



The Short Circuit

Inside this issue:

<i>D-STAR test report</i>	2
<i>Elmer Central talks about Powerpoles</i>	3
<i>More on KL1JP's Six Meter Roll-up antenna</i>	4
<i>Chodorow & Beers SK</i>	5
<i>Ham Radio on the Road</i>	7
<i>Gift Ideas for Hams</i>	7
<i>FISTS Coast-to-Coast</i>	8
<i>Bluetooth in the Shack</i>	8
<i>Just Tuning Around</i>	9
<i>Scanner 10-Codes</i>	10

Skywarn Recognition Day December 2nd-3rd

KL7FWX will be on the air again for Skywarn Recognition Day 2005. With any luck, a new G5RV antenna will net more contacts than ever before from the National Weather Service Office on the UAF campus. Events start 3 PM on Friday 12/2.

There's work to be done, fun to be had, and all are welcome to participate. You can also join the on-air party from home. Make sure you add KL7FWX to the log. Note that you can use IRLP, Echolink and repeaters as well as conventional HF and V/UHF frequencies.

First things first, though. AARC needs several volunteers to assist in the erection of the new G5RV. NWS personnel will help. Please contact Jim Movius KL7JM.

To operate in the SRD 2005

event from KL7FWX, you should send email to KM4KS at timothy.shy@noaa.gov.

SRD2005 Rules

1. Object For all amateur stations to exchange QSO information with as many National Weather Service Stations as possible on 80, 40, 20, 15, 10, 6, and 2 meter bands plus the 70 centimeter band. Contacts via repeaters, through IRLP, and through Echolink are permitted. SKYWARN Recognition Day serves to celebrate the contributions to public safety made by amateur radio operators during threatening weather.

2. Date NWS stations will operate Saturday, December 3, 2005, from 0000 - 2400 UTC.

3. Exchange: Call sign, signal report, QTH, and a one or two word description of the weather occurring at your site

("sunny", "partly cloudy", "windy", etc.).

4. Modes: NWS stations will work various modes including SSB, FM, AM, RTTY, CW, and PSK31. While working digital modes, special event stations will append "NWS" to their call sign (e.g., WXØGLD/NWS).

5. Event and QSL Information: The National Weather Service will provide event information via the internet. Event certificates may be requested from:

*SKYWARN Recognition Day
 920 Armory Road
 Goodland, KS 67735*

Simply enclose a self-addressed stamped envelope with a list of NWS stations worked. The certificate size is 8.5 x 11 inches. Separate stations will also individual QSL cards. See the web site for a list at <http://hamradio.noaa.gov>. #

The Sky's the Limit

- Do you have experience with or would like to learn more about aurora or meteor-scatter communications, particularly at 50 and 144 MHz?
- Why not work together with other hams across Alaska to explore the possibilities?
- Contact Dan Wietchy KL1JP

Arf! Arf! Yukon Quest Only Weeks Away

by **Linda Mullen AD4BL**

The Yukon Quest will begin Feb 11, 2006 right here in Fairbanks. The Quest 300 will also begin in Fairbanks about 8hrs after the Main Quest start. They are still working on the trail for it since 300 miles ends in the middle of nowhere! Checkpoint operators are especially needed at the Log Cabin,

Angel Creek and Eagle, but any time you can spend will be appreciated.

The Jr Yukon Quest will begin Feb 4, 2006. There will be some changes to the Jr Quest trail. They plan to add some trail length, but it will not affect the checkpoints. They are also looking at making a mandatory rest stop at Valley Cen-

ter on the way back. As far as I know, Donna Oleson will be running the Jr Quest.

We still need operators for checkpoints and the Log Cabin. If you have not signed up and would like to, now is the time! You can let Marybeth KC0CWG or myself know what you would like to do. Thanks to everyone.

D-STAR Testing Advances in Fairbanks

by *Pierre Loncle AL7OC.*



“The 1200 baud of data is embedded in the D-Star voice data stream...”

D-Star experiments are moving forward with some interesting results. Al (KL7NO) and I have yet to look at the D-Star signal in both time and frequency domains and we are curious to see if it contains both amplitude and frequency modulation components. It is not an analog FM scheme with AFSK like current packet formats. I am doing more research on the AMBE vocoder and GMSK, which is the modulation used in GSM cellular networks. Do we have a cell phone expert in AARC that has some practical experience with GMSK?

After overcoming an antenna issue, we were able to establish reliable UHF communications from Al's house off of lower Murphy Dome Road to an area encompassed by the Johansen, Steese, Mitchell, and Parks Highway. The Goldstream Valley as far east as Ballaine and across on Ballaine had good coverage as would be expected. We didn't try the Steese up to Fox and the Goldstream from Fox to Ballaine as KL7NO's QTH is blocked by Moose Mountain in that direction. The D-Star radios performed well even with the typical UHF mobile signal flutter.

