



Smoke Signals

Newsletter of Fullerton Radio Club

November 2018

President's Column - November 2018

There are two important FRC events coming up in the next four weeks: club officer elections and the annual Holiday Dinner.

Here is your pre-election update. As I wrote here last month, Gene and Linda have graciously agreed to accept the nominations for their current positions as Treasurer and Secretary, respectively. We do not yet have a nominee for the VP position, nor do we have a nominee who is able to fulfill all of the presidential duties. In order to maintain our status as a California corporation, we are required to have a president. We had a wide-ranging discussion at the Board meeting about how to proceed, including a motion to dissolve the club if nobody stepped up to fill the president's position. That motion was not seconded. As a solution, Larry McDavid has expressed willingness to help us solve the problem. Larry has a commitment with another club on the third Wednesday of each month, precluding him from attending our regular meetings, but he is willing to be a sort of president in absentia, putting his name on the club paperwork and continuing to contribute at the Board of Directors' meetings. I have volunteered to continue on the Board as a Member-at-Large. If we do not receive any nominations for president at Wednesday's meeting, we will proceed with this plan.

The Board decided that to make this work, the officers and members-at-large would share

responsibilities for fulfilling the other presidential duties, such as presiding at club meetings and introducing speakers. A suggestion was made to me recently that we might consider moving the club meetings to another night, to accommodate Larry's schedule. This can be a point for further discussion.

On a happier note, I hope you are looking forward to our annual Holiday Dinner. As usual, it will be at Marie Callender's in Placentia. Friday, December 14 at 7 pm. I hope you will plan to attend as well as bring your spouse or significant other. Look elsewhere in this issue of *Smoke Signals* for the menu ordering form. As we did last year, we have made it easy to renew your membership at the same time as you fill out your menu choices. Once again, Gene has worked his magic with the restaurant manager and kept the same price for several years in a row. Gene is also gathering some great door prizes for lucky among us. Thanks for all your hard work Gene!

In closing, I'd like to thank Rich Belansky for volunteering to be our speaker at the November meeting. Look elsewhere in this issue for a description of his talk.

I'll be at the Black Bear Diner at 5 pm Wednesday before the meeting. We have a couple of visitors joining us, and it would be nice if you would too.

73, Bob AD6QF

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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

Board Meeting Minutes

The November 2018 FRC Board Meeting was called to order at 7:30pm by President Bob Houghton AD6QF.

Others present: Treasurer Gene Thorpe KB6CMO; Secretary Linda Endsley KJ6IHB. Directors; Paul Broden K6MHD; Larry McDavid W6FUB; Richard Belansky KG6UDD; Walter Clark. Member: Cheryl Thorpe KE6TZU, Visitor: Irene Broden

October minutes were approved.

Treasurer's report: Checking \$4,15862.62, Savings \$2,607.70

Old Business:

The Christmas dinner will be on December 14 at Marie Callender's.

Need officers for next year.

Members at Large for next year: Robert Gimbel, Walter Clark, Bob Houghton, Larry McDavid, Paul Broden

New Business:

Need candidates for President.

Paul will send info for the Christmas dinner to the hospital group.

November speaker will be Richard Belansky. Topic will be Radio Science, SDR and Propagation.

Next board meeting: 5 DEC 2018

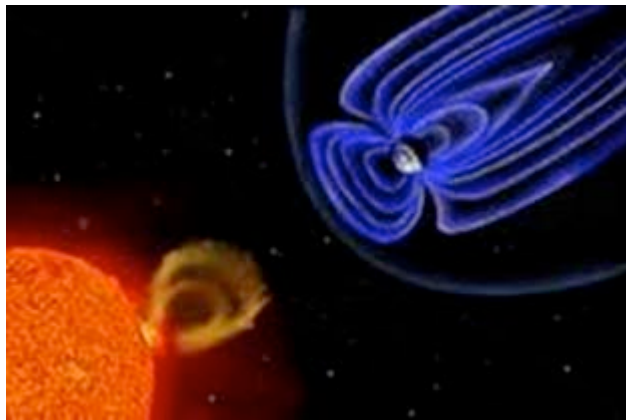
Adjourned at 8:15 pm

Submitted by Linda Endsley KJ6IHB

November Meeting Topic

Radio Science, SDR and Propagation

Rich Belansky



In the Spirit of Thanksgiving (at least at the dinner table), the FRC talk for November will be a bit of a “potpourri” of topics. Radio Science alludes to an interest in the more “scientific side” of radio with radio propagation being an important example. During this brief talk, I hope to convey my interest in this broad area of radio observation by describing propagation studies of the 10 MHz WWV signal using an SDR (software define radio) receiver. Since SDR technology will soon (I predict) dominate amateur radio, I will include a discussion of some basic concepts of digital signal processing relevant to receivers and show some initial signal propagation measurements I have completed (definitely a work in progress) and I promise, no math (well, maybe a little).

