OCTOBER 2013

THE MONTHLY NEWSLETTER of the SANTA CRUZ COUNTY AMATEUR RADIO CLUB

SHORT SKiP

Should the FCC allow encryption?

One of the most fundamental rules in amateur radio has been the prohibition against the use of codes or ciphers meant to obscure the meaning of a message [Part 97.113 (4)]. Recently, that long-standing prohibition was challenged (http://www.arrl.org/news/rules-change-sought-to-permit-encryption-of-sensitive-emergency-communications) to allow encryption when passing emergency health and welfare traffic. The idea was that encrypting these messages would protect the privacy of individuals. In his Petition for Rulemaking (http://apps.fcc.gov/ecfs/document/view?id=7022424684), Don Rolph, AB1PH, pointed out that Australian amateur radio rules permit encryption for emergency services operation or related training exercises.

Oddly enough, the pushback against this petition has been loud and swift. The ARRL quickly came out against the petition (http://www.arrl.org/news/arrl-urges-denial-of-petition-to-permit-encryption-of-some-emergency-communications), and when I blogged about this issue (http://www.kb6nu.com/im-jumping-on-the-anti-encryption-band-wagon/), several hams replied that they didn't think allowing encryption was a good idea.

The main arguments against encryption seem to be that:

- It will make people suspicious of amateur radio operators and bring unwanted scrutiny upon amateur radio.
- Make self-policing more difficult.

Among the arguments for allowing encryption are that cryptography is a fundamental element of modern RF communications, and that not allowing it, negates one of the purpose of amateur radio. Namely, that one of the purposes of amateur radio is to "advance the state of the radio art."

In late September, the FCC dismissed this particular Petition for Rulemaking (http://www.arrl.org/news/fcc-dismisses-encryption-petition). It stated specifically that "the record does not support Mr Rolph's assertion that the prohibition on encrypted amateur communications is impairing the ability of the Amateur Radio community to provide effective support to public safety agencies during emergencies."

Of course, this discussion isn't over yet. Encryption is now employed routinely for even the most common types of digital communication, and as a newer generation of amateur radio operators take over, they'll want to experiment with these digital communications techniques. One commenter suggested that a portion of the 900 MHz band or maybe the 5 GHz band be set aside for experimentation with encryption. I think that is an idea worth exploring.

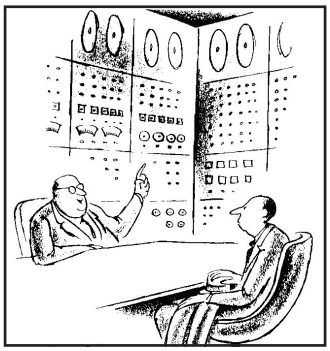
What do you think? Does encryption have a place in amateur radio?

—Dan, KB6NU cwgeek@kb6nu.com.

One Man's Technology Outlook

The views about to be expressed are not endorsed by the ITU,ARRL, SCCARC or anyone else. As far as is known they are mine and mine alone.

The diagnosis is certain and complete, I severely suffer from Technophobia. This began when I left college with a label ending not in ist or ion but in eer and became prone to questions like "does that mean you drive steam trains dear"



The Future of Ham Radio

There are many signs of the affliction. A flashing chevron on a consol screen wants me to tell it what to do and instead it causes sheer panic. Who else do you know who has never owned a cellphone? I don't have a HT and become irritated to set up a duplex connection by reference to a 100-page manual.. Computers have become pervasive but we have only seen the tip of the iceberg. Right now they can be woven into our clothes, inserted into our bodies and small enough to attach to flying insects or individual plants, they are approaching biological dimensions.

Wining a war has always required technological superiority but human involvement dominated strategy and performance. I think the reverse is true today, it's more a matter of our computers vs their computers. It is also true in other competitive areas including Amateur Radio and especially in contesting. Just as an observer it seems to me we are close to reaching the limits of human skill and endurance. As an example a really good single operator with two radios (SO2R) station can make 180 CW Qs an hour for 24 hours while barely touching a key. It begs the question what increase in performance can an unaided human provide ?

From a technical perspective the typical contest data exchange of a few bits every 3 seconds is ludicrously small and clearly contests will be won by those who have superior technology; with remote control, automation and possibly chemical or electronic implants of some kind. As a technophobe I am horrified but our hobby has always incorporated technology and as humans we survive through adaptation. Technology brings joy and meaning into the lives of technophiles which leaves me out and all I have left is art, literature and music.

