

January
2008

NEWS FROM CVARC

President's Message by Greg Lane, K7SDW

Happy New Year

Thank each of you for electing me one more time as President of CVARC. I do not know of any other club with such diverse interests and activities that the membership supports throughout the year. I heard the Holiday Party was a success and I'm very sorry I could not attend due to contracting a cold.

The Board members are your representatives. Since each of us have a busy daily schedules it will be up to you to make sure your voice is heard for any ideas, projects, etc., that you would like to see in the up coming months. If you can, please assist any of the Board members with "chairman" positions to help spread the responsibilities to get the tasks accomplished. If you want you can attend the Board meetings. If you have a formal motion, please read the by-laws on the web site or ask the Secretary for a hard copy at the meeting.

If you have noticed, many clubs are experiencing a loss of membership and participation. This is not a club for just the "old" as this hobby has many opportunities for the young as well as "old" for learning and teaching each other through mentorship the excitement of what "electrons" can do!

President's Message, continued on page 2

Inside this issue

Super Capacitors	2
LA Marithon.....	3
2008 Event Calendar	3
CA Hands-Free Cellphone Law	4
December VE Results	4
Storing Water for Emergencies.....	4
ACS/ARES Frequencies.....	7
2008 CVARC Officers	7

January Club Meeting Speaker is Terry Graves

Terry Graves, K7FE will be the January club speaker talking about HF, particularly HF antenna issues (efficiency, radiation resistance, radials, grounding, etc). He will cover a practical approach to HF and VHF antennas while additionally addressing some of the myths and mysteries about this most important part of our amateur radio station.

With the crop of new amateur radio operators gaining HF privileges this year and the first cycle 24 sunspots emerging last week (we are not in cycle 24 yet officially though), this topic will be both timely and interesting.

Terry Graves, K7FE is an RF engineer who begun designing state amplifiers over 40 years ago. His interest in antennas started in 1955 when he bought his first ARRL Antenna Handbook. Prior to founding his own company, he was employed at TRW Semiconductors, Motorola, HP and Eimac. One of his recent home brew projects is an 8 transistor linear HF amplifier that produces over 1100w output with 50 watts of drive. Terry is also the editor of QRZ.Com, the popular ham radio web site.

Please join us in what is sure to be an interesting and informative presentation. As always, the CVARC club meeting is held on the third Thursday of the month at the East County Sheriff Station located at:

2101 East Olsen Road
Thousand Oaks, CA 91360

This facility is just off of the 23 freeway between Thousand Oaks and Simi Valley. We look forward to seeing you there!

President's Message, continued from front page...

I have never found this hobby boring or without challenges. As your President I plan to provide you the opportunity to not only expand your interests in this hobby, but also invite you to bring your significant other, spouse, or friend. If each member just brought one new person to the meeting, or invited an "old timer" or picked up one of many of our "old timers" that cannot drive to the meetings, I believe we can not only satisfy the social aspects of this hobby but also increase the interest and motivation in others to participate. I need your energy and dedication as well as the Board to make this another Great CVARC Year!

73 de Greg, K7SDW

Operations Chair

The operations chair position is vacant after the November elections and we need a interested ham to step up and volunteer for the role. The operations chair is a coordinating role that directs operating committees formed to handle major operating events (one of which is field day).

An operations super-genius is not required. Someone with basic organization skills and the ability to follow-up is the key ingredient for success. There are a whole raft of people interested in operating events like field-day, but don't want to be the one coordinating the individual members of the group. The coordinator is the one we are looking for.

If you have a flair for the coordinating role please contact Greg Lane, Tom Stough, or any of the other board members. There are a number of people on the board and active in the club who have been the operations chair in years past who will be available for advice and consultation.

Super Capacitors

While the title "super capacitors" (also know as ultra capacitors) may bring to mind visions of

superheroes flying through the air, the comparison of old and new capacitors makes the new name appropriate. Super capacitors are a little-known type of electrolytic capacitor with many times the current storage of previous generations of devices. While multi-farad capacitors once were the size of an office desk, new units are smaller than a 'C' cell battery. Additionally, the new capacitors are small, lightweight and can deliver their full capacity at temperatures as low as -40C. A 5000 farad ultra capacitor has been manufactured that was only 2 inches x 2 inches x 6 inches.

