

# Winter 2005-2006 Newsletter

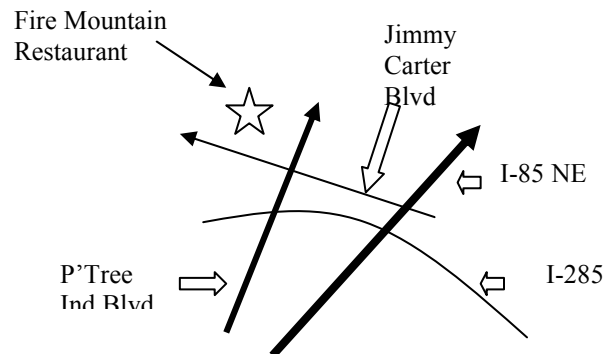
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**Caution: Performing repairs on radios could be dangerous. SARS assumes no responsibility for accidents resulting from any information contained in this web site or newsletters.**

**JOIN SARS!** Dues are \$12 per calendar year. Join after June 30 and dues are pro-rated to \$6.00 for the remainder of the year. Send payment to the SARS address above.

## **SUPPORT YOUR CLUB!**

The Southeastern Antique Radio Society meets on the second Monday of each month at Fire Mountain Restaurant, 7045 Jimmy Carter Blvd. Norcross, GA 30093. Meetings start at approximately 6:30 PM. Most attendees arrive early and eat before the meeting. In addition to club business, meetings have a "Show and Tell" session where members bring in items to display and discuss. All are encouraged to participate in this activity. See the monthly schedule elsewhere in the newsletter and the map below.

**ANNUAL DUES ARE  
NOW PAYABLE! ONLY \$12!  
JOIN OR RENEW TODAY!**

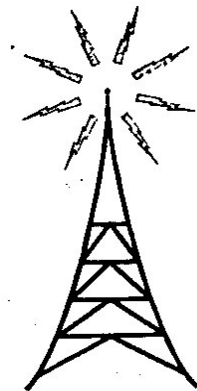


## **SARS RADIO CLUB**

### **Winter BULLETIN**

**January, 2006**

Check out our website! <http://www.sarsradio.com>



# GENERAL INFO

Southeast Antique Radio Society

**Club Officers:**

**President: Jim DelPrincipe**

**Vice President: Les Cane**

**Publicity & Membership: Bob Niven**

**Secretary: Gary Beale**

**Treasurer: Tom Knutson**

**Newsletter Editor: Mark Palmquist**

**Webmaster: Rich Rodgers**



**Next Swap Meet: March 4, 2006**

**Magnolia Antiques SuperMall, Cumming GA 8:00 A.M.**

**Check <http://www.sarsradio.com> for details. See Directions on Page 8**

**Next Meeting: Monday, Feb 13, 2006**

**Fire Mountain Restaurant Norcross 6:30 pm**

**Discussion Topic: Connect your Horn Speaker to your Computer**

**Show & Tell: Mystery Radios (unidentified manufacturer)**

## **SARS Winter Meet Radio Contest Categories**

SARS VP **Les Cane** will be organizing this year's radio contest at the SARS winter meet in Cumming GA on March 4. Three awards will be given in each category and there will be a "Peoples Choice" award across all the categories.

Bring your entry to the competition area and fill out an entry blank for each radio in each category,. The categories are as follows:

- 1. Foreign Radios**
- 2. Loud Talkers, Cone Speakers & Horn Speakers**
- 3. Battery or Farm DC Powered Radios (not portables)**
- 4. Coin Operated Radios**
- 5. Atwater-Kent Radios**
- 6. Zenith Radios pre-1936**

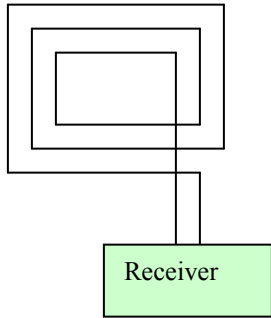
If you have questions prior to the meet contact Les.

Note: Radios which have won a First Place award in a prior SARS contest are not eligible to compete in this event.



