



The Signal Report

A Publication of the Greenwood Amateur Radio Society

VOLUME 6 ISSUE 1

JANUARY

[HTTP://WWW.W4GWD.ORG](http://www.w4gwd.org)

W4GWD@ARRL.NET

2009 CLUB

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**The W4GWD
Repeater Network**
147.165+ t107.2
443.900+ t107.2
W4DEW/R
146.910- t123.0

January Meeting

G.A.R.S. will meet Monday, January 18, 2010, at the Turner House on Bailey Circle in Greenwood at 7pm for light refreshments and 7:30pm for the meeting. The club meetings are now listed in the Index Journal on page 2A each month under "Community Calendar" and meetings are also listed in Greenwood's Town Planner which is circulated to most homes in the area.

SC SSB Net



The SC Single Sideband Net (SCSSB) is a public service body consisting of Amateur Radio (Ham) operators who meet daily at 7:00 pm on 3.915 MHz for the purpose of passing formal written traffic into, out of, and throughout the state of South Carolina. The net is a member of the National Traffic System (NTS) and is affiliated with the American Radio Relay League (ARRL) headquartered in Newington, Conn. All licensed Amateurs with HF privileges are invited to check in.

Groundhog Day Special Event

Jan 30, 1400Z-2100Z, Punxsutawney, PA. Punxsutawney Area Amateur Radio Club, K3HWJ. Commemorating Groundhog Day 2010. 14.240 7.240 146.715 147.390. Certificate. Mike Miller, N3HBH, 1097 Wishaw Rd, Reynoldsville, PA 15851. www.qsl.net/k3hwj

Make sure you contact Phil and ask him about his shadow!

Society Events:

Chat 'N' Chew

Every Friday at 11:30am the members of the Greenwood Amateur Radio society meet at Ryan's Steak House, Bypass 25 NE, Greenwood.

Everyone is welcome to have lunch or sip your favorite beverage and chat for a while.
(Dutch treat).

February 02, 2010 VE Exam Session 7:00pm Greenwood Red Cross

GARS ARRL Volunteer Examiners (VE) Team will have an exam session 7:00pm Tuesday, February 2nd at The American Red Cross Building 520 Epting Avenue, Greenwood, SC 29646.

Weekly Net

Every Thursday night at 9pm on 147.165+, The Greenwood Amateur Radio Society holds the weekly 2 meter net.
Help spread the word for everyone to check-in to our net.
If you would like to fill in or be a backup net control please let Buddy Willis, W4DEW know.

Ladies Net:

The GARS Weekly 2 Meter Female Amateur Radio Net began on Tuesday, January 8, 2008 at 8 PM on the GARS 2 Meter Repeater. This net will be held every Tuesday night at the same time.

All interested female amateurs are invited and encouraged to check in. Subjects of discussion will be anything of interest to women.

If you have any questions, please contact Jean (W4KKA) at 864-953-0004 or Jo (KC4UU) at 864-446-7187.

Congratulations

Happy Birthday!

Al Jaszcar	KJ4LLY	Jan 4
Debbie Moore		Jan 6
Buddy Willis	W4DEW	Jan 7
Kin Maffett	KJ4BAK	Jan 13
Gail Davidson		Jan 21
William Barnhill	KI4CLM	Feb 7
Dan Farmer	KK6AA	Feb 16
David Mccall	W4MCC	Feb 20
Ron Miller	KJ4OBY	Feb 21
Nelson Henry	KG4ZLU	Feb 24

Happy Anniversary!

Kevan (N4XL) and Elizabeth Nason Feb 14

My interest is in the future... because I am going to spend the rest of my life there."

-Charles F. Kettering
American Inventor (1876-1958)

Dipoles the Easy Way from NONHQ

This short bit of information hopefully will save you much time when building a dipole.

Hams that want to make a dipole, (any frequency), usually begin by using the standard formulas below :

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

or

$468 / \text{design frequency} = \text{total length in feet}$

The only problem with this, when you put it in the air, it isn't even close to 1.0 SWR.

In fact the antenna is resonant 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.

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:

Frequency scaling using a bit of simple math!

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 to 12.9 feet from the formula.....($234 / 18.130$)

You put the antenna in the air and to your horror the antenna is resonant at 17.80! (%#%(@%!!)

What to do?

Here comes that bit of math with a formula to save the day!

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

Cont'd pg 4

Society News:

The "Rolling Roundtable" meets most mornings and evenings around 7 o'clock and attracts many fine folks around the area (and even some from way out of the area!) We'd love for you to jump in!

