

RCARC Minutes for  
May 14, 2013

Co-Vice President Dick Parker K7ZI called the meeting to order at 7:30 pm.

Those in attendance:

AL7BX	George Gallis	KG6LFU	Jim Beal	N7SIY	Joel Clements
KB7UMU	Sylvia Clements	N7KM	Ken Munford	K7ZI	Dick Parker
WA7GTU	Don Blanchard	K7NJ	Riki Kline	KG7CLM	Greg Jackson
K6QOG	Bill Stenger	KD0DQB	Bill Gerety	KF7YWY	Cameron Abbatich
KF7WIY	Denice Sheffield	KF7GPZ	Fred Sheffield	K7BTE	Bill Rankin
KB7HHB	Mardi Biedermann	KF7JMR	Ronald Pons	KA7QJN	Dennis Porter
WA7HHE	Brad Biedermann	KB7OWE	Don Carter	N7TCE	Merlin Mackay
N6OJS	Fred Getman	KD7FGR	Merlin Gifford	Joanne Gifford	Dan Pointer

Shane Christensen

Dick introduced and welcomed some new people.

Dan Pointer who wants to get his license and a friend of Merlin Mackey N7TCE.

Greg Jackson KG7CLM.

Merlin KD7FDR and Joanne Gifford who have attended several club meetings before.

Bill Gerety KD0DQB, a friend of George Gallis AL7BX.

Dick mentioned several issues:

- 1) Field Day, June 22 & 23, need a chairman. Bill Rankin K7BTE volunteered.
- 2) Curator of Frontier Homestead State Park offered the use of the park. He would like the club to participate as a Special Events Station in November for Iron Mission Days.
- 3) Opportunities this summer for Public Service service bike races and foot races. Check with St. George club and Spingees.com. Bill K6QOG volunteered to put a list together and email the list.

Topics from the floor:

- Sylvia Clements KB7UMU stated the club received \$74 for our participation in the Zion 100 race.
- Sylvia asked for a breakfast count.
- Fred Getman N6OJS asked about assistance with antennas.
- Dick Parker talked about the Boy Scouts project On Target – sending messages via signal mirrors. This year the scouts will send messages from mountain tops to the valley floor and relaying the messages. This event will be held around July 20<sup>th</sup>.
- Merlin Mackay N7TCE described a mapping system to track stationed contacted during Field Day.
- Shane Christensen mentioned the Search and Rescue is having a fund raiser May 16-18 behind the Elk's Lodge.

Next Meeting is June 11<sup>th</sup> - 6:30pm at the Three Fountains Club House

Dave Ward N7HYA presented Soldering Techniques.

Dave introduced Shane Christensen as one of his students to describe a computer game program using guitars.

Dave discussed ROHS – Restrictions of Hazardous Substances - a program that began in 2006. These are:

1. Lead
2. Cadmium
3. Mercury
4. Hexavalent chromium
5. Polybrominated biphenyls
6. Polybrominated diphenyl ether

Our main concern is lead because it was a main component in solder. Today, requirements calls for lead-free solder. Lead is replaced with silver (2.8-3.2%), copper (.3-.7%), and approximately 96% tin.

Disadvantages of lead-free solder:

- does not wet or flow as well.
- Higher melting temperature. Lead solder melted at 361 degrees Fahrenheit. Lead-free melts between 422 & 430 degrees Fahrenheit.
- Tin causes “solder whiskers” that can cause shorts in circuits.

Dave showed a DVD how commercially made printed circuit boards are made. Most processes use surface mounted soldering that can solder 36000 parts an hour. Computers, cell phones and other technologies use up to a 16 layer board with parts on both side of each board.

Dave opened the lab to show a PCV router that is used to mill out the traces from a computer design inserted into the machine. Industry normally etches with acid rather than a router. Industry also uses a silk screen process on solder paste, robot places components and then the board is placed in an oven. Dave then attempted to demonstrated how to hand solder a chip on a board. He invited anyone who wanted to test their soldering skills to come forward.

Questions and discussion followed. The meeting was closed at 8:50 pm.

