



Smoke Signals

Newsletter of Fullerton Radio Club

March 2018

March Club Meeting

Walter's talk will touch on the Pacific Electric in Southern California and everything known about the line through Fullerton. There's probably no one alive today that rode the Red Car through Fullerton and only a handful remembers seeing the run which rail fans put together in the 50s. The last paying customer was 1938. And yet for 30 years before that, it was "the" way to get to Whittier and L.A. The line went through what is now Fullerton College and over Harbor and north through Fullerton, past Lambert and around the Home Depot. Or rather what will become those things. Come to the meeting this Wednesday to see through Walter's time machine (slide show) and to experience what many on the left thinks should be a future we once had.

Another feature of the Fullerton that is unseen but in this case still with us, is a 1,700 foot wide 8 story high dam and 220 acres of uninhabited flood basin in the middle of Fullerton that not one in a thousand Fullertonians have ever seen. Walter will be presenting construction history, economic utility and some engineering details about the way it works when in the 400-year life of this dam a storm is experienced that is so bad the dam itself is imperiled.

The material of these two slide shows came from his website: <http://www.fullertonWalks.com> where history is the inspiration to take walks.



Pacific Electric "Red Car"



Flood basin dam

March 2018 President's Column - March Doldrums Edition

As I sit here at the computer, Paul is waiting for this month's *President's Column*. I promised him he would have it this morning, but it's 2 pm right now, and no column yet. I've been sitting here for a couple of hours, trying to come up with something interesting to share with you this month - nothing so far - so I'm just going to write. It seems that I'm going through one of those periods where I'm out of new project ideas and currently a little bored with ham radio. If someone came to me with this problem, I'd probably suggest that they find a club to see what other hams were doing that was

interesting. Trouble is, not only am I already in a club - it turns out that I'm the president. What to do?

Although there are a number of people in the club who are pursuing technical interests, between our monthly FRC meetings and even the TAG meetings, I'm not hearing from anyone who is exploring anything new with their radio hobby. Dick Palmer went to Yuma (good for you!) but it mostly had to do with buying and selling oscilloscopes. Walter has become pretty passionate about walking trails and parks in Fullerton - good stuff, but not ham radio. (I'll cut Walter some slack, because he's not a ham.) Joe, April, Tom G. Gene, and Cheryl are providing valuable community

service, and I'm glad to be part of HDSCS, but community service does not scratch my technical itch very much. I guess I feel a little bad because I feel a responsibility to motivate club members, which is difficult to do when I'm not very motivated myself.

That said, I *am* looking forward to our April and May events. Donate Life is Saturday April 28. If you haven't let Gene know that you can participate, I'm pretty sure he would like to hear from you. It's a big event and requires more hams than we have active FRC members.

This year Antennas in the Park will be Saturday May 5th. We changed the date this year so that folks who participate in Fullerton Airport Day can eat burgers, chase foxes, and otherwise play radio with us. The plan is for the traditional BBQ (thank you Albert!), Joe and Marvin will put on an ARDF event, and this year we would like to have more radios on the air this year connected to those "Antennas in the Park."

If you are having fun with something radio-related, don't keep it a secret! Some of us would sure like to hear what you are doing!

73, Bob - AD6QF

6 – 12 Volt Battery Box

Here is a picture of the 6 - 12 volt gel cell battery box I described at a recent meeting of hams. The four gel cell batteries had gone bad and could not be charged. I found new PowerSonic PS-6120 replacements in stock (a surprise) at Orvac and got them yesterday afternoon.

I have a PowerSonic charger for 6 volt gel cells and I successfully topped off the four new batteries after I replaced the ones in the battery box.

The battery box is designed to provide two groups of two 6 volt batteries. The batteries in each group can be connected either in series to produce 12 volts or in parallel for more capacity at 6 volts. Each battery can be turned on or off and there is provision to monitor the voltage of each battery independently. Note the mechanical protectors to prevent accidentally changing between series and parallel battery configurations!

I built this battery box about 1990! I've replaced the four batteries twice now. Each 6 volt battery is now rated at 13 Ah. This battery box allows me to power both 6 and 12 volt devices simultaneously. I built it originally to use with

telescope and eclipse camera equipment and took this to the 1991 total solar eclipse in Cabo San Lucas, Mexico.

At TAG last Wednesday I demonstrated a Ruhmkorff coil (an induction coil). That coil, like all antique induction coils, is designed to operate on 6 volts. But, the battery box described here was just dead and I was forced to use a 12 volt backup battery pack; I just did not run the coil very long! At least now I can operate my Ruhmkorff coils at 6 volts and demonstrate my paddle wheel, magnetic deflection and various Geissler and Crookes tubes.

