



CLUB STATION
K6SON

Short Skip

The Newsletter of

Sonoma County Radio Amateurs, Inc.

P.O. Box 116, Santa Rosa, CA 95402-0116 707-579-9608

<http://www.sonomacountyradioamateurs.com>

Repeaters:

English Hill: 147.315+ 88.5 / 224.180+ 88.5 /
441.375+ 88.5

Castle Rock: 147.315+ 156.7



REPEATER STATION
W6SON

Volume 39, Number 9

September 2014



September SCRA Update

by Pat Coyle, KG6JSL
SCRA President

GOODBYE SUMMER,
HELLO FALL

It has been a busy summer for SCRA, with activities, public service events, license classes and shows at the meetings. There are too many to name here individually but thank you to all who have participated. It is only member participation that keeps the Club alive and well.

But wait!! There's More.

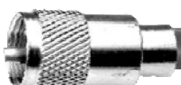
The Club is sponsoring an End of Summer Picnic organized by Jim Draeger, KI6REK, on September 13 that is free to members and their guests. Lee Dibble, KE6EAQ, has generously offered his beautiful grounds at 1290 Parsons Dr. Santa Rosa, for the picnic. A Fox Hunt will be conducted as well. See the announcement in this issue of Short Skip with more info. This will be great fun and all are invited. Please RSVP with Jim so he has a count.

The Public Service and Activities calendar is still active as well. We will have a booth at the Pacific Coast Air Museum Air Show organized by Darryl, KI6MSP, and the two day Waves to Wine bicycle tour by Craig, K6XLT. Check out the calendar on the Club website and contact them for more information and to volunteer. Again, it is only member participation that keeps things going.

This month's meeting program on September 3 will be Technical Questions and Answers. Bring all your radio related questions, problems and inquiries. Our panel of experts, which is the entire Club, will have the answers. This is always interesting and a great learning program.

As we enter the fall radio season, check out the DX and Contest page in Short Skip. As our outside activities diminish, fall is a good time to get familiar with HF and VHF/UHF contesting. Just listening will vastly assist in increasing your radio skills. Participation is the best way to learn how to work your radio efficiently and correctly. Like everything, radio skills are only improved with practice.

Pat, KG6JSL





2014 Club Officers

President	Patrick Coyle coylaw@sonic.net	KG6JSL
Vice President	John Felton	KE5RI
Treasurer	Mike Von der Porten	AD6YB
Secretary	Dave Harrison	W6IBC
Director	Doug Payne	KF6LMB
	Jeff Tonelli	KI6PBF
Past President	Charlie Sikes	KZ6T

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Activities	Darryl Paule, KI6MSP	ki6msp@arrl.net
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Tuesday Night Net

Remember to check in to the SCRA net each Tuesday evening on the 147.315+(PL 88.5) repeater at 7:00 PM. Announcements are made of upcoming SCRA and other amateur radio activities in the broadcast.

Short Skip Advertising Rates

Business Cards	\$12 per month
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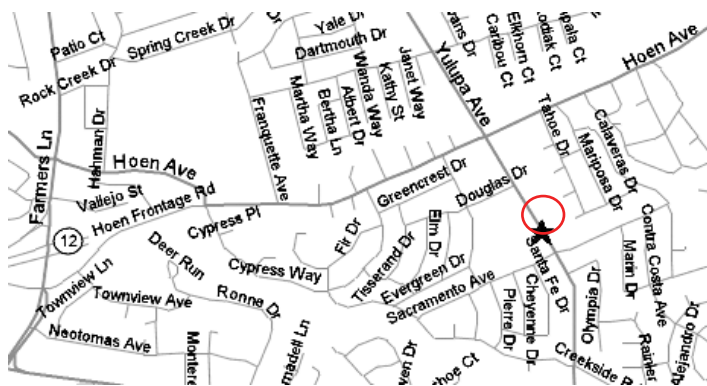


SCRA Club Meetings

The club normally meets the first Wednesday of each month at 7:00 pm. Exceptions are holidays or other big events.

Meeting location:

Luther Burbank Art & Garden Center
2050 Yulupa Avenue
Santa Rosa, CA



All are welcome!