Please remember our nets every

Thursday night at 9pm. And the Ladies who meet on Tuesday at 8pm. Come on in, sit back, stay a while and join us "On the Stump"

The Club Workdays for the Repeater Site are the 2nd Thursday of each month, So if you are able to come or need directions, get in

touch with Buddy, W4DEW, and he'll get you all fixed up.

Until Next Time, ☺

You're always 5 and 9

With The Signal Report

-Ed.

Dipoles the Easy Way, from page 2

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 feet + .9 feet = how many feet and inches?

12" X .9 = 10.9 inches. Add this to 12 feet.....12 feet + 10.9 inches rounded off =

12 feet 11 inches!

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

12 feet + 8.4 inches = 12 feet 9 inches (rounded off) for the new length!

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. This should get you extremely close to the exact frequency. 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 too short....but how much?

$18.500 / 18.130 \times 12.9 \text{ feet} = 13.16 \text{ feet}$

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 feet added to 12.9 feet = 13.16 feet for 1/2 of the dipole!

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!

Author's note:

Here is another way of stating the formula in real life words: Unwanted lowest swr frequency divided by Wanted frequency multiplied by results of standard formula equals new length for half of the dipole. 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.

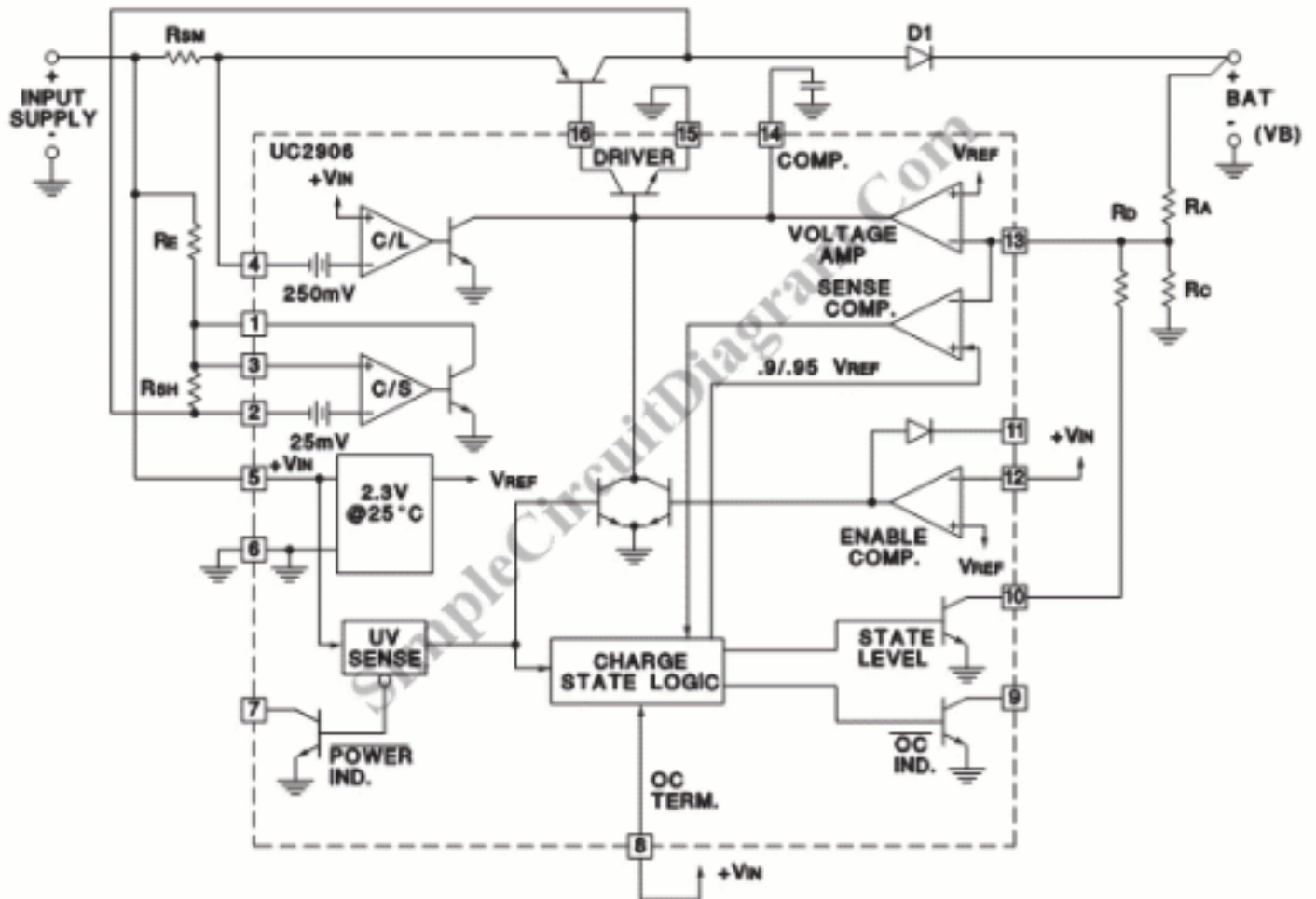
This formula works very well and has been around for a long time. Just thought I would send it your way. I use this technique all the time, I'm just too old (smart)..... to make all those trips anymore. I am interested in getting it on the air, not on the ground!

