



The GroundWire

Looptee - Lou

ISSUE 2015-06

I'd like to start this article by saying thank you! Many of you have reached out and written me notes of encouragement and thanks for the newsletter articles each month. I actually received a letter from Justin Long (KG5DYY). While a mention in the *GROUNDWIRE* is certainly not the big time Justin, I'm honored you took the time and the postage to say thanks. Honestly I wasn't sure anyone actually read these. HA!



After my presentation in November about portable operations on HF, there were a lot of questions about the portable loop. Construction, field strength, difficulty in use, max operating range, etc. As an Extra Class Amateur I know just enough to be dangerous. I will attempt to address some of these questions. The only one I can answer definitively is how to build one and its difficulty in use. The remainder are mildly subjective and require a fair amount of test equipment. I will provide my opinion and link to an articles for further investigation.

For building a magnetic loop there are a few different methods. All of them have a very small part count and you really only need a few items:

- A lightweight conductor for the inner loop.
- A larger diameter conductor for the outer loop.
- A variable capacitor (~5pF-50+pF)

For your outer loop you can use copper pipe (refrigerant pipe is very popular). For an Alex style loop you use coaxial cable. I chose to use some 75 Ohm 66% velocity coax that was leftover from my main QTH Delta Loop Antenna transformers. I chose 8 feet. For the inner conductor I used 14 Gauge wire. This was left over from what I used for building my Delta loop. You can use any size wire you like, but the stiffer the better.

Variable Capacitors are difficult to come by and can be expensive. You can probably acquire a lifetime supply if you attend enough hamfests and dig around in the parking lot for some junk!



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Minutes of General Meeting



Ham Com is coming up. :-) To purchase new requires a little patience. If you use air variable caps, they are fairly inexpensive, but the shipping charge will be equal to the price of the cap. I purchased mine from <http://www.midnightscience.com/> They have variable caps and a number of kits for people interested in home brewing. I would not recommend this cap, but more on that later. A trip to Tanners is on order for the future.

I wanted to find a non-conductive housing for the cap. After looking at overpriced project boxes, I settled on a plastic housing from Home Depot in the electronics department. I think it cost about \$1. I also purchased some #10 brass bolts, #10 brass nuts, and a set of terminal connectors that would fit the brass posts. I also purchased a knob for the capacitor. Total cost for this was maybe \$25 between the cap, and the miscellaneous pieces. The wire, and some PVC I already had on hand.

To start I grabbed a sharpie, a ruler and a drill. I was able to get the variable cap mounted in my home depot box. I then attached the cap to the brass bolts using some hook up wire. I now had a safe way to access the cap and not shock myself with the crazy voltage that accumulates across it. This is by far the most difficult step.



I then mounted that box to a $\frac{3}{4}$ " 2 foot section of PVC pipe. Above the 2 foot section I had a four way split. The 3 remaining arms were all coupled to $\frac{1}{2}$ " PVC arms. The vertical arm was probably another 2 feet. The remaining horizontal arms were maybe 18". The idea is to build a form for your loop to rest on since the coax is likely not going to be sturdy enough to hold up on its own. I carved out a notch from the horizontal arms to hold the coax in place.



The final step is to attach all the connectors. I attached the smaller conductor to a BNC binding post connector. I attached the terminal connectors to the Coax and I was in business. Place the binding post over the brass bolt, put it through the loop guides and attach on the other end. I attached the smaller loop in the plane of the outer loop and attached it to the top of the form. I fired up the radio and. . .

I can hear signals faintly. As I change the frequency on my radio and tune the variable cap you can definitely get a good match and the signals come to life. As I mentioned earlier, I would not recommend my particular cap. It is not the intended purpose for the cap and the range of capacitance is far greater than what is actually needed without hitting the ideal lowest rating of about 5pF. In addition I am absolutely certain that it is not rated for transmit. Although it does work!!

As for field strength, I keep up with Myron WV0H who is far more qualified than I am on this topic. He has an excellent blog post on this topic:

<http://wv0h.blogspot.com/2014/02/magnetic-loop-rf-safety.html>

If you don't take the time to read this, he mathematically shows that at 5 Watts if you are at least 1 loop diameter away from loop on 20M, you are definitely safe. You're probably safe a little less distance depending on the frequency.