Please join us at our next meeting. Anyone interested in Amateur Radio may be eligible for membership. A membership application is included in this newsletter.

For more information, contact any SCRA officer, director or member.

Hungry before the meeting?

Join us for dinner! We Meet at IHOP restaurant, 4th and Famers Lane, Santa Rosa.

People start showing up at 5:15 PM.

No RSVP is required.

See you there every month except December.

If you are not getting the ARRL San Francisco Section news by e-mail and you are an ARRL member, be sure to subscribe under your Members Only information or go to this Web site:

<http://www.arrl.org/Groups/view/san-francisco>



Sonoma County Radio Amateurs Membership Meeting Minutes

August 6, 2014

Meeting called to order at 7:03 PM by President Pat KG6JSL.

Minutes for July Membership Meeting were approved on motion by Doug KF6LMB, second by Steve KI-6TUR. John WB6FRZ requested his wife's name be corrected to Carrie Breckenridge (Secretary apologizes for misspelling in the July minutes).

Program: Show and Tell Night. Brian N7MOE presented a solar charger for lithium ion batteries. Steve KI-6TUR presented an APRS system based on the Raspberry PI miniature computer board. Darryl KI6MSP presented a frame with a coil and a capacitor, and an old rotary-dial based autopatch. Pat KG6JSL presented a 1927 RCA Model 33 tuned radio frequency receiver, and an in-line 12 volt battery power meter. Brian N6IIY presented an attenuator system enabling inter-connection of QRP radios for closed-circuit code communications; he also presented a code-oscillator and mixer. Louie KB7DEL presented a tuna tin two transistor transceiver. John KG6BHI presented a mechanical code practice generator. Doug KF6LMB presented a plastic hanger for transmission line, a portable inverted Vee antenna and a mobile-mounted mast. Joe K6AWA presented a go bag containing a complete two meter station and accessories for public service events.

Business Meeting began at 8:45 PM after a break. A quorum of members was present.

Announcements: New members and visitors were acknowledged, including Chris KK6JXN and Shelley KK6JXM. Karen KK6GJW introduced her husband Scott. David KI6UGB announced that his 2 meter radio was successfully programmed.

Treasurer Mike AD6YB noted that the club is on track with its 2014 budget and that the club had received a donation from the Tour d'Organics event. Director Doug KF6LMB presented a motion for \$350.00 to cover upgrades to the club trailer. Seconded by Andru KJ6YFD, the motion was approved.

Activities Chair Darryl KI6MSP reported that he has tee-shirts for Vineman radio participants. The booth

at the Sonoma County Fair on August 2nd was well received. A second booth is planned for August 9th in the Craft Building. All positions for the August 10th Tour de Organics are filled. Darryl wants volunteers for PCAM on September 21st. He also mentioned the North Bay Science Festival and an information booth at the Gran Fondo. Check the Activities page on the SCRA website for more information.

Picnic Chair Jim KI6REK reported that the club picnic will be held at Lee Dibble's home on September 13 beginning at 11 am. The club will furnish food and drinks, and there will be a "Fox" hunt.

Repeater Committee Chair Jack K6ROW reported that the voter receiver system is up and running. There was a discussion concerning the "double beep" at the end of some transmissions.

Education Chair Jeff KI6PBF reported that the next Technician class will be held on August 29-31 at the Bennett Valley Grange. He had no information concerning the status of the club's azimuth-elevation controller kit.

Public Service Chair Craig K6XLT discussed SCRA support of the Santa Rosa Marathon on August 24th. This year, the MS Waves to Wine bike tour conflicts with the PCAM air show, but volunteers are needed for Waves to Wine, and that the Gran Fondo would wrap up the public service season this year. Pat KG6JSL demonstrated the sign-up procedure for public service events on the club website.

Emcomm: Chair Charlie KZ6T reported that an ARES drill is scheduled for October 18th.

VE Liaison: Brian N6IIY reported the next open exam session will be Sunday August 31st at 3PM and will be in conjunction with the Technician Class at Bennett Valley Grange.

Merchandise: Chair Iola KK6HRE asked for additional orders for personalized safety vests. She also displayed the new orange Tee Shirts which are available in all sizes.

Continued on next page.



