "real" exams.

On July 17, 2004, a successful exam session was achieved, with the candidate located in Wasilla, and the VE team in Anchorage, a physical distance of about 30 miles from one another. For this first test, we actually had 2 complete teams of 3 VEs at each end, just to make sure that the candidate would not be short changed in the event of system malfunction. The results were all we could have wished - the candidate successfully passed his exam and we have a brand new tech licensee in our ranks. Tim Slauson, age 14, was the individual involved. His application has been filed, and we are awaiting his new call. The VE teams were (Anchorage) Jimmie Tvrdy, KL7CDG, Ken Perry, AL7GA, and Jim Wiley,

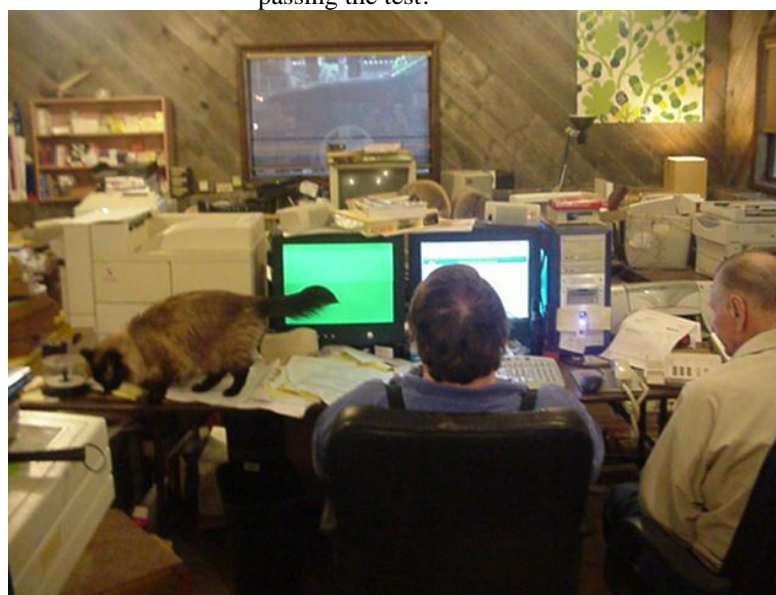
KL7CC. In Wasilla, we had Dave Dunckle, KL1KW, Mike Sanders, KL1HO and Jim Moody, NL7C. KL1KW also served as the "proctor" for the test. Also present was proud papa (but not a VE or proctor for this test) Ken Slauson, KL7VE. Thanks also to Jim, NL7C, for providing the space and communications links for the remote end.



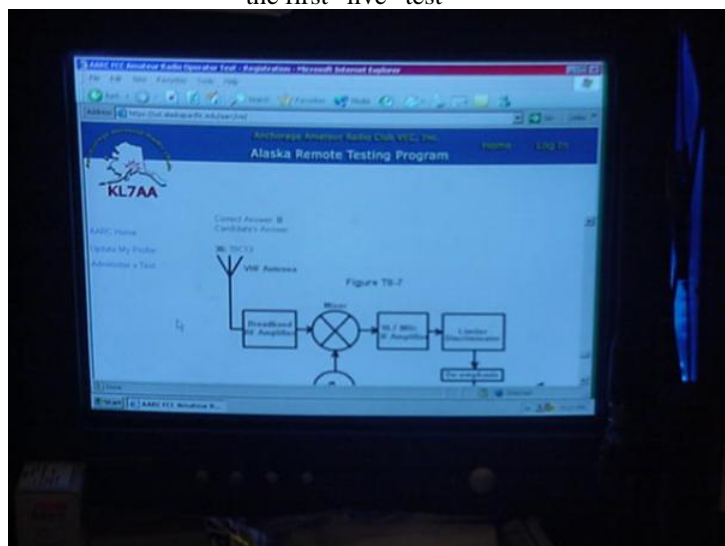
At the first exam session:
VE's Dave Dunckle, KL1KW (left), Jim Moody, NL7C (2nd from right), Mike Sanders, KL1HO(right), and candidate Tim Slauson (seated)



Dave Dunckle, KL1KW, congratulating Tim on successfully passing the test!