Floyd Allen K6HXO, SK

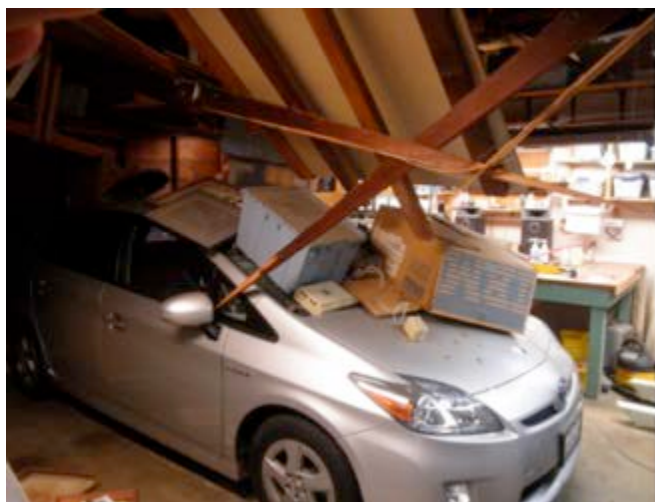
Floyd Allen K6HXO, a long-time Fullerton resident and member of FRC, passed away November 3 at St. Jude Hospital of pneumonia and congestive heart failure. He was an enthusiastic participant in FRC Field Day, as you can see from this photo from the Brea Dam in 1983. A memorial service is being planned for January.



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

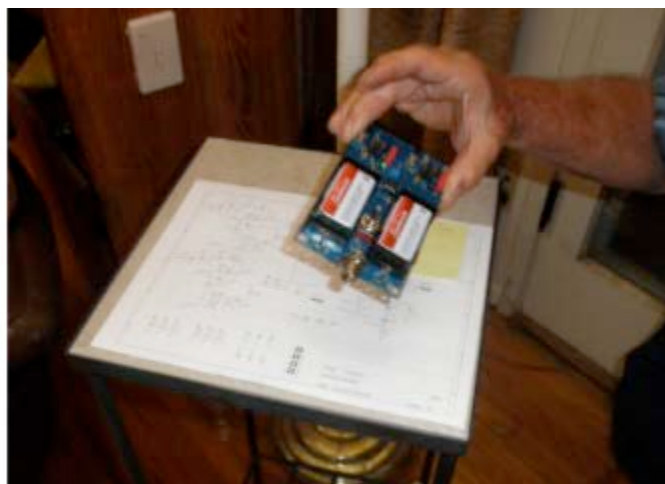
The meeting started with **Walter Clark**, our host for the TAG meetings. Earlier in the month, his garage ceiling failed and dumped about 30 years of electronic projects onto his car. (Picture on the left.) Well now that they are down, before putting them back up, he wants to see how much stuff he can give away or throw away.

Next month he will be putting part 2 of his attic stuff on the table. The other TAG members are invited to do the same thing at next month's TAG meeting. Bob Houghton suggested that those things that don't go home with a new owner will be saved at Walter's house in a set of totes for the next person who goes to a ham radio swap meet. The idea is to give the stuff away and what isn't taken is trashed right there at the swap meet. (But of course whoever takes the stuff to the swaps will tell the guys at the next meeting that it all found good homes and old Frisky is now a sheep dog in Oregon.)



What Walter did was start at one end of the table and describe what the project was about. During the break guys went through the stuff. **Dick Palmer** for example got a microphone and reverb unit for his son. **Dave Reinhard** took an antique harmonic drive motor which he said his father was familiar with. Most of the stuff was still there after the meeting and half of that was trashed the next day. On the right for example is a lovely wood cabinet I made for two floppy drives. Remember floppies? Dang that hurts. There were lots of hand-made circuit boards which I don't even remember what they were for.

Dick Palmer brought his latest project, a kit built precision audio oscillator which is used to evaluate a transmitter/receiver harmonic distortion. (It's the modulator of the transmitter that contributes the most distortion.) He recently inherited a Hewlett-Packard audio frequency spectrum analyzer and used it to see just how pure this oscillator is. He found it had a sinusoid so pure as to be difficult to describe. The spectrum analyzer shows the amplitude of the harmonics. He then added the amplitude of those harmonics and divided by the amplitude of the fundamental plus the harmonics. That ratio was .0001 percent. There's actually two tones in this it. The two allow a measurement of cross modulation.

