

Newsletter of the Riverside County Amateur Radio Association

ARRL Affiliated Club #1720

THE MONITOR

September



2015

Welcome to the Riverside County Amateur Radio Association Newsletter. Our club has been serving the Riverside area for 60 years and we have over 80 members. Monthly meetings are held on the second Thursday of each month at 7:00 PM in the La Sierra University Church Conference Center directly behind the church located at the corner of Pierce and Sierra Vista, Riverside, CA. See our webpage for directions and more information:

www.w6tj.org



R.C.A.R.A.
HAM
RADIO
CLUB

Riverside Repeater: 146.880 MHz, -600 KHz offset, PL 146.2 Hz

Please submit your newsworthy articles and suggested publications
by the 25th of the month to be included in the next edition of

THE MONITOR to

Marlene KK6CTX via email at

XMADAMXX@AOL.COM

September 10, 2015 Program

7:00 P.m.

September, we will have our regular meeting in the Sierra Vista Chapel on September 10th at 1900 hours. The Chapel is not our usual meeting room and is located across the street from the church at 4920 Sierra Vista.

On Thursday the program will consist of a presentation by Don KD6UVT

IT's ALL ABOUT POWER

for our homes, our workplace (for those not retired) and our radios. They all need electrical power, okay maybe our kitchens, TVs and other home appliances too.

If we live in Riverside that power costs us 10.35 cents, 16.46 cents or 18.67 cents per kilowatt-hour (KW-hour). There are some fixed costs that we pay each month also, an \$8 customer charge and a \$10 or \$20 Reliability Charge depending upon the size of our service, 100 or 200 amps.

Now here's the strange thing about our electricity; during the cooler parts of the year when residential energy use is lower we pay 10.35 cents per KW-hour for up to 350 KW-hour, each KW-hour after 350 costs us 16.46 cents per KW-hour and if we use over 750 KW-hour it's 18.67 cents per KW-hour. In the summer when usage is higher we get the first 750 KW-hour at 10.35 cents, 16.46 cents from 750 to 1500 KW-hour and 18.67 cents when we use over 1500 KW-hour! Wouldn't it be nice if gas got cheaper the more we use.

Okay, back to our subject. In the past there hasn't been much we could do to lower our electric bill other than to use less electricity but in the past few years the buzz word is solar or wind generation. Back a few years ago Mr. Gerald J. Buydos from the city of Riverside Utilities Department attended our RCARA meeting and gave a presentation on the city's solar rebate program. I don't think that any of our club members jumped on the bandwagon then unless it was to power our RV's, travel trailers or portable ham stations.

My wife and I followed that course, our first travel trailer had 100 watts of solar on the roof, we designed and installed 260 watts on our second trailer and on our most recent trailer we paid the dealer to install 170 watts on the roof (ask me if new efficiencies within the trailer help offset the reduced size of the system). I also purchased a 60 watt portable solar panel for powering my amateur radio equipment when I didn't have our trailer handy. You might note that each of these solar systems have a limited capacity that nowhere approaches what any of us use in our homes and even some of our RVs and trailers!

Use 750 KW-hour in one month and that's 25 KW-hour per day. The trailer-mounted systems I described produce 0.100 KW, 0.260 KW, 0.170 KW and 0.060 KW. Do the math and we see the largest one would likely generate about 1 KW-hour assuming 6 hours of sunlight and a 30% loss since the panels are flat on the roof and cannot track the sun's path through the sky.