—Ron Skelton W6WO

CLUB MEETING FRIDAY OCTOBER 18, 7:30PM

By Art Lee WF6P

CHATTER

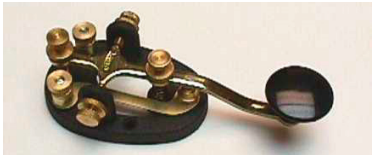
This must be National Troubleshooting Month, at least for me it was. I took my 23-year-old Ford 150 in for a SMOG check, which it failed – first time ever. Don'tcha hate that? Took it to my favorite garage and they fixed it – NOT. Failed the SMOG check again. Took it back to the shop. Four days and many anguished phone calls between the SMOG folks and the mechanical folks, it was made passable for about three hundred bucks. Turned out it was one of those "hardly ever happens" problems.

Had a bad circuit in my house wiring for the past two years. Porch light wouldn't light and only 6o VAC at each of the two, three-way switches. The outside porch electrical outlets had same low voltage. Changed a switch and checked the wiring. As an afterthought, I removed the floodlight. Aha! Lotsa corrosion around the base and center contact. New bulb and the voltage restored to 110VAC. First time I ever had that problem – and I have changed thousands of burned out bulbs in my lifetime. Oh well. XYL Donna, AB6XJ, always said, "start with the easiest fix first." Must be true.

Sitting in my kitchen on the first night of the Sequester watching an old movie. Had my feet up on a stool, put my feet down into a quarter inch of water – if I was on a boat I'd be sinking. The filler hose on the washing machine popped off and rinse water inundated my utility room, the hall, the kitchen/dining room and totally saturated the living room carpet. The washer prob was easy to fix, tearing up the wet carpet was not so easy. New carpet should arrive soon – and a big bill. Wonder how much my deductible is?

Went sailing Wednesday nite. Came back in about 2100 with only the starboard running light on. Other boat captains were probably a bit irked at us as we all tried to get into the yacht harbor at the same time. Corrosion, of course. Salt water and green copper contacts don't work well with light bulbs. The bow light is easy to change, but hanging upside down over the transom to get at the stern light is hardly any fun at all – it's easy to drop tools, screws and parts over the side.

I guess I'm not alone, however. Frank, W2FWB, from V dock in Santa Cruz, got on the Baja California Maritime Mobile Net to let us know that the engine on his Golden Gate 30, Solitude, wouldn't start. He was single-handing several miles out of Ventura with no wind. He had electrical problems with his starting system and called Vessel Assist for a much-needed tow into port.



Moonbouncing Images on your I-Phone

Recently a software app for I-Phone is out that will decode (print to screen) Slow Scan television images. The app merely requires the user to hold an I-phone mic close to the source of the MMSSTV Slow scan, coming in via streaming audio The app by Black Cat Systems, (see below) automatically figures out which of the dozens of SSTV modes is being used, and decodes the audio tones, into color images. The most commonly used mode for Image Moonbounce is Robot 72, taking 72 seconds to paint the picture.. Some of us working on this are finding, and hope to figure out how to solve a problem, that Skype, and other VOIP programs (Google Hangout, etc) distort the audio in ways that cause regular loss of synch as the photo is being painted on the computer screen. We are trying to learn how and why and for which of the various VOIP programs that problem exists.

An idea emerging for Moonbounce demonstrations that will engage the ham community and particularly kids, even outside the ham community is to plan a Moonbounce weekend with Images, and live feed, (Stream) the audio from the RX moonbounce station. The most likely RX station is Dwingeloo 25 metre dish in Holland, soon to be back on the air after its first extensive rebuild, since it was born 50-some years ago. Dwingeloo pioneered Image Bounce, and is one of about 5 dishes that are regularly experimenting with image bounce EME.

So if you are interested in playing with Moonbounce - Images, and sharing it with kids, and new hams, you should install the app, I think less than $5 in your Iphone, or I pad. Also install in your ham shack computer, the Slow Scan TV program, MMSSTV, available off the web.

I have heard that one can buy an I phone or I pad, cheap. If anyone has one for sale, cheap, please get in touch...

For a world wide Moonbounce STEM and outreach event, we are thinking to make some sort of award for successfully copied images.

We need to do some dry runs to test this realistically..