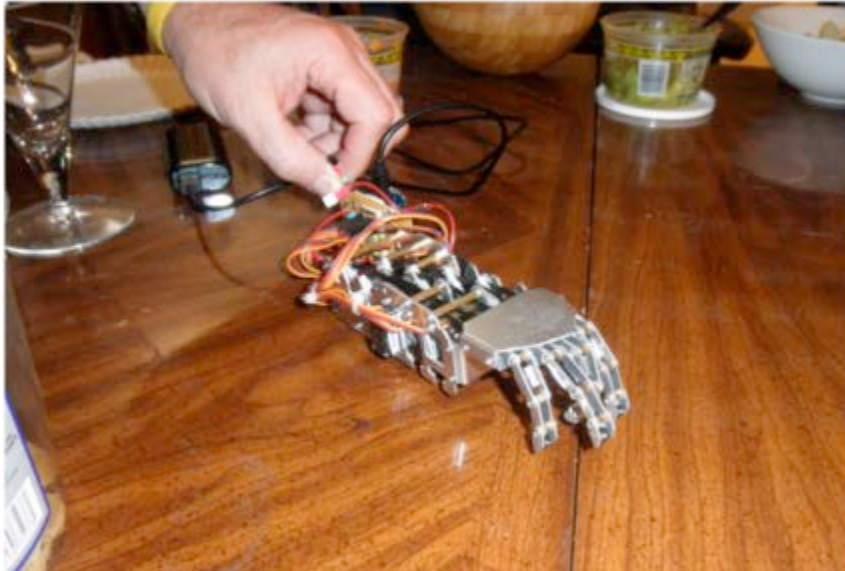


Larry McDavid always brings the most interesting things. Usually antique scientific instruments. On the left he is holding a solid brass full size replica of one of the more interesting parts of the Clock of the Long Now. https://en.wikipedia.org/wiki/Clock_of_the_Long_Now It is a compensator cam for the movement of the axis of the earth. (https://en.wikipedia.org/wiki/Axial_precession) This cam rotates and the cam follower moves vertically over a period of tens of thousands of years.



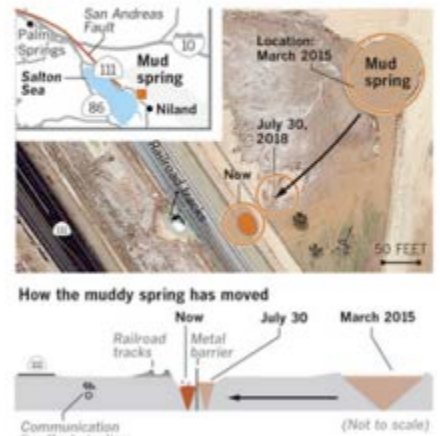
On the right are two of many antique spectroscopes he owns. He showed us how to focus and position the devices on various sources. He then led a discussion on the significance of the patterns were seeing. Needless to say the experience was very colorful.

Bill Webb put together this fascinating mechanical hand from a kit. It uses five model airplane servos. He had to Arduino-ize it though, to make the hand do something. Two of the fingers type out the digits for the present temperature. It then clenches into a fist. He thought about it working a code-practice key, but he said this is as far as he wants to go.



A slow-moving natural disaster

A muddy spring in Imperial County near the Salton Sea is mysteriously moving toward railroad tracks, a pipeline and a highway, threatening to destroy them.



Tom Gaccione talked about moving mud holes. There's a natural spring on the San Andreas Fault which doesn't flow out enough water to be anything more than constant mud. But that mud hole seems to be moving like the way the line of volcanoes in Hawaii are moving, except much faster. The Union Pacific has had to move their rail line. He held up pictures and summarized the article which you can read here: <http://www.latimes.com/local/lanow/la-me-ln-niland-mud-pot-20181101-story.html>

Bob Houghton led a discussion on the physics of pressure measurement of automobile tires while they are rolling. (Modern cars have pressure gauges within the tire which communicate that pressure to the not moving part of the car over 315 MHz or 433 MHz.) Although the display of pressure involves radio, the discussion was about the difference between pressure measured inside the tire (without reference to the outside) and the pressure as measured by a conventional tire gauge at a service station at 10,000 feet altitude. This anecdote about pressure measurement was presented as a **puzzle of the month** which is a regular feature of the invitation to the TAG meetings.