With a little imagination, you can picture a host of new uses for them. I recently got to see a demo of a cordless screwdriver that could recharge from empty all the way to full in 90 seconds. It only lasted about 60% of the time of a lithium-ion battery, but the recharge time was phenomenal, and the capacitor was far lighter than the comparable battery. The tool in question is the Coleman FlashCell, and it is available on the market right now. If you are interested you can check out the video at <http://www.colemanflashcellscrewdriver.com/>.

If you remember any of our presentation where we have talked about charging batteries, you recall that log-lasting, high capacity lead-acid batteries should be charged no faster than 25% of their total capacity at a time. A 100 A/hr battery should have a charging current of no more than 25A. Other technologies are similarly slow to charge. Ultra capacitors can accept charging currents vastly greater, have no memory effect, can store a charge for as much as three months, and can be charged/discharged approximately a half a million times. These are all important characteristics for rapid charge and discharge cyclic applications.

Super capacitors are a splendid example of the promise of nano-technology. They are similar to traditional electrolytic capacitors except for using a carbon nano-tube plate surface to expand the surface area to previously impossible values. They offer surface areas fifty times as great as conventional fractured carbon sponge and consistent delivery of that surface area (fractured carbon is difficult to manufacture

with precise characteristics). They also achieve this great performance without any exotic, expensive, or highly toxic chemicals (another plus).

Ultra capacitors are at their best in high current, low voltage applications, but careful circuit design can allow an engineer to create designs that compensate for the operational limitations of the devices. They are being used in regenerative electric motor breaking in light rail trains and in port cranes already. Two promising future main-stream applications are electric cars with a 250+ mile range and a ten minute recharge time, and for storage of photo-voltaic power for use in off-peak times. These will drive the state-of-the-art in production technology, and increase production volumes to the point that it drives the prices down to be competitive with batteries.

Super capacitors are one of those technologies to keep your eye on. This could really live up to the revolutionary description many people are using to describe this new field.

Neil Waybright, AF6CD

2008 Event Calendar

Jan. 17	CVARC Club Meeting
Jan 26	TRW Swap Meet
Feb. 10	FCC License Exam at CVARC
Feb. 19.....	1 st CVARC Technician Class Begins
Feb. 21	CVARC Club Meeting
Feb. 23.....	Amgen Tour of California Bike Race
Mar. 9	Crop Walk
Mar. 20	CVARC Club Meeting
Mar. 21-23.....	Coyote Two Moons Cross-Country
Mar. 29.....	TRW Swap Meet
Apr. 8.....	1 st CVARC Technician Class Completes
Apr. 13.....	Westlake Street Fair
Apr. 13.....	FCC License Exam at CVARC
Apr. 15.....	2 nd CVARC Technician Class Begins
Apr. 17.....	CVARC Club Meeting
Apr. 19.....	Arbor Day
Apr 24.....	TRW Swap Meet
May 10	Cruisin' the Conejo Bike Ride
May 15	CVARC Club Meeting
May 16-17	Dayton Hamvention
May 31	TRW Swap Meet
Jun. 3	2 nd CVARC Technician Class Completes
Jun 8.....	FCC License Exam at CVARC
Jun. 17	3 rd CVARC Technician Class Begins
Jun. 19	CVARC Club Meeting
Jun. 28-29	Field Day
Jun 28	TRW Swap Meet
Jul 3.....	Moorpark Fireworks Show
Jul. 17.....	CVARC Club Meeting
Jul 26.....	TRW Swap Meet
Aug. 5.....	3 rd CVARC Technician Class Completes
Aug. 10.....	FCC License Exam at CVARC
Aug. 19.....	4 th CVARC Technician Class Begins
Aug. 21	CVARC Club Meeting
Aug. 23 (tentative).....	CVARC Summer Picnic
Aug 30.....	TRW Swap Meet
Sep. 18.....	CVARC Club Meeting
Sep. 12-14	ARRL SW Division Convention
Sep 27.....	TRW Swap Meet
Oct. 7.....	4 th CVARC Technician Class Completes
Oct. 12.....	FCC License Exam at CVARC
Oct. 16.....	CVARC Club Meeting
Oct. 21.....	5 th CVARC Technician Class Begins
Oct.25.....	TRW Swap Meet
Nov. 15.....	CVARC Club Meeting
Nov. 24.....	TRW Swap Meet
Dec. 6 (tentative).....	CVARC Holiday Party
Dec. 9.....	5 th CVARC Technician Class Completes
Dec. 14.....	FCC License Exam at CVARC
Dec 27.....	TRW Swap Meet

