

CARS CARRIER

Charleston Amateur Radio Society

February 2014 Newsletter

CARS Web Site --- <http://www.wa4usn.org>

CARS meets the second Monday of each month at Ryan's Steak House on Highway 61.

Our next meeting will be held at 7:00 PM, Monday, Feb. 10, 2014



FROM THE PRESIDENT

No words of wisdom received from the president.

ARES REPORT

The next Charleston County ARES meeting will be February 15, 2014 at 0900 local time at St. Andrews Public Service Bldg. as always. See everyone there.

Please be prepared to answer the following question with 5 different answers. That way everyone has a new one.

Question? What would you have in a Ham Radio "Go kit" if money was unlimited and why you selected the item?

The reason for this question is to create a suggested "Go kit" for new hams and ARES members. Every meeting we will ask the same question and add to our list and knowledge.

Annual Ares Report.

Added 5+ new ARES members.

Hours of training and meetings: 90, 520 Hours

Public Service events: 16, 1179 Hours

Actual Emergency events: 0 (Great Numbers)

TOTALS 106, 1699 Hours

Excellent participation everyone. More members are needed so keep recruiting new members.

All this information was forwarded to AE4UX, K4AOC, and WV1X.

To everyone who supports me, **THANK YOU.** I hope we do even more, better and smarter in 2014.

Rick, N8BKN.

DEC. FINANCIAL REPORT

Beginning Checking Balance - 12/1/13	\$4,929.01
Cash Receipts:	0.00
Cash Disbursements:	
AT&T - December	(69.10)
Ending Checking Balance - 12/31/13	\$4,859.91

Charlotte, KJ4PLX

MINUTES of JAN. MEETING

Charleston Amateur Radio Society

Club Meeting at Ryan's Steak House on Hwy. 61
Monday, January 13, 2014 - 7:00 PM

MINUTES:

The Charleston Amateur Radio Society Meeting was called to order by President Gregory Amirault, KI4TVA, at 7:00 PM on Monday, January 13, 2014 at Ryan's Steak House in Charleston, SC.

Introductions: There were 53 people present.

Secretary's Minutes: Warren, KK4EVI

The November and December 2013 meeting minutes were published in the January 2014 CARS Carrier. A motion was made to accept the minutes as published, the motion was seconded, and passed.

Treasurer's Report: Charlotte, KJ4PLX

The October and November 2013 Financial Reports were published in the January 2014 newsletter and accepted as information.

Museum Ships: Ed, KQ4DC / David, KI4FSC / Tom, AJ4UQ

No report.

Field Day: Tom, AJ4UQ

Still looking for someone to step forward and take over as Chair person or even Co-Chair person. Tom would sure like the help.

Races: Doug, KU4OC

Charleston Marathon coming up in Jan. 18, 2014, we need to start finalizing plans. We still need 5 to 10 people to help out or some people will have to handle several posts. Doug passed out "T" shirts and Vehicle Passes at the meeting. If you still need a "T" shirt or pass, contact him.

Hamfest Report: Jenny, WA4NGV

Hamfest will be on February 1st, 2014 at same location as last year (Armory in North Charleston). Look on WA4USN website for more information. The Hamfest drawing tickets are in and will be sent out shortly. Pick them up if you can, to save postage.

DOC, W4MUR, put out information about speakers for the Hamfest

Repeater Report: Bryce, K4LXF

All repeaters are working well.

Membership: Bryce, K4LXF

Yearly club membership dues are past due. February 1, 2014 is cutoff date.

Applications for regular membership:

First Reading: John O. Poulsen, W4JOP
George F. Ploth, Sr., K4ZJJ

Second Reading: None.

Applications for Associate membership: None

Emergency Prep: Rick, N8BKN, Charleston; John, W4HMK, Dorchester; Dennis, KG4RUL, Berkeley

Charleston: Rick, N8BKN, gave breakdown of ARES activities, there were no actual emergencies. Next ARES meeting is on February 15th at the St. Andrews Fire Station at 09:00 AM.

Nets: George, KI4UIW - Newcomers Net

Newcomers Net meets on Thursdays at 8:00 PM. If you are interested in trying to conduct a net, send George, KI4UIV a note and he will get you the information.

ARES Net meets at Sunday 8:00 PM. Local area 5 meets from 8:00 - 8:20 PM then joins the statewide link up at 8:20 PM.

QCWA Net meets on Saturday at 9:30 AM. Chapter 89 is now in Charleston. Dues are \$5.00/year and National dues are \$20.00/year.

SKYWARN Net will start meeting on the First and Third Tuesdays at 9:00 PM on linked repeater systems.

