



Smoke Signals

Newsletter of Fullerton Radio Club

April 2021

President's Column - April 2021

Is that light I see at the end of the tunnel?

As I write this, the last time I have seen any Fullerton Radio Club members in person was 402 days ago at Walter Clark's house for a TAG meeting on March 11, 2020. While, thanks to Zoom, I have been able to enjoy "seeing" and "talking to" to members every week since then, there is something about actually visiting in person with other people that has been missing for a while.

In a few weeks, we are going to give it a try. Mark your calendars for Saturday, May 8. We will be holding an "in person" antennas in the park. Joe Moell K0OV and Mervin Johnson KE6HTS will be putting on an ARDF event. We hope some of you will come and set up your radio equipment in the park, or just stop by and say a (socially distanced) hello.

We won't be having the usual barbecue, but FRC will provide drinks and snacks. Bring a lunch and a chair and we can picnic in the park!

As per recent years, we will be meeting at the Izaak Walton League cabin at Hillcrest Park. For directions and a map, look elsewhere in this issue of Smoke Signals.

For talk in directions or to "visit" by radio, we will be monitoring the K6QEH repeater 146.970 MHz with a - offset and PL of 136.5 Hz.

For more information about the ARDF event, visit Joe's website at homing.com or ask at next our Wednesday night Zoom meeting.

Best 73,
Bob AD6QF

Next Club Meeting date:
April 21 2021;
On ZOOM! - 8:00 PM
Planning for AITP

Antennas In The Park (AITP)

Hopefully life will be getting back to normal soon, and it's time for one of our largest events of the year; **Antennas In The Park** on Saturday, May 8, 2021. As always, a key feature will be the popular Joe Moell K0OV on-foot T-Hunt, but let's also have some other activities! Maybe portable HF/VHF/UHF or even microwave stations? We always like to see results of QRP. There's LOTS of room to put up antennas in the park! Or perhaps a demonstration or two – or more – from the TAG group projects? What else? It's up to your imagination!

The cabin should be open by 9:00 AM for those wishing to set up antennas and radios. The T-Hunt antenna-building project table will start at about 10:00 AM, with actual T-Hunt activities beginning at about 10:30 AM. Additional details of the T-Hunt can be found at <http://www.homingin.com>. We are typically active until about 3:00 PM.

But we need to do things different this year for COVID-19 health and safety purposes. There will be no BBQ this year. Bring your own lunch and chair as well as equipment you intend to operate. FRC will furnish drinks, sanitizers, and a few snacks/dessert. Set up your equipment/demonstrations with appropriate safety distancing. ***And wear a face mask!***

Parking is available at several locations near the cabin. See the attached map for cabin location (marked in green) and parking. Note that the map shows two entrances; one off E. Valley View Drive, and one off N. Lemon Street. If you use the Lemon Street entrance you must be coming south from Brea Boulevard, because there is NO LEFT TURN allowed into the park if north bound on Lemon.

Fullerton Radio Club
P.O. Box 545, Fullerton, CA 92836-0545

Board of Directors

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Bob Houghton AD6QF
Email: bobhoughton@mac.com

Vice President

Paul Broden, K6MHD
E-mail: pbroden@sbcglobal.net

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Gene Thorpe, KB6CMO
E-mail: gtkb6cmo@juno.com

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Robert Gimbel, KG6WTQ

Larry McDavid W6FUB

Volunteers

T-Hunt

Joe Moell, K0OV
http://www.homingin.com
E-mail: homingin@aol.com

W6ULI License Trustee

Albert Solomon, AG6OF
E-mail: albertsolomon18@gmail.com

Newsletter Editor

Paul Broden, K6MHD
E-mail: pbroden@sbcglobal.net

May FRC BOARD MEETING

***The next Club Board meeting will be on
May 12, 2021 and will be conducted
using Zoom video conferencing
platform.***

5:40 PM

All Members are welcome.

Show –and–Tell

Bring something of interest to the meeting to show and share your story.
Something old, new, or just of interest to hams.