**Member Meeting Minutes, continued.**

Refreshments: Iola KK6HRE supplied several pies, and Carrie Breckenridge supplied cookies for the meeting.

Old Business: President Pat KG6JSL reported that the Historical Radio Society used the club's gift toward a completed purchase of a museum building in Alameda.

New Business: John WB6FRZ proposed moving the club dinner before the membership meeting and the board meeting dinner to the Johnny Garlic's restaurant on Farmers Lane. A show of hands suggests the members support such a move.

Net Control Assignments for July:

8/12 Keith AG6CI
8/19 Dave W6IBC
8/26 Brian N6IY
9/2 Darryl KI6MSP

Meeting adjourned at 9:00 PM.

Respectfully submitted,
David Harrison W6IBC
Secretary

Sonoma County Radio Amateurs**Board of Directors Meeting**

August 13, 2014
Minutes

Regular Board Meeting called to order by Treasurer Mike AD6YB at 6:05 PM at IHOP Restaurant, Fourth St at Farmers Lane, Santa Rosa. Mike presided in the absence of President Pat KG6JSL and Vice President John KE5RI. Director Doug KF6LMB was also absent. Board Members in attendance comprising a bare quorum included Mike AD6YB, Secretary Dave W6IBC, Director Jeff KI6PBF and Past President Charlie KZ6T. Other SCRA members attending included Brian N6IY, Darryl KI6MSP, Iola KK6HRE, and Jack K6ROW.

Minutes of the July 2014 Regular Meeting of Board were approved on motion by Jeff KI6PBF, second by Charlie KZ6T. Mike reported upon the state of the treasury. There were no other officer or director reports.

Activities: Chair Darryl KI6MSP reported that the club's table at the Sonoma County Fair drew considerable interest with one visitor signing up for the forthcoming technician class. The Tour d'Organics bike event went well from the ham radio perspective. Future activities include the booth at Levi's Gran Fondo bike event, and the North Bay Science Fair.

Merchandise: Chair Iola KK6HRE reported purchase of two small emergency vests for two club members.

Refreshments: Chair Iola KK6HRE reported that donations are delivered to the treasurer following the membership meeting. The board suggested that a sign proposing a \$1.00 donation be placed next to the contribution jar at the refreshments table.

Mentoring: Chair Jeff KI6BPF stated a need for study guides for the new technician class question pool. He expects eight students at the forthcoming class, with as many as 24 students possible. Jeff will contact Dennis KI6REO to find out the status of the azimuth-elevation antenna controller project.

Repeater: Darryl KI6MSP reported that Dave KI6UGB used the IRLP node while serving at the club booth at the Fair, and the IRLP system worked well.

VE: Liaison Brian N6IY reported that new rules concerning applicants with previously earned general class or higher privileges would be able to get General Class privileges restored merely upon passing the technician class written exam. The next open VE session is August 31st at 3PM at the Bennett Valley Grange Hall

There was no old business considered by the board.

New Business: Charlie KZ6T offered to prepare written guidance for updating the club calendar on the website. The Annadel cross-country bike race seeks approval for use of the club repeater on August 16th from 7AM to 2PM. Approval granted on motion by Charlie KZ6T, second by Dave W6IBC.

At the July 2014 Membership meeting John WB6FRZ suggested that the club move it's dinner meetings from IHOP to Johnny Garlic's on Farmers Lane, Santa Rosa.

Continued on next page.



Board Meeting Minutes, continued.

The board discussed this proposal and felt that more options and information were needed before deciding upon this matter. The board felt important issues concerned potential locations, menus, and costs.

The club program for September will be Technical Questions and Answers.

The club will hold a picnic for members and families at the home of member Lee Dibble, KE6EAQ. More information will be provided.

This weekend the club will conduct the Mini-DXpedition to A.W. Way Count Park, Petrolia, Humboldt County, CA. Eleven people will be participating.

Iola KK6HRE reported that there will be a Santa Rosa COPE meeting at the Fire Department Conference Room on September 18th. SCRA members Pat KG6JSL, Eric AA6EM, and Lee KE6EAQ will be helping to train COPE emergency radio communicators.

With no further business the Board meeting adjourned at 7:45 PM.

