

CARS



CARRIER

Charleston Amateur Radio Society

July 2013 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, July 8, 2013



E-MAIL ADDRESSES

When you change your E-Mail address, please remember to notify wa4gps@arrl.net.

DUES ARE DUE

Dues for the year 2013-2014 are now due. They are \$20.00 per member or, if Family, \$10.00 for each additional family member in the same household.

FROM THE PRESIDENT

Another Field Day is in the books and Tom AJ4UQ did a great job with much less manpower than I have seen in years past. Attendance was down significantly but it all got done. I would like to give an extra special thank you to Brian, KK4OHS & Debbie Bajcz, KK4PCX for taking on the catering along with Carl Dinge, WD4CXW. As newbies to the club and having never attended a Field Day event they jumped head first into the fire and came out only slightly singed. Kudos to you all for taking that burden from Jenny who has been doing the catering for about 5 years longer than she needed to. Thanks to all the regulars who show up every year to set up antennas, lug equipment and coolers up and down all the hot, steep, narrow stairs, then take it down and put it all away again 24 hours later.

If you think the Charleston Marathon is a mammoth undertaking for our club, I would ask you to consider the Hams that supported the Boston Marathon this year. The July issue of QST has an in depth article on this event that is definitely worth the read. According to the article, there were upwards of 200 amateur operators on the course who all continued to work their stations and assist emergency crews in the devastating aftermath of the two bombs that were detonated near the finish line. Despite the utter chaos and loss of life and limb that ensued, these amateur operators maintained their composure and continued to provide comms support as cell towers and other means of communication were rendered useless by high volumes of calls and radio traffic. Their net control operator kept his cool and maintained an orderly but urgent flow of communications with the course operators. They were able

to direct emergency medical personnel to victims on the course and prevent further loss of life.

Here is another example of amateur radio volunteers selflessly providing an invaluable resource to their community. They did it not for fame or glory or monetary reward, but because it needed to be done and they had the capacity to do it. While I hope and pray that we will not ever experience this type of tragedy at one of our events, I know without a doubt that each and every member of the Charleston Amateur Radio Society has that capacity and would perform to the same level of professionalism displayed by the Boston amateurs.

73 de KI4TVA, Greg

MAY FINANCIAL REPORT

| | |
|--|------------|
| Beginning Checking Balance - 5/1/13 | \$4,108.42 |
| Cash Receipts: | |
| Raffle Proceeds | 20.00 |
| Cash Disbursements: | |
| John Meyers - May Newsletter | (30.74) |
| AT&T - May | (68.42) |
| Bowman Southern Methodist Church- memorial for Ed Bolin | (25.00) |
| Website Hosting | (83.40) |
| Ending Checking Balance - 5/31/13 | \$3,920.86 |
| Charlotte - KJ4PLX | |

MINUTES of JUNE MEETING

Charleston Amateur Radio Society
Club Meeting at Ryan's Steak House on Hwy. 61
Monday, June 10, 2013 - 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, June 10, 2013 at Ryan's Steak House in Charleston, SC.

Introductions: There were 36 people present.

Secretary's Minutes: Warren, KK4EVI

The May 2013 meeting minutes were published in the June 2013 CARS Carrier. A motion was made to accept the minutes as published, the motion was seconded, and passed.

Treasurer's Report: Charlotte, KJ4PLX

The April Financial Report was published in the June newsletter and accepted as information.

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

June 1st and 2nd was the Museum Ships contest. The Yorktown, Laffey and the Clamagore were all worked during the Museum Ships contest. The Yorktown made about 400 contacts.

Field Day: Tom, AJ4UQ

Start making plans for June 22nd and 23rd Field Day contest. Always looking for volunteers to help out. Tom has help with the food, fuel and extras. Setup will be on Friday June 21 and take down will be on Sunday June 23.

Tom is still looking for someone with an interest, to step forward and take over as the new Captain (or perhaps Co-Captain) for Field Day.

Races: Doug, KU4OC

No report.

Hamfest Report: Jenny, WA4NGV

No report.

Repeater Report: Bryce, K4LXF

A new problem has developed on the linked repeaters, trying to locate and repair.

Membership: Bryce, K4LXF

Applications for regular membership:

First Reading: James Comfort, KK4REM
George M. Cone, WB4TGK
Dave Malara, KB2UBO

Second Reading: Charles F. Bowie, KV4MC

Applications for Associate membership: None

Charles, KV4MC, was approved and, in his absence, welcomed into the club.

Emergency Prep: Rick, N8BKN, Charleston; John, W4HNC, Dorchester; Dennis, KG4RUL, Berkeley

Rick, N8BKN: Hurricane EXPO's went well. Rep. Tim Scott was at the Northwoods EXPO and talked with a few of the Ham's there. EOC will have hurricane drill on June 26th. Expect some extra radio traffic. The club has some plastic 4 "C" size battery holders that two of them could be used to power a radio, during power outage.