As expected, signal strength was better on VHF with less flutter, but we encountered noise problems. We haven't confirmed this yet, but it appears that the GSM signal doesn't pass through a receiver limiter stage prior to detection. Any sort of digital “noise” imposed on the GSM signal

interferes with the detection and decoding in the receiver, and blocks communications. There were many locations in town where Al's signal was S5 – S9 but not decodable due to high ambient noise. Initially KL7NO had a roof antenna fail, and he was using a mobile whip in his shack. There was sufficient noise radiating from his entertainment center and computer to knock out my S9 signal. When he replaced his roof antenna, the problem was resolved. Ambient noise may go unnoticed on an analog FM receiver, but you will be aware of its presence in digital voice mode.

There is no conventional squelch control in digital mode. The radio is muted until valid voice packets are received. The only indication of background noise is the “busy” indicator flickering on and off. In noisy areas, the radio will falsely decode on noise intermittently, and you will hear garbled gibberish from the speaker for a second or two. In areas where noise is a problem, we turned on the callsign squelch feature, which is a form of selective calling. The radio will not falsely detect on noise as it requires that the selected callsign be present in the digital voice packet headers. This eliminates the noise issue, but if the noise is bad enough, it will mask the callsign ID in voice packets and the radio will not un-mute.

Overall voice quality is good. There is a slight tinny-ness to the audio, similar to what you might hear on a digital cell

phone. In areas of marginal signal or high noise, the voice quality will degrade gracefully until the forward error correction embedded in the protocol can no longer repair corrupted voice packets.

We performed limited testing in data modes. We connected PCs directly to the radio and transmitted text messages back and forth at 1200 baud without a TNC. The radio functioned well as a mobile data terminal so long as we stuck to text messaging. The 1200 baud of data is embedded in the D-Star voice data stream, so you can receive and transmit data simultaneously with voice. Using the HyperTerminal program, data is not buffered and as soon as valid RS-232 data is present on the radio data port, it will transmit if auto-transmit is selected. Data transfer may be smoother if you have a better terminal program to manage data flow. Maybe we have some data radio experts around that can help out here with suggested terminal programs?

You can connect a 1200 or 9600 baud TNC to the radio as well. You may use the TNC in analog or digital modulation modes. We saw no advantage to doing this for 1200 baud communications in digital mode unless you want to use the TNC's mail box and terminal programs. For transmitting larger file sizes, a 9600 baud TNC would be desirable. The TNC is connected to the radio but the radio can only transmit either voice or 9600 baud data,

(Continued on page 3)

“The radio functioned well as a mobile data terminal so long as we stuck to text messaging.”

(D-STAR Continued from page 2)

but not both simultaneously. If you pickup the microphone to talk, the radio will give voice data priority and delay the data transfer.

We also performed some brief testing with GPS and APRS. The GPS interfaced directly to the radio serial data port and the radio was configured to automatically transmit position data at preset intervals (30 sec – 30 minutes). In GPS mode, the radio can directly display the sending station's coordinates on the LCD display. This is OK if you know how to plot a map or know the coordinates of the location that you are looking for. It would be better to interface the radio to a PC running a compatible mapping program. I'm sure that we have some APRS gurus around that could make this work. The advantage to D-Star in GPS mode is that if you are using digital voice mode for transmission, you don't need an external. The D-Star handheld radios would provide a simple interface to GPS for "on the

belt" transponding of station location.

In addition to being a digital voice/data radio, the Icom ID-800H is also a solid dual band analog FM radio with extended receiver coverage, including VHF/UHF AM air band. The radio contains just about any feature that I would want in an FM rig. The radio is not a bargain buy at \$610.00, but if you are looking for a well featured VHF/UHF radio with the bonus of advanced digital voice and data communications, in my opinion, it is worth the price. We didn't evaluate the Icom V-82 or U-82 handheld radios. They are priced at \$180 or so for the analog radio, and the D-Star module is an additional \$200. The IC-2200 VHF radio can also be upgraded to D-Star for \$200.

Some might find it cumbersome to enter in all of the information via the front panel or microphone. I invested in the programming software and made an RS-232c programming cable for the radio. It was much easier to organize the 512 channels into the 10 avail-

able channel banks using the PC tool with the added advantage of restoring your individual settings easily if the memory in the radio is corrupted. The software costs around \$45.

The accessory cables are costly, but most can be easily constructed with inexpensive 8 pin mini-DIN and DB-9 connectors. The programming cable interface to the speaker jack includes additional circuitry which can be built with a small circuit board and a few transistors, diodes, caps and resistors. Schematics are available online for all of the cables. Frigid North in Anchorage has a supply of the 8 pin mini-DIN connectors for around \$1.30 each.

Maybe a few adventurous hams in Fairbanks will join us in exploring D-Star technology. The trend in the commercial and public safety radio sectors is toward digital radios. Hams should consider keeping up with the state-of-the-art technologies and should explore new applications for these communications modes, especially in the area of emergency service. #

"In addition to being a digital voice/data radio, the Icom ID-800H is also a solid dual band analog FM radio with extended receiver coverage..."