**Contest winners from the 2005 Winter Meet**

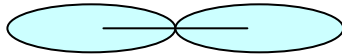
# A Short Story of Loops or “The Loop Antenna can be your Friend” by Jim DelPrincipe



Many of our radios have no internal antenna and some that do, could benefit from an external antenna but it is not always easy to string up wires in trees in the yard or in the attic. Enter the **LOOP** antenna. It is compact, easy to build, cheap, may be hidden behind furniture and did I mention cheap? What is a loop? As the name implies, it is a wire wound around a small frame and will be a small fraction of a wavelength in total length.

- It may be a few turns or many
- It may be tuned or un-tuned
- It may be shielded or unshielded

The maximum pickup of the antenna is in the plane of the loop and is more or less a figure eight pattern:



This holds true for a ground wave signal. A sky wave, arriving at some angle will have an unknown polarization and will be less directional.

The advantages of a loop are:

**Size** – small compared to other antennas

**Cost** – cheap and easy to build

**Quiet** – not very sensitive to atmospheric noise

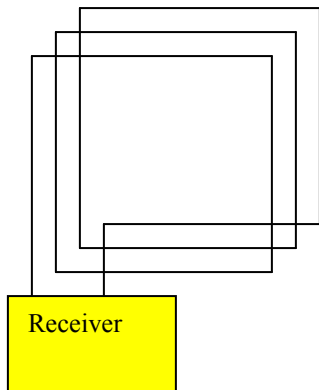
**Directional** – may be used to find the general direction of a transmitter

**Selective** – may be used to reject interfering stations

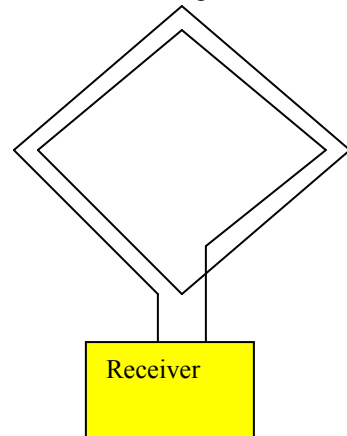
- Any loop may be steered.
- A tuned loop can tune out a nearby interfering station

### What are the various types of loop antennas?

The simplest loop is a number of turns of wire connected to your receiver’s antenna terminals. It is cheap, easy to build and reasonably effective. These may take the form of a ‘helical wound’ box or spider web.