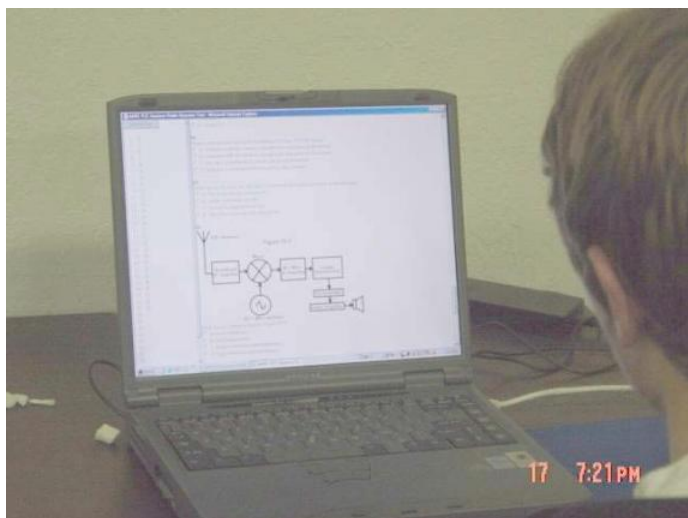
Jim Wiley, KL7CC (center), Jimmie Tvrdy, KL7CDG, and supernumerary helper "George" at the Anchorage end during the first "live" test



Exam question as it appeared on the VE screens in Anchorage

This project was primarily the brainchild of Jim Wiley, KL7CC, who is the current chairman of the Anchorage ARC VEC, and also vice-chair of the National Conference of Volunteer Examiner Coordinators, or NCVEC. Jim has been talking about this project and promoting it's possibilities for at least 5 years, possibly longer. Jim would like to extend heartfelt thanks to several individuals who have contributed expertise and time to this project. Primary thanks go to Bill Cross, W3TN and Riley Hollingsworth, K4ZDH (both of the FCC), and former FCC engineer John Johnstone, W3BE, all of whom put their heads together at the 2002 NCVEC meeting to find a way to make this possible. Additional thanks are due to our programmer, Sjan Evaradsson (no call yet), of Alaska Pacific University, and Anchorage ARC President Jim Larsen, AL7FS. Still more kudos to some great hams that gave generously of their time to help with program development and testing: They are Randy Vallee, KL7Z, Kyle Sandel, AL7J, and Ken Slauson, KL7VE. And last, but certainly not least, thanks go to Bart Jahnke, W9JJ, who heads up the ARRL VEC, for his suggestions and comments.

There were several technical challenges to be met and solved before this project could be rolled out. Not the least was the requirement to have ability for the VE team to observe in real time, as the test was being taken, the candidate's responses to each question. There are still a few things to be resolved, such as how to handle Morse code testing and some procedural fine tuning. Security issues were met by using 128 bit encryption for all data links, and careful pre-screening of candidates and proctors.



The same question as it appeared on the remote test site screen

Some technical considerations: The "servers" for these exams are located at the Alaska Pacific University, in Anchorage, Alaska. These servers are running the Linux operating system, and can serve as many separate and independent exam sessions as might ever be needed.

Each exam is generated by randomly selecting the appropriate questions, following the FCC/NCVEC prescribed syllabus rules. No two exams are ever likely to be the same, as by the time all the available permutations have been exhausted, the exam pools themselves will have been re-issued (which occurs every 4 years). There are more than a trillion possible unique exams for each of the 3 classes of license using this system.

Each remote exam is archived with complete backup data for all phases of the exam, including full information for the supervising VE team, the proctor(s) statements and affidavits, the candidate's personal information, plus copies of the exam itself, the responses given by the candidate, the automatically generated NCVEC form 605 equivalent, the computer generated CSCE form (if appropriate), and other appropriate data. When applicable, the code test and the candidates copy will also be recorded. Having all this information in one file will make record keeping simple, as the database can be searched by any number of keys to retrieve data from any previous session at will.

We believe this system, once thoroughly tested and certified for general use, will offer the chance of obtaining a Amateur Radio license to hundreds if not thousands of individuals who would otherwise have been unable to get on the air. While the problem of distance and population density is perhaps most severe in Alaska, that is not to say similar problems do not exist in other states. For any of a number of reasons, not the least of which includes various physical disabilities, this program can be the answer to bringing this exciting and useful hobby to everyone who wishes to obtain a license. VE teams in other states have expressed great interest in the progress of this system, and will likely be users themselves when the need arises. The Alaska Remote Testing project was specifically developed with this future possibility in mind.