Volunteer radio operators needed for the Los Angeles Marathon

Volunteer radio operators are needed at the Los Angeles Marathon on Sunday March 2, 2008, to provide communications throughout the course. Operators are positioned at every mile location, at first aid stations, at the start/finish lines, and in the Command Center.

Volunteers can register now at:

http://www.doitsports.com/volunteer/info.tcl?job_id=488

Contact Craig Baker KC6KKR at sea-hawk190@mail.com for more details.

Neil Waybright, AF6CD

Please submit suggestions for additional dates to:

af6cd@arrl.net

CA Hands-Free Cellphone Law

The new provisions of CA Vehicle Code section 23123 (<http://www.dmv.ca.gov/pubs/vctop/d11/vc23123.htm>) go into effect July 1, 2008, and shall remain in until July 1, 2011 after which they are automatically revoked. Some view the section as not clearly worded and that it conflates two-way radio with wireless telephones in one section (subsection (e)), further muddying the waters. This is based on a poorly worded, incomplete subsection extract listed in the DMV FAQs on their web site.

The ARRL's General Counsel Chris Imlay, W3KD, reviewed the statute and the league published this statement on January 5th in the ARRL SW Division eCommunicator:

“California Hands-free Cellphone Law

California has a new law banning use of hand-held cellphones while driving vehicles that becomes effective starting on July 1, 2008. ARRL General Counsel, Chris Imlay, W3KD, reports that that he has concluded that this does not apply to Amateur Radio operation because Amateur Radio transceivers are not wireless telephones.”

It is important for those of us who do substantial amounts of mobile operation to not give cause to specifically add us to the list. Keeping our behavior unimpeachable in this regards is important. We should not allow our radio operation affect our vehicle operation, and keep safe all of the time. I have several clearly visible antennas, my callsign on my license plate, and am aware that my driving reflects on all radio amateurs.

I am actually heartened when I hear people I am conversing with say that they are preparing to enter heavier traffic and have to pause for a few minutes. This is a sign of good sense and thoughtful operation.

Neil Waybright, AF6CD

VE Results from December 14, 2007 by Jeff Reinhardt, AA6JR

The CVARC VE team closed out the old year with a record turnout, A total of 25 candidates took 36 exam elements and the results were quite impressive.

Name	Call	New License Class
Kathryn D. Moore	K6KAM	General
James L. Heidenrich	KI6CU	Extra
Dalton T. Myers	KI6NNW	Technician
Stephen W. Gretchko	KI6NOM	General
Aaron L. Dingus	KI6NNX	Technician
Nick Vlanos	KI6NNY	Technician
Eric A. Langlois	KI6NNZ	Technician
Harold W. Lund	KI6NOA	Technician
William A. Unger	W6VDK	Extra
Andrew G. Ludlum	KI6NON	General
Peter V. Lunenfeld	KI6HAX	General
Ismael S. Ramos	KI6NOB	Technician
Jeffrey Y. Nakamura	KI6NOC	Technician
Ramoncito A. Gamez	KI6NOD	Technician
Paul C. Stone	KI6NOE	Technician
Eric B. Pacheco	KI6NOF	Technician
John W. Fithian	KI6NOG	Technician
Eric B. Bosworth	KI6NOH	Technician
Richard Thompson	KI6NOI	Technician
Marc C. Hanley	KI6NOJ	Technician
Ryan T. McCoy	KI6NOK	Technician
Debra K. Irish	KI6NOL	Technician
David I. Carstensen	KM6FQ	Extra

Special thanks to VEs Noel Van Slyke K6NVS, Ken Larson KJ6RZ and Hugh Bosma AE6YC for their terrific work through a busy session. It's also appropriate to recognize CVARC Education Chair Karl Moody, whose students had an excellent passing rate.

