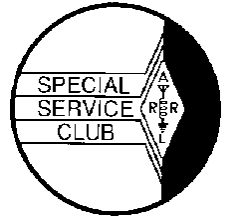




# The Repeater

Monthly Newsletter of the Arkansas River Valley Amateur Radio Foundation



December 2004

## President's Columns

Happy Holidays to all ARVARF members and their families. It is hard to believe that another year is almost over. As my term as club president draws to its end, I am very glad that I had the opportunity to serve. While I probably am not any better as a radio operator, I do feel richer because I have gotten to know some of our members better.

It is very clear to me that national and international leaders could learn much about respect and common courtesy from ham radio operators. As a general rule, the world wide amateur radio community is the friendliest most helpful and courteous group of people. I'm glad to be a part of such a group.

Our first event was, of course, hamfest. It is almost unimaginable that our club could have a bad hamfest. The next undertaking was the special events station at London's Poke Sallett Festival. We did not make as many contacts as was desirable, but we did stir up some interest in the hobby. June, of course, is field day. Thanks to some really fast operators our club was able to run up a very good score.

The club was also able to help with the depot restoration. Our operators are always willing to help in emergency drills as well. And should the need arise, I'm sure our members will be willing to go on the air in an emergency. The ARVARF group is not the largest club but it is a prime example of what amateur radio really is.

I want to send out a heartfelt "thank you" to all the members who were so much help to me during this past year. You made it easy to be president of the club.

December 21st is the date of our next

meeting. We will be drawing the winner of the net check in contest. I hope to see you there. To those of you who cannot be at the meeting, let me say Merry Christmas and Happy New Year.

Thanks to all for a very good year.

73

Roger

AC5YG

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Greetings and Merry Christmas to all!! I hope each of you have a wonderful holiday season.

When the minutes from the November meeting are published in the December newsletter, I'm sure some of you will wonder who this quiet lady is that is our new president.

My name is Loretta Morgan. I am a substitute teacher and choir director in my day jobs. I have been an ARVARF member for about 15 years. I started coming with my husband to the Saturday Morning Breakfasts at Brown's Country Inn. If I remember correctly, Karl Goebel was president then. I became a ham radio operator in order to keep in contact with my husband, Phil (n5rqd), as he flew his hanglider off Mt. Nebo and Mt. Magazine. Yes, ham radio made driving to pick up hanglider pilots both a challenge and a breeze. I received my Novice and

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Presidents Columns (continued)

Technicians licenses early in 1991 and realized that I enjoyed CW. I ran the Novice Station at field day that year when my son, David, was just 3 months old. He is now 13 and an 8th grader at Dardanelle Middle School. He is active in the band and basketball. I have many wonderful memories as a member of this ham club and hope to make many more.

The first big event of the new year will be the hamfest. We all look forward to hamfest with much anticipation. I know we all enjoy the event and hope it will be the usual success.

I would like to say thanks for the confidence the club has placed in me. I may question your judgement, but I know I can count on lots of support from the members. The world wide amateur radio community is made up of some of the best people you could meet. We are fortunate to have the cream of the crop right here in our club. I look forward to a great year!

Remember the Tuesday night net and monthly meeting.

73

Loretta

KB5OHF

ARVARF Officers		
<b>President</b>	Roger Sayer	AC5YG
<b>Vice President</b>		
<b>Treasurer</b>	Glenn Holmes	N5KLE
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	Keith Mitchell	KJ5YU
	Dick Koski	W5VUB
<b>Newsletter</b>	Melissa Schaefer	N5HX
	John Evans	WB5BHS
	Jimmy Poole	WU5X
	Roger Sayer	AC5YG

**BAZOOKA ANTENNA**

**BY AULTON WHITE, N4OWB**

One of the best antennas for use on HF is the Distributive Capacity Coaxial Dipole, commonly called a Bazooka. This is a broad-band, low-noise antenna with 1.5 to 3 db of gain over a wire dipole. The antenna is basically a folded dipole made of coaxial cable. The best cable to use is one with single strand, hard-drawn copper center conductor. These are the strongest and are less likely to stretch due to weight and high temperatures.

Any 50 ohm or 75 ohm coax cable will work just fine.

To assure flat SWR equally on both sides of the center frequency you choose, calculate for a frequency 4% higher. As an example, if you are cutting an antenna for 80 meters and you want it centered between 3.5 MHz to 4.0 MHz, center would be 3.75 MHz, add 4% to 3.75, which would be 3.9 MHz. To determine the overall length of the antenna in feet, divide 460 by the frequency of interest in Megahertz. In the example above for 80 meters, that would be 460/3.9 =118 ft. Find the exact center of this piece of cable and carefully remove one inch of outer insulation from the shield. Very carefully cut the shield in the center of this one-inch gap. DO NOT cut the center insulation. Unravel the shield and form each side into a pigtail. This will be your feed point; the center lead of the feed line will connect to one pigtail, and the shield of the feed line will connect to the other pigtail.