Proud papa Ken, KL7VE (left) and new Tech licensee Tim

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Safe Water in the Wilderness

By Bruce Grubbs, N7CEE, From The ARS Sojourner

Because wilderness springs, creeks, and rivers are not safe to drink, some experts advise carrying all the water you'll need when out in the wilderness. That's not a problem on day excursions, but I wonder how many of these "experts" have tried carrying enough water for a week. A hiker needs a gallon or more water per day to support strenuous exercise, and at eight pounds per gallon, that adds up fast. Even if your mode of backcountry travel is by boat or bicycle, you're still limited in the amount of water you can carry. The only practical solution is to purify wilderness water and make it safe to drink. Knowing how to purify water gives you more peace of mind on day trips, because you'll know that you can always augment your water supply.

It's been said many times, but it needs saying again: there's no way to tell from appearance if water is safe. Sparkling, clear water, tumbling over boulders as it cascades down a mountainside, may be safe. Or it may contain such disease agents as hepatitis viruses, Giardia cysts, or any number of others. All of these can make you very, very ill. Why take a chance of ruining your trip, or even worse?

There are several proven methods of water purification that are practical for field use. Boiling is the least complicated and requires no special equipment, assuming that you usually bring cooking gear with you on a multi-day trip. Simply bringing water to a rolling boil kills all disease organisms. Though the boiling point drops at higher altitude, the temperature is still high enough to do in the bad guys at any altitude you're likely to reach under your own power. However, boiling has disadvantages that discourage routine use. You'll use a lot of time and fuel, and are left with hot, flat-tasting water. Time cures the heat problem, and the taste can be improved by pouring the water back and forth between two containers. This restores the air that is normally dissolved

in water.

Filtering is the most popular method of water purification. It works by manually pumping untreated water through a special micropore filter, which has pores so small that most organic material is removed from the water.



Not only does micropore filtering remove dangerous organisms such as bacterial and cysts from the water, it also improves the taste by removing otherwise harmless organic material. Many filters incorporate activated charcoal elements, which act to remove odors and tastes from the water. Unfortunately, no filter can be made small enough to trap viruses, which are molecule-sized and pass through filters right along with water molecules.

Water purifiers add an active iodine element to the filter path, which kills viruses. The term "water purifier" is reserved for such filters, to distinguish them from systems that don't kill viruses. A filter is acceptable in areas that aren't likely to have dangerous viruses in the water, but to be safe, stick with water purifiers.

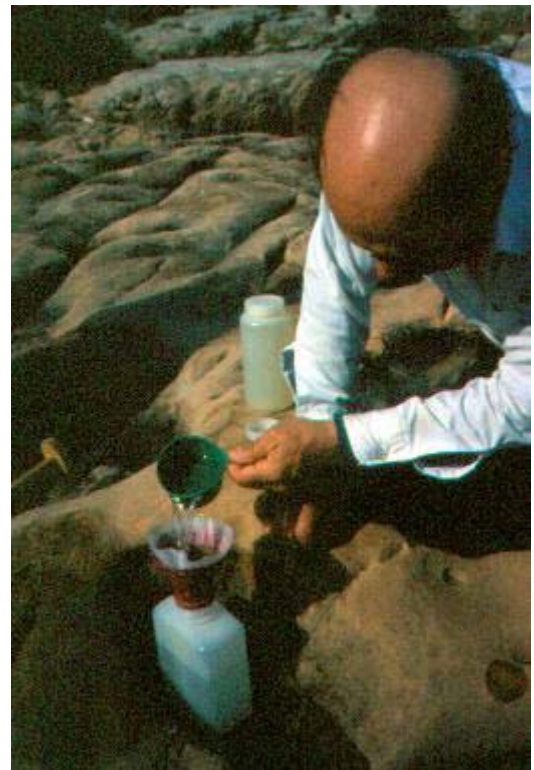
A drawback to any filter is that it eventually clogs up. The dirtier the water, the more rapidly it happens. All good filters and purifiers are field-maintainable, allowing you to replace or clean the filter element. Some also have prefilters, designed to catch silt and sediment before it reaches the microfilter. Filters are also slow. They seem to make the most sense for small groups, which can share the weight of the filter and delegate someone to pump water while others set up camp, cook meals, set up antennas, etc.