Web site: www.FullertonRadioClub.org

April Board Meeting Minutes

The April 2021 FRC Board meeting was called to order at 5:45 pm by Bob Houghton AD6QF via Zoom (Coronavirus). Others present: Vice President Paul Broden K6MHD, Treasurer Gene Thorpe KB6CMO; Secretary Linda Endsley KJ6IHB, and Board Members at Large Larry McDavid W6FUB and Walter Clark.

Minutes were approved, with one correction. An incorrect date was listed for the April Board meeting minutes as 10 March 2021 rather than 14 April 2021.

Treasurer's report:

Checking - \$4,286.42; Savings - \$2,608.70. As of 3/10/21.
Deposit pending \$20.

New expenses: \$200 (insurance)

Old Business:

Renewals - 1

39 paid and 2 life members as of 4/12/21. Silent key; Robert Zeigler

Club liability has been renewed. \$200 reimbursement needed for Bob Houghton.

New Business:

Antennas in the Park at Hillcrest Park on Sat May 8, 2021.
Bring your own lunch. Other items will be purchased by the club.

Bob – Water, paper towels

Larry – Sanitizer, coffee, dessert

Gene – Paper plates, plasticware, trash bags

Next board meeting: 12 May 2021

Adjourned at 6:15 pm

Submitted by Linda Endsley KJ6IHB

Transmitter Hunting at Hillcrest Park

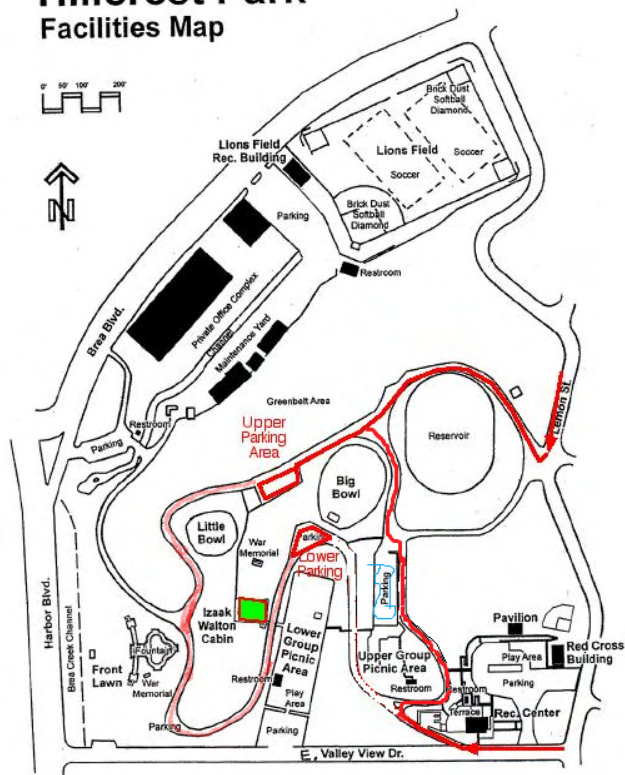
The on-foot transmitter hunts at FRC's Antennas-In-The-Park on May 8 will be the first in southern California since fall 2019. It's a chance for adults and youth to try this adventure-filled aspect of ham radio. There will be simple two-meter hidden transmitters for practice plus a five-transmitter course that might take you to parts of the park you haven't visited before. There will also be a transmitter on the 80-meter band to find. Bring your two-meter handi-talkie and any direction-finding gear you have.

If you don't have any DF gear, there will be some equipment to borrow, plus a chance to make some for yourself. At about 10 AM at the Izaak Walton Cabin, there will be a workshop for building measuring-tape antennas and offset attenuators, led by Marvin Johnston KE6HTS. If you want to get a kit, please write to marvin@west.net in advance to inquire and make sure he brings the items for you. The transmitter hunts will begin about 10:30 AM.

For more on the transmitter hunts and DF gear, go to www.homingin.com.