Elmer Central: Questions & Answers

Q. What's all this "GMSK" stuff, anyhow?

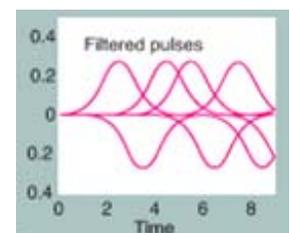
It's an abbreviation of Gaussian Minimum Shift Keying, which is a clever way to reduce the spectrum used by a frequency-shift-keyed (FSK) signal.

A traditional FSK system uses two or more tones to transmit individual bits or even multi-bit symbols in a serial data stream. The data rate determines how close the tones can be before

they start to cause interference with each other. The bandwidth occupied by each tone depends on the bit or symbol rate and the shape of the keying waveform. The sharper the frequency shift, the broader the tone. The signal phase shift occurring during tone shifts increases bandwidth further. A spectral plot of an FSK tone would show a sharp spike at the center frequency with symmetrical "hills and valleys" around, which are sideband

components contributed by all the various factors.

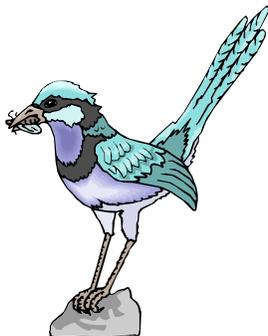
Minimum shift keying takes advantage of the spectral characteristics and places each tone in the other's sideband null ("valley"). GMSK goes even further by carefully shaping the data pulses/keying waveform using a Gaussian filter. GMSK is also known as a phase-continuous signal; i.e., there are no discontinuous phase shifts, and it works well for linear amplifier stages. #



Pulse shaping and frequency relationships make GMSK very spectrum-efficient.

Six-Meter J-Pole Take II

by Dan Wietchy KL1JP



The J-Pole is named for the antenna's shape, not the bird.

Despite the success of the first roll-up J-pole antenna, my purpose in building a second version was two-fold: first, to gain better performance across the entire 6 meter frequency band and secondly, to experiment with many of the physical components of the antenna and document the results. After all – one way to learn about antenna characteristics is to build them, and I have a lot to learn, especially the difference between the theory and the reality of antenna construction.

This second version was similar in basic design as the first one, but rather than use 300-Ohm wire (version 1), I used a heavier 14-gauge wire. I began construction using the same wire leg lengths, the distances between leg wires and similar coax attachment points. After initial construction but before I sealed it with Duct tape, I varied the (see below figure) long leg wire (A), the short leg wire (B), leg bridging distances (C) and attachment points to confirm the differences in antenna characteristics especially noting the change in SWR, static and general transmission character.

In terms of cost, I switched from Radio Shack 300 Ohm TV / FM twin lead wire (Part # 15-004) which cost \$4.99 per 40 foot roll to a heavier wire, namely 14 gauge antenna wire (Part #278-1329) which costs \$7.29 for 70 feet. In either case, you are looking at spending 1 hour of time and less than \$15.00 to build the roll-up J-pole.

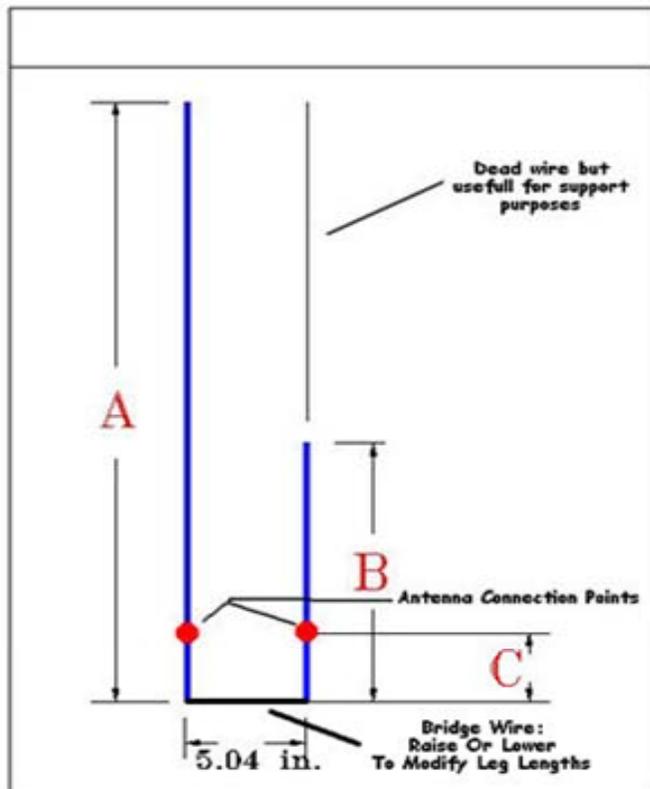
In terms of experimentation, it was easy to vary the leg lengths by simply moving the bottom

bridging connector (C) up or down prior to permanently soldering it in place. The use of small alligator clips help to secure the temporary connection before the testing phase.