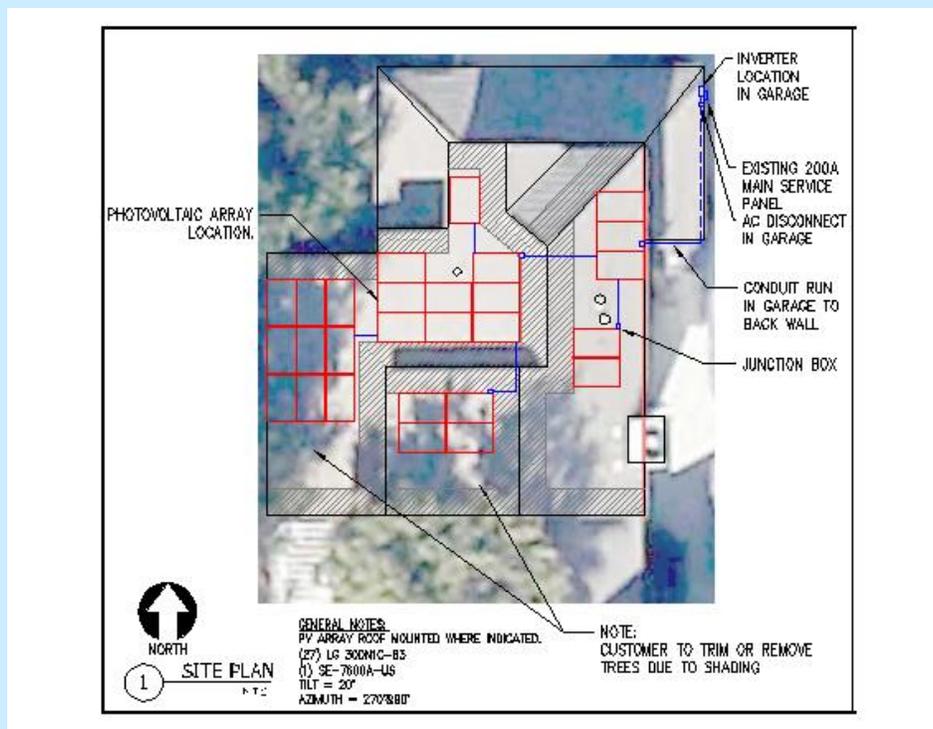
Wow, what does it take to power a home with solar? We decided to look at having solar photovoltaic panels (the proper term for solar) installed on the roof of our home. We wrestled with the thought of having some of our prized shade trees cut, trimmed and removed and discarded the idea a couple of times but last year we decided to go a step further and have a plan prepared that would layout the photovoltaic panels on the roof and include a shade study to help place the panels in optimum locations; it would also show where trees might have to be trimmed or removed. Our contractor, Herca Solar, initially sized our system at 6.37 KW AC using 24 panels. Looking back at our 3 year usage our lowest month was 748 KW-hours, our highest month 1540 KW-hour. Our system would have to generate power for 7 hours a day for the lowest month and 14 hours for the

highest month. The first is easily attainable; the second may be more difficult since it occurred during September when the days are starting to get shorter.

Our final design: 7.17 KW AC (8.10 KW DC) using 27 [LG300N1C-B3](#) photovoltaic panels. Each panel contains 60 photovoltaic cells, and has a maximum output 300 watts at 32 volts. A [Solar Edge Power Optimizer](#) is connected to each panel to maximize the output by continuously adjusting the voltage. From what I can

deduce from the plans there will one string of 14 panels in series and a second string of 13 in series; the two strings then wired in parallel to feed the [7600 watt Solar Edge single phase inverter](#). The installation manual for the Solar Edge Power Optimizers state that string lengths in number of panels do not have to be equal. The power optimizers will adjust the individual panel voltages to produce 350 volts from each string. This same technology allows the system to automatically compensate for changes in panel string voltages caused changing solar radiation and shading on one or more panels due to changes in sun angle, exposure, etc. during different times of the day and year.

Okay, where are we now? Note the site plan showing the preliminary location of panels on the roof and shading study.



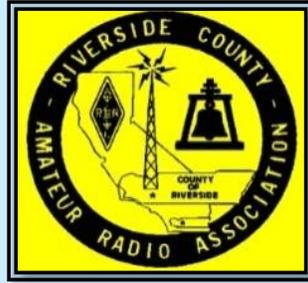
The aerial satellite photo used in this plan was from November 2014 so it is close to the Winter Solstice, the shortest day of the year when the sun is at its lowest angle to the Northern Hemisphere and when the roof is shaded the most from trees on the south side of the house. We have now removed two 60' Cottonwoods and a 35' Chinese Flame trees to the left of the house (west) and shortened and trimmed the Chinese Flame tree shading the bottom portion of the roof (south). Riverside has reviewed and approved our plans and we are approved for a rebate that will be determined when the system is complete and operating.