73, Joe Moell K0OV

Hillcrest Park Facilities Map



from north, go south on Lemon St (from Brea Blvd) to park entrance on right. Enter park & follow roadway to stop sign, turn right & curve left to **upper parking area** on the left.

from south, go west on Valley View Dr. (from Lemon St. NOTE: there is no left turn off Lemon into main entry of the park.) to 2nd entry (1st goes into Rec Center etc) . Follow roadway to the right, curve left to stop sign. Continue straight ahead to left curve to **upper parking area** on the left.

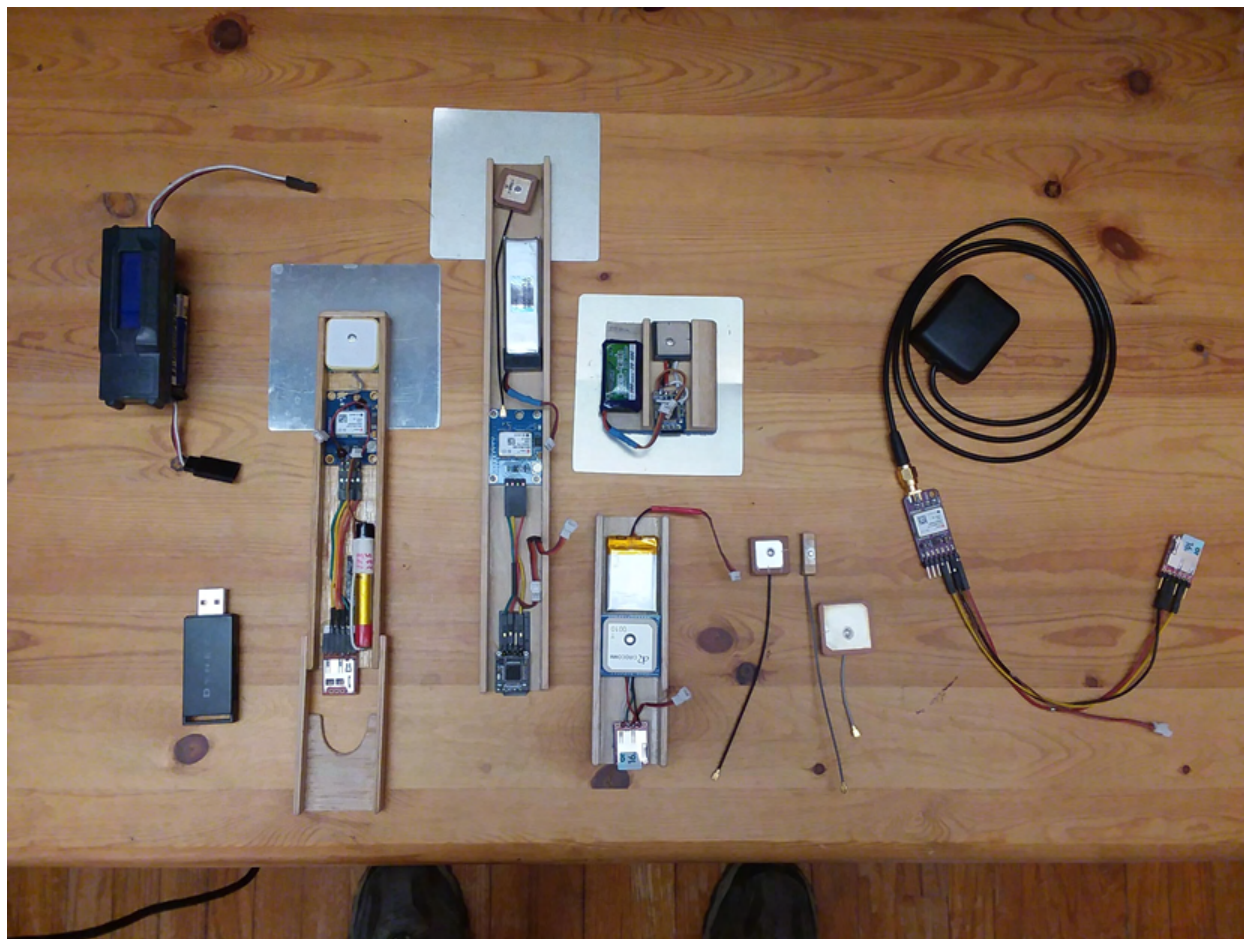
If **upper parking area** is full, there is additional parking in **Lower Parking**. Continue following the roadway down hill to the right & back up hill.

