# Smoke Signals

Newsletter of Fullerton Radio Club

January 2025


## President's Column

### Who ya gonna call (well, text actually)?

Communications with no cell service

As most of you know, I enjoy traveling to National Parks and other remote places. Many of the places I visit do not have cellular phone service. Mostly this is just an inconvenience, but in the rare case of an emergency, lack of communications can be a threat to life and safety.

In 2017, I purchased a Garmin Inreach. The Inreach is a small handheld device that looks almost identical to the handheld GPS receivers that have been popular with hikers since the mid 1990s. However, the Inreach has two additional significant features. It has an SOS button that will contact a global emergency operations center. When the SOS button is pressed, the Inreach device sends your location to the operations center, who will then contact local emergency services. The Inreach also allows text (SMS) messages and emails to be sent using the Iridium satellite network, therefore not depending on cellular service. There are some limitations, but it is quite useful. The Garmin service requires a monthly subscription fee.

In November 2022 Apple, introduced an emergency SOS service that, allows iPhone users to contact emergency services when there is no 911 cell coverage. They later added the ability to contact AAA Roadside assistance by satellite. This service would appear to provide a similar safety net to that of the Garmin service.

More recently, with the rollout of iOS 18, iPhone users can now send text, emojis, and tapbacks over iMessage as well as SMS. This is a game-changer. People who live or travel in remote locations can now stay in touch by texting and SMS without the need for cell service. As of today, there is no charge for either of these Apple services, which use the Globalstar satellite network.

I may soon be dropping my Garmin Inreach subscription.

## Don't Touch Those Dials, No Matter What You Hear

By Joe Moell K0OV

Paracusia is the medical term for auditory hallucinations. It is the mental perception of voices, tones or other sounds that do not actually exist. Some experts believe that more than one in every twenty persons experiences paracusia.

Soon after our book on radio direction finding was published, Tom Curlee and I began to receive letters from individuals who were hearing voices in their heads or were convinced that they were being deliberately bombarded by radio waves intended to hurt them or control their actions. They wanted to know how to track down the sources of these supposed transmissions, or better yet, have us go find them. After a while, those requests slowly stopped coming. I believe this was due to the rise of paracusia support groups on the Internet, such as Hearing Voices Networks.

As someone with mild tinnitus, I have empathy for those with paracusia. I don't hear voices, but after a long Field Day operating session, a crowded CW band will linger in my brain as I try to go to sleep.

Occasionally, paracusia sufferers go too far. An example occurred on October 30, the final day of the 2024 World Series. Local sports station KLAC was preparing to carry the Dodgers' play-by-play quest for series victory when engineer Doug Irwin received a message from the transmitter remote control system that power had dropped from 5000 watts to about 1000 watts. The backup transmitter would not make full power either.

Doug hastened to the site along with long-time engineer Burt Weiner K6OQK. There they found a man standing on crutches inside the safety fence at the base of one tower. He claimed that he had been hearing tones in his head from "radiation at 13.56 MHz." He had seen the tower and was trying

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## FRC January Board Meeting Minutes

The monthly FRC Board Meeting was called to order by President Bob Houghton AD6QF at 5:34 PM on Thursday, January 4, 2025. Board members present included Robert Gimbel KG6WTQ, Gene Thorpe KB6CMO, Walter Clark, Bart Pulverman WB6WUW, and Larry McDavid W6FUB.

Board members absent: None

The December Board Meeting minutes were reviewed and approved without amendment.

Treasurer's Report
- Bank balance: $6196.57 as of December 31 bank statement
- Estimated 1/2/2025 balance (including Robert G renewal) $6215.57
- • New deposits: $320.00 renewals; $.02 interest
- New expenditures: $170.00 reimbursement check to Gene for PO Box fee
- Upcoming expenses: Zoom renewal (January 18 - was $159.60 in 2024 (approved).

New members: None
Bob's records show 21 memberships paid for 2025 and 1 life member as of 1/4/25.

Old Business: none

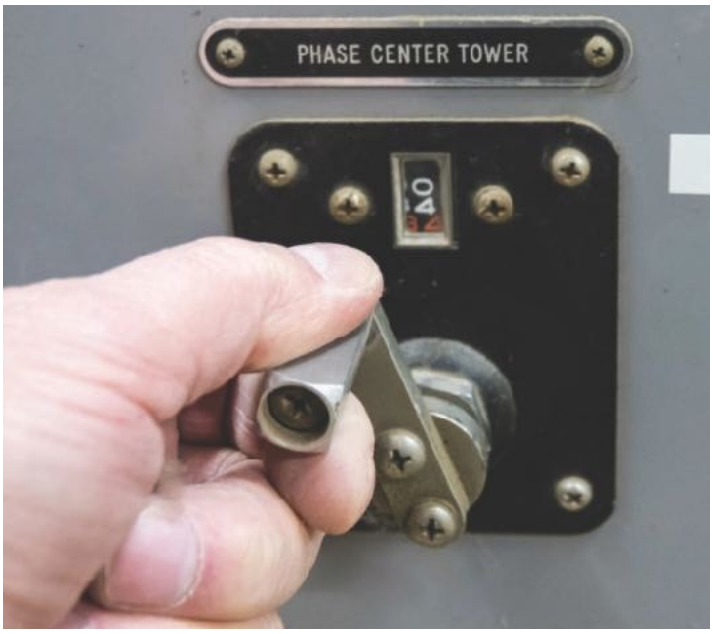
New Business
- Saturday 1/11/25 Saturday activity at Hillcrest Park. Bob will send reminder.
- Discussed using N6ME for brief Wednesday net. Gene thought it would be fine and he will confirm with Albert Solomon. We will respect WARA 7 pm net time.
- Bart suggested we remind folks about Winter Field Day.
- Walter suggested the theme of "batteries" for the upcoming TAG meeting