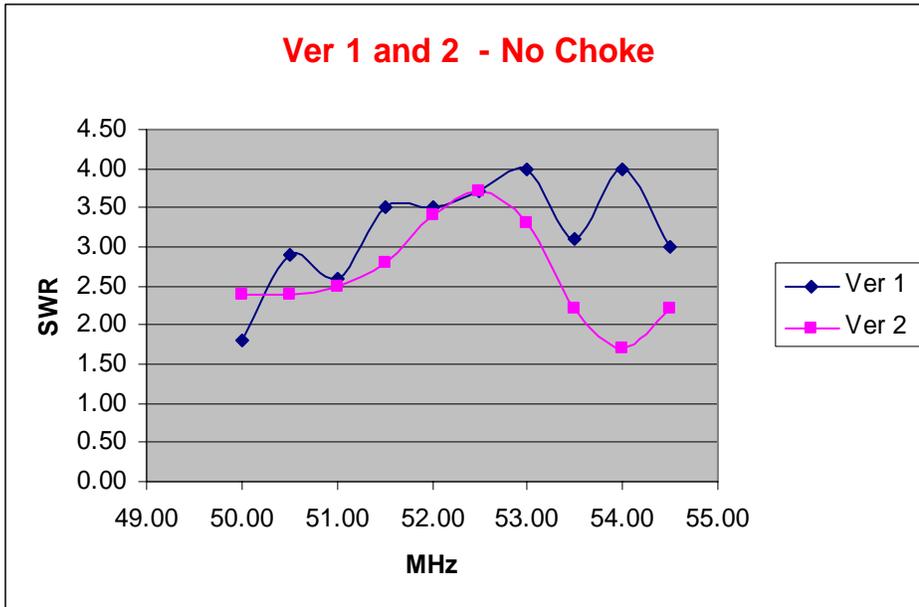
It was also possible to experiment with varying the **leg length ratio** by moving the bottom bridging connector on a diagonal rather than directly across and perpendicular to the legs. Obviously the long leg is twice the length of the short leg, and I was interested in seeing what a “**true ratio**” decrease or increase in leg length would do to the antenna character as opposed to simply cutting off one inch from each leg. A one-inch straight distance reduction from 161.04 and 53.40 subsequently yields 160.04 and 52.40 inches respectively but a

more correct ratio decrease yields 160.04 and 53.068 inches. A difference of almost 1/3 inch using the ratio method.

Continued on page 5



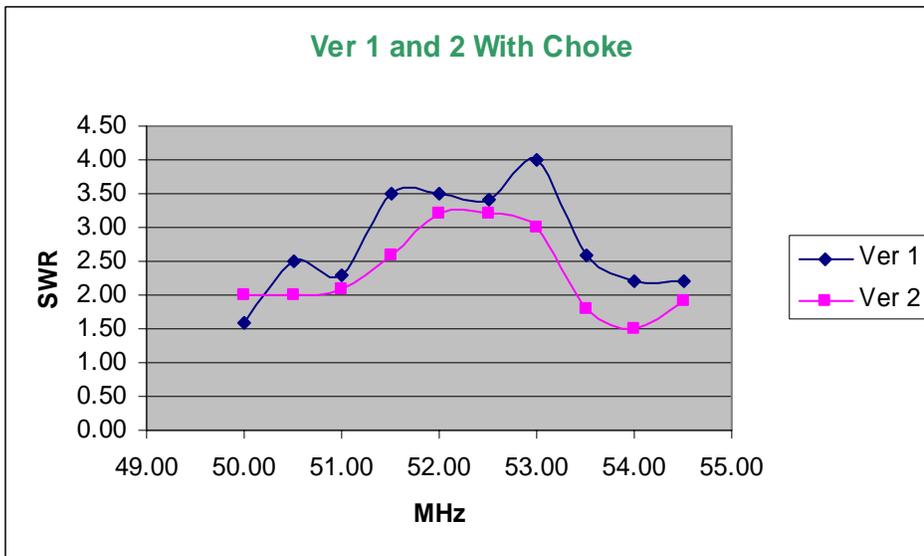
Continued from page 6



I experimented with just about every aspect of the antenna I could think of. Starting with my original leg lengths, I starting cutting off small lengths, reconnecting the antenna and using an antenna analyzer. It became an iterative process of cut, re-connect and analyze.

Surprisingly, the most remarkable difference in SWR came from not the leg wire lengths, nor the placement of coax feed points but rather in the choice of using or not using the air coil / choke. Use of the choke was significant in decreasing the SWR by approximately 10 percent. That's an easy gain in performance by winding the coax a couple of times.