Respectfully submitted,

Dave Harrison W6IBC
Secretary

SCRA END OF SUMMER PICNIC

Saturday Sep 13th. 11:00 AM

The location; 1290 Parsons Dr. Santa Rosa, CA. Lee, KE6EAQ has generously allowed us to hold the picnic in his back yard. Bring your swim suit, because there is a great pool, see photo below. There is no need to bring any food. The radio club is supplying the food and drink. However if you did want to bring something it certainly will not be turned away.

The Fox Hunt; Bring your HT and favorite fox hunting antenna. Brian, N6IYY will be conducting a fox hunt.

R.S.V.P.; Please rsvp to Jim, KI6REK so we can get a head count.

Event chair person, Jim, KI6REK
jimdraeger5@gmail.com
707-480-9751



Annadel XC Mountain Bike Race

On Saturday Aug 16th there was the Annadel XC Mountain Bike Race. Iola, KK6HRE and Jim KI6REK worked the Lawndale Rd rest stop. The term rest stop is used very loosely in this event. None of the participants stopped to rest. They just grabbed a bottle of water on the fly, and off they go.

Working net control was Eric, AA6EM. At the race start was Terry, KK6DQC. At Lake Ilsanjo rest stop was Matt, KJ6LJI. Lesson March rest stop was Jim, KK6HZS.

About midway into the race our work turned very serious when we dealt with getting help for a rider with a broken collar bone. Our equipment and protocols worked, when others' did not.

In the photos are Iola, KK6HRE and Jim, KI6REK. Also shown is one of the 550 riders.

Submitted by Jim, KI6REK



Santa Rosa Marathon

Station 6 Photos



2014 Mini-DX

Mini-DX 2014 took place August 15, 16, and 17 at A.W. Way Park along the Mattole River in Humboldt County. Steve KI6TUR and XYL Marianne arrived early on Wednesday to set up camp. Dave W6IBC, Joy KI6ASJ and Ed W1EJ arrived early on Thursday. The balance of participants were Keith AG6CI, Fred AE6SF and XYL Lisa, Jack K6ROW, Darryl KI6MSP, and myself who made the trek on Friday.

We had one mishap on the road. Somehow Darryl's table and chairs mysteriously disappeared off the back of my trailer along the road. It still is a big mystery how these items fell off as Darryl's antenna bag which was strapped on top of the table was still onboard. The best we can figure is someone who desperately needed the table, pulled along side while we were traveling down the highway, unstrapped the table, pulled it out from under the antenna bag, and then tightened down the straps. Well, that's the theory anyway.

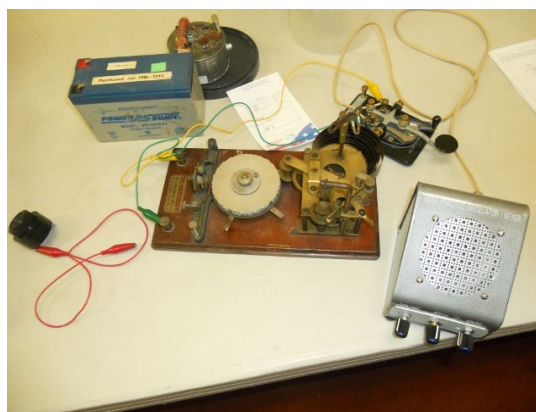
Upon arrival, antennas were raised around the campsite with wires being hung in the trees, verticals guyed to the ground, and bud-dipoles pushed up on masts. Making life a little easier this year was the addition of a new pneumatic antenna launcher. Having a 80 meter Windom up 80 in the air really makes a difference. This year's mini-dx occurred on the same weekend as the International Lighthouse activation, and the North America QSO party, so there was no shortage of traffic on the airways. Operating from this remote location definitely has its advantage, as in no background noise. (Wouldn't it be great if Santa Rosa had a background noise level on 40m of S1?) I was able to hear and be heard along the eastern seaboard using 10 watts of phone. Another perk of this location is looking up and seeing the milky way in the night sky.