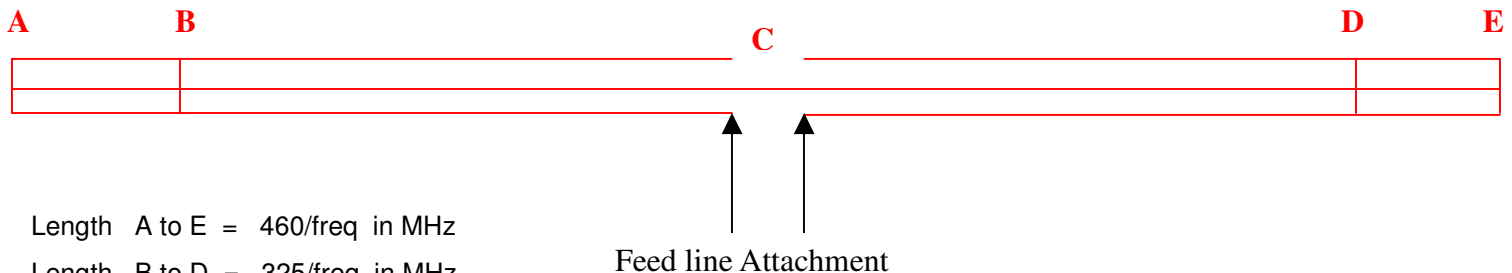
Next, divide 325 by your chosen frequency. In the example above for 80 meters, that would be 325/3.9 = 83.3 ft. Divide this by 2 = 41.65 ft. = 41'8". Measure 41'8" from the center of the wire to each end and mark these points. Carefully remove one inch of insulation from the shield at these points. Spread the shield open with a scribe to make a hole that you can get a narrow blade Exacto knife through and cut the insulation away from the center conductor. Squeeze the shield to the center conductor and solder the shield to the center

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<p><b>THE REPEATER</b>  <b>Editor / Designer</b>                  Jimmy Poole, WU5X  <b>Columnists</b>                  Melissa Schaefer, N5HX                  John Evans, WB5BHS                  Roger Sayer, AC5YG</p>
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conductor. (This can be facilitated by giving the end piece a half-twist, then cut a strand of wire from a piece of 14 ga. stranded wire and wrap the junction very tight before soldering).

Strip one inch of insulation from the shield at each end, fan the shield back enough to strip the insulation from the center conductor. Solder the shield to the center conductor.



Length A to E =  $460/\text{freq}$  in MHz

Length B to D =  $325/\text{freq}$  in MHz

Short shield to center conductor at A, B, D & E.

Seal all connections with hot glue, then wrap tightly with "Tommy Tape".

Trim ends A and E for lowest vswr.

To prevent feed line radiation, it is recommended that you wind 10 turns of the feed line on a 6 inch diameter six inches from the antenna attachment point.

The center of the antenna at the feed point should be supported. The easiest is a small sheet of Lexan or plexiglass drilled for attaching to a support rope. Drill two holes on each side and at the bottom on each side of the coax, then use dental floss to tie the coax to the sheet of Lexan. The ends should be tied to

insulators with wire.

The Bazooka has the highest gain and broadest bandwidth when installed as a "flat-top", however, it is directional perpendicular to the plane of the antenna. It works very well as an inverted vee down to about 120 degrees and is omni-directional, but with less gain and bandwidth. Keep the ends at least 15 ft. above the ground. It can be used on other bands by using a trans-match (some call it an antenna tuner). As with any other dipole, it works very well on the third harmonic and all odd harmonics of the band for which it is cut. All antennas, except the beverage, benefit from a ground counterpoise. It is not necessary, but will improve the performance.

Many builders make the end sections of stranded or solid wire, 300 ohm twin-lead, or 450 ohm ladder line. All claim excellent performance, so it's builder's choice.

For more information on the Bazooka, see the following websites:

[hamuniverse.com](http://hamuniverse.com)

[we6w.com](http://we6w.com)

Did you ever notice that a fantastic stereo system sounds bad on cheap speakers, and a cheap stereo sounds magnificent on expensive speakers? The same holds true for antennas, so build the best antenna you can find, whether you work QRP or Kilowatt.

And don't forget: A DUMMY LOAD HAS A 1:1 SWR, but it doesn't radiate well.

Also, Antenna Tuners don't tune antennas; they merely match the impedance of the feed line and antenna to the impedance of the transmitter.

## CALENDAR OF EVENTS

### **ARVARF meeting at Western Sizzlin:**

Tuesday, December 21

7:00 p.m. Those who want to eat, come at 6:00.

### **ARVARF Net:**

Every Tuesday at 8:00 p.m. on 146.82 (except club meeting night)

### **ARVARF web page:**

[www.cswnet.com/~arvarf/](http://www.cswnet.com/~arvarf/)

### **Arkansas Section Web Domain:**

[www.arkansashams.org](http://www.arkansashams.org)

**73 and have fun with Amateur Radio, N4OWB**