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**The President's Corner: David KR4OE**

cq field day cq field day this is kilo 4 mike november kilo 4 mother nature field day.

June is here and that means only one thing, Field Day. Field Day will be June 23-24 and we hope to see you all there. We will begin setting up around mid-day on Friday, June 22 and if you are able to come out then and on Saturday morning to assist with set up I guarantee you will learn a thing or two about antennas, station set up, etc. I remember the first time I went out to Field Day as a licensed amateur on a Friday and the amount of information I learned. Then I remember the first time I went out to a Field before I received my ticket. I had already met Bill KU4W so I walked over to the cw station where Bill was operating. Bill was operating and he was talking to me and at the same time operating the station at 25-30 words per minute. I was impressed to say the least and told myself I wanted to do that some day. I had already passed my Technician test at the time but was waiting for the license to come in the mail. There was no checking on line for your call back then so you had to check the mailbox daily waiting to see if that coveted piece of paper had arrived and what your call would be. It was a long wait as it took eight to twelve weeks or so for the license to arrive.

Field Day is our premier operating event of the year. It is our chance to demonstrate to the public what amateur radio is all about and test our emergency skills by operating off the grid. We encourage anyone who has an interest in amateur radio or emergency communications to come out and see the capabilities of amateur radio. Anyone who would like to operate whether they are licensed or not are welcome to get on the air and experience amateur radio. I hope to see you all there because participating in Field Day will make you eligible for something special at the July meeting.

I have noticed something that needs to be addressed as it comes to identifying your station on the air and complying with FCC rules. In the morning identifying with your Possum Trot number only is not proper. During the evening net after giving your comments you must sign off with your call sign. When checking into the evening net everyone checks in using their call sign but sometimes a person who stays to make comments will not give their call sign after making comments. Whether on the Possum Trot or the CFARS Evening Net when you make that last transmission you must sign with your call. Additionally, though not a rules violation, on the evening net when a station checks in and says "No Traffic" does not mean he or she is checking in and checking out of the net. By saying "no traffic" it just means the station has no formal traffic for the nets. One of the purposes of our evening net is to take and pass formal traffic from the National Traffic System. At one time our net was a part of the NTS but that is another story and we will leave it at that.

At the beginning I talked about watching Bill work cw at the first Field Day I attended while waiting for my ticket to arrive. Well it finally came in the mail in August. **Mike KN4XP** and myself had just returned that Saturday from the High Point Hamfest and upon arriving home there was my long awaited ticket in the mail box. It took me a couple of years to get my 5, 13, and 20 words per minute cw tests passed along the route to Extra but it all paid off. I went out to Field Day as a new Extra, all day on Saturday I logged for all the cw operators. I went back out on Sunday morning and after getting my nerve up to operate and after a lot of encouragement from **Bill KU4W**, **Chuck KJ4RV** and **Van N4ERM**, I got behind the key. That has been 25 years or so now and we are known as the Dream Team along with our newest member Bob WA4WHV. Come out to Field Day and see the Dream Team in action along with all the other members of the CFARS Field Day team. See you there.

CFARS Officers

President .....David KR4OE kr4oe@nc.rr.com  
 Vice Pres..... Ben KM4ODT bassettbw@aol.com  
 Sec./Treas..... Chuck KJ4RV kj4rv@arrl.net  
 Recorder.....Bill KJ4OFD kj4ofd@arrl.net  
 Newsletter Editor...Mike KN4XP kn4xp@yahoo.com



Coordinators

Membership.....David KR4OE kr4oe@nc.rr.com  
 Net Manager.....Chuck KJ4RV kj4rv@arrl.net  
 Emergency .....Mike K4JWX k4jwx@outlook.com  
 Information.....Kelly N4EWG n4ewg@nc.rr.com  
 Repeaters.....Bill KU4W kc4swy@embarqmail.com  
 Sky Warn.....Jim KI4YRH ki4yrh@aol.com  
 Field Day.....Vacant  
 Health & Welfare...Mya mya@embarqmail.com  
 VEC.. .....Pat N4UGH n4ughpat@aol.com  
 Swapfest .....David KR4OE kr4oe@nc.rr.com  
 Public Info... Marty W4MLW carolinapretzel@embarqmail.com  
 Webmaster.....Steve KI4EZL cfarswebbie@nc.rr.com

Club Repeaters

(PL 100 Hz)

**K4MN**  
 2 m 146.910/146.310  
 70 cm 444.400/449.400

**K4MN**  
 6 m 53.810/52.810

**WA4FLR**  
 2 m 147.330/147.930

**Club Membership**

**Dues**

CFARS club membership dues are due and payable in January each year. CFARS does offer you the option to pay your dues no later than March. Yearly dues are \$15.00. CFARS offers a lifetime membership option for \$150.00. If your dues are not paid by March you will not be a voting member of the club. The right to vote on issues for the club comes with club membership.