Considering this fact, operating the Version 2 J-pole between these frequencies should yield, if not good SWR, at least predictable tuning results. It is unfortunate that the highest SWR in Version 2 was within the bandwidth I was attempting to design and cut the antenna for. Based on the Excel graph, it appears that the resonant frequency of Version 2 is 54.0MHz, slightly higher than the 52.54MHz I was shooting for. The antenna is too short to be resonant at my desired frequency. To correct the problem, I need to add wire to the

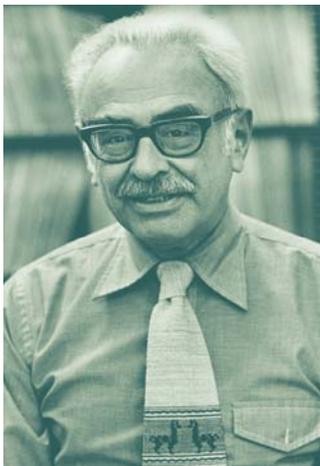


Comparison of Versions Without Air Coil / Choke		
	Version 1	Version 2
Long Leg Length [A]	161.04	161.04
Short Leg Length [B]	53.4	53.4
Bridging Wire Distance From Bottom [C]	5.28	5.28
SWR @ 50.0 MHz	1.8	2.4
SWR @ 50.5 MHz	2.9	2.4
SWR @ 51.0 MHz	2.6	2.5
SWR @ 51.5 MHz	3.5	2.8
SWR @ 52.0 MHz	3.5	3.4
SWR @ 52.5 MHz	3.7	3.7
SWR @ 53.0 MHz	>4.0	3.3
SWR @ 53.5 MHz	3.1	2.2
SWR @ 54.0 MHz	>4.0	1.7
SWR @ 54.5 MHz	3.0	2.2

antenna legs or build another – slightly longer antenna. Version three – here we go!

Am I done building J-poles? – Heck no! The next phase of my experiment is in Mother Nature's hands. That experiment is to find out how long Duct tape will maintain its integrity in an Alaskan outdoor environment? I would encourage many of the area Technician class amateurs to build and use a 6-meter J Pole. Many HT's have 6-meter capability and the J-pole is a serious improvement over the standard rubber duck that came with the radio. ☺

Two Giants of Electronics Go Silent Key



Although not a ham, Dr. Chodorow made major contributions to microwave technology impacting all our lives.

Marvin Chodorow

Marvin Chodorow, an emeritus professor of applied physics and electrical engineering, died peacefully at his home on campus on Oct. 17 of natural causes at age 92. He helped pioneer the development of the klystron tube, which generates and amplifies high-frequency electromagnetic waves. These tubes—invented at Stanford in 1937 by brothers Russell and Sigurd Varian using an invention of Professor William Hansen—are of essential use in radar, particle accelerators, satellite communications systems and medical technology.

"Marvin was the leading figure in transmitting the lore of klystrons from industry to the Stanford community," said Wolfgang K.H. "Pief" Panofsky, director emeritus of the Stanford Linear Accelerator Center (SLAC) and a close friend of Chodorow's. "In doing this, he deserves most of the credit for the spectacular increase in klystron tube power which was achieved during the 1940s from watts to megawatts. He supervised Ph.D. students for about four decades, with most of the students still serving Stanford or the local industrial community. He was a person of enormous kindness, willing to help anyone who approached him for assistance. He is one of the 'godfathers' of the field of microwave technology at Stanford."

Chodorow's main research was

in the theory and design of microwave and traveling wave tubes. This work had a global legacy, leading to the development of a series of devices crucial to sophisticated radar systems.

Chodorow was born in Buffalo, N.Y., on July 16, 1913. He received his bachelor's degree in physics from the University of Buffalo in 1934. In 1936, while in graduate school at the Massachusetts Institute of Technology, he met social worker Leah Ruth Turitz, whom he married in 1937. He obtained his doctorate in physics in 1939. His thesis introduced what is now known as "the Chodorow Potential," recognized as a seminal solution of Schrodinger's equation for electrons in metals.

Yardley Beers, WOJF

Yardley Beers, WOJF (ex-W3AWH, W2AWH, W0EXS), of Jamaica Plain, Massachusetts, died recently. He was 92. An ARRL Full Charter Life member, Beers, was a contributing writer to QST from the

1930s until the late 1990s and was the author of the book, *The Theory of Error*. He also was an avid DXer and a member of the A-1 Operator Club.

Back in 1917, at age 4, Yardley was fascinated with railroads and electricity. Later, at the age of 9, while at Camp Choconut in Pennsylvania near Binghamton, New York, he was introduced to ham radio, which became his main interest. His original oatmeal box radio still works today.

Beers was among those involved in the construction of the WWV time and frequency-standard station at Ft Collins, Colorado, where he oversaw maintenance of the cesium atomic clock. He detailed the experience in "WWV Moves to Colorado," which appeared in the January and February 1967 issues of *QST*. More recently, his wife, Dorothy, detailed her husband's life and ham radio activities in the "Old Radio" column in the November 2004 issue of *QST*. ☪



WOJF was instrumental in founding WWV. You can read its history at <http://tf.nist.gov/timefreq/stations/www/history.htm>



Traveling Abroad with Amateur Radio

by Larry Ledlow, N1TX (ex-G0CQW, 9H3FS, C56/NA5E, FP/NA5E)

If you've never thought seriously about taking your radio hobby along on foreign vacations, you're missing out on a lot of fun. Besides the excitement of working pileups from your beach lounge chair, amateur radio can be a great way to get an "in" with locals. This leads to the potential for unique experiences like visiting a family in their home, meeting important or interesting people, and above all the promotion of goodwill between cultures.

