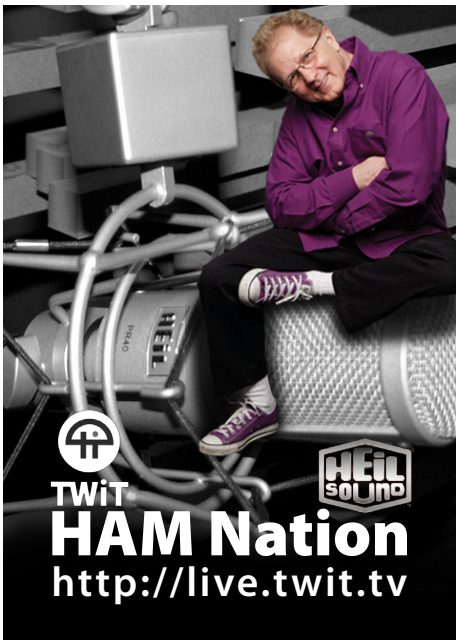
COMMUNICATIONS

by Ken Reitz

AMATEUR RADIO/ SHORTWAVE

HAM Nation Archives on iTunes

HAM Nation, the weekly live video webcast about ham radio hosted by Bob Heil K9EID and Gordon West WB6NOA, is live each Tuesday evening at 8:00 pm CT. To watch the live shows via Leo Laport's This Week in Technology network go to: **http://live.twit.tv**. You can catch the episodes you missed by going to **http://twit.tv.hn** or download episodes via iTunes. Episodes include "Smoke and Solder" segments with George Thomas W5JDX. The opening theme music was written by Joe Walsh WB6ACU who was also a guest on the first episode.



Ham Radio: Fountain of Youth

Age is just a matter of perspective, and an article in *The Oregonian* last December is a case in point. An 80 year-old woman had been living in California where she had been a ham for the previous 15 years. She moved to Oregon and gave up her license because she thought she was too old.

Eighteen years later she met up with a group of hams and decided to take the exam and get her ticket back. At 98 she was back on the airwaves. That was four years ago. Now at 102 she's part of the Clackamas Amateur Radio Emergency Service. Other club members at the Milwaukie View Manor where she lives include one of the club's founders who is 97 years old and youngsters in their mid-80s. According to the article, the YL made a perfect score on her Tech exam and recently upgraded to General.

FCC: KJES off by 21 Hz

According to FCC documents, the agency's High Frequency Direction Finding Center was monitoring religious shortwave broadcaster KJES near Vado, New Mexico and were not mesmerized by the chanting voices of the children of Our Lady's Youth Center. Instead they found the station, licensed to broadcast on 11,715 kHz with a "tolerance of .0015%," was in fact transmitting on 11,714.803 kHz, a full 21 Hz beyond its allowed frequency tolerance.

A Notice of Violation was issued, giving the reclusive station 20 days to fully explain the violation. The infraction was filed August 6 of last summer and published December 14. It must have been a very slow week for the High Frequency Direction Finding Center.

Radio's Dark Side: Cartel Network

A widely circulated *Associated Press* report told of an extensive two-way radio network used by Mexican drug cartels that had stretched the length of Mexico and featured solar powered repeaters, antennas, transmitters and cleverly disguised towers with buried feed lines. Cartel members were said to use the system to alert various drug operators of the movements of Mexican government anti-narcotic squads. According to the article, the network was built in 2006.

The Mexican army took down the network which consisted of 155 repeaters, 167 antennas, 166 power sources, 71 pieces of computer equipment and 1,446 two-way radios. Years earlier, cartel members would break into government frequencies to threaten Mexican soldiers involved in drug interdiction, but the government has since switched to encrypted systems which, according to the article, the cartels have yet to be able to break into.

AM/FM/TV BROADCASTING

FCC OKs Media Ownership Changes

For years, under both Democrat and Republican chairmen, the FCC has been trying to change what it sees as archaic market rules regarding media ownership. In an end-of-year decision, the FCC voted to scrap radio/TV cross-ownership rules (which will lead to even more market consolidation) and loosen newspaper/broadcast cross-ownership rules (it's hard to believe there are any rules left).

According to an article in *Broadcasting & Cable*, a previous attempt to do this was tossed out by a Federal court for lack of sufficient public notice of the plan. This time the Commission is determined not to let this opportunity slip by on a technicality; they're allowing a significant period for comment on the Notice of Proposed Rulemaking (NPRM).

Prometheus "Get Radio!" Effort

The non-profit community radio organization that spearheaded the expansion of the FCC's new Low Power FM (LPFM) rules has initiated a "Get Radio!" mapping project. If you want to know how many new LPFM licenses will be available this year check out this site: **http://prometheusradio.org/content/get-radio-mapping-project**. Prometheus notes that the map shows only the top 200 markets and the possible number of new licenses that each could have. But, many more LPFM licenses may be available outside the 200 top U.S. markets.

PUBLIC SERVICE

Experts Explain P25 Issues

Daryl Jones' public safety technology blog has a paper issued by noted security experts titled, "Why (Secret Agent) Johnny (Still) Can't Encrypt: A Security Analysis of the APCO Project 25 Two-way Radio System" at his website: **http://blog.tcomeng.com**. The 16 page document, issued at the University of Pennsylvania during a seminar on the subject last summer, concluded that the system is "inherently vulnerable to passive traffic interception and active attack, and so it must rely entirely on cryptographic techniques for its optional security features." The entire document can be read at his web site.