A third solution is chemical treatment. Both chlorine and iodine are very effective purifying agents, but iodine is the

more practical because it's available in a stable, tablet form. One iodine water purification tablet treats one quart of water in 10 to 30 minutes, killing all bugs including viruses and cysts. A bottle of 50 tablets purifies 12.5 gallons of water and weighs about an ounce. The tablets do their work unattended, freeing you to do other things.

Many people object to the iodine taste, which is stronger than that left by an active-iodine pump purifier. Some brands of iodine tablets come with an iodine neutralizer tablet, which you use after the iodine has had time to work. This treatment removes the iodine taste completely. Ascorbic acid (vitamin C) is the active ingredient, which means that you can use powdered fruit drink mixes. This old desert hiker's trick not only eliminates the iodine taste, but also masks the alkaline taste common to desert water. Another method is to use dehydrated lemon slices, which are very light and take almost no space. A tiny piece removes the iodine taste from a couple of gallons of water.

The other problem with iodine tablets is that they don't filter yucky stuff like bits of moss, decayed leaves, and little swimming creatures (also known as "creebles") from the water. While the iodine zaps anything dangerous, chunky water is unappealing as a beverage, though it may be fine for cooking. My current solution is to filter the water through a coffee filter, if needed, before adding iodine tablets.



Several of us have found that coffee filters work more quickly when supported in a genuine coffee filter holder, so I carry a cheap plastic holder with all extraneous plastic removed. Dirty water clogs coffee filters too, but the filters are very light and cheap, so I carry plenty and replace them as needed. Of course, paper coffee filters are not as effective as micropore filters, so the water may still have some color or taste from

organic material. However, the iodine takes care of anything dangerous, and ascorbic acid improves the taste. The complete system- filter holder, 20 filters, iodine, and dehydrated lemon weigh 5.0 ounces.

Another iodine treatment method uses pure iodine crystals. The crystals are kept in a small bottle, which is filled with water. Elemental iodine is very slightly soluble in water, and after about an hour the solution in the bottle reaches saturation, containing just enough iodine to treat a quart of water. Iodine's solubility depends on water temperature, so the solution contains different amounts of iodine at different temperatures. With cold water, you must use more solution. A liquid crystal thermometer on the side of the bottle tells you how much to use. The method is by far the cheapest, but is very slow because of the wait for the solution to saturate after each use. Another disadvantage is the danger of ingesting iodine crystals, which are extremely poisonous. Commercial versions use a trap in the bottle to eliminate this hazard.

I've included a chart to help you compare different options and select the purification system that best suits your needs.

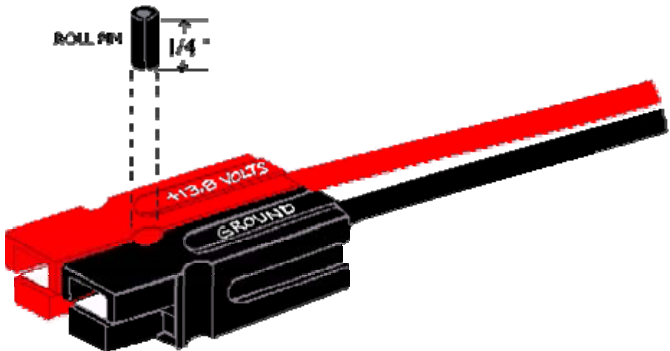
Brand	Model	Purifier?	Rate (quarts per minute)	Capacity (quarts)	Weight (ounces)	Initial Cost	Cost per Quart
First Need	Deluxe Purifier	Yes	1.7	500	14	\$80	\$0.10
PUR	Voyager Purifier	Yes	1.1	400	11	\$75	\$0.10
Melittg, Pure Aqua	Coffee Filter holder, 20 filters, 50 iodine tablets, dehydrate d lemon	Yes	1.1	50 per iodine bottle	5	\$12	\$0.14
Polar Pure	Iodine Crystal Kit	Yes	0.1	2000	3	\$10	\$0.01

Note: All data is from the manufacturers, except the coffee filter system, which I measured with clean water. Cost per quart is based on the cost and capacity of replacement filter elements. Dirty water reduces the capacity.