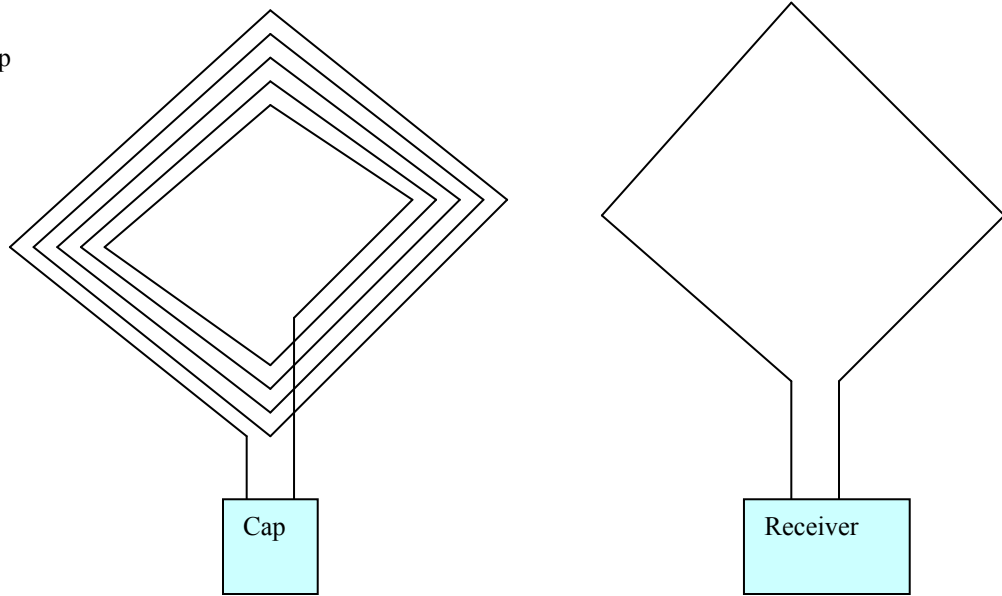
BOX



WEB

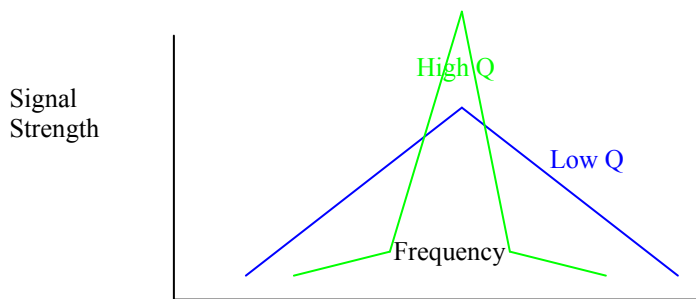
A very effective way to improve on the simple loop is to tune it; that is, make it a resonant circuit by the addition of a tuning capacitor of an appropriate size so that it “resonates” or “tunes” at the desired frequency. The advantage of this is that it adds selectivity and increases its output to your receiver. Interfering stations can be eliminated to a large extent by “tuning in” the desired station or in some cases, “tuning out” the undesired station.

Tuned Spider Web Loop

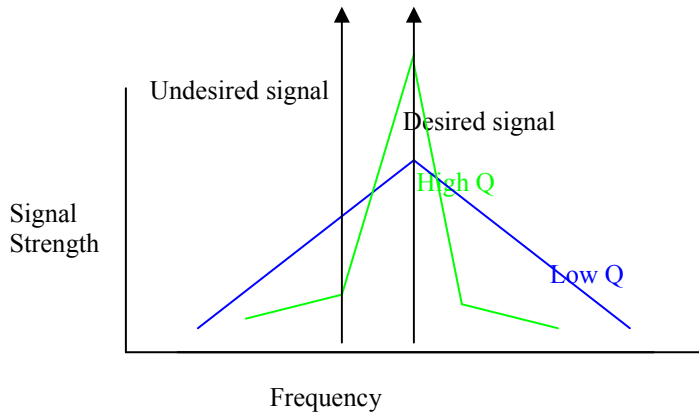


How effective this is depends upon something called the “Q” or quality factor of the components. With a properly made loop and a good capacitor this can be quite high, in the order of 100 to 200. (Note: there are no units of Q)

“Q” is defined as reactance divided by resistance so if the inductive reactance is several hundred ohms and the effective AC (at radio frequency) resistance is a few Ohms, this can make for a very selective antenna.

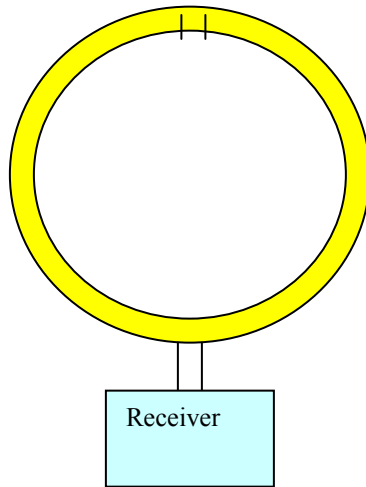


This gives the antenna the ability to selectively “Tune in” a desired signal and “Tune out” an interfering signal. It has a pass band much like a pre-selector. Of course, it must be retuned each time you change frequency.

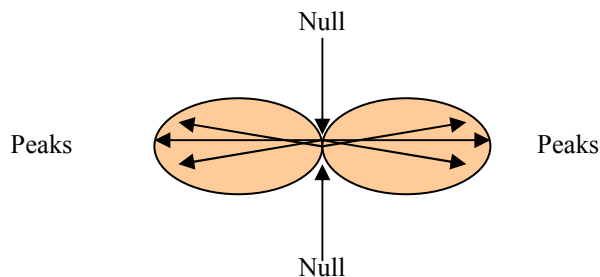


In the example above, the desired signal is at the peak of the pass band and the interfering signal is to the left. A high “Q” circuit can be seen to pass more of this signal and reject more of the undesired signal.

Another improvement to the basic antenna is the shielded loop. An electrostatic shield can effectively reduce or eliminate noise in the form of static from atmospherics. This can be in the form of a metal shield, made of copper or aluminum tubing, surrounding the windings or even using coaxial cable, wound into a loop. They can be tuned or untuned.



Directivity in the maximum pickup for all types of loop is quite broad and will give a general indication of direction. However, the null (minimum pickup) of a loop is quite sharp and will give an excellent ‘heading’ of direction.