Construction was initially scheduled to begin mid August, then rescheduled for August 26th but my gut reaction was probably in September; it is now scheduled to begin on September 1st. I'll be on the roof and in the garage documenting the construction for our September program; hopefully Herca will be done with the majority of their work so I can show facts rather than plans.

Come join us for a great program. Ask me next year to report on our systems performance.

Don Williams KD6UVT
RCARA Vice President

For meeting location and information, visit our webpage at W6TJ.ORG



R.C.A.R.A. Club Officers for 2015

- President: Ron Braley KE6RYX (951) 369-5149
- Vice President: Don Williams KD6UVT kd6uvt@arrl.net
- Treasurer: Jim Wiley AG6EA jameswwiley@att.net
- Secretary: Duane Allen N6JPO - n6jpo@arrl.com
- Newsletter Editor: Marlene KK6CTX - xmadamxx@aol.com
- Membership Chair: Ed Morgan KF6BNQ - edjmorg@aol.com
- Communications Director: Bob Trujillo KG6NIB – solementebob@yahoo.com

APPOINTED OFFICERS:

- Club Historian: **vacant (volunteer wanted)**
- Club Photographer: Steve Evans AF6HR - kf6bnp@aol.com
- Sunshine Chairman: Art Sutorus AA6CA – aa6ca@att.net
- Website Administrator: Stephen McDaniel KJ6MXE – mrmcd@smcdaniel.net
(pending vacancy - volunteer needed)
- W6TJ Trustee: Don Williams KD6UVT - kd6uvt@arrl.net



Please note: Information to be disseminated to all R.C.A.R.A. Club Members via email should be forwarded to Marlene KK6CTX at xmadamxx@aol.com for distribution. Please make sure your information and any changes are updated by letting Membership Chairman Ed Morgan know at edjmorgan@aol.com or (951) 689-1917



August 13, 2015

60th Anniversary 2015

In lieu of a regular meeting, the Riverside County Amateur Radio Association hosted A Pot Luck Celebration in honor of their 60th Anniversary

More than 30 members, spouses, guests and friends attended the gala event as a tribute to the longevity of the club.

The variety of food was delicious and enjoyed by everyone.

Many showed up early to help set up the tables and chairs and to decorate while others stayed after to help with clean up ... which is so typical of the helpful nature of our members and much appreciated.

The photos, clippings, awards and previous MONITORS (all recently re-discovered) were enjoyed and raised many fond memories of meetings, Field Days, social events and changes that have occurred over the past 60 years.

President's QSO

From the Desk of



Ron Braley KE6RYX

Good Day Everyone:

I hope everyone had a nice time at the anniversary dinner; I certainly did. Thanks to everyone who assisted in planning the dinner and who brought items to share.

I would like to also thank our set up crew for helping before and after the dinner.

Moving on to September, we will have our regular meeting most likely in the Sierra Vista Chapel on September 10th at 1900 hours. The Chapel is not our usual meeting room and is located across the street from the church at 4920 Sierra Vista. This will be a regular club meeting with a solar presentation by Don KD6UVT and nominations for next year's Board of Directors. All offices are available so please think about which office you would like to be nominated for or whom you would like to nominate to run for that office.

Looking forward to seeing everyone on the 10th. Please enjoy the rest of the summer and try to stay cool.

Ron Braley KE6RYX
RCARA Club President

Have a safe Labor Day





Your ideas, suggestions and input are invited and most welcome! Let the Board know if you have something you would like the club to do or of upcoming local events, speakers and/or future program presentations.



Now that the two major events (Field Day and 60th Anniversary) are behind us, let's look forward to continuing the momentum.