Respectfully Submitted:

Bill Stenger K6QOG  
Secretary

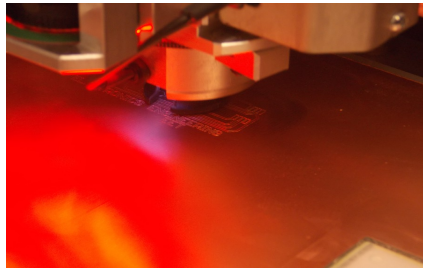
George Gallis AL7BX trying his soldering skills



Dave Ward N7HYA at the computer of the PCV Router.



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Results of the PCV router etching

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FYI

In the June issue of QST page 63 there is an article that states it takes 17 (seventeen) hrs for a 12 watts signal to travel 11 billion miles to earth from the spacecraft Voyager1. Voyager was launched September 5, 1977. To learn more how communications between distant spacecraft and earth is handled see:

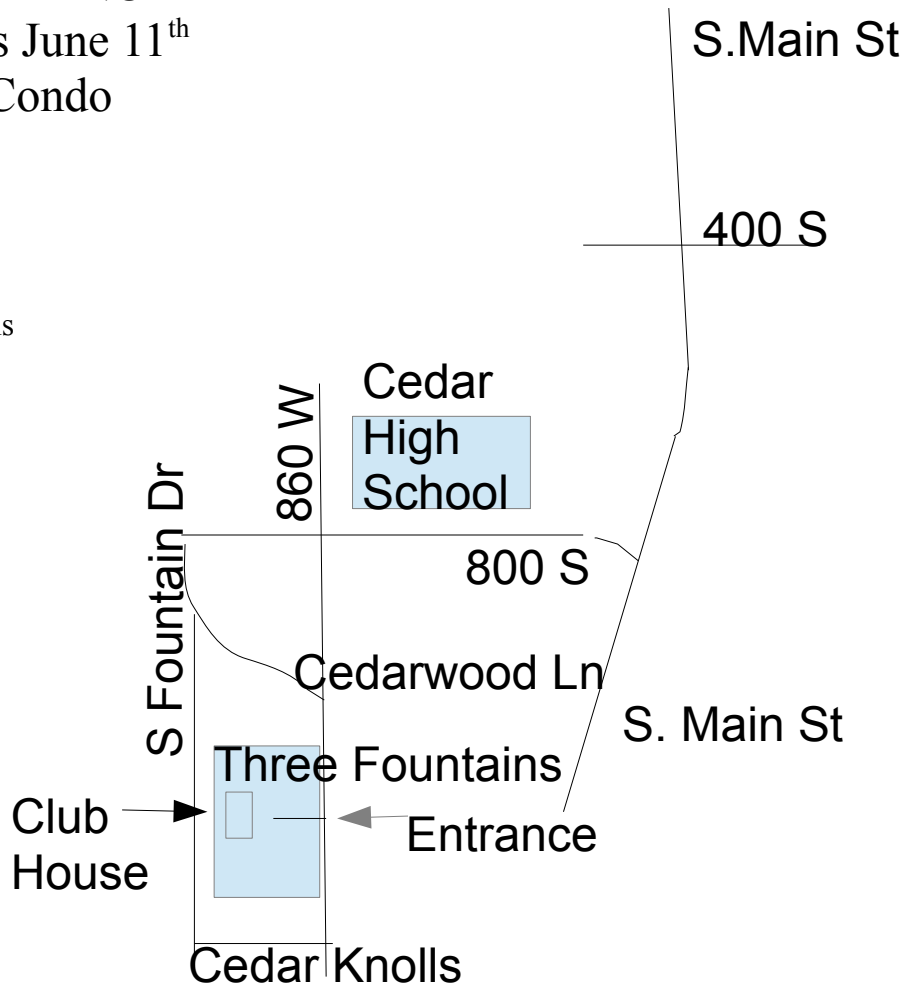
<http://descanso.jpl.nasa.gov/DPSummary/Descanso3--Cassini2.pdf>

Current information about the Cassini mission can be found at <http://saturn.jpl.nasa.gov/>

NOTE

Our Club Meeting is June 11<sup>th</sup>  
at Three Fountains Condo

Parking inside Three Fountains  
or park on S Fountain Dr next  
to the tennis court and BBQ



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