Charleston: Next ARES meeting on June 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. George, KI4UIW, will be tied up with school and would like someone to help cover the net. He still would like more Net Control Station Operators and more of you to check into the Net.

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

QCWA Net meets at 9:30 AM.

SKYWARN Net meets on Tuesdays at 9PM on Linked system, unless severe weather activated the Net.

Lowcountry Digital Net: meets Sundays at 8:30 PM and Wednesdays at 8:00 PM on 145.000 MHz running Olivia 32/1000.

TARC CW Training Net: Training on Tuesdays at 7:30 PM on linked repeater system.

Newsletter/Website: John, WA4GPS

No report. All okay.

Education & VE Testing: Sheila, KT4YW

We have a new Extra Class Operator. George, KI4NNK, passed his Extra Test. The next test session will be at 9:00 AM on August 10th, 2013 at the Trident Hospital.

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

No report.

Communications Trailer: Willie, WB4SOG

Problem with the 897 radio, will look into problem.

Old Business:

New Business:

Club member nominations: Greg, KI4TVA, for President; Wess, W4RUX, for Vice President; Charlotte, KJ4PLX, for Treasurer; and Warren, KK4EVI, for Secretary.

A request was made for \$500 for food and stuff for Field Day. Request was Approved.

Announcements:

Look on CARS website for a downloadable first aid booklet, put together by Larry, KJ4GZR.

A Thank You card was received from the Bowman Southern Methodist Church, for the gift to Ed Bolin (KA4IPM SK) family.

Drawing: The drawing for a one year ARRL membership was won by Earl, KJ4OXF.

There being no further business, a motion was made, seconded and passed to close the meeting. The meeting was adjourned at 7:40 PM.

Respectfully submitted by Warren, KK4EVI.

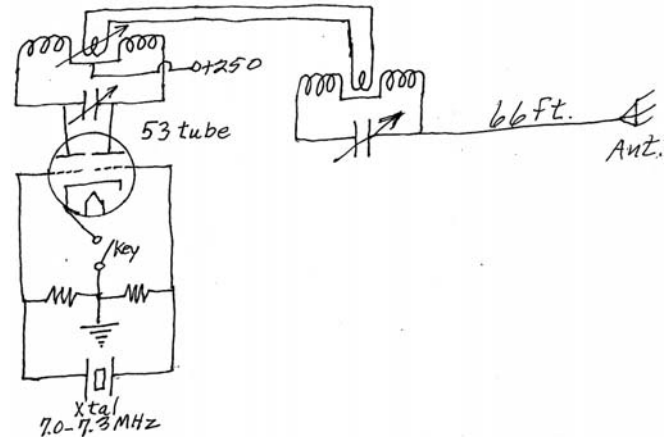
FROM CRYSTAL SETS TO J-POLES By DOC, W4MUR

When I was a little tyke (yes, I was once a little tyke) probably 5 years old, I was fascinated when one Christmas I heard a cheery “Ho Ho Ho” emanating from our Crosley TRF radio (TRF = tuned radio frequency—but that’s another story). The year was 1936 and my father who was a ham had rigged up a crude low power transmitter and was broadcasting from the back bedroom. The charade didn’t work—I recognized his voice. But I was hooked. I had to find out how all that magic worked.

There was plenty of material to work with. Dad was also a high school physics teacher and had lots of hands-on stuff that he used for demonstrations for his students. My first project was a crystal set made from scratch with parts I found in our basement. The only thing I had to buy was a 10 cent Philmore galena (lead sulfide ore) crystal at a local radio repair shop. Progress was slow and I didn’t complete the project for several years. It was a resounding success and I spent many hours listening to the announcer on WLW describe the progress of the Cincinnati Reds baseball game as it came over his ticker which could be heard in the background. Then at night “DX” came in—WWL in New Orleans—WOW!

Dad tried to explain some of the fundamentals of electronics, and I “sort of” got it, enough to fumble around and build a regenerative receiver with an audio stage using two type 99 tubes. Voila—I could pick up short wave AM or CW depending on the adjustment of the “tickler circuit”. Next step: learning the code which was a major obstacle and took a few more years.

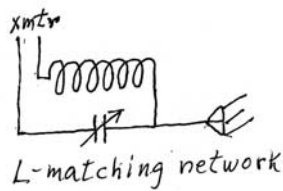
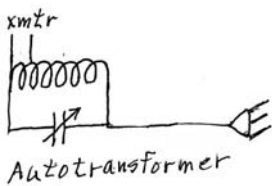
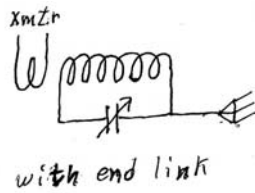
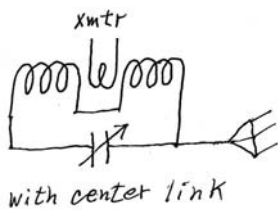
Meanwhile dad described an interesting rig he had built when he was living in an apartment. This turned out to be a golden nugget in my educational process. Below is the circuit:



The circuit diagram is very rudimentary and is based on what dad had told me. I’m sure it had some embellishments such as a key click filter and a cathode resistor. The antenna was stretched around the brick exterior of the apartment building, and if the length was about 66 feet ($\frac{1}{2}$ wavelength) no ground was required. The capacitance between the antenna tuner and ground was sufficient. The system worked well when the weather was dry, but not so well when the brick was wet.