The next CVARC VE session is scheduled for Sunday February 10 at the East Valley Station, at 8:30 a.m

Storing Water for an Emergency By Neil Waybright, AF6CD

I mention being ready for disasters and for call-up for emergency service several times per year, so I thought I would share what I have been doing about it this past year, and my plans for the new year. Since I expect feed-

back and lots of good ideas from members and readers, I will have a section for this topic on the CVARC web site and will try and keep it up-to-date with changes. Check the web site at <http://www.cvarc.org/emergency> to find the latest.

One of the points you have to work out early in the process is to decide what your purpose is, and what disasters you are trying to be ready for. Since I have a family and our home is in Southern California, certain contingencies are obvious. We need to be ready for earthquakes, fire, and floods. Serious and deep snows aren't likely for me, but if you have a cabin in the Sierras, or go camping in remote areas, your situation might be different. Serious domestic upheaval isn't on my list, but it might be if I lived in LA proper (remember the riots?).

Once you make up your mind about what you are up against, you have to decide how big of a scope are you willing to try and handle. The common wisdom is that even in the best case you have to be ready to survive at least 72 hours with no help at all (no power, natural gas, running water, etc.). Nobody would have believed a few years ago that it might be weeks for help to arrive, but the glacially slow performance of the government's efforts in New Orleans opened people's eyes. FEMA estimates it would be a much more difficult effort to help Southern California after a 7.5 earthquake. I shudder to think how long it would take to get water trucks to Moorpark with every single bridge in Ventura County down.

Keeping that in mind, what would you want to be able to do, and what is necessary to do that? Given the 7x24x365 threat of disaster, you have to be ready in all four seasons, and able to handle the weather for each. I have been compiling lists with ideas from a number of sources and adapting the best ideas into my own personal plan and would be happy to share it.

Humans have at least four basic needs for survival:

1. Water

2. Shelter
3. Food
4. Sanitation

It turns out that providing a basic level of these is not too difficult for the prepared. I'll go over some ideas for each of these in a series of articles. This article will focus on water since it is at the top of the list.

Water is your most pressing need. Most of us can easily survive a week or more without food, but after three days lack of water is life-threatening. This period is shorter in hot weather or with less than perfect health. Luckily, water is easy to come by and it is not hard to store. The World Health Organization study on drinking water requirements ^[1] lists 1 gallon per day as the minimum adequate intake for adult males if not active (0.7 gallons for the ladies). Strenuous activity in hot weather requires four times as much water (or more).

Using that first number as a planning baseline, I endeavor to keep 7 days water for my family of four available at all times. I keep an unopened flat of 35 bottles of water from Costco in the trunk of my car (each bottle being ~1/8th gallon). That provides 4.5 days for one person by itself, or more than a day for the whole family if we are out together. I typically have several more flats of water in the garage and another flat in the fridge, but that amount varies on a daily and weekly basis.

My home's 40 gallon water heater holds enough water by itself for us for ten days (providing we shut the water supply off immediately after an earthquake to prevent contaminants from spoiling it. There is easily another gallon locked up in ice in the refrigerator's ice maker. I also have quite a bit of juice and soda around the house that counts as well (these are your last resorts because while water is refreshing, sweet drinks like juices and soda tend to make you feel more thirsty).

This sounds rather promising doesn't it? It conveniently ignores an important fact. *Cooking usually requires additional water.* This is always true, and is often particularly the case with staples that store well for emergency use.

I depend on dry beans and dehydrated soups because they store well, are easy to prepare, and can be prepared in virtually any amounts. Since I depend on these items to such a large extent for my emergency food supplies, recognizing that they are of limited use without water is urgent. This adds another gallon per person per day to your needs and should be factored into your plans.