The Hungry Hams Lunch Bunch

will resume meeting on

Wednesday, September 16, 2015 at 11:30 a.m.

Location is "Back Street Café"

Nelson Street at the corner of Brockton, Riverside, CA

Please RSVP to Marlene xxmadamxx@aol.com

so that we can reserve seating at the café.



September BIRTHDAYS

May you live long and experience the many joys life has to offer!



Art Sutorus AA6CA - Sept. 9

Don Williams KD6UVT - Sept. 9

Edward Morgan KF6BNQ - Sept. 14

Ward Roney KI6CVQ - Sept. 15

Jeffry Couch W6HGS - Sept. 21

Ken Rotker W4OFE - Sept, 27

Sjana Dreyer-Bauer KK6HTV - Sept. 28



LET'S BE FRIENDLY

A first step in being friendly is wearing a badge displaying your name and call sign. If you wear a name tag, it's more likely someone will stop and chat for a bit - if you don't, they'll probably walk right past you. So why not be friendly?



**THANK YOU TO EACH AND EVERY ONE WHO
PARTICIPATED IN THE POT LUCK CELEBRATION!**

Memories being made





The food was fantastic, plentiful and enjoyed by everyone who attended. Memories and photos were pooled and friendships renewed. Lots of photos were taken and shared amongst the group along with laughter, some moments of recollection reflecting the efforts of those who initiated RCARA and memories of the Silent Keys who contributed their energies and dynamics to keep the club going for 60 years. We are ever grateful to those who came before us and to those who will fortify and reinforce the future of RCARA



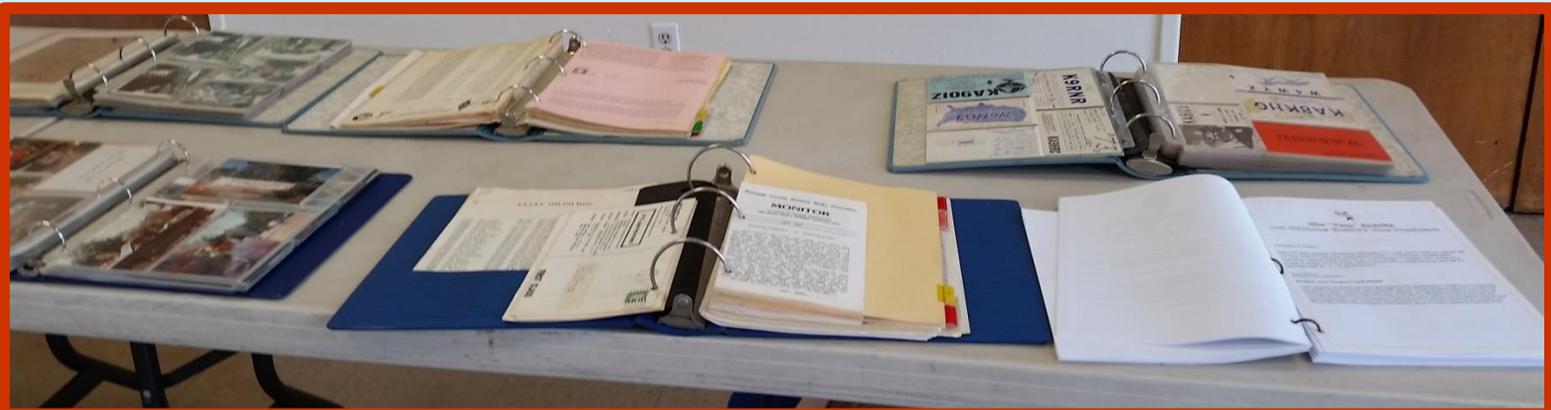




Waiting for the call to dinner



A toast to the future and growth of RCARA



Club archives and historical data

Many valuable memories and documentation

If anyone has empty 3" binders (used is fine) they would like to donate to the club so that we can continue to collect materials to save for posterity and preserve the history of RCARA,

please let me know:

Marlene KK6CTX at xmadamxx@aol.com

**VOLUNTEERS NEEDED TO STAFF A TABLE/DISPLAY AT THE RIVERSIDE
READY PREPAREDNESS FAIR**

**Please let me know if you are able to participate
even for an hour or two**

Marlene KK6CTX at xmadamxx@aol.com

September is...