The Cape Fear Amateur Radio Society News is the official newsletter of the Cape Fear Amateur Radio Society. It is published monthly as a PDF. The newsletter is emailed monthly when the latest version is available. Please provide your email address to the Newsletter Editor. The CFARS News welcomes articles and other contributions. Please email submissions to the newsletter to cfars\_newsletter@yahoo.com. The Editor reserves the right to edit any and all pieces. The submission deadline for each month's News is the last Friday of the preceding month. The views expressed in the CFARS News are those of the individual authors and do not necessarily reflect the views of the Editor or CFARS.



CFARS Club Patches are available for purchase. Contact **Chuck KJ4RV** for your patch today!



### May 2018 Club Meeting Minutes

On May 21st the Cape Fear Amateur Radio Society meeting was held in the Auditorium of the Science Building at Methodist University, Fayetteville, North Carolina at 7:30pm. President **David KR4OE** opened the meeting and welcomed all for coming. **David KR4OE** led the *Pledge of Allegiance to our Flag*. **Larry N4USB** led the invocation. **David KR4OE** led the introductions in the usual CFARS manner.

A motion was made by **Paul K4PGM**, seconded by **George KM4ODT**, to approve the minutes of the February meeting. By vote the motion carried.



**Marty W4MY** and xyl **Kim KY4FAP**, chairman of the *NC QSO Party* presented the club with the First Place Award for the 2018 NC QSO Party to the club and answered questions from the members.

#### COMMITTEE REPORTS:

**Treasurer:** **Chuck KJ4RV** gave the treasurer's report. We collected some money and we are still solvent.

**Repeater:** No report.

**Net Manager:** **Chuck KJ4RV** reported we gained check-ins and times per net from last month. We have a lot of new members. Remember, these are our repeaters, if we don't use them somebody else might.

**Membership:** **David KR4OE** presented new members to the club. First was **Nina KN4KUL** who is our newest life member. **John Ray KN4LHC**, **Brian Sells KE5UG**, and **Gary Harter KN4LAZ** had their application for membership read. A motion was made by **Bonne KF4LVF**, seconded by **Marty W4MLW**, to accept them as new members. By vote the motion carried.

**Newsletter:** No report..

**Health & Welfare:** No report.

**Swapfest:** **David KR4OE** reminded us that the CFARS Swapfest will be August 11 at the Cumberland County Shrine Club. Get your stuff ready to sell/swap/trade.

**VE Testing:** The next VE Testing session will be held on June 9th.

**Emergency Coordinator:** **Mike K4JWX** gave the Emergency Coordinator briefing. We recently did our shelter checks and noted a couple of problems, specifically the Spring Lake Middle School was not able to communicate via simplex to the EOC or anyone else, and maintenance will be needed at 71<sup>st</sup> High School due to water leaking into the roof and causing some corrosion problems with the coax at that site.

**Field Day:** **Paul K4PGM** will honch the Field Day for us this year. The following people will take care of the following tasks: **Kelly N4EWG** will be doing the Public Information table, **Bill KJ4OFD** will pass message traffic, **Chuck KJ4RV** will head the CW station, **Paul** will head the SSB and GOTA Station, **Bonne KF4LVF** will take care of the VHF Station, **Van KG6HYJ** will take on the power distribution and generator, and **Fred N4ZCG** will copy the bulletins. **Marty K4MLW** indicated that there were several places we left points on the table last year: we need children to get on the radio and make contacts, we need to send invitations to join us for Field Day on Social Media, and we need to set up a PR table..

**Public Relations:** No report.

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**Old Business:** David KR4OE reported he had spoken with the Facilities Director at Methodist University regarding the tower removal. This is in limbo until the University has the opportunity to move their radio systems to their new site, once this is done, they will contact us to remove the tower. We have received tentative OK to use the tower atop the old Highsmith Rainey Hospital for our repeaters. We need to update our antenna atop the Soldier Support Center on Fort Bragg. David KB4FXC suggested a DB224 antenna be used as a new antenna. It is a 21' Folded Dipole Array antenna. Steve KI4EZZL has taken on the task of webmaster for the club. The new website is up, send him information and he will put it up. He presented a bill to the club for the website for the year of \$119.88. Van N4ERM told us of one of the units on Fort Bragg wishing to have us assist them in licensing classes to FOUNDRY organization to Military Intelligence folks from Fort Bragg, Fort Drum and Fort Campbell. They want to have a license prep session from May 29 to June 8. They apparently have their own VE Coordinator but may use us on June 9<sup>th</sup> if necessary. Bob WA4WHV has completed the annual audit of our finances and sent a letter saying he found no discrepancies in the Treasurer's books. David read his report to the club.