Here is an example of a moonbounced image that was sent (bounced) on the Annual (April 12) Yuri's night world wide celebration:

http://media.yurisnight.net/live/archive/image/2012/04/39674075-YURI2.bmp

Here is the site with the App software:

http://www.blackcatsystems.com/ipad/iPad_SSTV_Pad.html

This is a look at the moonbounce receive station (Dwingeloo) receiving an Image via moonbounce. In fact if you played this video in the presence of the Iphone application it might copy the image to the iphone.

http://www.youtube.com/watch?v=Fooel01YZBE

See also the website for the Dwingeloo Dish in Holland. http://www.camras.org

—Pat Barthelow
apolloeme@gmail.com

Submarine Cables

Any one interested in cable watchamadoodles. Here is an interesting list and maps of the extent of cable systems world wide (map)

http://www.submarinecablemap.com/#/

—Larry WB6MVK

Treasurer's Report

The August 31, 2013 Treasurer's Report presented to the Board of Directors showed that the SCCARC treasury had $3297.27 in cash and bank accounts (total less encumbrances: $2670.27). At that time all financial obligations for which invoices had been received had been met. The full Treasurer's Report is available on request from SCCARC Treasurer Kathleen KI6AIE at ki6aie@k6bj.org.

CAKE Baked: Sept. 1, 2013

We had glorious weather and stimulating discussions for added enjoyment and enlightenment. Reed N1WC showed a "bargain" compensating altimeter he had just found and proceeded to open and calibrate it. This prompts a couple of observations; we are always interested in any item of a technical nature and we appreciate inquiring minds. Tell us how well it behaved at your QTH next time Reed.

Tom KW6S brought some high-tech items in the form of a 4-way slitter for use with his planned quadruple stack of 1296 MHzYagis. Beautiful silver plated N connectors, matching sections and a set of 50 Ohm terminations good up to several GHz. Vic AE6ID and Bob K6XX have first hand experience with Rigol Spectrum analyzers and commented on some drift and trace irregularity issues. Tom's terminations will be ideal to verify the sweeping of these instruments.

Gary K6PDL reported he is very pleased with the vintage Drake radio he acquired recently and has just added an autotuner.which has made a big improvement in his ability to get RF where it needs to go.

Jim K9YC showed a very neat AM/FM radio receiver model Tecsun PL380 for which he paid $40 and has impressed Jim with its performance. It covers LF below 200 kHz and it would be of interest to learn its performance down there. Jim mentioned the PL660 is an even bigger/better model

There was an informative discussion on the topic of RFI sources beginning with wall-warts. Jim pointed out the early versions were linear and therefore quiet but were unregulated. Current models use switching components and, while regulated,are known sources of RFI. The early versions are heavier due their transformers which are not used in newer products. New versions of LEDs are also suspect

Bob discussed ways and means to keep power tubes cool and that is a science all to itself. Ron W6WO showed replacement MOSFET drivers he has just received and Bob urged very precise positioning of decoupling capacitors on their drain tabs. Ron mentioned his growing interest in Data-Mining of the WSPR data base and has in mind some experiments and a possible talk on the subject. Don K6GHA offered to help Ron with a UNIX-Related issue.

Cake Crumbs: Sept. 24

What a glorious day once more and no coffee was spilled to spoil the ambiance. We were very pleased to welcome San KK6GMH and congratulated her on the exciting MayDay report in the current Short Skip. One thread I heard concerned close-in noise which increases the minimum signal level our receivers can resolve. The discussion focused on noise added by badly designed or operated transmitters. Similar problems often arise in receivers due to impurities in local oscillators and either cause is especially hard on CW operators (sob sob).

Bob K6XX and Tom KW6S explored the topic of whether copper loss or dielectric loss in coax cables was dominant at a given frequency. As far as Ron W6WO could tell this was not finally resolved- mebbe next time We learned that Alan K2ACK will be leaving us soon to relocate to London. We understand this is an advantageous career move and wish him every success. He will be sorely missed but feel confident we will stay in touch.

I missed the conversations Glen W6GJB and Kerry K3RRY were having -my apologies

Reed N1WC mentioned the book he is reading on the search for Amelia Earhart written by W7FT. We would like to know the conclusions Reed. Some discussion took place on the perennial topic of small loop antennas. There are many variants that can be explored and they do have a roll when space is very limited.

Ron described a propagation experiment he is about to conduct using the Weak Signal Propagation Reporter (WSPR) data base. We now have detailed information on world-wide point-to-point contacts over 5 years that could be the basis for some meaningful research. Processing even one months data is a very large amount and a challenge discussed with Alan and Daniel KE6PQV, several helpful advice was given.