Going back to my totals:

1. Water heater	40g
2. Bottled water (car)	4.5g
3. Ice Maker	1g
4. Bottled water (house)	9g
5. Juice & Soda	3g
Total:	57.5g

Given the requirements I already expressed of 2g per day for myself and 1.7g per day each for my wife and two daughters, we could hold out for a little over eight days (57.5/7.1). There are other sources I am less willing to depend on. There is some residual water in the pipes, and about three gallons in the toilet tanks, but that would require treatment to ensure they were potable after an earthquake.

[1] Ann C. Grandjean, *Water Requirements, Impinging Factors, and Recommended Intakes*, The Center for Human Nutrition, University of Nebraska Omaha, Nebraska USA, http://www.who.int/water_sanitation_health/dwq/nutrientschap3.pdf

Operation Golden Guardian

Operation Golden Guardian was a health department mass-vaccination exercise conducted at Moorpark College on Friday, the 16th of November. The Auxiliary Communication Service (ACS) used event as a training opportunity that brought out the team and let them practice in the field with a government agency customer.

The ACS team, led by the Area 8 Emergency Coordinator (EC) Rick Tate, provided vehicle traffic control and communications support for the medical teams that provided free flu shots

to the public. Our amateur radio operators made a good impression on the public health officials, including observers from the state. The public health officials exercised plans for field vaccination centers, setting up mobile refrigerators for the vaccines, mobilizing medical personnel, keeping the requisite records, and ensuring the event was conducted in a medically safe and effective manner. The event ran smoothly and efficiently, and all of the ham volunteers ended up getting their flu shots for the year!

Cycle 24 Sunspots Appear!

The ARRL propagation report was out today and mentioned that while there are still cycle 23 sunspots showing up, the first cycle 24 sunspot was spotted this past week. This is the beginning of the end of the solar minimum, and has been eagerly awaited by hams all over the world. This doesn't mean that propagation will be up to mid-cycle levels any time soon, but **is** good news.

Look up Ken Larson, KJ6RZ at the club meeting and he can fill you in on what this means and show you the charts. You will see why folks are starting to look forward to better days coming.

Ventura County ACS/ARES Times & Frequencies

Area 2 ACS/ARES members are encouraged to check in every Tuesday night at 7:00pm on the Area 2 check-in nets.



Area	Time	Mode	Frequency	Shift	PL	Repeater/Notes
Area 1	7:00-7:30 pm	Voice	147.930	-	127.3	AD6SV
<u>Area 2</u>	<u>7:00-7:30 pm</u>	<u>Voice</u>	<u>146.850</u>	-	<u>94.8</u>	<u>K6AER/Grissom</u>
Area 2	7:10-7:30 pm	Voice	224.700	-	156.7	K6HB
<u>Area 2</u>	<u>7:10-7:30 pm</u>	<u>Voice</u>	<u>449.440</u>	-	<u>131.8</u>	<u>W6AMG/Amgen</u>
Area 2	(Simplex)	Voice	146.445	None	None	Simplex
Area 2	(Backup Repeater)	Voice	147.885	-	127.3	N6JMI "Bozo"
Area 3	7:15-7:30 pm	Voice	147.915	-	127.3	WB6ZTQ
Area 4	7:15-7:30 pm	Voice	149.970	-	127.3	WB6YQN
Area 5	7:00-7:30 pm	Voice	145.400	-	None	N6FL
Area 6/7	7:00-7:30 pm	Voice	147.975	-	127.3	N6VUY
Area 8	7:00-7:30 pm	Voice	146.985	-	127.3	South Mtn.
County	7:30-8:00 pm	Voice	146.880	-	127.3	WA6ZTT
County	6:45-7:00 pm	Voice	52.980	-	82.5	K6SMR
County	7:30-8:00 pm	Voice	224.020	-	127.3	WB6ZTR
County	Before 6:30 pm	Packet	145.710	+	None	Hospital Net
County	(ACS Simplex)	Voice	147.570	None	None	Simplex

Net Control operations for the weekly ACS/ARES Area 2 check-in are run from the ACS/ARES communications center at East County Sheriff Station (on Olsen Road) every Tuesday starting at 7:00pm.