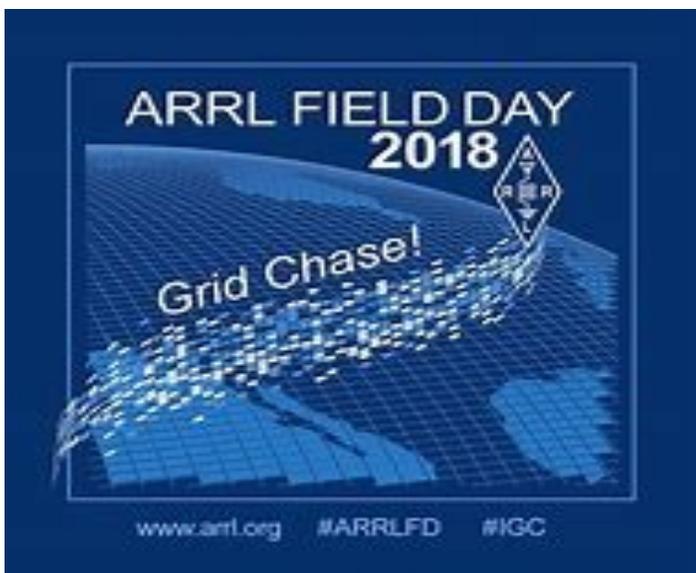
**New Business:** Bonne KF4LVF has brought in many old copies of 73 magazine and World Radio. They are at the front of the classroom for anyone who would like them. Pete K4QFK has old copies of QST magazine. He also needs to have antenna tower taken down, and will looking for a buyer for his old tower. Paul K4PGM ran into family members of an old SK member of CFARS and the estate is looking to sell his equipment. The Swapfest was suggested as an outlet to sell the equipment. Van KG6HYJ said we need to replace the tilt motor on the trailer tower. Van N4ERM made a motion, seconded by Pete K4QFK, to allot a maximum of \$250 for the replacement motor. By vote the motion passed.

**Program:** Ben KM4ODT asked anyone with a desire to give a program to give him a call. Dale AK4YS gave this evening's program on How to get on the Air? Make your own antenna!

**Door Prize Drawing:** Marty W4MLW held the drawing. A Pelican case was won by Bill KN4LBD, a 4 channel mixer was won by Larry N4USB, a cup holder type phone holder was won by Paul K4PGM and Van N4ERM won yet another multimeter.

A motion was made by Jim KI4YRH, seconded by Fred N4ZCG, to adjourn the meeting, By vote the motion carried. The meeting was adjourned at 8:40 pm. We had thirty-six (36) members and one (1) guest at the club meeting. The next club meeting will be June 18, 2018.

Submitted by **Bill KJ4OFD**  
CFARS Recorder



### Calling for Newsletter Articles

CFARS needs your input to the newsletter. If you have installed a new antenna, mobile rig, made a piece of equipment, tried a new mode of operation or anything else related to amateur radio, take the time to write it up and include pictures. Each month the CFARS News needs your input. Somebody may be wanting to try something new and you just might be the one that spurs that interest or can help out a new or confused older ham. Newsletter articles and pictures can be emailed to [cfars\\_newsletter@yahoo.com](mailto:cfars_newsletter@yahoo.com).

## BUILDING and Tuning A DIPOLE THE EASIER WAY!

The simple use of math will help save you lots of time tuning a dipole for lowest SWR! Here are a couple of methods that should work well for you in tuning your dipole for lowest swr without many steps and repetitive trial and error! You may find one of the explanations of the different methods shown below to be easier to use, but try all of them! Use the one that you understand the best and that is more simple for you to use. Practice with all of them using your own practice "lengths and frequencies".

This short bit of information hopefully will save you much time when "tuning" a dipole whether you have built it yourself or purchased commercially. Yes, most commercially purchased dipoles need tuning. These methods can be used by hams that want to make a dipole, (any frequency), so they usually begin by using the standard formulas below :

$234 / \text{design frequency} = \text{each dipole side length in feet,}$

OR -  $468 / \text{design frequency} = \text{total length in feet.}$  Most builders cut long and trim the total length for lowest swr on their design frequency. The only problem with this, when you put it in the air, it isn't even close to that magic 1:1 SWR that most of us seek.