A parking lot that requires some steps is located on around the roadway. Those who come in off Valley View Dr. pass it by the stop sign.

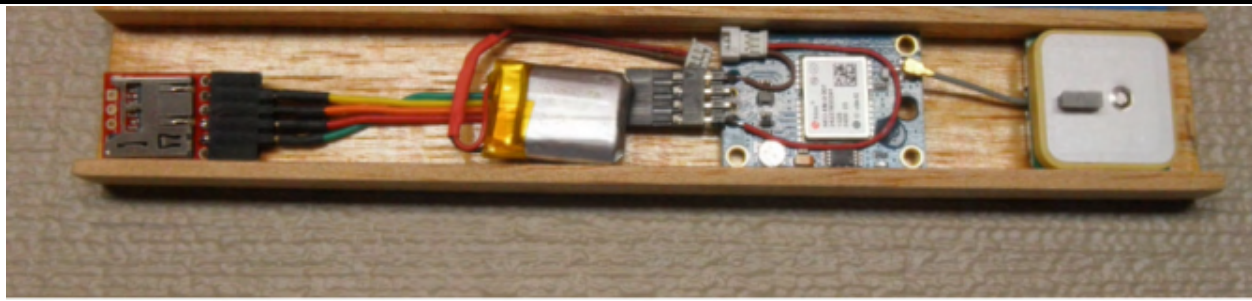
TAG Activity Report for April 2021

Before the screen is full of people there's a kind of pre-meeting discussion. This day it was about the large library behind Brooks Kachner. For you non-Zoomers you can choose to have an impressive background behind you so we accused Brooks of that. Turns out that's just some of his books he and his wife have read.

Walter Clark (yours truly) gave a 5 minute talk on his experience with GPS for use in measuring the glide angle of his various glider wings. The inspiration for the talk was a previous talk by Dick Palmer on the internet support group he's a member of. It is for those hams addicted to building, modifying and then re-kitting QRP radios (less than 5 watts). The addiction to keep building the same thing has happened to me in the form of GPS data recording for R/C gliders. My first one is in the upper left...



That was 2014. It was new technology to me then so I assumed it was new and a rapidly improving technology and every year I'd see something new and just have to have it. Turns out it was a mature technology in 2014 and these were just new companies joining the fray. The only wiring I had to do on these can be seen in this figure in the form of five single pin connectors...



Micro-SD
card recorder

1 cell LiPo

UBLOX
computer

Antenna and
amplifier

The slide show without narration is available here:

<https://1drv.ms/p/s!AmPDct-g12VujRI-0n-cQPe56lZB?e=S43qNm>

Brooks Kachner was up next to talk about his GPS experience. In 1974 he worked for Magnavox that made the manpack GPS receivers. The unit weighed 40 lb. Half that weight was batteries. It used a chip set, that emulated a DEC PDP-11. It was the first micro-computer with floating point hardware.

His present project is doing justice to a G5RV 52 foot HF antenna. The hard part is the balun according to Brooks. On the left he's holding the coil part. There's also an array of large ferrite beads that go on the down-coax up next to the junction of the dipole.