After getting my ham license I decided to try the antenna tuner for myself. I had a transmitter with a pi tuner on the output which easily matched the two or three turn link coupler I had wound around the main coil of the tuner. It worked like a charm. Then I got to thinking. Would it work as well with the link around one end of the coil which would make that the ground end? It did. Then why not just connect to the main coil directly and eliminate the link (like an autotransformer)? It still worked fine. Since the 2 or 3 tapped turns on the ground end of the main coil were unnecessarily recirculating current through those turns, why not eliminate those, too? It still worked, and voila, what do we have? [An L-matching network.](#)

So what’s the significance of all of this? This means that you can quickly put up an emergency antenna which requires only one elevated support, end feed it at the transmitter end, no coax weighing down the center of the antenna thereby allowing the use of small diameter wire (I have used #26 B&W gauge successfully with 100 watts). It will work on an antenna $\frac{1}{2}$ wavelength long or integral multiple thereof. The inductance and capacitance of the antenna tuner will need readjustment for each band. Details for this are in any amateur handbook or antenna book. Be sure to disable the automatic tuner in your rig or it will fight you all the way.

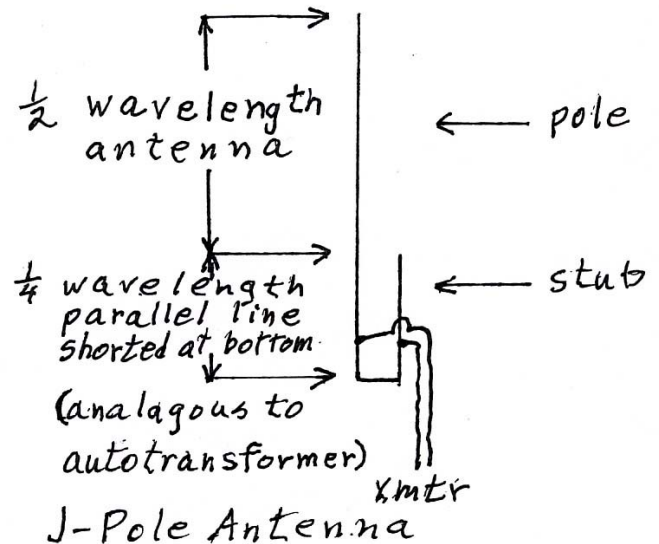


In 1946, right after World War II, we moved to Albuquerque, NM, where there is no effective RF ground. Dry sand does not conduct RF well. Military surplus equipment was readily available and cheap, and dad took advantage of this. He built a 10/11 meter transmitter and receiver from scratch, using surplus parts, and a "J" antenna (the suffix "pole" was added years later). Ten meters was hot and we could talk to people all over the country, though not many DX stations due to the ravages of war. The feed system of the J antenna to my uneducated eye looked like a direct short, but it worked! Dad tried to explain the theory, but I didn't really catch on for several years when I realized it was analogous to an autotransformer tapped at the center of the main coil.

My first attempt at building a J-pole using rigid copper tubing (the kind found in house plumbing) was only marginally successful. I couldn't get the SWR below 4:1 by changing the feed point and/or length of the pole and/or the stub. After considerable futzing around, the "Aha moment" struck. The J-pole is basically a $\frac{1}{2}$ wavelength pole connected to one side of a quarter wave parallel line shorted at one end—just like the autotransformer tapped in the center of the winding. The inductance of the tuned circuit depends on the length of the line and the

capacitance depends on the distance between the copper tubes. By changing the distance between tubes (squeezing the tubes closer to each other or spreading them farther apart) the capacitance and hence the resonant frequency can be changed. Combining this with adjustment of the feed point, the SWR can be brought down to a perfect 1:1.

If you are using thin rod (like 1/8 inch brazing rod) for the elements, there won't be enough capacitance between elements for this to work. You can overcome this deficiency by adding a 1X2 inch sheet copper "flag" with one end wrapped around the stub near its end. Then the frequency can be moved downward by adjusting the flag nearer the other element. If you need to adjust upward in frequency, you will need to shorten the stub and the pole. Shortening the stub only, will increase the resonant frequency of the quarter wave line, but this will be offset by the effective lengthening of the pole and the frequency will not substantially change.



CARS CARRIER

Charleston Amateur Radio Society

423 Beauregard Rd., Summerville, SC 29483-1989