Visitors are welcome and have the opportunity to operate the station. Please contact Gino Spinelli, K16DJV at (805) 529-6101 if you would like to attend.

ACS members should remember that their ACS card is issued for only two years. When your card is due to expire, please call Jackie at the Office of Emergency Services in Ventura, (805) 654-2551, to renew it.

For questions concerning ACS/ARES, please call the Area 2 Emergency Coordinator, Ken Larson, KJ6RZ at (805) 495-9435 or go to the ACS/ARES section of the CVARC website at <http://www.cvarc.org>.

2008 CVARC Officers

President.....	Greg Lane	K7SDW	(805) 498-0454	k7sdw@verizon.net
Vice President.....	Tom Stough.....	WØUFC.....	(805) 373-6836	w0ufc@arrl.net
Secretary	Mary Ho.....	KI6COG.....	(805) 494-9241	abele7213@mypacks.net
Treasurer	Roy Deschene.....	KE6UMW.....	(818) 887-4039	RoyfD@aol.com
Public Relations	Jeff Reinhardt.....	AA6JR.....	(818) 706-3853	aa6jr@pacbell.net
Technical	Rick Barrett.....	KE6DKF	n/a.....	ke6dkf@roadrunner.com
Operations	Open.....	Open	(805) xxx-xxxx	-@-@-
Newsletter Editor	Neil Waybright.....	AF6CD.....	(805) 517-2962	af6cd@arrl.net
Education.....	Karl Moody	AE6TO.....	(805) 523-0622	ke6wvz@aol.com
Social.....	-OPEN-			
Member at Large	Hugh Bosma.....	AE6YC.....	(818) 498-1987	hrbcrb@aol.com
Member at Large	Dave Morton.....	AA6DM	(805) 495-3920	aa6dm@arrl.net



CVARC is recognized by the ARRL as a Special Service Club (SSC). To be a part of the ARRL's Special Service Club program, the club must regularly show that it is actively involved in certain areas, including:

- New Ham Development and Training
- Public Relations
- Emergency Communications
- Technical Advancement
- Operating Activities



Conejo Valley Amateur Radio Club
PO Box 2093
Thousand Oaks, CA 91358-2093

Address Correction Requested

– FIRST – CLASS – MAIL –



CVARC Online

For up-to-date information and back issues of newsletters, please visit the CVARC Web Site at <http://www.cvarc.org>. In addition to visiting the Web site, you may like to join the CVARC Yahoo Group at <http://groups.yahoo.com/group/CVARCDiscussion/>

The Conejo Valley Amateur Radio Club is an ARRL affiliated Special Service Club. Meetings are held on the third Thursday of every month, except December. The meeting location is the Community Room at The East County Sheriff Station, 2101 E Olsen Road, Thousand Oaks. Meetings start at 7:30pm with a pre-meeting social and technical assistance session from 6:30 to 7:30pm. Meetings are open to the public, and members are encouraged to bring their friends.

“News from CVARC” is published monthly (on the Monday preceding the CVARC club meeting) by the Conejo Valley Amateur Radio Club, AA6CV PO Box 2093, Thousand Oaks, CA 91358-2093. It is mailed free of charge to all members.

Opinions expressed in articles in this newsletter are those of the authors and do not necessarily represent the views of the club, its Board, or its members.

CVARC Membership Rates

Visitors are always welcome at our monthly meetings, and we do not pressure newcomers to join. If, however, you would like to support the club and its activities by becoming a member then we will be very pleased.

The simplest way to join (or to renew) is to write us a check bearing your address, and give or send it to our Treasurer. Make the check payable to “CVARC” and please put your callsign and/or email address, if you have one, on the memo line of your check. Name, Callsign, or Address changes may be emailed to the Treasurer.

Current annual rates are: Regular Membership: \$25. Family Membership: \$30. Special discounts are available for; New members just licensed: \$10. Full-time Students: \$10. Regular members renewing for multiple years: \$20/year.