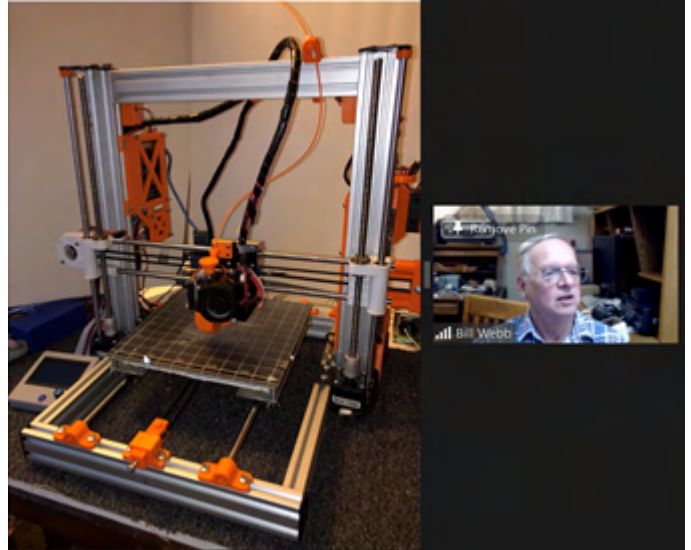
There is some controversy about whether a G5RV needs a balun. The meter he's holding is an Agilent (HP) model U1733C LCR meter. He used it to measure the inductance of the two versions of choke baluns. Both measured close to 12 microhenrys, providing the following values of inductive reactance:

- 40 meter band 528 Ohms
- 6 meter band 3770 Ohms.

These according to Brooks are good numbers. Oh and what his shirt says is pretty funny. "My password is the last eight digits of Pi."

Next up was **Bill Webb** who talked about upgrading his existing 3D printer. The new parts are in orange and were made with the old version of those parts. Yes the upgrade came in the form of .stl files he downloaded from somewhere. Then with this essentially new machine he modified two of those parts for yet a third self-made upgrade. What machine do you have at home that can improve itself?

Bill talked about mechanical shaking in the form of resonance that keeps 3D printers from making detailed and smooth work quickly. There was some actual hardware involved (metal frames) with this upgrade which came from Turkey. He was amazed at how quickly they arrived. Apparently the COVID delays are over for that particular shipping lane.



Paul Broden shared his experience with defibrillators. We were astounded that they go back as far as WW2. They filled a van of course. It used 60 pounds of lead acid batteries. Here's a short article on Dr. Frank Pantridge who Paul said was the father of the kind that has been made widespread throughout the world: <https://www.bbc.com/news/uk-northern-ireland-35160465> Paul's involvement was with a company named . AED Institute, where he did some distribution and AED instruction. Dr. Pantridge was Paul's mother-in-law's cardiologist when she had a heart attack while on holiday in N. Ireland in 1960.