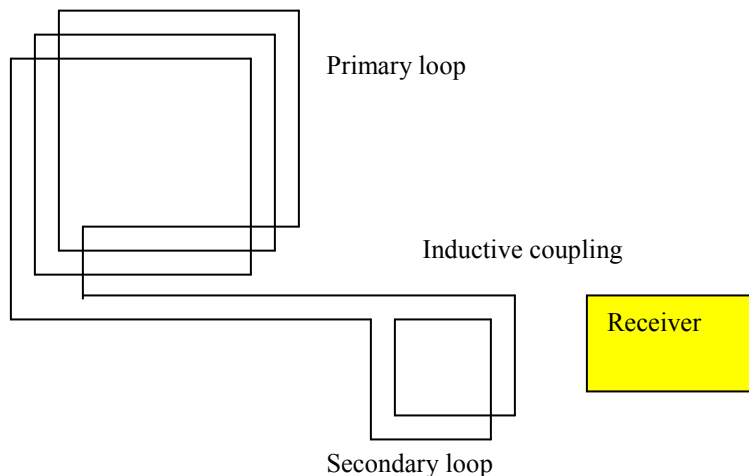


After a station has been located by turning the antenna to a maximum of signal strength, the direction can be accurately determined by finding the null point or minimum reception.

**Coupling the loop to your receiver.**

The simplest means to connect the loop to a receiver is directly to the antenna terminals, however, if there are no terminals and the radio has an internal antenna, it is easy to inductively couple the radio to the antenna.

A second loop, connected to the primary loop, can be positioned near the radio. This second loop need not be large or contain very many turns. It should ideally match the size of the radio's internal antenna and three or four turns will couple quite well.



There are, of course, many other types of directional antennas, including ferrite rods, phased arrays like the Yagi or Adcock, electronically steered arrays and more.

However, for the simplicity of construction, small size and ease of operation, it would be hard to beat a loop.

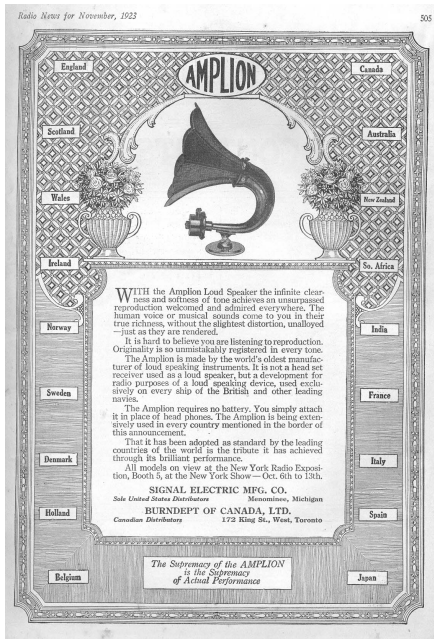
**Next Issue – How to build your own Loop Antenna!**

**Many Thanks to Rich Rodgers – SARS President 2003-2005**

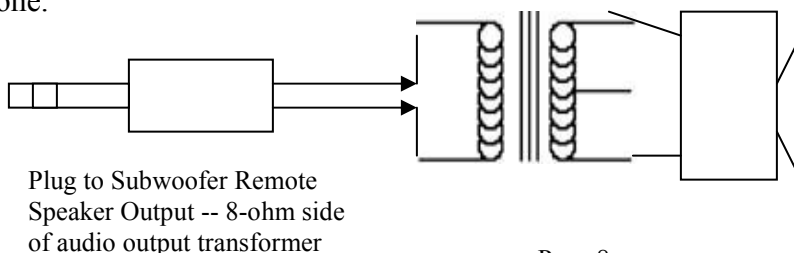
**Our radio club has grown dramatically in membership and national recognition over the past three years owing mostly to the efforts of SARS President Emeritus Rich Rodgers. Rich gave us a presence on the world wide web with the creation of [www.sarsradio.com](http://www.sarsradio.com) and as a result each month many thousands of radio enthusiasts tune in to see our show-and-tell photos, swap meet reports, newsletter articles and benefit from our listing of links to other radio-related sites. Thanks also to Rich's spouse Teresa, who has welcomed the club into the Rodgers home for annual picnics and given generously of her time to help get things organized at our Winter swap meets. Rich has graciously volunteered to continue his duties as Webmaster so his ideas and innovations will continue to benefit our members. -ed**