Bruce Grubbs, N7CEE, has been active in QRP for the last fifteen years, and enjoys homebrewing, kit building, and field contesting. His favorite wilderness activity is exploring the Grand Canyon on trips of a week or more, and he also enjoys long backpack trips in the mountains of the west.
mail@brucegrubbs.com

Article Used with permission of The Adventure Radio Society

Anderson Power Poles



Housings should be mated according to the diagram above, viewing from the contact side (opposite the wire side), tongue down, hood up, RED on the LEFT, BLACK on the RIGHT. Use a 3/32-inch-diameter roll pin, 1/4 inch long, to keep the housings from sliding apart. (not everyone uses the roll pin)

Highly conductive silver-plated copper contacts allow minimal contact resistance at high currents. Self-wiping action on make and break keeps conducting surfaces clean. Contact dents keep connectors mated in high-vibration applications and provide quick-break, snap action upon disconnect.

Non-corrosive stainless-steel leaf springs maintain constant contact pressure—ideal for frequent connections/disconnections and intermittent overloading. Durable, high impact-resistant, polycarbonate housing with UL94V-2 flammability ratings comes in many colors for circuit trace ability and coding.

Identical connector halves are genderless—making assembly quick and easy and reducing the number of parts stocked. Molded-in dovetails allow for customized harness in a variety of configurations.

The 15-ampere contacts are designed for 16-20 AWG wire and the 30-ampere contacts are designed for 12-16 AWG wire. The contacts can be soldered or crimped to wires. A very expensive crimping tool is available from Anderson. After a contact has been attached to a wire, it should be installed into the housing so that the housing spring mates with the underside of the contact.

To remove a contact from the housing, use Anderson insertion/extraction tool #111038G2. You may also substitute a very small blade (jewelers screwdriver or X-Acto knife) to depress the spring, allowing the contact to be removed.

Here are the Anderson part numbers:

15 A	Complete Connector	Housing Only	Contact Only
Black	#1395G1	#1327G6	#1332
Red	#1395	#1327	#1332
30 A	Complete Connector	Housing Only	Contact Only
Black	#1330G4	#1327G6	#1331
Red	#1330	#1327	#1331

< <http://www.slkelectronics.com/battery/APP.htm>>
< <http://home.comcast.net/~buck0/app.htm>>



Data You Can Use:

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Webmaster: AL1G_ak@yahoo.com
President: JimLarsen2002@alaska.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

NOT ACTIVE AT THIS TIME

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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 147.27/87 103.5Hz - Thursdays at 8:00 PM local
PARKA net 147.30/.90 Thursdays at 7:00 PM local
ERC VHF Net 147.27/87 103.5Hz – Sunday 7:30 PM local
ERC HF Net 3.880 MHz – Sunday 8:30PM local

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

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 103.5 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
KL3K, Girdwood
146.76/16 MHz, 25 watts, no patch, 97.4 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.AL7FS.US>

AARC <http://www.KL7AA.org/>

SCRC <http://www.KL7G.org>

EARS <http://www.qsl.net/kl7air>

MARA <http://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:

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: 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.

Thursdays Brunch, 10:30 AM: Brunch at Lily's on Tudor Road just East of Tony Romas. A great bunch of folks attend this one.

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

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.

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 Phil Mannie (kl0qw@alaska.net) at 762-9590 for additional information. Also check for ARES Info at: <http://www.qsl.net/aresalaska/>

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 Len Betts, KL7LB, lelbak@yahoo.com.

The last Saturday each month at 11:00 AM: Quarter Century Wireless Assoc - QCWA at the Royal Fork, South of Dimond on Old Seward Highway. You need not be a QCWA member to attend.

Who Do I Contact to Join AARC?

Fred Erickson KL7FE -
frederickson@iname.com

Phone number: 345-2181

Anchorage Amateur Radio Club, Inc
Post Office Box 101987
Anchorage, Alaska 99510-1987

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TJ Sheffield, KL7TS watches as John Lynn, KL7CY demonstrates how to test coax line at the July **ARES** meeting