Ah, the food... Like always there was no shortage of good eats. Steve and Mary Ann's Paella on Friday night with chocolate cake and hand churned peach ice cream was a hit. A traditional pancake breakfast on Saturday morning with Ed's famous pancakes, do-it-yourself lunch, then Fred and Lisa's BBQ chicken dinner with more cake and ice cream. Charlie's Corn fritters highlighted Sunday morning's breakfast. After that, it was pack-up and head home. I arrived home around 4:30PM and started thinking about what to do for next year.



Show and Tell Meeting

August 6, 2014





CONTEST CORNER

by Kevin Alt, K6BSG

Hello testers. I hope that everyone had a good summer. Lots of state QSO parties and 2 RTTY contests in September. If microwave comms peak your interest try the 10 GHz and up contest 20-21 September. Happy DX'ing!

1 Sep – **OK1WC Memorial Contest**, SSB/CW, 80-40 meters. See: www.memorial-ok1wc.cz.

1-2 Sep - **Labor Day Sprint**, CW, 160-6 meters. See: miqr.org.

3 Sep – **NAQCC/FISTS WZ8C Honor Sprint**, CW, 80-20 meters. See: www.fists.org.

3 Sep – **ARS Spartan Sprint**, CW, 80-10 meters. See: www.arsqrp.blogspot.com.

3 Sep – **CWops Weekly Mini-CWT Tests**, CW, 160-10 meters. See: www.cwops.org/cwt.html.

5 Sep – **NS Weekly Sprint**, CW, 160-20 meters. See: www.ncccsprint.com.

6 Sep – **CWops CW Open**, CW, 160-10 meters. See: www.cwops.org/cwopen.html.

6 Sep - **Russian Radio RTTY WW**, 80-10 meters. See: www.radio.ru/cq/contest/rule-results/index2.shtm.

6 Sep - **DARC 10-Meter Digital “Corona”** - Digital. See: www.darc.de/referate/ukw-funksport.

6 Sep – **Straight Key Party**, CW, 40 meters. See: www.agcw.de.

6 Sep – **Indiana Parks on the Air**, all modes, 80-6 meters. See: inpota.com.

6 Sep – **Ohio State Parks On the Air**, Phone/CW, 80-6 meters. See: parks.portcars.org.

6-7 Sep – **070 Club KA3X Memorial Sprint**, Digital, 80 meters. See: www.podxs070.com.

6-7 Sep - **All-Asian DX Contest** - SSB, 80-10 meters. See: www.jar.org/English.

6-7 Sep - **IARU Region 1 Field Day** - SSB, 160-10 meters. See IARU Society web pages.

7 Sep - **North American Sprint** - CW, 80-20 meters. See: www.ncjweb.com.

7 Sep – **QRP ARCI Two Sidebands Sprint**, SSB, 160-10 meters. See: www.qrparci.org/contests.

7-8 Sep - **Tennessee QSO Party** – all modes, 160 meters – 70 cm. See: www.tnqp.org.

13 Sep – **FOC QSO Party**, CW, 160-10 meters. See: www.g4foc.org.

13-14 Sep – **Worked All Europe DX Contest**, SSB, 80-10 meters. See: <http://waedc.de>.

13-14 Sep – **Straight Key Weekend Sprintathon**, CW, 160-6 meters. See: www.skccgroup.com.

13-14 Sep - **Arkansas QSO Party** – all modes, 80-2 meters. See: www.arkqsoparty.com.

13-15 Sep - **ARRL September VHF Contest**, all modes, 50 MHz and up. See: www.arrl.org/contests.

14 Sep - **North American Sprint** - SSB, 80-20 meters. See: www.ncjweb.com.

14-15 Sep – **Classic Exchange**, Phone, 160-2 meters. See: www.classicexchange.org.

15 Sep – **Run For the Bacon**, CW, 160-10 meters. See: www.fpqr.org.

18 Sep – **NAQCC Monthly QRP Sprint**, CW, 80-20 meters. See: naqcc.info.

20 Sep – **Feld-Hell Hell on Wheels Sprint**, Digital, 160-10 meters. See: www.feldhellclub.org.

20-21 Sep - **ARRL 10 GHz Cumulative Contest**, all modes, 10 GHz and up. See: www.arrl.org/contests.

20-21 Sep - **Scandinavian Activity Contest** - CW, 80-10 meters. See: www.sactest.net.