I had some difficulty at TAG with the paddle wheel tube not consistently changing wheel direction or driving the wheel when the coil operated. I had tested the paddle wheel tube at home earlier and it worked fine. Then, I charged the 12 volt backup battery. I think my induction coil just produced too much voltage resulting in scattered electrons inside the tube and confusing the wheel rotation. At 6 volts on the induction coil this seems to not be a problem. The 12 volt backup battery was not fully charged when I tested the coil and paddle wheel tube at home earlier. That's not completely logical but it seems to be the way things work...

I could have brought my magnetic deflection tube to TAG but it is an even more fragile tube than the paddle wheel tube and I left it at home. The paddle wheel tube operates intentionally at both polarities (the induction coil has a polarity-reversing switch) but the magnetic deflection tube must be operated in one specific polarity of applied high voltage since electrons must flow through the narrow slit toward the phosphor-coated plate in the tube to form a sharp line of light on the phosphor.

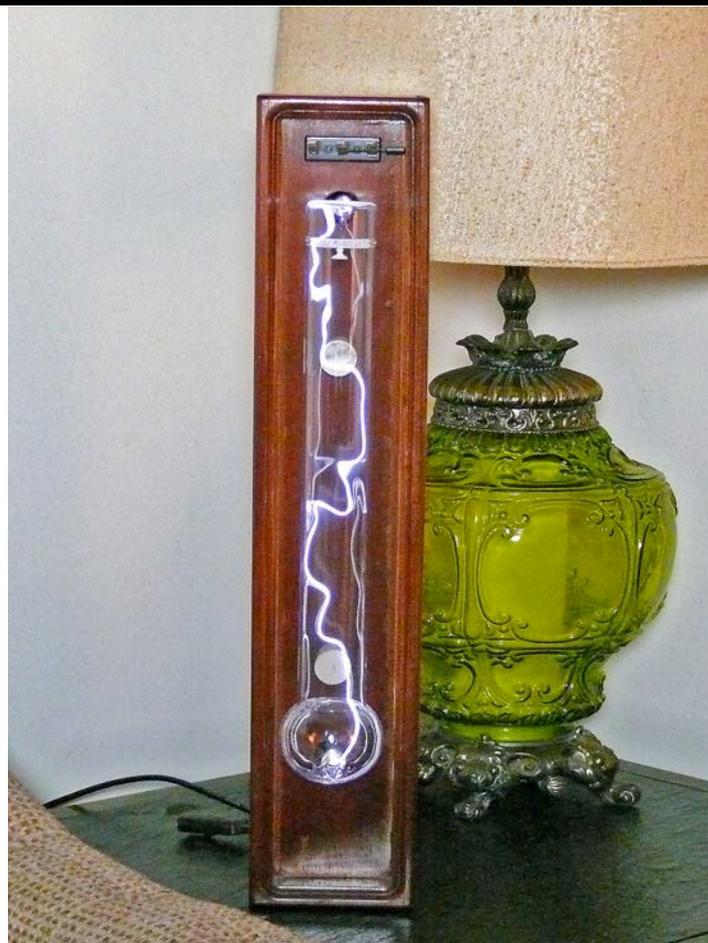
I mentioned a mercury phosphorescence bowl at TAG. I had Larry Albright (maker of my plasma tube) make one for me. Unfortunately, I cannot find a direct reference to this device using Google search just now. My bowl has high-purity mercury sealed inside a concave glass bowl; there is no phosphor used. Swirling the mercury produces a distinct glow as the mercury is gently swirled around. I have a historical book on phosphorescence that is helpful. At least you don't need to be fully dark-adapted to see the mercury bowl phosphorescence, as you must be to see the swarm of light streaks produced by alpha particles on the lead sulfide screen in my 1902 Crookes Spintharoscope.

I have processed the digital camera video of my plasma tube in Adobe Premier and reformatted it to a much smaller mp4 file. This plasma tube is an original artwork by Larry Albright, who has patents on plasma spheres and other plasma devices.

Best wishes,
Larry McDavid W6FUB



6 – 12 V. Gel Cell



Plasma Tube

Activity Reports of the Fullerton Radio Club (Technical Advisory Group) for March 2018

Dick Bremer talked about vents under the roof of his house when he hired a team to replace the roof. He arranged for them to seal around openings for each of the connectors appropriate for the various antennas he either had up there or might have some day.

Tom Fiske actually started the conversation about connectors and antennas on the roof. Tom was bragging about being so old and yet still able to scamper up a ladder to take down and put up an antenna. Tom has to constantly brag about being in his 80s because the poor guy just doesn't look his age. Nobody sees anything out of the ordinary for a 55 year old guy on a roof. That is until he starts shouting to the neighbors "hey look at me, I'm 80 something." Yea sure Tom.