I've lived and traveled around the world, and ham radio has frequently proved a big bonus for the enjoyment factor far from home. I have learned from experience the importance of doing homework first, though. Planning ahead will pay dividends and could possibly save headaches and even money in the long run.

You needn't bother taking

equipment with you to use ham radio to your benefit. On several occasions I have gone through my log and found amateurs in those countries I plan to visit. I then contacted them by mail or email and made arrangements to meet them during my trip to their countries. Not everyone will reply favorably, but I can tell you the hospitality offered up by my Icelandic and Maltese hosts was second to none! If you haven't contacted someone in the country you plan to visit, try soliciting a radio club in a city you will visit.

This approach can also be effective if you'd like to operate. Some amateurs will be happy to loan you some equipment or let you tune the dials in their own shack. If the invitation isn't forthcoming immediately, be patient, be polite, and don't be too pushy! **HINT:** Bring a gift.

If you plan to operate or simply import equipment, you must study and comply with local regulations. A US license

does not necessarily grant you privileges to operate in another country, and in many places frequencies are very different. Destinations conferring "reciprocal operating privileges" on the basis of your US license may still require additional paperwork. In some cases, you will have to apply for a license or permit months or even years before you leave home. The ARRL has a great first stop if you plan to operate internationally: <http://www.arrl.org/FandES/field/regulations/io/>

Import and export of your equipment can be even trickier, since some countries do not permit access (even listening) to certain frequencies. In Thailand, for instance, no six-meter radios can be imported. Also, keep in mind airlines often severely restrict allowed baggage weight. You may only be allowed 40 lbs or less. Consider shipping heavy gear to a local contact in advance. Customs paperwork is always required. Inquire extensively. #



Watch your weight on international trips. Excess baggage is expensive, and they may not let you take it anyway!

Gift Ideas for Holiday Hams

Marshall Emm N1FN, proprietor of Morse Express, continues a holiday tradition with the 2005 Christmas Key, a tiny key equally at home in the radio shack or decorating a Christmas tree.

The Morse Express Christmas Key is a fully operational miniature key, hand machined from solid brass, under-plated with nickel and finished in 18 carat gold. It measures 2" by 1" at the base and weighs 3-1/4 ounces. See <http://www.mtechnologies.com>

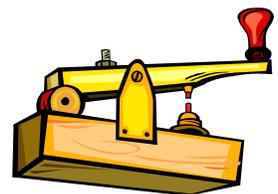
For the bookshelf, you should consider one or all of these electrifying reads: *DeForest: Father of the Electronic Revolution* by Maurice H. Zouary; *Plasma Dreams* by our own Eric P. Nichols KL7AJ; or *Empires of Light: Edison, Tesla, Westinghouse, and the Race to Electrify the World* by Jill Jonnes. All are available through Barnes and Noble as well as Amazon.

The shack wall can always use more "art", and you can buy a beautifully engraved certificate from the Collins Radio Com-

pany issued in 1967 at <http://www.scripophily.net/collins.html>

This historic document was printed by the American Banknote Company and has an ornate blue border with a vignette of an allegorical figure sitting between two globes. This item has the printed signatures of the company's officers and is over 36 years old.

Then there's always the AM/FM radio version of a toilet paper holder at <http://www.funradios.com> #



A holiday miniature from Morse Express may be just the "key" to Santa's heart.

FISTS to FISTS with N1TX & KL1JP

C2C

FISTS, the International Morse Preservation Society, sponsor an annual contest of sorts in which members and non-members alike try to contact as many FISTS club stations as possible. This year's Coast-to-Coast event occurred on October 30th.

As a member of FISTS Northwest, Larry N1TX was able to use the FNW club callsign K7FFF/KL7 to good effect on 20, 40, and even on 80m. Dan KL1JP sat side-saddle. As an

advanced student of Morse code, the practice proved useful. He says he also found some insight into contest operating technique and band-selection strategy, although the pace was nothing if not leisurely.

At 4 PM local time, K7FFF/KL7 commenced operation on 20 meters about 2 kHz above the FISTS calling frequency of 14058. As a club station, they could call CQ.

The first several contacts came

about two minutes apart. Japan, Ohio, Virginia, Washington, Oregon, Delaware, Alberta. Some signals were extremely weak. The band changed quickly for the worse as sunset came. Two hours netted around 20 contacts.

Not to be deterred, KL1JP picked up the microphone and successfully added N1TX/KL7 to a few logs in the CQ Worldwide DX contest. He quickly decided a CW contest is easier on the voice. #

Wireless Without the Wires



Tired of all those PC cables? Want to control your radio from across the room? Enter Bluetooth, a short-range serial communications system now being widely deployed on everything from laptops and printers to keyboards and cellular phone headsets. Lynovation (lynovation.com) brings the technology to ham radio.

CTR-Remote is their flagship product. It offers control of your radio into the palm of your hand, any where, any time. Direct serial, Bluetooth®, TCP/IP, and Wi-Fi connections are supported. The program provides frequency lists, an ADIF compatible logbook, and DX Cluster support.