# Connect your Horn Speaker to your Computer!

By Mark Palmquist



A couple of weeks I received a call from a customer who had received a beautiful 1923 Amplion horn speaker from Italy via eBay. He wanted to know if the speaker could be connected to his computer sound card so he could enjoy the speaker while at work in his office. He didn't know if the speaker even worked so I said, "Bring it by and we'll check it out". I checked coil for continuity and it measured about 500 ohms. The impedance meter registered about 2000 ohms. Most computer speakers are 4 to 8 ohm speakers and the signal coming from the back of the sound card is usually amplified externally before going to the remote speakers. My computer has a subwoofer installed with 2 satellite speakers. To match the 8-ohm output of the remote speaker to the 2000 ohm impedance Amplion required a ~2000-ohm to 8-ohm audio output transformer connected in reverse. The 8-ohm tap went to the speaker output of the subwoofer box and the 2000 ohm winding of the transformer went to the Amplion. We had to hot-wire a miniature stereo phone plug from the junk box to make the connection to the computer and soldered a pair of wires from the B+-Plate side of the output tranny to the Horn driver terminals. At first the sound was audible but very scratchy and distorted until we discovered an adjusting screw on the back of the Amplion driver. This adjustment provides the correct relationship between the speaker coils/magnets and the metal diaphragm of the driver. The Amplion is basically an earphone element coupled to a horn so more than one person in the room can hear the music. With the subwoofer handling the lows and the Amplion the highs, we stuck a Glen Miller CD in the computer and the sound was much better than I would ever have imagined. For many folks, the first time they heard Glen Miller or Al Jolson may have been over the radio on a speaker just like this one.



2000 ohm side of output transformer connected to coil of Horn Speaker



## Upcoming Radio Events

Date	Event	Location	Contact
Jan 28, 2006	Columbia SC Swap Meet	Caughman Road Park	<a href="http://www.cc-awa.org">http://www.cc-awa.org</a>
Feb 13, 2006	SARS Monthly Meeting 6:30	Norcross Fire Mountain Café	<a href="http://www.sarsradio.com">http://www.sarsradio.com</a>
Feb 25, 2006	Dalton Hamfest	Dalton Ga	<a href="http://www.arrl.org">http://www.arrl.org</a>
March 4, 2006	SARS Winter Meet	Magnolia Mall Cumming GA	<a href="http://www.sarsradio.com">http://www.sarsradio.com</a>
March 23-25, 2006	AWA Charlotte NC Meet	Sheraton Hotel	<a href="http://www.cc-awa.org">http://www.cc-awa.org</a>

## SARS Meeting Dates for 2006 - Mark Your Calendars!

Date	Show & Tell Topic	Meeting Topic	Speaker
Feb 13 2006	Mystery (Unidentified or Strange) Radios	Horn Speakers & Impedance	Mark Palmquist
Mar 13, 2006	Made it Myself	Home Brew Stuff	Gary Beale
Apr 10, 2006	Military Radios	TBA	TBA
May 8, 2006	Your Oldest Radio	TBA	TBA
Jun 12, 2006	Early Kit Radios	TBA	TBA
Jul 10, 2006	Family Heirloom Radios	TBA	TBA
Aug 14, 2006	Radios with Tuning Eyes	TBA	TBA
Sep 11, 2006	Your Largest Table Radio	TBA	TBA
Oct 9, 2006	Radios with chrome grills	TBA	TBA
Nov 13, 2006	Radios with colorful dials	TBA	TBA
Dec 11, 2006	Anything Goes	TBA	TBA

**Directions to Magnolia Antique SuperMall 131 Merchant's Square  
Cumming, GA for Mar 4, 2006 Winter Swap Meet 8:00 A.M.**

<http://www.antiquesupermall.com/directions.htm>

Directions from Atlanta: Traveling Georgia 400N take the Cumming exit #14, veer right at end of exit traveling West on Hwy. 20 over the bridge to the 3rd. red light (Hwy. 9) make a left on Hwy.9 and we are located just past the next light on the right. Load-in is around the back of the mall. The swap meet will be held in a hall at the rear of the Mall.