There then followed a general discussion of single conductor; knob and tube in old houses. Pictures on somebody's cell phone were passed around and Walter remarked "what a clever improvement." Then somebody had to point out to him, that's the old way. Then Larry told the story of his stay in Bolivia where the hot water in the shower was heated with wires going into the shower head.

Dick Palmer did a review of the Yuma Ham Convention. Wonderful, in a word. There was about 200 tail-gaiters. He had to tell us that's what ham radio swap meet vendors call each other. He estimated that in one day there was the equivalent of 2 years of TRW and Claremont swapping. Among the trunk load of gear he bought was a 475 scope. He was able to sell two others. He's thinking about going to the May 18th Maker Faire. Tom G and Bob H are going and reminded him he doesn't have

much time left to make a reservation. When he showed hesitation, Walter reminded him that it is twice the fun of Disneyland at a fourth of the cost.

Walt Clark shared what he knew about the batteries used in a Prius. He had four of the 7.6 V cells to pass around. He also described what he thinks is the future of 9V batteries. (See below.) They are a single cell of LiPo which is pumped up to a regulated 9.0V and yet charged with a 5 V USB connection.

Tom Gaccione updated his FRC presentation on the future of cell phones in the way of Five Gee. He showed a picture of what they look like on a street light. Huntington Beach is a pioneer in replacing their old street lights with modern LED and 5G cell repeaters. There will be 200 of them spaced along Highway One.

He also played with some fancy test equipment to compare Tom Fiske's MFJ power meter to a Byrd power meter. Tom was impressed with the accuracy in the middle of each band for the MFJ. (Two meters and 220.)

Bob Houghton reminded us right off the bat, of our obligation to be the club speakers. His most ham related activity was also quite a heroic effort. From the desert where he was vacationing, by remote control, he was able to get a new ham (and possible new member) to program his Yasu FT-70.

Larry McDavid showed a few of his many antique physics demonstration apparatuses. The most spectacular of which was his mica-vane pinwheel inside a "Paddle Wheel Tube". He used an antique Ruhmkoff induction coil to power it. It used a vibrator which could open and close in such a way that the output of the coil can be mostly plus or mostly minus. That allowed Larry to show the pinwheel rolling one way and then to the other. We were all very impressed by both the amazing sight as well as how old it is. Older even than Walter.



Dick Bremer examining
The Prius battery



Larry McDavid and his antique
"Paddle Wheel Tube"



More Paddle Wheel Tube



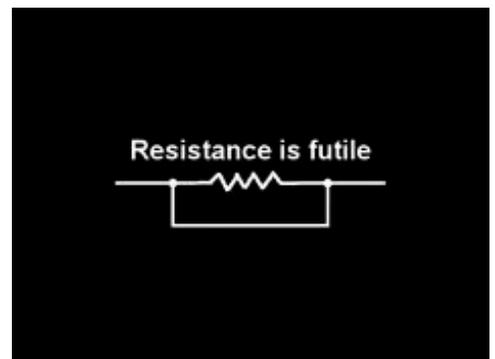
Tom Fisk trying to convince us he's old!



Walter's view of the future of 9V batteries

ANTENNAS IN THE PARK

This year's Antennas In The Park event is scheduled for Saturday, May 5, 2018. Again, it will be held at the Izaak Walton cabin in Hillcrest Park. Details have not yet been finalized, but will feature Joe Moell's famous on-foot T-Hunt. There will be our usual BBQ as well. Start planning now as to what you will bring for the activity. HF-QRP rig? New antenna and portable radio? What else can you think of? Details in next month's Smoke Signals.



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(This could be YOU)

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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

March Board Meeting Minutes

The March 2018 FRC Board meeting was called to order at 7:30pm by Vice President Walter Clark. Others present: Treasurer Gene Thorpe KB6CMO and Secretary Linda Endsley KJ6IHB. Directors: Larry McDavid W6FUB, Richard Belansky KG6UDD, and Paul Broden K6MHD; Members: Cheryl Thorpe KE6TZU and Joe Moell K0OV. Visitor Irene Broden.

Treasurer's report: Savings - \$2,607.38; Checking - \$4,154.08

Minutes from February were approved.

Old Business:

Donate Life will be April 28.

Antennas in the Park will be May 5.

New Business:

Received 1 renewal.

Walter Clark will be the speaker for the monthly general meeting. The subject will be electric trains, dams and spillways.

Next board meeting: 4 APRIL 2018

Adjourned at 7:5 pm

Submitted by Linda Endsley KJ6IHB

Donate Life Run Walk - Saturday April 28.
2018 Save The Date

Folks, please save this date for this year's Donate Life Run/Walk/Family Festival on Saturday April 28, 2018. Time: 0630 - 11:30 hrs. Please let me know if you can help us with this event on CSUF. Please send a return E-mail with Your Name, CallSign, CPhone Number, to KB6CMO@ARRL.net.