Have fun! 73,

John / N0KHQ / St. Louis

Circuit Of The Month Club

To optimally control the charge and hold cycle for sealed lead acid battery, UC2906 series of battery charger controllers is used by all of the necessary circuitry. These integrated circuits control and monitor both the output voltage and current of the charger by way of three separate charge states; a precision float-charge, or standby state, a controlled over-charge, and a high current bulk-charge state.



Dual step current charging scheme is used by this this lead acid battery charger. When a large string of series cells must be charged, The dual step current charger is used to guarantee equal charge distribution between the cells, the holding-charge state maintains a slightly elevated voltage across the batteries with the holding current, 1H. The dual step current charger is different from float charger because at the bulk-charge state, no over-charge state occurs because Pin 8 is tied high at all times. Mean of current sense amplifier is used to regulate the holding current. In some applications, a series resistor, or external buffering transistor, may be needed at the current sense output to prevent excessive power dissipation on the UC2906. For more information about this sealed lead acid battery charger circuit design, please refer to the UC3906 application info.

HAMFESTS and EVENTS:

6 Feb 2010
South Carolina State Convention
Charleston Amateur Radio Society
<http://www.wa4usn.org>
Talk-In: 146.19/146.79;
144.65/145.25;
147.645/147.045; &
144.81/145.41
Contact: Jenny Myers,
WA4NGV
2630 Dellwood Avenue
North Charleston, SC 29505-6814
Phone: 843-747-2324
Email: brycemyers@aol.com
Ladson, SC
Exchange Park Fairgrounds
9850 Hwy 78

27 Feb 2010
Dalton Hamfest #28
Dalton Amateur Radio Club
<http://www.daltonhamfest.com>
Talk-In: 145.230(-) No Tone
Contact: Harold Jones, N4BD
3033 Davis Road SW
Rocky Face, GA 30740
Phone: 706-673-2291
Fax: 706-673-2436
Email: n4bd@windstream.net
Dalton, GA
North Georgia Fairgrounds
500 Legion Drive

1 May 2010
South Carolina Section Convention (Upstate Hamfest)
Blue Ridge Amateur Radio Society
<http://www.upstatehamfest.org>
Talk-In: 146.610
Contact: Rusty Kirkpatrick,
AJ4RK
351 Old Georgia Road
Moore, SC 29369
Phone: 864-398-1989
Email: jrustyref@bellsouth.net
Spartanburg, SC
Piedmont Interstate Fairgrounds
575 Fairgrounds Road

5 Jun 2010
Georgia Section Convention (Atlanta Hamfest)
Atlanta Radio Club (W4DOC)
<http://www.atlantahamfest.com>
Talk-In: 146.820(-) (PL 146.2)
Contact: John Talipsky,
N3ACK
385 Madison Chase Drive
Lawrenceville, GA 30045
Phone: 678-618-2190
Fax: 678-985-2906
Email: n3ack@atlaradioclub.org
Marietta, GA
Jim Miller Park
2245 Callaway Road

Packet Cluster:

- ◆ Support for SERA supports proper coordination! <http://www.sera.org>
- ◆ <http://www.amsat.org> for all your satellite needs
- ◆ The American Radio Relay League protects our rights as Amateur Radio Operators <http://www.arrl.org>
- ◆ Learn Morse Code! <http://www.fists.org>
- ◆ Spread The Word! 147.165 Net Thurs. 9pm
- ◆ Ladies Net .165 8pm Tuesday
- ◆ Remember your local and regional interest clubs

Classifieds:

Alinco DR 110T, 45Watt 2 Meter radio. Works great. \$75
Contact: Adam, WJ4X@AMSAT.ORG

If anyone has any Ham radio stuff to sell or trade... list it in this column by
calling Buddy, w4dew@arrl.net, 864-445-7574

IN THIS NEWSLETTER, I HAD A SMILEY FACE, BE THE FIRST TO LET ME KNOW WHERE IT IS -ED

If you want to see your article or wish to advertise in The Signal Report, please
send an email to the newsletter staff via WJ4X@amsat.org