In fact, after your first swr check, the antenna may be lowest in swr way low in frequency or just the opposite, too high. So.....up and down, up and down, up and down.... you start chopping off or adding pieces of wire until the antenna comes up to your design frequency with the lowest swr. This can take many, many trips to the rig, back to the antenna, back to the rig, etc, etc and can be very time consuming to get the dipole tuned where you want it. The solution to fewer trips up and down guessing at tuning the antenna:

By using a bit of simple math should help do the trick! Example: Lets say you want a dipole for 18.130mhz. You just used the standard formula  $234/\text{freq} = \text{length of each half in feet}$  or  $468/\text{freq} = \text{both lengths total in feet}$ ...you then cut each wire (each leg) to 12.9 feet from the formula.....( $234 / 18.130$ ) or 2 times that length for the total length in feet, then cut in half using the 468 constant formula.

Here comes that bit of math with a formula to save the day! Get your calculator out.

The formula =  $\text{Old Frequency (17.80) / New Frequency (18.130) X Original length from the formula, (12.9 feet)} = \text{New dipole length (12.7 feet) per half.}$

Now since it's much easier to use inches rather than 10th's of a foot, doing the math to find out how many inches 12.9 feet is:

$12 \text{ feet} + .9 \text{ feet} = \text{how many feet and inches? } 12" \times .9 = 10.9 \text{ inches.}$  Add this to 12 feet..... $12 \text{ feet} + 10.9 \text{ inches rounded off} = 12 \text{ feet } 11 \text{ inches per half.}$

Doing the same with the new dipole length.....gives us,

$12 \text{ feet} + 8.4 \text{ inches} = 12 \text{ feet } 9 \text{ inches (rounded off)}$  for the new length for each half of the dipole! So there is a difference of about 2 inches between the old length and the new length. Now since the new length is shorter than the old length...you cut of 2 inches from the original length that you arrived at using the formula the first time making the antenna resonate higher in frequency. This should get you very very close to the exact frequency using this formula!

If by some quirk of Murphy's law it still is off a bit, just repeat the procedure again with no guesswork involved!!!!

Here is another example using the same frequency,

18.130mhz and you find the best swr is 18.500mhz. Now the antenna is toooo short....but how much?  $18.500 / 18.130 \times 12.9 \text{ feet} = 13.16 \text{ feet}$  so....., the difference between the new length and the old length is  $13.16 \text{ feet} - 12.9 \text{ feet} = .26 \text{ feet}$  which is what would have to add to the original length to make it longer and much closer to the correct length. So we get  $.26 \text{ feet added to } 12.9 \text{ feet} = 13.16 \text{ feet}$  for 1/2 of the dipole! Just in case you need to know, a foot divided into 10th's of a foot = 1.2 inches per 10th of a foot. Don't let this formula confuse you. It is not a formula for designing a 1/2 wave dipole.....not even close...it only helps you tune the antenna much quicker than the cut or add and try method! Math comes to the rescue from lessons in school, years ago, that you thought you would never use! Thanks to the teachers, math made your antenna building experience much easier!

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"Don't forget to add length when the dipole is too short and to take away length when it is too long! Practice the formula in your spare time using various design frequencies and results.

This formula works very well and has been around for a long time. Just thought I would send it your way. I use this technique all the time, I'm just too old (smart)..... to make all those trips anymore. I am interested in getting it on the air, not on the ground!

Have fun!" This submitted by John / N0KHQ / St. Louis

<http://www.hamuniverse.com/easydipole.html>

### Tuning a Dipole Antenna for Resonance!

#### Find a Ham Radio Dipole Resonant Length

Most dipoles will require a little "trimming or adding" to resonate at the desired frequency. Here is a good recommendation in 7 steps.

1. Cut your dipole wire some 2-3 % longer than the length given by the standard formula.
2. Make a note of the length obtained in step 1.
3. Raise the dipole to its operating height.
4. Measure the SWR at several frequencies within the intended frequency band. (Use only a few watts and pick a quiet time on the band to make your tests).
5. Note the frequency ( $F = \text{min}$ ) at which minimum SWR is obtained.
6. Multiply ( $F = \text{min}$  from step 5) by the antenna length recorded in step 2.
7. Divide the result of the above multiplication by the desired frequency of operation, to obtain the final length.

Trim both ends of the dipole down to the final length obtained in step 7. ( So by using these 7 steps, you have only raised the dipole twice!

<http://www.hamuniverse.com/easydipole.html>



**Marty W4MY** presented CFARS with the first place plaque for the NC QSO Party