Meeting was adjourned at 5:59 PM

Submitted by Ray Rounds, Secretary

to stop it from radiating to see if that would make the tones in his head stop. After police had taken the man into custody, Burt and Doug discovered that he had made major changes to the phasor unit at the base of the tower.

AM broadcast stations have inductor/capacitor networks at the bases of their towers to match the complex impedance of the tower to the coaxial feedline, which is usually 50 ohms resistive. For high power, the network inductors are large and silver-plated. Capacitors are vacuum-variable types, able to withstand kilovolts. Each component is carefully adjusted so that the result is a perfect match. Turn-count dials, such as the one in the photo, are on each variable capacitor in the KLAC phasor so the exact settings can be recorded and monitored for changes. Some stations have turn counters on the variable inductors also, but the KLAC phasor has fixed coil taps.



Thinking that it would stop radiation from the KLAC tower, the intruder had cranked each of the turn-count dials down to zero. That would have caused a SWR shutdown in a tube-based transmitter, but this solid-state rig stayed on and went into power foldback. Resetting of the phasor controls might be tricky and the game broadcast would be starting very soon, so engineers and management decided to leave the phasor as it was until the game coverage ended after midnight. As a backup in case of further failure, the game was simulcast on sister station KFI.

## Adventures in Computing: Linux Mint

by Ray Rounds K6RAX

In December, I had the opportunity to show a little at the monthly TAG meeting about my Linux laptop and the environment I've been setting up. Here are some highlights of how I got started and the overall adventures that ensued.

In April 2024, after I passed my amateur licenses, I was eager to merge my interests in radio with computer technology. As I read up and researched the many things possible (and also, based on my rig equipment), I opted to acquire a refurbished laptop to dedicate to all things related to radio there.

Over many years, our household has migrated to an Apple ecosystem (I was the last hold out), and my last Windows-capable machine has been on a Mac with either Boot Camp as a Windows-bootable partition or virtual machine driven with Parallels or VMware's Fusion product. The laptop had Windows 11 installed. Software available on that platform was readily available, or so I thought. Several programs stated Windows 10 was as high as they had developed for, others stressed "should work" in that environment. Not exactly a confidence builder given my experiences with a fleet of work machines and Windows 11 annual updates.

It should be noted that I come from the banking industry where "should" and no statement of Windows 11 support (after Microsoft's announcement about dropping Win10 support) made me (and my regulators) nervous. I lived in the Windows and Unix world professionally, using my MacBook at home. The question of did I want to run into unforeseen issues kept running through my mind. I just wanted to be on the air!

As I continued to explore, I noticed a Linux distribution that had a good reputation in the ham radio community. A number of projects were available that allowed me to install (or migrate from Raspberry Pi in the case of gnuRadio) work I'd already done.