I'm happy I built the loop. I but I would like to experiment with inner loop circumference and get a better variable cap. With enough time and effort you could probably perfect the matching process. Pick a frequency then tune your cap to the frequency chosen. This is most certainly NOT a search and pounce antenna. I'd like to do some more experimentation. It definitely works and I have made contacts on it at 5 Watts.



I encourage all of you to explore and experiment with the radio art!

PS--Remember that Field Day is coming. This is another chance to volunteer for the club. Bring friends, family, or politicians. Contact Harold (K5HDW) the FieldDay Chairman or any member of the board to see how you can help! Equipment, labor, time, operators and food are all needed!! Experience is not required.

PSS—I'm giving my portable HF antenna talk at HamCom on Saturday morning. Feel free to come out and say hello or invite any friends interested in any of this stuff!

We Caught a Violator! ;-)

CQ FIELD DAY! CQ FIELD DAY!



The yearly Amateur Radio contest enjoyed by thousands of HAM Radio Operators all across North America is coming on the fourth full week end in June. That will be the 27th and 28th June 2015. This is a good time for people who are interested in learning about Amateur Radio, or those who are new to the hobby, to get some hands-on experience and training in HAM Radio use, etiquette, and operating procedures. Field Day is a good way to practice emergency communications.

The SWDCARC will hold its Field Day this year at the Cedar Hill Emergency Operations Center (E.O.C.) behind the Cedar Hill Government Center at 285 Uptown Blvd. on the southwest corner of the building.

Some antenna set-up can be done Friday afternoon after 5:00 p.m.. Set-up time on Saturday begins early. Operation begins at 1:00 p.m. Saturday and continues until take-down time, which is usually before noon on Sunday. Field Day contesting officially ends at 1:00 p.m. on Sunday. If you are new, or interested in becoming a HAM, you are welcome to come and assist with set-up or take-down, or both. It is a lot of work, but also a lot of fun! Everyone is encouraged to come and participate in the HAM communication event of the year!

On Saturday evening the 27th about 5:30 p.m. we will have our traditional pot luck family style dinner. This is always an enjoyable time for a get together with friends and family. Please have your food donation at the site before 5:30 pm. so we can get things set up.

We are looking forward to a fun and successful Field Day again this year!

Pat

KB5YPP - 73

Upcoming Activities



June 2nd
June 16th

Board Meeting
Club Meeting

June 25th

***Groundwire* submissions due**

Club Breakfast *every* Saturday 7:00AM @ Acapulco's in DeSoto
Monday Night Nets every Monday @ 8:00PM (147.060 MHz / + /110.9)

June Program

Field Day preparation by Harold (K5HDW)

Here is what is coming in the coming months ...

Elmer Directory



APRS	Jerry (KB6OJE)	
Antennas		
Contesting	Jerry (KB6OJE)	
CW	Russ (KX5G)	
DF'ing	Rick (KJ5UY)	
DX		
JPole Construction	Barry (K5BSM)	James (KF5RBN)
Kit Building & Soldering		
Net Operations	Russ (KX5G)	
Portable Operation	Gene (N5PKZ)	
PSK31	Jerry (KB6OJE)	
QSL'ing		
Radio Bargains	Barry (K5BSM)	
Satellites	Bob (KA4JSQ)	
Traffic Handling	Russ (KX5G)	
WSPR		

The above club members have volunteered to help you get started or answer questions to help you enjoy these areas of our radio hobby. If you wish to volunteer your expertise, contact Bill (N5TXN) to get on the list.

Financial Report ... May, 2015



May-15	Income	Expense	Balance	Petty Cash
General Fund				
Beginning Balance			\$1,007.48	
INCOME/EXPENSE				
Dues Income-2015	\$30.00			
ARRL Renewal Income-2015	\$78.00			
Transfer From Matl. Property				
Transfer Petty Cash income				
TOTAL INCOME	\$108.00			
EXPENSES				
ARRL Renewal Ck2061		\$ 37.00		
ARRL Renewal Ck2062		\$ 61.00		
Transfer to Special Events				
TOTAL EXPENSES		\$ 98.00		
Ending Balance			\$1,017.48	
Special Events Fund				
Beginning Balance			\$0.00	
INCOME/EXPENSE				
Trans from General Fund				
TOTAL INCOME	\$0.00			
EXPENSES				
TOTAL EXPENSES		\$0.00		
Ending Balance			\$0.00	
Material Property Fund				
Beginning Balance			\$1,295.37	
INCOME/EXPENSE				
Dues Income-2015	\$30.00			
Mobil Grant	\$500.00			
Transfer from General Fund				
TOTAL INCOME	\$530.00			
EXPENSES				
Bill Ellis CK2060 Yaesu Rptr		\$500.00		
Transfer to General Fund				
TOTAL EXPENSES		\$500.00		
Ending Balance			\$1,325.37	
May Balance	\$638.00	\$598.00	\$2,342.85	