Continued on next page.





Contest Corner, continued.

20-21 Sep - **South Carolina QSO Party** – all modes, 160 meters – 70 cm. See: scqso.com.

20-21 Sep – **Washington State Salmon Run**, all modes, 160-2 meters. See: www.wwdxc.org.

21 Sep – **BARTG Sprint 75**, Digital, 80-10 meters. See: www.bartg.org.uk.

21-23 Sep – **Classic Exchange**, CW, 160-2 meters. See: www.classicexchange.org.

22 Sep – 144 MHz Fall VHF Sprint, all modes, 2 meters. See: www.svhfs.org.

24 Sep – **SKCC Straight Key Sprint**, CW, 160-6 meters. See: www.skccgroup.com/sprint/sks.

27 Sep – **Texas QSO Party**, all modes, 160-2 meters. See: www.txqp.net.

27-28 Sep - **CQ Worldwide RTTY Contest**, 80-10 meters. See: www.cqwwrtty.com.

27-28 Sep – **Maine QSO Party**, SSB/CW, 160-10 meters. See: www.maineqsoparty.com.

28 Sep – **Peanut Power Sprint**, SSB/CW, 40-15 meters. See: www.nogaqrp.org.

30 Sep – **222 MHz Fall VHF Sprint**, all modes, 222 MHz. See: www.svhfs.org.

Repeater Committee Report

Voting Repeater Questions

Repeater users have questions about the voting repeater system SCRA has implemented on its English Hill and Castle Rock repeaters. The Repeater Committee has answers.

What is a voting repeater system? It's a system which has inputs from 2 or more receivers and selects the best signal to be repeated, usually from a single transmitter.

How is SCRA's voting repeater system implemented? In SCRA's case, the signals from the repeater receivers at English Hill and Castle Rock are compared by the voter at English Hill. The signal with the best signal/noise ratio is selected by the voter and transmitted by the English Hill repeater. This repeater has a 160 watt amplifier feeding a 4 element dipole array with 6+ dB of gain and mounted at 1000 foot elevation. It provides broad coverage over the Santa Rosa plain. The Castle Rock transmitter is turned off.

Why use a voting repeater system? Improved coverage. This is the big selling point in public service. Multiple receivers can be placed where the users are and can provide hand-held coverage in places where only 25 to 50 watt mobiles worked before. In SCRA's case, we only have 2 receivers, and the club may decide to position additional receivers at other locations in the future to further improve coverage.

How does the Castle Rock signal reach English Hill? The signal is carried by a UHF link between the two sites.

Jack Christensen, K6ROW
Repeater Committee Chair



MENDOCINO RALLY 2014

Pat Coyle, KG6JSL

The radio work was fast and critical as hams from SCRA, Mendocino County ARC and elsewhere tracked fast cars on dirt roads for the 2014 Mendocino Rally on Walker Ridge and South Cow Mountain in Lake County on July 26 and 27. This event is an off-highway performance rally where cars race the course at 2 minute intervals. Fastest time wins. The winner averaged about 53 mph over two days, 8 stages and 100 miles on roads that you and I drive at 20 mph in the fast spots.

Radio operators spaced along the course block the entrance of intruding vehicles and report the passage of competitors. Things get exciting when cars “go missing” and fail to pass the operators in the correct order. This year we had cars going off course, rolling upside down and catching on fire.

John, WB6FRZ called “Emergency Traffic” twice as a local homeowner refused to acknowledge the Road Closed signs and insisted on driving on or near the course along with the competitors. Any collision with these cars at speed would not be pretty so we called in a Sheriff’s Deputy to explain the situation.

Fortunately there were no injuries but tracking and locating lost vehicles kept us busy. 16 cars started Stage One Saturday morning and only 9 finished the last stage Sunday afternoon.

Besides the radio work we had a catered welcome party at Parducci Winery on Friday night, a beer social at Red Tail Brewery on Saturday night and the awards party at Crush restaurant in Ukiah on Sunday. I think a good time was had by all.

