



# KEY KLIX

Amateur Radio Club of Savannah

December 2006

Volume 2

Issue 12

The next meeting of the Amateur Radio Club of Savannah will be held, Tuesday, December 12, 7:30pm, at Memorial Health University Center, in the Hoskins Building Classroom "4." The Hoskins building is on the South Side of the hospital near Parking Garage "C." Enter the Hoskins Building on the side that faces the Parking Garage "C."

There will be "Election of Officers" and a vote for the "Amateur of the Year." Absentee Ballots have been mailed for those who cannot attend this meeting.

## HOW TO MAKE CURRENT BALUNS

-By Andy Blackburn, WD4AFY

So you have just made a dipole, and are about to attach a coax at the feedpoint. Although at HF, a "balun" is not absolutely necessary, it does improve your radiation pattern and can reduce chances of TVI and RFI.

A Current Balun could not be simpler to make, if you are not trying to match your antenna from DC to light.

For one that covers 80m to 10m the simplest way to make one is a coax choke. Find an empty 4-inch diameter (plastic pop bottle) and wind 8 turns of coax with the turns side by side. If you want one for top band to 20 m use 12 turns of coax on the same plastic pop bottle.

So that's it...it's simple!

Ferrite Choke baluns work in a similar manner and are fairly inexpensive to construct or purchase. Watch out for the power rating of this type of balun.

## STRAYS

**Needed:** Thursday Night ARCS Net Control Operators and articles for *Key Klux*.

## SCANNING AND MONITORING: Year End Cornucopia

-By Mac McCormick, KF4LMT

Two pieces of updates and news start off this "year end blend." A listing of monitoring resources follows and plans for a series of articles next year bring things to a close. I would first of all, however, like to wish everyone a safe and pleasant holiday season. Merry Christmas, Happy Hanukkah, and Happy New Year.

## Chatham-Effingham TRS Update

Two new talkgroups for Effingham County have been active lately.

Talkgroup 16688 in P25 digital mode has been identified as the Effingham County Work Camp. State prisoners primarily do Public Works in Effingham County, so this could indicate that more public works/local government talkgroups could appear for Effingham County. Talkgroup 25904 has been active with fire department related traffic. It has been tentatively identified as Rincon Fire Department on the ScanSavannah yahoo group.

## **SEADS Ends Operations**

United States Air Force news articles in November reported that that the Southeast Air Defense Sector, also known by the acronym SEADS, ended operations in mid November. SEADS was responsible for the air defense of the southeastern United States and conducted radio operations under the callsign OAKGROVE. The Northeast Air Defense Sector, NEADS, has now picked up responsibility for our part of the Southeast. NEADS uses the callsign HUNTRESS, but so far radio monitors in the southeast have not heard radio calls to either OAKGROVE or HUNTRESS answered on any of the usual frequencies such as 364.200, 293.600, or 316.300

## **Scanning and Monitoring Resources**

Since publication of the annual Police Call books ceased several years ago, some folks have been looking for sources of scanning information. There are several good online and several good print sources. I personally encourage the

support of the first website, Radio Reference, because it is composed of information supplied by folks that monitor the systems, much as Police Call was. Radio Reference has become, in my mind, the best replacement for Police Call, almost like an online version of it.

Radio Reference:

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

ScanSavannah Yahoo Group:

<http://groups.yahoo.com/group/scansavannah>

Coastal GA Scanning and Monitoring:

<http://mywebpages.comcast.net/coastalgeorgiascan/>

There are also two magazines that cover the monitoring community (and include amateur radio as well): Monitoring Times and Popular Communications. Both are fine publications, the only difference being that it seems that Monitoring Times goes more in depth on some topics and provides more extensive frequency listings.

Monitoring Times

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

Popular Communications:

<http://www.popular-communications.com/>

When most people think of scanning, they think of listening to the police and fire departments. In recent years, though, monitoring the military has become more popular. Monitoring the military is different from monitoring public safety and uses

different frequency ranges than many radio hobbyists are familiar with monitoring. Beginning in January, I plan on starting a series of articles that will cover military monitoring and the military VHF/UHF frequency ranges. The Savannah area is rich in military communications, so I hope to open up some of those communications up to your enjoyment.