2015 Board Members

President

Barry Fulfer (KF5JPE)

Vice-President

James Jackson (KF5RBN)

Treasurer

Jerry Keltner (KB6OJE)

Secretary

Pat Roberson (KB5YPP)

Directors

Wayne Schier (KE4SGS)

Gene Boulton (N5PKZ)

Harold Wheat (K5HDW)

Committee Positions

Repeater Trustee

Johnny Roberson (KJ5LB)

Repeater Committee

Chair

Barry Fulfer (KF5JPE)

Newsletter Editor

Bill Ellis (N5TXN)

Web Master

OPEN

MN²

Monday Night Net

Net Time 8:00PM

147.060(+) Primary

444.500(+) Alternate

Minutes of Board Meeting ... May 5, 2015



The meeting was called to order by Barry (KF5JPE) at 6:30 PM.
Invocation was given by Harold (K5HDW).

Executive Board members present:

Officers

Barry Fulfer (KF5JPE)
James Jackson (KF5RBN)
Jerry Keltner KB6OJE)
Pat Roberson (KB5YPP)

Directors

Harold Wheat (K5HDW)
Wayne Schier (KE4SGS)
Gene Boulton (N5PKZ)

Guests: Wes Attaway, Scoutmaster of B.S. Troop 109 in DeSoto; Dale (KE5FPK) Assistant Scoutmaster; Mel (KF5YTF) and daughter Lisa; Scott (KE5NLK); Johnny (KJ5LB); Elizabeth, daughter of James (KF5RBN).

Minutes: Motion by Wayne (KE4SGS) with second by Gene (N5PKZ). Approved as printed in the Groundwire.

Treasurer's Report: Current balance is \$2,320.85. (\$500.00 paid to Bill, N5TXN for the Yaesu digital repeater and \$500.00 donation received from Mobil for volunteer hours logged by Jerry, KB6OJE). Motion by Harold (K5HDW) with second by Wayne (KE4SGS). Approved as reported and printed in the Groundwire.

COMMITTEE REPORTS

Repeaters: Both are working fine.

VE Session: None

EOC: Duncanville E.O.C. has two radios installed and working. Wayne (KE4SGS) is working on getting them programmed. The E.O.C. in Cedar Hill has been secured for Field Day this year.

Membership: None

Net: Pat (KB5YPP) conducted the 4 May Net from the Duncanville E.O.C. There were eleven who checked in to the net.

Web: Is up and running.

Groundwire: All submissions for the Groundwire need to be in **MS Word** format and sent to Bill (N5TXN) by the 25th of the month. Articles are needed.

OLD BUSINESS

1. The Cedar Hill Rotary Head For the Hills Bike Rally is this Saturday. Scott (KE5NLK) will position the communications trailer at 4:30 a.m. then will go to I-HOP with Jerry (KB6OJE) for breakfast. All are invited who are early risers!
2. Ham Com – The second weekend in June at the Irving Convention Center. Tables have been purchased.
3. Field Day – Discussion was held regarding Field Day sites. The Pioneer Bible Translators site will not be available this year due to a scheduling conflict. The E.O.C. in Cedar Hill has been secured for the 2015 Field Day. A motion was made by Jerry (KB6OJE) with second by Gene (N5PKZ) to form a committee of paid members to plan for Field Day 2016. Motion carried. We will need someone to be the GOTA station manager because Jerry (KB6OJE) will be out of state. Other members will need to step up and fill in because Les (K5ITO) and Johnny (KJ5LB) will not be able to be there the entire time due to other commitments. Pat (KB5YPP) will be the contact person for coordinating the Saturday evening dinner.