Do you already control your radio with your computer? If so, CTR-Server can extend control to your Pocket PC using your existing TCP/IP network. There is no need to

purchase additional hardware interfaces. Simply install CTR-Server on your PC and CTR-Remote or CTR-Rcvr on your Pocket PC and you're ready to go. The TCP/IP connection can be made through your existing Microsoft ActiveSync connection, a network interface card (NIC), or Wi-Fi.

CTR-BlueAir is a dedicated, custom radio interface that allows you to easily connect to Yaesu, Kenwood, Icom, and Elecraft radios with a Pocket PC or PC using Bluetooth wireless technology. Bluetooth control eliminates booting your PC to use TCP/IP or Wi-Fi control with CTR-Server.

Bluetooth has many advantages over serial or TCP/IP connections, most notably simplicity and portability. It is ideal for mobile and portable use. Can't find a place to mount your radio in that shiny

new car? Install your radio anywhere and use your Pocket PC to control it. A small FM transmitter, such as those used for iPods, or an inexpensive cassette adapter can be used to bring the received audio to your car's radio. Just extend the mic and you're done.

Audio cords can also be replaced with wireless speakers and headphones. These use RF or infrared (IR) links from a base connected to the headphone jack at the radio to a receiver embedded in the headset. Before purchasing such a nice addition to the shack, understand clearly any RF devices' use of frequencies. Consider whether or not they may interfere with your operating. You should also think about other wireless devices in your house; e.g., intercom, telephone, WLAN, etc. Mutual interference could occur. #



Control your rig with a Bluetooth-enabled PDA and CTR-Remote.

Warmer Days, Brighter Nights...



Make the Most of Your Receiver

Like any new technology, modern amateur radios can be both blessings and curses. Among the many bells and whistles you may find on an HF or V/UHF transceiver, a surprisingly under-used feature is wideband receive capability. (Wideband front-ends are also a curse, but that is for another day.)

For the HF operator, virtually every radio manufactured today features a general coverage receiver. This typically refers to continuous tuning from 500 kHz to 30 MHz or higher. This bandwidth encompasses many different services, from broadcasting to search and rescue.

International broadcasters are beacons in the darkness. Even when the ham bands have folded with aurora, broadcasters from Asia, the South Pacific, and Europe can be heard easily. They give good clues to

possible propagation paths. Try tuning 5900-6200, 7100-7300, and 9500-9900 kHz during evenings and 13600-13800 and 15100-15600 kHz during the day. Mode is AM.

As informational sources, language study, and different points of view, shortwave broadcasters offer a lot. While you're waiting on a sked, tune around and learn something new.

Those interested in getting closer to the action can tune in everything from emergency services to transoceanic jets to data transmissions from merchant ships and satellites. SSB, CW, and digital signals can be heard throughout the HF bands in between broadcasters and hams. Some of you may have multi-mode TNCs or soundcard interfaces that can receive the digital modes. These "utility" stations are

explained in detail at <http://users.tellurian.com/slapshot/speedx.html>

VHFers often have a multi-band radio capable of covering at least the emergency services in the area of 150 MHz and often in the 30-50, 118-174, and 430-470 MHz ranges or more. The next few years will bring more digital systems ("P25") for emergency services, but there's plenty to hear in analog now.

A receiver operating as a scanner or NOAA weather station receiver can be a friend to have in an emergency to maintain situation awareness. It can serve as an ARES pre-alert system, or it can facilitate information exchanges between services responding to a disaster. You should familiarize yourself with local frequencies, 10-codes, and protocols. See the tear-off on the last page. #



You might not have thought the world was at your fingertips with most modern rigs.

10-Codes for Interior Alaska

10-1	Unable to Copy	10-41	Non-emergency, urgent
10-2	Signals Good	10-42	Emergency
10-3	Change Frequency	10-46	Assist motorist
10-4	Acknowledgement, O.K.	10-49	Traffic signal down
10-5	Relay	10-50	Vehicle accident
10-6	Busy, stand by	10-51	Wrecker needed
10-7	Out of Service	10-52	Ambulance needed
10-8	In Service	10-53	Road/traffic blocked
10-9	Repeat last transmission	10-55	D.W.I.
10-10	Fight in Progress	10-56	Intoxicated pedestrian
10-12	Stand By / Stop	10-57	Hit and run
10-13	Weather / Road Report	10-60	Welfare check
10-14	Report of prowler	10-65	Open door/window
10-15	Civil disturbance	10-66	Message cancellation
10-16	Domestic disturbance	10-68	Request back-up
10-17	Meet complainant	10-69	Emergency back-up
10-18	Complete quickly	10-70	Fire call/alarm
10-19	Return to _____	10-71	Advise on situation
10-20	What is Your Location?	10-77	E.T.A.
10-21	Call_____ on landline	10-79	Notify Coroner (DOS)
10-22	Disregard	10-80	In custody
10-23	Arrived at scene	10-81	Lunch, coffee, donuts
10-24	Assignment completed	10-83	No contact
10-25	Report to _____	10-84	If meeting ___ advise by ___
10-26	Detaining subject, expedite	10-85	Late
10-27	Operator' License Check	10-86	Transportation
10-28	Vehicle Registration Info	10-87	Bar/security check
10-29	Check for wants and warrants	10-88	Advise present Telephone #
10-30	Emergency at station	10-89	Wrecker enroute
10-31	Crime in progress	10-90	Alarm in progress
10-32	Weapons Involved	10-91	Unnecessary use of radio
10-33	Emergency traffic only	10-92	Are you clear to receive
10-35	Major crime alert	10-93	Blockage (Road Block)
10-36	Routine Traffic Stop	10-94	Racing/exhibition of speed
10-37	Suspicious vehicle/person	10-95	Check local record
10-38	Stopping suspicious vehicle	10-96	Mental case
10-39	Urgent - use lights/siren	10-97	No wants or warrants
10-40	Urgent - no lights/siren	10-98	Emergency at state jail
		10-99	(Adam) - Wanted and dangerous