God Bless America & U 2

Gene Thorpe KB6CMO

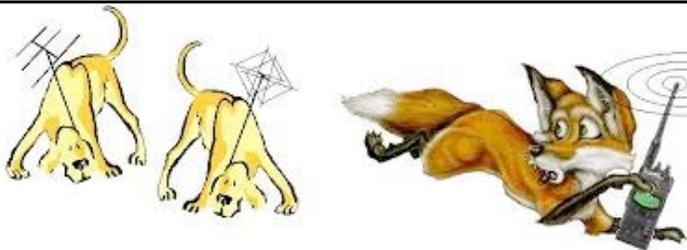
Orange County Mobile T-Hunts

Fullerton Radio Club still holds a monthly mobile Transmitter hunt on the third Saturday of the month, starting from the top of Acacia Avenue in Fullerton at 8 PM. The signal is supposed to be continuous on 146.565 MHz. Approximate boundaries are 605 freeway on the west, 10 freeway on the north, Prado Dam on the east and Pacific Coast Highway on the south. Having won the February hunt, Bob Miller N6ZHZ will hide on March 17. If you miss that hunt, then come out on April 21.

The FRC transmitter hunts are intended to be easy enough that beginners can find the transmitter. Another monthly transmitter hunt that's suitable for newcomers is put on by Orange County RACES on the third Monday of the month at 7:20 PM, immediately following the weekly RACES net on the 146.895 repeater. The hider transmits frequently on the input of the repeater (146.295 MHz), so if you think you can't hear the fox there, you can check the output to tell when transmissions are taking place. The hider's city is announced in advance. For the March 19 hunt, Scott Byington KC6MMF will hide in the City of Orange. The monthly hunt announcement can be found at www.ocraces.org.

73,
Joe Moell K0OV

Next ARDF at Los Carneros on April 7



The next southern California on-foot transmitter hunting session will be Saturday, April 7, 2018 at Lake Los Carneros Park in Goleta. A ham radio license and knowledge of radio equipment are not required. A limited amount of RDF gear will be available for loan to beginners.

Joe Moell K0OV will put out some easy two-meter fox transmitters to help you learn and test your equipment. Then there will be a beginner-level international-rules

course on the two-meter band, designed by Marvin Johnston KE6HTS. One or more of Joe's 80-meter fox transmitters may also be on the air. The site area is slightly less than 140 acres. It is relatively flat, making it a good site for foxtailers of all skill levels. If you need some one-on-one help to get started at finding transmitters, just ask. Full-color orienteering maps will be available.

For those who want to build RDF gear for use with their own two-meter hand-held radios or scanners, Marvin will have kits for measuring-tape yagis and active attenuators. Also available is an assembled and tested assembly that includes the power switch, BNC connector, housing and battery, ready to install as the tape measure beam is built. There will be tools and soldering stations for building. If you're not an electronic technician, don't worry because there will be experts to help you. We want you to succeed!

If you want to build an antenna/attenuator kit, you must register in advance. Send e-mail to Marvin (marvin@west.net) to pre-register and get more information about equipment. If you already have equipment and just want to hunt transmitters, you don't need to pre-register.

If it takes place, the building session will start at 9:00 AM. Please be prompt. Transmitter hunting will begin about 10:00 AM. You may start out on the courses at any time until 12 noon. Courses close at 2 PM. For those interested, we will meet at a local restaurant after all the transmitters have been picked up for further discussion of ARDF.

Directions to Lake Los Carneros: From US 101 about 8 miles west of downtown Santa Barbara, take the Los Carneros Road exit, head north about 1/4 mile and turn right into the Stow House parking lot. There should be plenty of free parking. Look for the orange-and-white orienteering flag. The hunt start will probably be in the parking lot. If that is too crowded, we will move to a nearby picnic area.

Ham radio talk-in is on the WB6OBB repeater, 147.000(+) PL 131.8. If heavy rain is forecasted, check www.homingin.com on April 6 for possible cancellation.

73, Joe Moell K0OV

March FRC Meeting:

Chapman Activity Center

2515 San Carlos Dr.

Fullerton, CA

March meeting will be:

**Wednesday,
March 21, 2018**

Walter Clark will be presenting history of Pacific Electric train in Fullerton
and the Fullerton flood basin dam

Meeting time: 7:00 PM

Visitors are welcome

April BOARD MEETING

Open to all Club members

Marie Callender's Restaurant

126 Yorba Linda Blvd., Placentia

First Wednesday of each month.

Next Board Meeting

April 4, 2018

QSO and dinner; 6:30 PM

Meeting: 7:30 PM

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: _____

Phone #2: _____ Email #2: _____

ARRL Member Yes No

Special Amateur Radio Interests: _____

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.