NEW BUSINESS

Wes Attaway, Scoutmaster for Boy Scout Troop 109 in DeSoto and Assistant, Dale Lester (KE5FPK) requested help from the SWDCARC with the Communications Merit Badge. Attending Field Day and getting on the GOTA station were suggested. Individuals also volunteered to help. The troop meets on Monday nights at the Presbyterian Church in DeSoto. Contact Dale (KE5FPK) with information or to help.

ADJOURN: Motion by Pat (KB5YPP) with second by Harold (K5HDW) at 7:40 p.m.

General Membership Meeting ... May 19, 2015



The meeting was called to order by James (KF5RBN) at 6:30 PM.

Invocation was given by Jerry (KB6OJE).

Executive Board members present:

Officers

Barry Fulfer (KF5JPE) – late (flat tire)

James Jackson (KF5RBN)

Jerry Keltner (KB6OJE)

Pat Roberson (KB5YPP)

Directors

Harold Wheat (K5HDW)

Gene Boulton (N5PKZ) – late (traffic)

Wayne Schier (KE4SGS)-absent (ill)

Name/Call Sign Introductions.

Guests: Several guests, former members, test takers and new members were present.

Program: Rob May - Gave an interesting presentation on new Chinese hand held radios.

VE Session: After the program, the VEs and those testing exited to the test session about 7:15 p.m.

Minutes: Motion by Bill (N5TXN) with second by Jerry (KB6OJE). The April minutes were approved as printed in the Groundwire.

Treasure Report: Motion by Harold (K5HDW) with second by Les (K5ITO). The April report was approved as printed in the Groundwire and with current balance of \$2,339.85.

COMMITTEE REPORTS

Repeaters: Both are working fine.

VE Session: Two to test tonight for Tech. license. William Brandel and Rodney Grimsley both passed their Tech license. Congratulations to both!

EOC: Nothing to report

Membership: Two new membership applications were received. Ray Purdy (KI5) and Anthony Guthrie (KD5TKM) will be voted on at the June Board meeting.

Net: Russ (KX5G) had the Net on the 18th with about 10 who checked in. Wayne (KE4SGS) had the Net on the 11th with about 10 who checked in. Thanks for your commitment to the Net.

Web: Membership list has been updated by Bill (N5TXN). The President (KF5JPE) is requesting interested persons to volunteer to make recommendations to the Board on guidelines for the Web and Social Media content.

Groundwire: There was one in April. Any paid member who is not receiving the Groundwire

should contact Bill (N5TXN) and Gene (N5PKZ). Articles are needed for the Groundwire. All submissions for the Groundwire need to be in Microsoft Word format and sent to Bill (N5TXN) no later than the 25th of the month.

OLD BUSINESS

H.F.H. Bike Rally recap – Jerry (KB6OJE) reported the Rally was successful and without major problems. Attendance was down some due to the weather. The rider who had to be taken to the hospital last year stopped by the communications trailer to thank all the HAMs involved with getting him to the hospital in time and saving his life.

Ham Com – Irving Convention Center – June 12-13. Two tables have been secured. Gather up the old “stuff” that you want to get rid of and get ready for the event!

Field Day – June 27 – 28. The alternate site has been secured (Cedar Hill E.O.C.) due to a scheduling conflict at the P.B.T. site. A discussion was held on how to deal with some issues at the E.O.C. site. The June General Meeting will be spent reviewing preparations for Field Day. Ben (K5NEB) volunteered to be the GOTA Station team manager. Other volunteers are needed to assist. A successful Field Day depends on all members pulling together and making the event enjoyable and educational for all who attend. The food list was passed around for volunteers to sign up for the Saturday evening dinner.

NEW BUSINESS

The daughter of a silent key in Arlington is asking for help dealing with old ham and broadcast radio equipment. See Barry (KF5JPE) if you would like to help.

Boy Scout Troop 109 Troop Leader, Wes Attaway, and assistant, Dale Lester (KE5FPK), attended the May Board meeting and requested assistance from SWDCARC in helping with the Communications Merit Badge. Dale (KE5FPK) can be contacted if you would like to help with the merit badge.

ADJOURN: Motion by Hugh (KF5SKS) at 8:05 p.m.