



# Smoke Signals

## Newsletter of Fullerton Radio Club

April 2026

### President's Report

Like many, I have been drawn into the coverage of the Artemus II mission, including the video within Orion's cabin and of course the stunning photos of the Moon. Nine year old me remembers the Apollo 11 mission all eight days from lift off to splashdown. Who didn't dream of going there one day? I remember talking with my young son about the real possibility that in his lifetime humans would visit and live on the moon. Combine that with SpaceX launching at Vandenberg Space Force Base on the same evening the Orion was coming back around the Moon and heading home. The next day, the ISS had a radio call with Orion. These are interesting times!

In early April, a few of us went to Chino Hills State Park to set up for a POTA (Parks on the Air) activation. Bob Houghton AD6QF, Dick Palmer WB6JDH, Linda Souder W6QE and I travelled to the park and all four of us successfully activated the park on the 20 and 6 meter bands. Thanks to several from the club who "hunted" us. We QSO'd with operators in Tennessee, Oklahoma, Texas, Colorado, Wyoming and Washington to name a few. We also logged a park-to-park QSO with the Grand Canyon. There are more field trips and opportunities to hunt coming soon.



We continue the Tuesday evening Ham Basics class with some practical and interesting discussions. Second Saturday at Hillcrest Park continues to grow as well. Come join us - in other words - there's something for everyone!

Cheers,

Ray Rounds, K6RAX  
[k6rax@arrl.net](mailto:k6rax@arrl.net)

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### Dolly Parton Broke My Collins Rig

By Joe Moell K0OV

In the 1960's, the finest and most expensive Amateur Radio gear was made by the Collins Radio Company. Collins products were unaffordable for me and my ham friends, but I was able to put my hands on lots of them in 1966 when I got a second job at a new AM radio station six miles southeast of Lincoln, Nebraska.

Everything at the station was brand new and most of it came from the big hardbound Collins broadcast equipment catalog, including the turntables, tape cartridge machines and studio

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**Fullerton Radio Club**  
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Want to join or renew?

Go to [fullertonradioclub.org](http://fullertonradioclub.org)  
and click on the [Join](#) menu.

## FRC April 1, 2026 Board Meeting Minutes

The monthly FRC Board Meeting was called to order by President Ray Rounds K6RAX at 5:31 pm on Wednesday, April 1 2026 via Zoom.

Board Members Present: Ray Rounds K6RAX, Bob Houghton AD6QF, Ted Schulman KO6FKX, Walter Clark, Larry McDavid W6FUB, Robert Gimbal KG6WTQ, and Bart Pulverman WB6WUW

Board Members Absent: Gene Thorpe KB6CMO

The March Board Meeting Minutes were approved by consensus.

**Treasurer's Report:**

New deposits: \$20.00 (Gary Miller renewal) plus \$0.02 interest.

New expenditures: None

Bank balance: \$5,613.17 as of March 31 bank statement.

**Membership:**

New members: None

Renewals: One - Gary Miller

Bob's records show 34 paid plus one life member = 35 members as of March 31, 2026

**Old Business:**

Robert G and Ray R followed up on in-person meetings. While FRC will not transition back to in-person Board meetings, Ray suggested we utilize Sizzler and other venues for other club get-togethers such as after our Saturdays at Hillcrest and open those up to any who would like to attend. FRC should continue to find ways to encourage our in-person events.

Bob H noted that FRC's 2025 Federal and State Tax filing documentation has been filed. He reminded the Board of the process for distributed storage of important club documents. Bob H also noted that CA SOI is due in even-numbered years and he will file this in April. Cost is typically \$25.

**New Business:**

Ray R discussed California's Age Verification legislation. In light of AB 2273 and other upcoming updates, Ray suggested we take a conservative approach to the Groups.IO site and adopt a policy that minors will not be permitted to register for the site. There are no minors presently using the site. The Board agreed by consensus to this initial policy.

Bob H and Ray R provided an update on Antennas in the Park coming up on May 9. Discussion focused on the meal and related logistics, and did not reach a consensus on a plan as there are some outstanding things to consider. We will appoint volunteers to proceed with plans, and it was mentioned that Gene T was able to secure the cabin for the day at no cost.

Upcoming Saturday in the Park 4/11/26 plans will include POTA Hunting on HF/VHF/UHF.

There were no further items brought forward and the meeting was adjourned at 6:18 PM.

Submitted by Ted Schulman KO6FKX, Secretary

mixing board. There was also a Collins model 808A-1 dual-turntable console that we took out into the field for remote broadcasts. In the photo is our setup in a big trailer at the Nebraska State Fair with mostly Collins gear.



Remote Broadcast Console

Our crown jewel was the Collins 21E 5,000 watt transmitter. Except for the mercury vapor high voltage rectifiers, which didn't like cold morning startups, this transmitter was rock solid and sounded great. In the photo, the 21E comprised the three cabinets on the right. The two on the left enclosed phasing circuits feeding the four towers.



KECK Collins Transmitter

In those days, FCC required any AM station with a directional antenna system to have an engineer with a First Class Radiotelephone license present during all operating hours. Logging of the transmitter final stage voltage and current, as well as the exact frequency and output RF current to the antenna system, had to be performed by a licensed operator every half hour.

The station was licensed to operate only from sunrise to sunset so George, the station's first Chief Engineer, and I made a schedule to cover all of the operating hours. In between meter readings (which never varied) and making minor repairs, we built Heathkit test equipment for the station shop, including a tube tester, audio generator and oscilloscope. The irony of using low-end Heath test equipment to maintain high-end Collins broadcast gear was not lost on me.