Thanks for volunteering to Eric AA6EM, Brian, N6IY, Ed W1EJ, Dan WA5CRB, Bill WA7LZY, John WB-6FRZ, Ben WB5QAL, Marcella KI6MJC, Jim KI6REK, Nick KI6RIT, Eric KK6ATC, Terry KK6DQC, Karen KK6GJW, Jamie KK6GYA. Sweep Vehicles were Tim, KA6TIM, Martha KJ6VZQ, Chuck KI6WSR and Tyler KI6WSS. Zero cars were Pete KG6YKO, Dan KJ6CNT and Michel KF6ZST and Dick KI6HLP.

Here is a link to cool pics on Ben Weiss, WB5QAL’s website: <http://lionslair.com/pics/mr14>





PRODUCT REVIEW:

Turnigy Wattmeter and Power Analyzer
Pat Coyle, KG6JSL

Everyone who has worked an event off the grid has wondered about the power usage of equipment and how long the batteries would last. Research usually consists of asking someone about their experience, or maybe a quick calculation based on radio specs and estimated duty cycles. Occasionally checking battery voltage with a multi-meter helps too. However, the miracle of modern technology has given us the Precision Wattmeter and Power Analyzer.

This is a compact device that I first saw used by Bob Arthur, KG6ZDN, at Field Day a few years ago. It is wired with Anderson Power Poles adapters and easily plugs into your radio power leads. After turning on your radio or other device, and after the startup screen cycles, the measurement screen shows a variety of data.

Battery voltage, Amp draw and Watt draw are all shown continuously in three sections of the measurement screen. When you key up, the Amp and Watts draw and the voltage “dip” show immediately. This is particularly useful in judging the condition of your battery because our radios do not like to operate below 12v and get real cranky, if not inoperable, at 11.5 v. When the voltage gets below 12 when keying up it is time for a charge pretty soon. The real value of the unit is that you can see the battery discharge as it occurs over time and start making plans before the radio just quits on you. It will also measure power input above 4.8 volts so should work with solar arrays as well.

A fourth display shows minimum voltage reached, peak amps used, peak watts and total watt hours sequentially every 2 seconds. However, for me, the 2 second display is too short to be easily useful.

I first used the Powermeter at the recent Mendocino Rally where Nick Wharff, KI6RIT, and I were both going to be Net Control using my Costco Marine Battery rated at 115 Amp Hours, with Nick's battery as backup. Mendo Rally has a high duty cycle for Net Control and I had no idea if the battery would keep Nick and I going all day. I took along a portable generator and battery charger, just in case, but did not want to run it unnecessarily because of the noise and hassle.

The battery started the day at 12.78 volts and quickly fell to 12.53 volts as the surface charge wore off. At the end of the day, with heavy usage by two radios, the voltage was 12.37, with dips on key up to 12.23. I recharged the battery off the vehicle alternator through a power port while driving for about 2 hours and the results were about the same for Day 2. Never had to use the generator and I now have a great deal more confidence in my battery life. And it was very comforting to know the condition of the battery at all times.

However the device is apparently designed only to work on battery power. For reasons I do not understand, the screen goes blank on keying up when the radio was powered by my Astron 20A shack power supply.

Shopping and Price: Shop around for this device. I was in a hurry and bought the Turnigy Powermeter, pre-wired with Anderson Power Poles from HRO for \$70.00. Way too much. Later shopping on line disclosed that the same instrument is available under different brand names for much less. Amazon has the “Watts Up” Analyzer for \$54.99, but the picture does not show any connecting leads.



Far and away the best deal is also on Amazon which had the “G.T. RC Watt Meter and Power Analyzer” at \$16.96 in early August. From what I can learn this is virtually the same meter as the higher priced HRO Turnigy and Watts Up models. They all look the same and display the same information. An on-line U-Tube test and review found very little operational difference between the three different models. Amazon reviews give the GT a 4.6 rating. The “G.T.” model has leads but you have to put on the Anderson Power Poles, or whatever connectors you want, yourself. For the price difference that is easy enough.

This is a very handy and useful device for anyone who uses battery or other alternative power. By continuously showing the battery condition and power usage you are constantly aware of your power and battery condition. No more worries about suddenly finding yourself out of power. I recommend it at the lower Amazon price for the “G.T.” Model, but shop around and compare. It is worth the effort.



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