Fire Emergency Services:

- Code 1 Pos in-flight emergency
- Code 2 Pilots emergency
- Code 3 Actual crash / emergency
- Code 4
- Code 5 Re-call aux/off duty to Fire
- Code 6 Re-call Aux/off duty to scene
- Code 99 EMS Cardiac arrest
- Code Red -- Emergency
- Code Yellow - Non-emergency

Fairbanks NOAA broadcasts on 162.55 MHz

AK NOAA Weather Radio Coverage and Frequencies

North and Central

<http://www.weather.gov/nwr/states/alaskan.html>

South Central & SW

<http://www.weather.gov/nwr/states/alaskasc.html>

Southeast

<http://www.weather.gov/nwr/states/alaskase.html>

Arctic Amateur Radio Club

AREA POLICE FREQUENCIES

Membership \$20 individual, \$25 family. Send checks to
AARC
PO Box 81804
Fairbanks, AK 99708
Phone: 907-479-5203
E-mail: bennie@aci.net

Visit www.kl7kc.com for the
latest club news and events!

Service to Interior Alaska: We can, we will, we do.



NEWS FLASH! Monthly AARC board meetings are now held at Denny's on Airport Way. Board meetings take place at 7 PM on the Thursday following the regular club meeting. Occasionally the venue will change for special events, so please check the KL7KC web site for updates or contact any officer or board member. All are welcome to attend. Your participation in club business is very much needed. We hope to see you there! ☺

State Troopers

155.250 AST (F-1)
155.790 AST Ch. 2 (Main)
155.730 AST Ch. 3 Tok/ Delta Dispatch
155.415 AST Ch. 4 (NCIC)
155.550 AST (Judicial)
161.130 AST Mobile to Ch. 2
161.010 AST Mobile to Ch.4

Fairbanks Area Police

156.030 DCS 172 Fairbanks PD
155.010 DCS 172 Fairbanks PD
155.310 DCS 172 Records Check FPD
158.730 PL 141.3 Fairbanks PD
155.640 PL 218.1 VIP Units Fairbanks PD
154.725 UAF PD
155.100 PL 103.5 FAI Airport Police
155.925 FAI Airport Police
155.130 PL 167.9 North Pole PD Ch 1
155.955 North Pole PD Ch 4



Authors Wanted!

The AARC newsletter is a forum to share knowledge and experiences. Everyone has a story, so why not share yours? Have you been playing with a new radio? Have you tried a new mode recently? Did you have a funny or interesting experience on the air or at a ham-fest? Send a few words or photos to n1tx@amsat.org.

Calendar of Events

2005

Dec 2: Club meeting UAF IARC @ 7 PM. Pre-meeting starts at 6 PM.

Dec 2-3: SKYWARN Recognition Day special operating event at National Weather Service. 0000-2400 UTC.

Dec 3: License exams Noel Wein Library @ 1 PM. Contact Benny Benevento NL7XH.

Dec 10-11: ARRL 10m contest

Dec TBD: Children's holiday workshop—build oatmeal-box

radios. Limited space. Contact Shelley Levine KL1SE.

2006

Jan 6: Club meeting UAF IARC @ 7 PM. Pre-meeting starts at 6 PM.

Jan 7: License exams Noel Wein Library @ 1 PM. Contact NL7XH.

Feb 3: Club meeting UAF IARC @ 7 PM. Pre-meeting starts at 6 PM.

Feb 4: License exams Noel Wein Library @ 1 PM. Contact

NL7XH.

Feb 4-5: Junior Yukon Quest. Contact Linda Mullen AD4BL or MaryBeth Groves KC0CWG.

Feb 11: Yukon Quest and YQ 300 start in Fairbanks. Contact AD4BL or KC0CWG.

Mar 3: Club meeting UAF IARC @ 7 PM. Pre-meeting starts at 6 PM.

Mar 4: License exams Noel Wein Library @ 1 PM. Contact NL7XH.