**Mac McCormick, KF4LMT**  
[kf4lmt@comcast.net](mailto:kf4lmt@comcast.net)



**Coulomb**

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## Dead Electrical Dudes

[Philip Neidlinger \(KA4KOE\)](#) on April 26, 2005

“Dead Electrical Dudes” are  
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**This Month's Stiff: Charles Augustin De Coulomb**

**Entered Mortal Coil: 14 June 1736**

**Assumed Room Temperature: 23 August 1806**

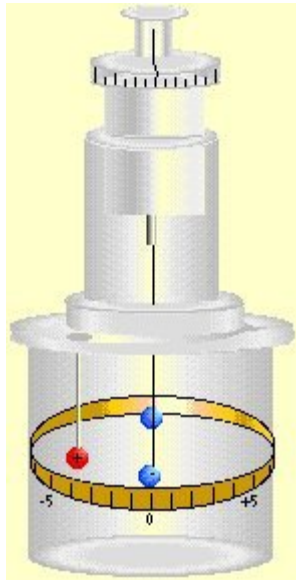
I remember my high school electronics vocational arts classes quite well. The instructor described capacitance. One of the people he mentioned during his lecture was Mr. Coulomb. Funny names stick out in my memory, as I am sure they do for other people. Unlike many other electrical pioneers, Charles achieved a respectable measure of renown in other fields quite unrelated to electricity. His work in that particular field seems almost like an afterthought in the latter years of his life.

Young Charles grew up in Angouleme in France. His parents were well established; his mother's family had quite a respectful fortune amassed. Upon reaching young adulthood, Charles was enrolled in College Mazarin, where he received a good, solid, classical education. Coulomb later undertook more advanced studies at Montpellier and subsequently joined the Society of Sciences there at the age of 20. Yet further education was undertaken in Paris around 1758. In 1761 he was commissioned as a lieutenant in the engineering corps.

Coulomb's professional life would revolve around the field of engineering for the remainder of his life, and he became a much sought after consultant in later years. Charles single-handedly wrote the book on the mechanics of friction, and he was also

responsible for the construction of military fortifications and other related projects. A seminal work was undertaken in 1773, "*Sur une application des règles, de maximis et minimis à quelque problèmes de statique, relatifs à l'architecture*" (roughly translated - ... to determine, as far as a combination of mathematics and physics will permit, the influence of friction and cohesion in some problems of statics ), in which he used the calculus of variations in solving engineering problems. The man was simply brilliant.

Taken singly, any one of the aforementioned achievements would have put Charles in the history books. However, between 1785 and 1791, Coulomb submitted several treatises to the French Academy of Sciences which dealt with the behavior of electrical charges and magnetism. In particular, he quantified the laws that dealt with attraction and repulsion of like and dislike electrical charges by using a clever device called a torsion balance.



**Coulomb's Torsion Balance**

The balance worked by measuring the very minute forces by twisting a thread as the electrically charged pith balls were brought close together. The relative twist was noted on the graduated scale at the top of the cylinder. Coulomb noted that the electrostatic force was acting as a product of

the relative charges divided by the distance between the balls. In other words, an inverse square relationship was noted. Coulomb's formula for electrostatic attraction or repulsion is as follows:

$$F = -k \frac{q_a q_b}{r^2}$$

Where  $F$  = force

$K$  = constant (always negative in value)

$q_a$  and  $q_b$  are the relative charges

$r$  = distance between the charges

Notice that the formula is quite similar to that given for gravitational attraction, as derived by Newton. The constant  $K$  in Coulomb's formula is several orders of magnitude greater than that for Newton's formula. At short distances, electrostatic attraction or repulsion is much stronger than the force of gravity. Also note that gravity is always attractive in nature.

$$F = -G \frac{M_a M_b}{r^2}$$

Where  $F$  = force

$G$  = gravitational constant

$M_a$  and  $M_b$  are the relative masses

$r$  = distance between the masses

For Coulomb's work, the unit of electrical charge, **the Coulomb** (what else would it be?) was named after him. A Coulomb is approximately  $6.24 \times 10^{18}$  electrons. One ampere of electrical current is defined as one coulomb of electrons passing a given point in one second. Simple, isn't it?

Here endeth the lesson. You are dismissed.