SATELLITE

AirTrans Ditches XM

Cutting corners is the name of the game in the airline industry, and Atlanta-based

AirTrans has literally shed some weight by removing the massive painting of pop music icon Elton John and the XM logo from its fuselages as well as all the XM-related receiving gear. According to the *Atlanta Journal-Constitution*, the move comes as AirTrans becomes part of Southwest Airlines, and it was not done without thought. The article quoted a company official who said it was an effort to make "a consistent product." AirTrans had carried XM aboard its planes since 2005.

African Satellite Mystery

A number of media outlets leaped upon the story of a mysterious orb that apparently fell from space in mid-December, landing in Namibia. There was no mystery of course, it was simply another one of those Composite Overwrapped Pressure Vessels (COPV) used on many satellites to store gases under pressure in space.

It turned out that the return to Earth of the 15 inch "spaceship" was not an isolated occurrence; others have been found across Africa, South America and Asia over the last 20 years and there's no telling how many are lying at the bottom of the world's oceans. Scientists predict an increase in such events as more satellites are launched and others reach the end of their orbital lives.

Russian Satellite Irony

As if to emphasize the point of the story above, *Agence France Presse* (AFP) reported at the end of December the crash of a Russian Meridian communications satellite, debris of which fell over a town in Siberia. One piece fell through the roof of a house that happened to be located on Cosmonaut Street.

Unfortunately, the loss of the Russian satellite was not an isolated incident either. According to the AFP report, the Soyuz -2.1B rocket that failed to launch the satellite is the same type that's used to send multinational crews to the International Space Station.

All irony aside, the loss of the Meridian satellite joins the loss of other Russian satellites including three navigation satellites, a military satellite, a telecommunications satellite, and a probe that had been headed to Mars. One Russian official blamed the downward success spiral on migration of Russian engineering talent to more lucrative industries and countries following the collapse of the former Soviet Union.

LightSquared Dares FCC

In what seems a provocative move, would-be 4G satellite/Internet spectrum seller LightSquared has filed a Petition for Declaratory Ruling (PDR) with the FCC regarding its right to continue the build-out of its Telco-partnered Internet service, despite claims by the GPS retail industry that the service would interfere with current GPS units. Specifically, the company is seeking a ruling that it was not obligated to pay for any fix that might be required should their service in fact interfere with existing GPS-related satellite devices.

According to the actual FCC PDR, LightSquared told the FCC that,"It recently has become apparent that the commercial GPS industry has manufactured, and sold to unsuspecting consumers, unlicensed and poorly designed GPS receivers that 'listen' for radio signals both in the 'RNSS' frequency band in which the U.S. GPS system is intended to operate, as well as across the adjacent 'MSS' frequency band that is not intended for GPS use, and in which LightSquared is licensed."

LightSquared, as if to make the GPS industry understand its position, stated in their PDR that, "unlicensed commercial GPS receivers simply are not entitled to interference protection from LightSquared's licensed operations in the MSS band. Moreover, the commercial GPS industry is mistaken that LightSquared must bear the financial burden resulting from the failure of the commercial GPS industry, for almost a decade, to account for the deployment of LightSquared's network in the design and manufacture of commercial GPS receivers."

You can almost hear all the lawyers girding their loins for lucrative battle.

FCC ENFORCEMENT

FM Pirates and Taxi Drivers Cited

The usual suspects were the target of routine FM pirate radio busts in the last thirty days. An Olympia, Washington man was issued a Notice of Unlicensed Operation (NOUO) for his pirate FM station on 98.5 MHz at 4,428 microvolts/meter at 436 meters (legal limit under Part 15 rules is 250 microvolts/meter at 3 meters). A woman from Ashland, Oregon who is part owner of the building in Olympia was also sent a NOUO, as was a man in Medford, Oregon, also apparently a part owner of the property. The FCC is going for the trifecta with this one NOUO.

The FCC also issued a Notice of Violation (NOV) to the United Independent Taxi Drivers, Inc. for operating their repeater atop Oak Mountain near Van Nuys, California against rules. Among the violations cited were nearly continuous yakking by various drivers (you're supposed to un-key the mic now and then); a continuous digitally modulated signal was present on the frequency (everyone should try not to interfere with the repeater frequency); during the "extended period" of monitoring, neither the repeater nor the stations using the repeater were ever identified (such stations and repeaters should ID at least every 15 minutes, according to FCC rules governing such repeaters), and the repeater needs to be located at the assigned location on the license (this repeater was somehow nearly one and a half miles away from where it was supposed to be).

Have you checked to see where your repeater is lately?

CBer Cited for CB Interference

FCC field agents investigated a complaint by a CB operator in Clinton, Tennessee of interference from another CB operator in located in Knoxville, Tennessee. According to FCC documents, the Knoxville CBer admitted to FCC agents in a telephone interview to intentionally causing interference to the other operator. The Commission gave the Knoxville op 20 days to explain the issue to their satisfaction. It's always good to know that at least the CB band is interference-free in Knoxville, Tennessee.

FCC Goes Clubbing in S.F.

Notices of Unlicensed Operation (NOUOs) were issued in early December by FCC field agents working the club scene in San Francisco in early November of last year. Clubs known as Déjà vu Centerfolds Club, The Hustler Club and The Gold Club were said to be operating radios in the 450-600 MHz range and found to be interfering with America's Search and Rescue radio system. It's easy to see that such interference might have caused some real confusion if SAR teams had rappelled from helicopters into the clubs.

Office of Inspector General

Communications is compiled by Ken Reitz KS4ZR (kenreitz@monitoringtimes.com) from clippings and links supplied by our readers. Many thanks for this month's fine reporters: Anonymous, Rachel Baughn, Bob Grove, Norman Hill, Mike Holl, Steve Karnes and Larry Van Horn.