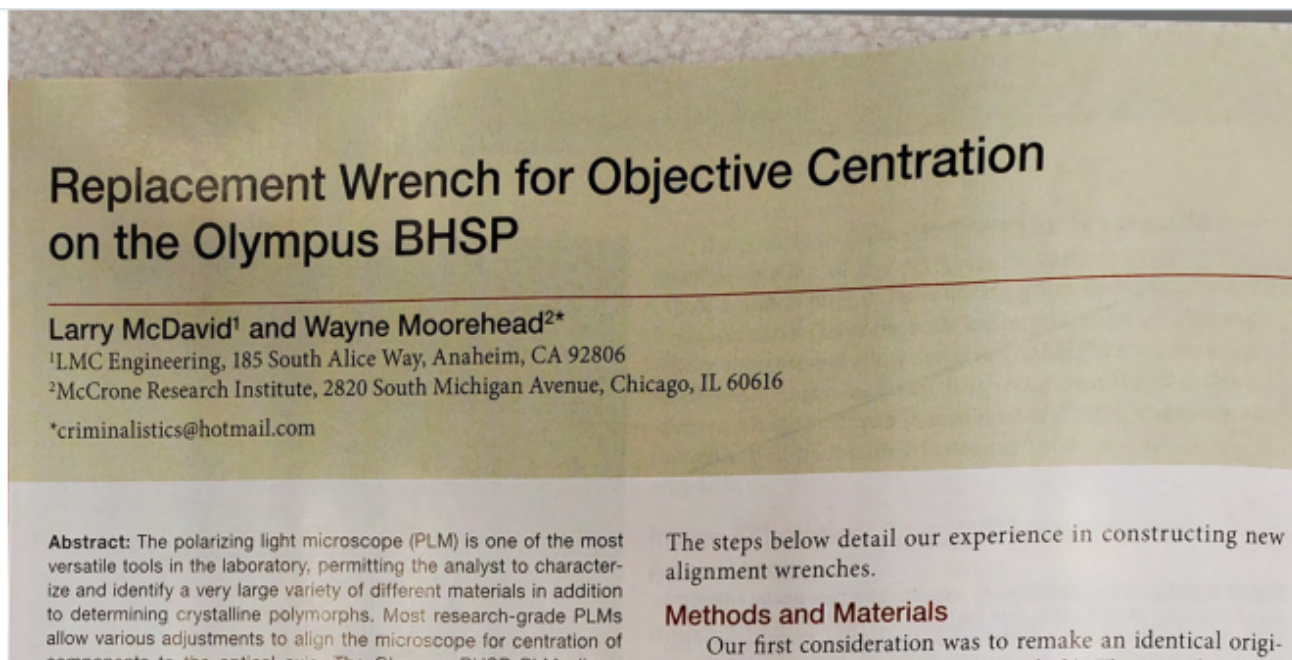
Bob Houghton and his wife Mygin were pretty much hunkered down for COVID and are only just now venturing out. Bob takes quite a bit of care in planning for his camping trips. Their first trip out will be William Heise near San Diego. I found this 1 minute 40 second speed walk video of the 1 mile hike Bob will be on. <https://www.youtube.com/watch?v=VOKOPoyCfUw>

Larry McDavid brought us up do date on his latest precision clock project.



This PCB is 19 inches long and mounts 18 digital number displays. When finished it is going on his wall because the numerals are so large. The time (and date) is resolved to 10 msec and the accuracy in the tens of nano seconds. That it is that accurate is of no practical use, but apparently to time-nuts, there's the satisfaction of seeing something so accurate go streaming by. The reference for such accuracy comes from the strongest GPS satellite that happens to be flying by overhead. The clock kit is MIT EXLA from England.

Larry got his article published. A shortened version of this we saw at a previous TAG meeting. He told about the process of magazine publishing.



Tom Fiske had two projects to talk about. One of them was in the form of a discussion between himself, Larry McDavid and Dick Palmer. It was about a problem that he was having with a slider switch on his Tektronix 465. This we learned from the discussion is a venerable piece of equipment. There's even an email group that discusses this and other vintage Tektronix oscilloscopes.