A year later, the station was sold and the new owners decided that it was unprofitable to pay two extra employees just to babysit the ultra-reliable transmitter. So they decreed that all announcers were required to have or get "First Phone" licenses so they could take meter readings during their air shifts. George didn't want to do that so he quit, making me the Chief Engineer and a country-western DJ.

Just like a ham radio ticket, an FCC First Phone is a license to learn. As the Chief, I learned how to make annual FCC-required Proof of Performance measurements of frequency response, distortion and noise in the audio chain from the microphone to the transmitter output. I also turned the station on four times a year at 3 AM so a monitoring service in Kansas could measure our exact carrier frequency, to calibrate our frequency monitor. I announced these quarterly tests to the AM broadcast DXer community and received reception reports from many states.

Some of my tasks weren't as pleasant. Besides cutting back all of the weeds from around the tower bases, I had to make FCC-required monitor point measurements four times a year to insure that we wouldn't interfere with stations in certain other markets such as Omaha and Kansas City. The exact measurement locations and signal levels were specified in the FCC station license. In those pre-GPS days, this involved driving northeast on a dirt road to a small sign on a fencepost, climbing over the fence, walking a certain number of yards into the farmer's field, measuring carefully with a calibrated field-strength meter and hurrying back to the car before the cranky cattle took notice. Then I'd repeat for the monitor points in the directions of the other three signal nulls.

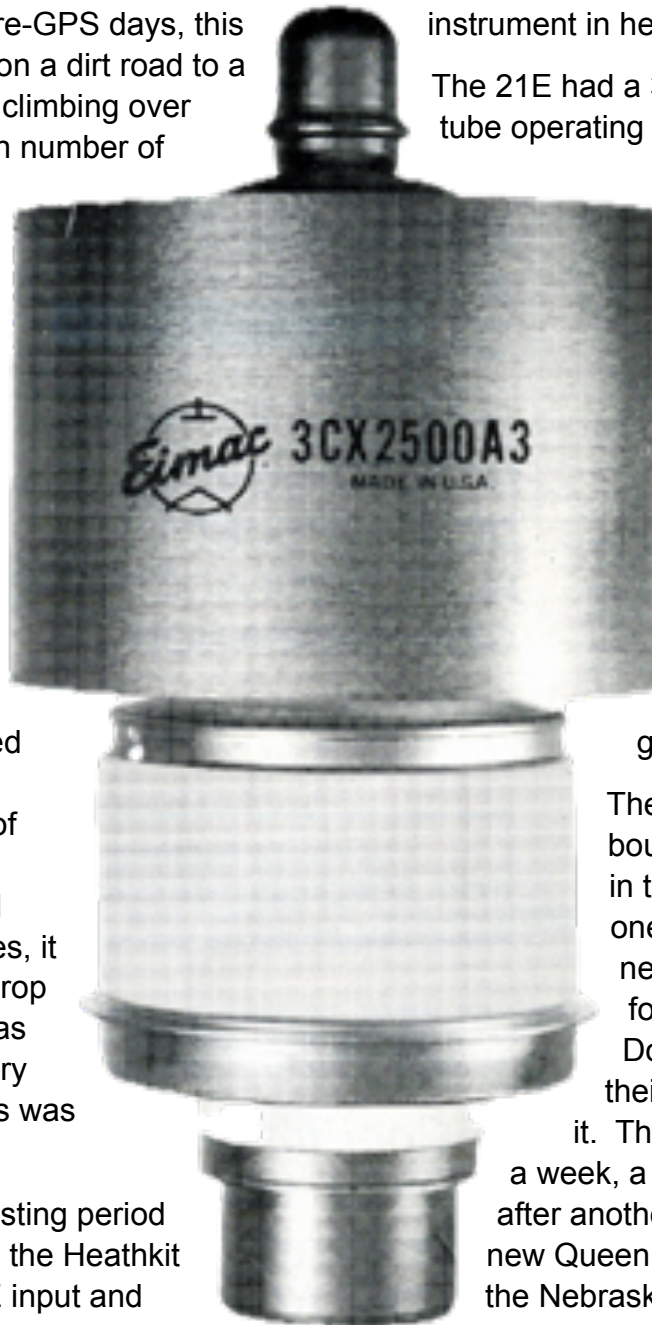
In the spring of 1968, a 22-year old singer named Dolly Parton entered the country music scene. About then, the audio out of our rock-solid Collins 21E started to break up several times each day. Sometimes, it would break up and then drop completely off the air. It was almost sure to happen every time one of Dolly's new hits was being played.

During the FCC-allowed testing period after midnight, I connected the Heathkit audio generator to the 21E input and swept the audio spectrum, watching the

Heathkit 'scope. At exactly 165 Hz and just 10% modulation, the audio broke up and the RF output dropped to zero at an audio rate. Increasing the tone level caused the final grid current to drop and the anode (plate) current to rise, tripping the overcurrent relay and shutting off the HV power supply. Dolly's high soprano voice never came near 165 Hz, but some instrument in her band must have.

The 21E had a 3X2500A3 triode final RF tube operating with 5,100 volts DC on the plate at 2.6 amperes carrier current. It took a 385-watt power supply just to light the filament. It was modulated by a pair of 3X3000A1 tubes in push-pull configuration. The modulation transformer vibrated and "sang" quietly along with the program audio, which must have exacerbated a mechanical flaw in the grid of the 3X2500A3.

The station owners had wisely bought spares for every tube in the transmitter, except that one. I told them that they needed to cough up the cash for a replacement and that Dolly wouldn't be entertaining their listeners until I installed it. That was all it took. In about a week, a new final tube arrived and after another overnight session, the new Queen of Country was back on the Nebraska and Kansas airwaves.



Troublesome  
Triode