Lowcountry Digital Nets: meets Sundays at 8:30 PM and Wednesdays at 8:00 PM on **145.700** MHz running Olivia 32/1000.

TARC CW Training Net: meets every Tuesday at 7:30 on linked repeater systems.

SCHEART Net: meets every Thursday morning at 9:00 AM.

Newsletter/Website: John, WA4GPS

Nothing new to report.

Education & VE Testing: Sheila, KT4YW

The next test session will be at 1:00 PM on February 1, 2014 at the Hamfest.

School Programs: Alene, KG4NKD - DuBose Middle School Radio Club - K4DMS

Spring School Roundup will be February 10-14th on 20 Meters around 14.260 to 14.280 MHz. Help them make a contact.

Communications Trailer: Willie, WB4SOG

All issues have been addressed and resolved.

Old Business:

Christmas party was held on Dec. 9th at the Harbor Breeze Shriners Club at 7:00 PM. A good time was had by everyone. The Mr. Coffee present sure made its rounds.

New Business:

Announcements:

With regret, "SK" announcements were made for Ron Brown, AB5WF, George Twiddy, KI4NNK, and Jack Despina, K4PFC

Drawing:

The drawing for a one year ARRL membership was won by Joe, KJ4BNC.

There being no further business, a motion was made, seconded and passed to close the meeting. The meeting was adjourned at 7:35 PM.

Respectfully submitted by Warren, KK4EVI.

After the meeting, Terry Fox, WB4JFI, gave a presentation on SDRs (Software Defined Radios).

WHAT IS "Q"?

Ask most hams to define "Q" and their eyes glaze over. I'll try to explain it in non-technical terms. Q stands for Quality Factor and applies not only to electrical phenomena but to mechanical and perhaps other modes as well. Think of it as how easily something resonates, e.g. how clear a bell sounds. If you tap a wine glass with a metal spoon, it has a nice clear ringing sound, i.e. high Q. Do the same to a cardboard box and you get a thud, i.e. low Q. Tie a weight to a string and swing it in the air like a pendulum. Stabilize the end of the string on the edge of a table and the weight will continue to swing for quite a while without further effort on your part. Do the same with the weight hanging in water and it quickly will come to rest--again high Q versus low Q. Get the idea?

Moving on to electrical phenomena, put an empty ordinary drinking glass and a thick piece of metal, such as a coin (don't use foil) in a microwave oven along with a second glass with ½ inch of tap water in it and turn on the oven for one minute. The empty glass and the metal will be slightly warmer, but the water will boil. Glass is a good but not perfect insulator and metal is a good but not perfect conductor, therefore both are high Q because they do not absorb much energy from the radiation and don't heat up much. Tap water is only a fair conductor, therefore low Q. For this experiment be sure to include the glass with ½ inch of water, otherwise resonance in the oven's magnetron can result in excessively high voltages which could damage the oven.

In electrical terms Q is the ratio of reactance to resistance in series circuits, which most antenna systems are. Reactance is the system's ability to keep electrons swinging back and forth in the antenna—like the pendulum weight on a string. Resistance can be from two sources: 1. Radiation resistance—the stuff you want that gets your signal on the air. 2. Ohmic resistance—the old $R = E/I$ stuff that you learned as a Tech or Novice. It produces heat at the expense of your radio signal.

Is it better to have a high Q antenna system or low Q? The answer is “it depends”. If the antenna has been physically shortened, like an HF mobile, you want the Q to be as high as possible (resulting in a narrow 2:1 SWR bandwidth) for that particular antenna’s configuration (base loaded, center loaded, or continuously loaded such as a “Hamstick”). If, on the other hand, it is a non-resonant antenna such as a rhombic, expect the Q to be very low (extremely wide 2:1 SWR bandwidth). A quarter wave ground plane over average land will be fairly low Q unless you have an extensive radial ground system—very difficult for city dwellers. By contrast the average center fed half-wave dipole 30 to 50 feet above ground should have a Q in the neighborhood of 12 to 15 in the HF bands.

So how do you measure Q? There are several ways, described in the first few pages of the chapter entitled “Broadband Antenna Matching” in the ARRL Antenna Book.

If the Q is way off base for your particular antenna configuration, small diameter wiring and/or excessive capacitance between inductor turns in an antenna tuner, lossy feed line or balun, are possible culprits. Antennas that are too close to the ground or surrounding objects, especially metal objects, will rob you of signal strength. Poor or corroded connections also will do it, as will an inadequate ground system in antenna designs that require an RF ground, and these also can produce rectification of the RF signal with resultant spurious signals and/or RF interference. Your neighbors, other hams, and the FCC may not like that.

I hope this has improved your “Q” IQ.

73,

Doc, W4MUR

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