## ELECTIONS, BALLOTS, AND AN OOPS!!!

**Reminder:** There will be an election of officers for the year 2007, and the "Amateur of the Year" will also be voted on at the December meeting. An Absentee Ballot was sent out for those cannot attend this meeting.

Unfortunately, due to my mistake, I inadvertently left a VP candidate off the current "Absentee Ballot" that was mailed out. I want to apologize to both candidates and to the ARCS membership for any inconvenience that this error has caused.

The voting will be done as usual at the meeting with a correct ballot showing both candidates for Vice President, Kayton Smith (I), W4KTN, and Mac McCormick III, KF4LMT. The original absentee ballot will be used to determine all the officers and "Amateur of the Year," except the VP.

A corrected new absentee ballot will be mailed out to those who are not present at the December meeting with only the 2 candidates for Vice President that were affected by my mistake. The deadline for this corrected absentee ballot is to be in the ARCS PO Box (or in the possession of an ARCS officer) by New Years Day 2007.

-Andy Blackburn, ARCS Secretary

## BUY, SWAP, OR SELL

**Wanted:** Rohn 25, 50 or 60-foot tower.  
Contact Doug Rowland  
[jdrowland@comcast.net](mailto:jdrowland@comcast.net)

**For Sale:** Kenwood TS-520 HF Station with Desk and Hand Mic, I also have operating and repair manuals. Asking price is \$200 Phone: 912-355-0049 Email: [cooley3892@bellsouth.net](mailto:cooley3892@bellsouth.net) TNX, Pete Cooley, K4JAC

**For Sale:** (1) SolarCon CB antenna. 12' main element with 6' parasitic elements in a ground plane formation. \$30.00  
(2) Yaesu VX-7Rb handheld. Triple band (50/144/430 Mhz) heavy-duty transceiver. 5-Watt maximum power output in a compact design. Box, operating manual, charger. Like new! \$260.00 Thomas Hickey, KI4NRC

**For Sale:** Alinco DM-1350 35A power supply \$75  
Realistic HTX-100 10 meter transceiver \$55 w/antenna add \$5  
MFJ493 Memory Keyer w/manual \$75  
MFJ-1702 A/B coax switch \$10  
Contact Andy Blackburn, WD4AFY  
(912) 238-4676

## IN CLOSING....

I want to wish everyone a Merry Christmas, Happy Hanukkah, Happy Holidays, and a safe and Happy New Year!!! 73,

Andy Blackburn, ARCS Key Klix Editor



## AMATEUR RADIO CLUB OF SAVANNAH



### **ARCS Elected Officers for 2006:**

President: Doug Rowland, KF4EFP, [jdrowland@comcast.net](mailto:jdrowland@comcast.net)

Vice President: Kayton Smith, W4KTN, [kayton3@comcast.net](mailto:kayton3@comcast.net)

Secretary: Andy Blackburn, WD4AFY, (912) 238-4676, [andy@g-net.net](mailto:andy@g-net.net)

Treasurer: David Delamater, K4DJD, (912) 412-4109, [k4djd@comcast.net](mailto:k4djd@comcast.net)

Activities Manager: Philip Neidlinger, KA4KOE, [ka4koe@arrl.net](mailto:ka4koe@arrl.net)

Trustee: Kurt Hoffman, N4CVF, (912) 356-8581, [n4cvf@arrl.net](mailto:n4cvf@arrl.net)

### **Appointed Positions for 2006:**

ARCS Webmaster: Andy Blackburn, WD4AFY, (912) 238-4676, [andy@g-net.net](mailto:andy@g-net.net)

Key Klix Newsletter "Temporary" Editor: Andy Blackburn, WD4AFY, [andy@g-net.net](mailto:andy@g-net.net)

The Amateur Radio Club of Savannah, was founded in 1938, and is a non-profit 501(c)(3)(a) organization dedicated to:

- (a) Recognition and enhancement of the value of the amateur service to the public as a voluntary noncommercial communication service, particularly with respect to providing emergency communications.
- (b) Continuation and extension of the amateur's proven ability to contribute to the advancement of the radio art.
- (c) Encouragement and improvement of the amateur service through rules which provide for advancing skills in both the communication and technical phases of the art.
- (d) Expansion of the existing reservoir within the amateur radio service of trained operators, technicians, and electronics experts.
- (e) Continuation and extension of the amateur's unique ability to enhance international goodwill.