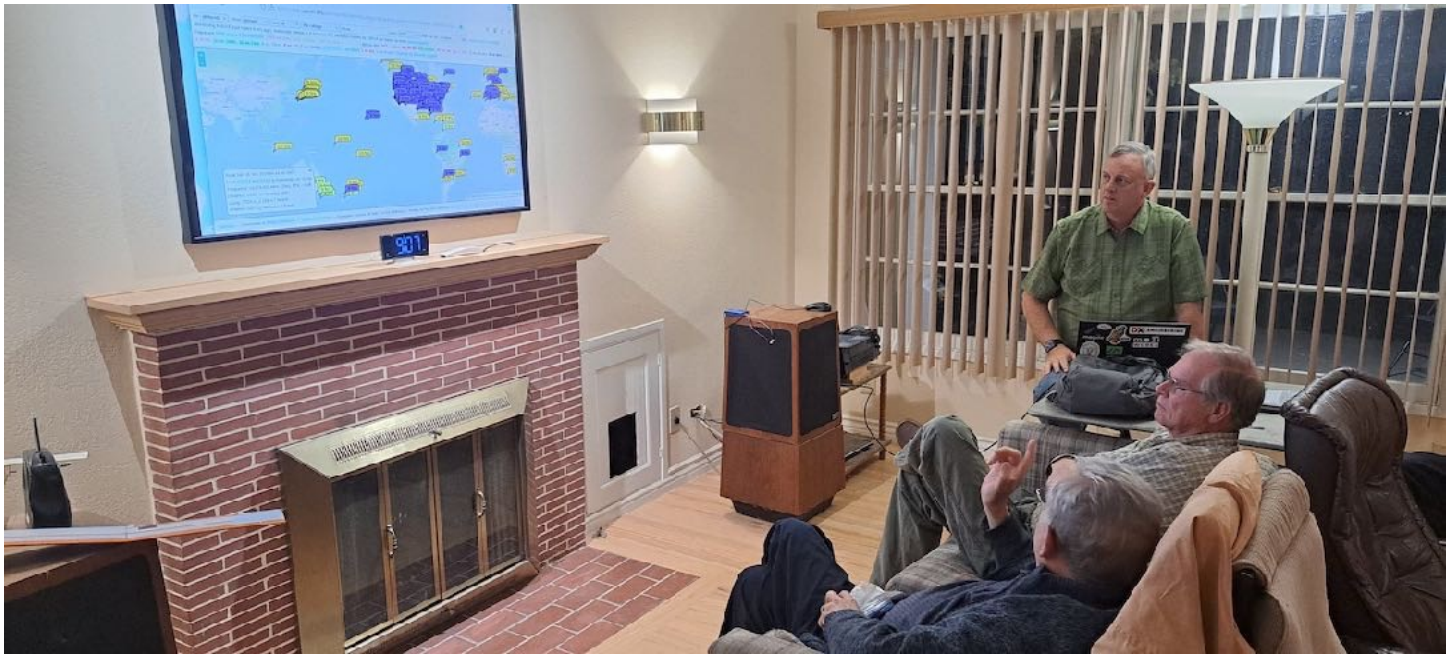
The Linux operating system I chose to install is called Linux Mint. It is based on the widely available Ubuntu Linux platform. Updates are regularly available as patches which rarely require a reboot of the machine. Both Mint an Ubuntu use a desktop named Cinnamon, which is a friendly and contemporary-looking interface, much like Mac or Windows.

I wiped the laptop's disk partitions and ended up with 250GB of space to install the 20-30GB operating system and basic libraries. This left a large amount of space for ham programs and other utilities I might want to add.

The install for Linux Mint is based off a free downloadable ISO file and placed on a thumb drive with a boot partition. The The BIOS on the laptop easily allowed the installer to kick off, and within a half hour, that portion was completed. The desktop looks sharp, and programs were easy to find, including the network settings.

I had noted that a script, called 73Linux, was available to load a number of programs and utilities, saving separate installs for each. 73Linux has options to install programs like WSJT-X, VARA (FM/HF), rig control, and numerous other programs. It is a huge time saver.

It should be noted that VARA software modems are Windows only, but 73Linux nicely installs a script and menu system called Pat Menu 2, which automagically installs a Windows runtime called Wine. Wine translates most Windows API calls into Linux instructions, no partition or virtual machine are necessary. It has worked nicely, but doesn't support all of the mysterious Windows API calls required for Windows-only WinLink Express. This isn't a deal breaker as Pat Menu 2 has its own browser-based interface for WinLink, which works great with VARA FM and HF as well as packet and ARDOP modems.



Connectivity to my Yaesu FT-847 is USB serial to a null modem RS-232 nine-pin connector and doesn't require separate rig control when using WSJT-X or JS8Call. I have a DigiRig box for my Xiegu G90 and take the laptop and this 20-watt rig camping or on other remote excursions.

Outside of the ham radio options, I also installed Firefox browser, Thunderbird email, and the open source LibreOffice - I used LibreOffice Impress to create the PowerPoint used at the TAG meeting.

Is all of this perfect? No, but the large community of support has typically solved minor questions or issues with a few searches, usually in dedicated groups.io sites. There are also loads of YouTube videos out there. As is the case with much ham radio software, direct support is thin or non-existent due to programmers working alone and publishing mostly for the greater good of the community. It is not uncommon to find a five- or ten-year-old answer to questions, and some updates are as-needed and not typically always recent.

The Linux platform lets me leverage 35+ years of Unix support, offered some challenges, and allowed me to have some fun learning new things. It also preserved my MacBook (I don't like to experiment on my household devices) and also saved me from adding Windows to the household environment.

I hope this inspires you to step outside your comfort zone in 2025! Everyone at FRC would love to hear all about your exciting adventures! Shoot me an email for links and my PowerPoint presentation at K6RAX (at) ray.rounds.com.

## For Sale:

- A-iPower SUA2300i Inverter Generator
- Sine wave inverter with less than 3% THD
- 2300-watt starting
- 1800-watt running power
- 10 hours run time at 25% load
- Built-in wheels and handle for easy transport

New in box, asking $290

Contact Joe Moell K0OV  (657) 286-5125