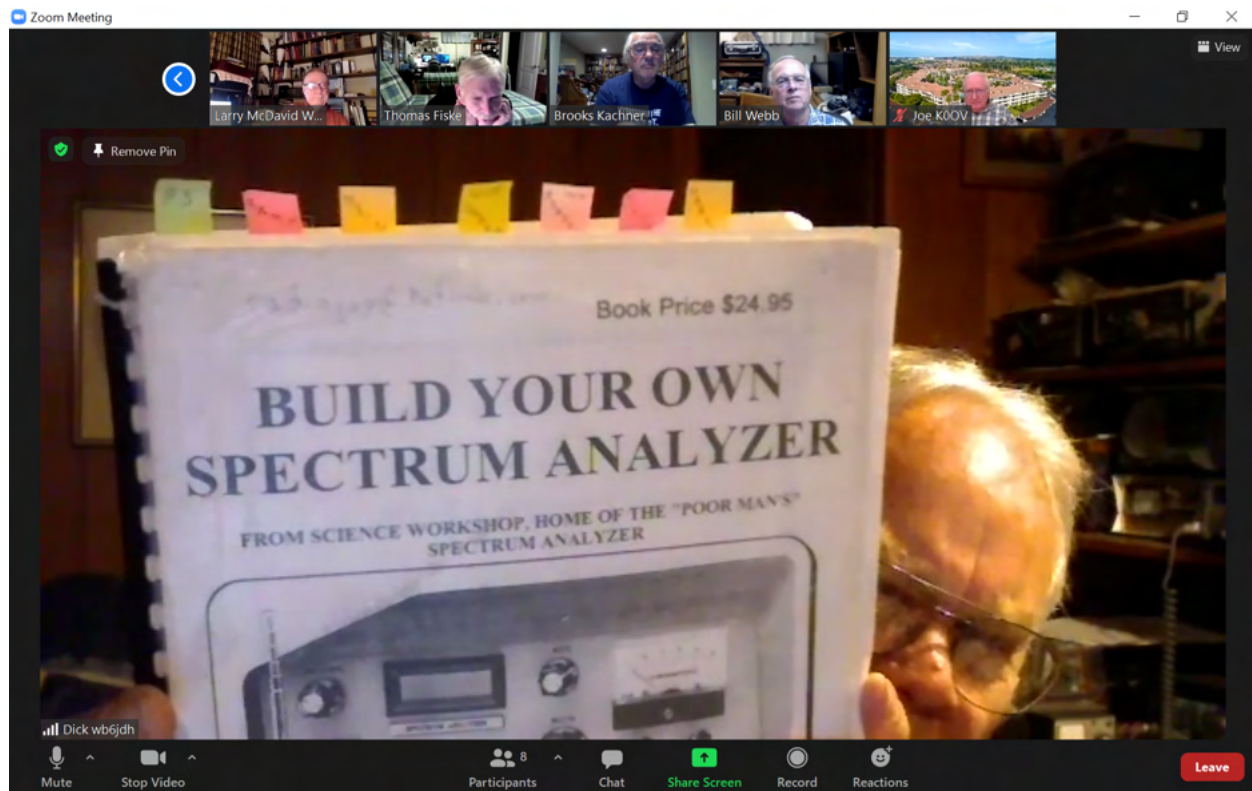
The other project should be something of an embarrassment for Tom, but no, he seems to be very proud of it. It is a microphone cut off timer that starts counting down as soon as it senses RF going to the antenna. Apparently, he's responding to comments from the net on his talking too much.



Joe Moell came in late and instead of talking about a project he asked the two of us who were at the board meeting about the plans for antennas in the park. The details of that are elsewhere in this newsletter.



Dick Palmer is a sucker for abandoned projects he picks up for pennies on the dollar at the swaps. His latest was an almost completed version of this article...



He managed to get all the pieces to work. (It used the horizontal sweep an oscilloscope as the frequency axis.) but it wasn't near as good as a piece of Tektronix test equipment he already had. So he didn't bother putting it in a box. The lesson for us is that there's great satisfaction in getting something like this to work even if it isn't that great. And the cost was borne by the guy that was unable to get it to work.

The TAG Hang-out group!



Bill Webb, Brooks Kachner, Walt Clark, Paul Broden, Bob Houghton, Larry McDavid, Tom Fisk, and Dick Palmer.

FRC Wednesday Net:

Reminder: We're continuing to conduct a 2-meter net on Wednesday evenings. All members, prospective members and friends are welcome. Raytheon repeater, 7:30 PM: 146.970 (-) PL 136.5. This is followed by a chat session on Zoom at 8:00PM. Members will have the Zoom code, but we don't publish it openly to prevent unwanted interruptions.

MEMBERSHIP RENEWAL / APPLICATION

Fullerton Radio Club
PO Box 545, Fullerton, CA 92836

(Please Print)

Name #1 _____ Call: _____ Class: _____

Name #2 _____ Call: _____ Class: _____

Address: _____ City: _____ State/Zip: _____

Phone #1: _____ Email #1: _____

ARRL Member ☐ Yes ☐ No

Dues are \$20 per member, or \$25 per family. Students (full time) \$10

Bring your application and dues payment to the next meeting or mail to the above address.