My thanks to all who take part in these sessions, the next one on October 12th coincides with Pacificon so we will resume on the 26th. I will be seeking permission to use NexSpace for our winter meetings

December 14 Holiday Luncheon Reservations and Dues Deal

If you renew your membership when you pay for the December 14 holiday luncheon, you'll get an extra five (count 'em, five) tickets for the holiday luncheon raffle! That's in addition to the one raffle ticket that is included with your $22 for the luncheon. For most of you, that will mean $47, preferably paid ahead of time, either at a Club meeting or by mail (SCCARC, P.O. Box 238, Santa Cruz, CA 95061-0238). Of course, you may also pay at the door, but please make your reservations early, by email to ki6aie@k6bj.org. (And now's the time to start gathering up your raffle items to bring to the luncheon!)

—Kathleen, KI6AIE, SCCARC Treasurer

Vector Network Analyzers

Several members I know now use Vector Network Analyzers and if they are at all like me (perish the thought did I hear?) we fool ourselves in thinking we know enough about their capabilities. Monitoring the dialog on a support group like that for the N2PK-VNA becomes a humbling experience. I can recommend an Agilent application note addressing the fundamentals. The note has no serial number on it but it is a pdf doc referenced as 5965-7707E. I found it in an obscure fashion so If you are unsuccessful let me know and I will send a copy to you, its 15 pages and about 2.5MB

Mebbe we can feature this subject at a future Club or CAKE session

—Ron

October Meeting! An Experiment Mining Big Data

Ron Skelton W6WO, is speaker at the next meeting on Oct. 18. The topic: An experiment mining Big Data.

SCCARC Board - 2013

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MONTEREY BAY REPEATER ACTIVITY

Santa Cruz County	K6BJ 146.790- PL 94.8 Santa Cruz (linked to KI6EH) KI6EH 147.945- PL 94.8 Watsonville (linked to K6BJ) K6BJ 440.925+ PL 123.0 Santa Cruz (not linked) K6BJ D-Star 441.675 +5MHz (D Star link: tinyurl.com/dstar-sc) • SCCARC Net Monday 7:30 PM 146.79- /147.945- /147.180+ linked • SCCARC 10 Meter Net Monday 7:00 PM 28.308 MHz USB
ARES Net	SC County Wide ARES Tuesday 7:30 PM on 147.180+ PL 94.8 and 443.600+ PL 110.9 linked
San Lorenzo Valley	WR6AOK 147.120+ PL 94.8 Ben Lomond • SLV Net Thursday 7:30 PM
Loma Prieta	AB6VS 440.550+ / AE6KE 146.835- PL 94.8 (linked for net) • LP ARES / LPARC Net Tuesday 7:15 PM
Monterey	K6LY 146.97- PL 94.8 / 444.700+ PL123 (linked for net) Monterey • Monterey Co. ARES Net Wednesday 7:30 PM K6LY 146.970- (PL 94.8) • NPSARC Net Wednesday at 8 PM on K6LY/R
LPRC	WR6ABD 146.640- PL 162.2 / 442.900+ PL 162.2 (winsystem.org) • LPRC Net Tuesday 8:00 PM 146.640-(PL 162.2) • Amateur Radio Newsline broadcast Tuesday

• Santa Clara Valley Section Traffic NET Tuesday 9:00PM 146.640- (PL 162.2)

FOR MORE INFO SEE: http://www.k6bj.org/freq.html

SCCARC Calendar of Events

ARES Meeting (prior to club meeting)	Friday	Oct 18
SCCARC Meeting	Friday	Oct 18
Cake Meetings	Sat	Oct 12, 26
Board Meeting	Thur	Oct 24
Short Skip articles due	Mon	Nov 4
SCCARC Meeting	Friday	Nov 15

MONTHLY MEETINGS.

The SCCARC Meets at 7:30 PM, on the THIRD FRIDAY of the each month (except December). Meetings are at Dominican Hospital, Education Center, 1555 Soquel Drive, Santa Cruz

Net Control Schedule:

10/14	Tom K6TG
10/21	Lou NJ6H
10/28	Becky KI6TKB
11/4	Chris KG6DOZ
11/11	Phil KE6UWH
11/18	Tom K6TG

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Writer: Ron Skelton, W6WO

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