NATIONAL PREPAREDNESS MONTH

Riverside Fire Department - Office of Emergency Management

 **Ready Riverside** 
Emergency Preparedness Fair

Saturday, September 28, 2013

11:00 a.m. to 3:00 p.m.

Target Store Parking Lot

3520 Tyler Street, Riverside



City of Arts & Innovation



PREPAREDNESS IS EVERYONE'S RESPONSIBILITY

- *Learn your risks and responses*
- *Build an emergency supply kit*
- *Make a family communications plan*
- *Get involved in preparedness in your community*



FOR INFO CONTACT:

Gina Perez at gperez@riversideca.gov or (951) 320-8112

www.readyriverside.com

www.facebook.com/CityOfRiversideCert

LINKS OF POSSIBLE INTEREST



Amateur Radio Ham Radio Maidenhead Grid Square Locator Map

http://www.levinecentral.com/ham/grid_square.php

Interesting Ham Related Links

<http://www.arrl.org/>

<http://www.arrl.org/qst>

ARRL Exam Review for Ham Radio

<http://arrlexamreview.appspot.com/>

<http://www.manualman.com>

<http://73s.com/>

REPEATER LIST

<http://rprrlist.w6ipl.ampr.org/>

ALL ABOUT BATTERIES

<http://www.batteriesamerica.com/>

<http://nicdlady.com/>

ECHO LINK INFO

<http://www.echolink.org/>

IRLP LINK INFO

<http://www.irlp.net/>



CALENDAR OF EVENTS

DAY/TIME	WEEKLY NETS	INFORMATION
Every Sunday at 8:30 AM	R.A.C.E.S. PUBLIC SERVICE NET, 3.945 MHz	Don Williams KD6UVT kd6uvt@arri.net
Every Monday at 7:00 PM	R.A.C.E.S./ARES PUBLIC SERVICE NET, 146.880 MHz, Minus, 146.2 PL	Don Williams KD6UVT kd6uvt@arri.net
Last Monday of the month at 7:00 PM	R.A.C.E.S./ARES PUBLIC SERVICE NET, 146.880 MHz, NO PL – SIMPLEX	Don Williams KD6UVT kd6uvt@arri.net
Every Tuesday at 7:00 PM	QCWA NET 145.580 – SIMPLEX	Bob W6RTW
Every Tuesday at 7:00 PM	ECG Emergency Communications Group KB6OZX 445.060 -162.2	Rick KK6CTT mgr86@juno.com
MONTHLY EVENTS		
1 ST Monday of the month 6:00 PM	SEPT. 7 R.A.C.E.S. MEETING CANCELLED (LABOR DAY) Next meeting Mon. Oct. 5, 2015	Don Williams KD6UVT kd6uvt@arri.net
2 nd Thursday of the month 7:00 PM	R.C.A.R.A. CLUB MEETING Sept. 10, 2015	Ron Braley KE6RYX (951) 369-5149
1 ST Saturday of the month 1:30 PM	VE Testing, Corona	By appointment only
SWAP MEETS	LOCATION	SPONSOR
Last Saturday of the month 7:00 - 11:30 AM	Redondo Beach, CA	W6TRW w6trwswapmeet@gmail.com
3 rd Saturday of the month 7:00 AM	Chino Hills High School	

On a personal note, I want to thank all the RCARA club members for the lovely thank you card and their generous gift card.

I was deeply touched and very grateful for your thoughtfulness.

It is my pleasure to help whenever I can to organize an event but it takes a village and you all do the work and give suggestions and present ideas as well as volunteer.

What an awesome group of hams, spouses and guests who collectively have so much to offer.

THANK YOU for all you do!

With heartfelt appreciation,

~ Marlene KK6CTX