Bob also told us about the Irvine set of satellites. They are 1U type CubeSats built by a team of students from five high schools in Irvine School District. This is with guidance from universities and industry experts. It is an educational mission that gives a few high school students the experience of building, testing, and controlling a nanosatellite, with the aim of developing interest and talent in the engineering field.

Bob then led a discussion on communicating with any of the satellites which use the ham bands. Tom volunteered to be the elevation/azimuth antenna rotator and holder-upper. This might increase interest (not Tom as a rotator, but the space thing) in our annual Antennas in the Park. For more on the Irvine satellite project and the involvement of the Ecuadorian Space Agency with them: <http://exa.ec/bp65/index-en.html>



Joe Moell told us about his transmitter hunting modification to his new Chrysler Pacifica van. He described lessons-learned from his older Astro Van modification. The post for rotation goes down between the front seats and can be rotated manually.

Walter Clark

November MEETING

Wednesday, November 21, 2018

Chapman Activity Center

2515 San Carlos Drive, Fullerton
(Second street east of State College
Boulevard off Commonwealth)

Meeting time – 7:00 PM

Visitors are always welcome

Dinner before the Meeting:

Black Bear Diner
5:00 PM

Remember: December meeting is the special Holiday event, at a different location. See attached menu and be sure to send in by December 1. Maybe even include membership dues with the reservation.

December Board Meeting

Open to all Club members

Marie Callender's Restaurant

126 Yorba Linda Blvd., Placentia
First Wednesday of each month.

Next Board Meeting

December 5, 2018

QSO and dinner; 6:30 PM

Meeting: 7:30 PM



Fullerton Radio Club Welcomes Members and Guests to our Holiday Dinner

Friday, December 14, 2018. QSO time starts at 6:30

Dinner will be served promptly at 7:00 PM

At Marie Callender's Restaurant – Kraemer at Yorba Linda Boulevard, Placentia

Menu: **Select from one entrée, plus dessert.**

No. 1: Salad Bar and Soup

Crisp greens, fresh fruit, garden vegetables and an array of special salad, plus all the necessary garnishes to complete our masterpiece. Visit the salad bar as often as you like. Served with toasted garlic bread or our famous golden cornbread.

No. 2: Chicken Broccoli Fettuccini

Fettuccini and spinach tortellini, with slices of grilled chicken breast and fresh broccoli in a creamy sauce. Served with a crisp green salad and toasted garlic bread.

No. 3: Chicken Pot Pie of the Day

Tender chunks of chicken with seasonings and vegetables. Served with a crisp green salad.

No. 4: Marie's Home-style Meatloaf

Meatloaf topped with a tasty old-fashioned gravy. Served with mashed potatoes and fresh vegetables.

No. 5: Oven Roasted Turkey Dinner

Hand carved slices of fresh roasted turkey with our special apple-walnut dressing. Topped with giblet gravy and served with cranberry sauce.

Salmon: Prepared in your choice of one of two styles. Both served with fresh vegetables and rice.

No. 6: Salmon

Plain Salmon

No. 7: Honey Ginger Salmon

Salmon with Honey & Ginger

For dessert, make your choice from the following pie selection.

- **Lemon** – Slightly tart and slightly sweet, this pie is topped with light and airy meringue.
- **Apple** – Fresh apples slightly spiced with cinnamon.
- **Pumpkin** – Pumpkin, spice, and everything nice have made this an American favorite.

Served with your choice of coffee, tea or soft drink.

ALL FOR THE PRICE OF \$23.00. Tip and tax included.

Cash-and-carry bar available.

Please return this form with your payment to the Fullerton Radio Club meeting on November 21, or mail **no later than December 1** to: **Fullerton Radio Club. P.O. Box 545, Fullerton, CA 92836-0545**

Make checks payable to: **Fullerton Radio Club**

Qty.	Menu Item & Number	Dessert
	X \$23.00 =	
	For server only:	
	Table #	

I'll be attending but not eating: ____
 Name: _____
 Call Sign: _____
 Phone: _____

Name: _____

Call: _____

MEMBERSHIP RENEWAL / APPLICATION

Fullerton Radio Club
 PO Box 545, Fullerton, CA 92836

(Please Print)

Name #1 _____

Call: _____

Class: _____

Name #2 _____

Call: _____

Class: _____

Phone #1: _____

Email #1: _____

Phone #2: _____

Email #2: _____

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.