



The Signal Report

A Publication of the Greenwood Amateur Radio Society

VOLUME 5 ISSUE 9

SEPTEMBER

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

W4GWD@ARRL.NET

2009 CLUB

OFFICERS

President

Joe Mimms,
K4GBH

Vice President

Phil Henry,
WW4I

Secretary

Jewell Mimms,
K14WJO

Treasurer

Tedd Davison,
A14WN

Repeater Trustee

Buddy Willis,
W4DEW

Activities Manager/ Editor in Chief

Adam Shirley,
WJ4X

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

September Meeting

G.A.R.S. will meet Monday, September 21, 2009, 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.

Daily Propagation

Using WWV you can estimate HF daily propagation conditions using "Geophysical Alerts."

Some propagation conditions allow WWVH, Kauai, Hawaii, to be monitored or heard in the background under WWV. Both time standard stations use the same frequencies except only WWV uses 20 MHz. Frequencies to monitor are 5, 10, 15, or 20 MHz.

WWV Geophysical Alerts are announced 0000, 0300, 0600, 0900, 1200, 1500, 1800, and 2100 UTC daily.

UTC is ahead of ELT by 5 hrs. EST or 4 hrs. DST.

Geophysical Alerts provide data indicating a good or poor HF radio day. Data includes "solar flux" and the "A-indices" and "K-indices."

Solar flux measures the intensity of solar radio emissions in the 2800 MHz microwave range. Data range is from about 50 to 300. High numbers suggest good HF propagation. During

minimum solar activity, solar-flux numbers may be 65 or lower. An average solar flux figure is between 100 to 200.

and K-indices are measures of the

daily behavior of the magnetic field in and around earth. The A-index is a daily value from 0 to 400. The K-index is measured on a scale of 0 to 9. Low numbers suggest good HF propagation.

Other data such as solar radiation storms or radio blackout levels may be broadcast, but the above data is all needed for a quick propagation check.

Source: A Propagation Primer: Dealing with Mother Nature, CQ, February 2008, p. 101-102. Shared via K4LEO.

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).

October 06, 2009 VE Exam Session 7:00pm Greenwood Red Cross

GARS ARRL Volunteer Examiners (VE) Team will have an exam session 7:00pm Tuesday, October 6th 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 to check into 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!

Donnie Henderson	KC4KZ	Sept 2
Marion Elledge	KC4IAV	Sept 11
Leo Henderson	K4LEO	Sept 12
Margret Haynes	KJ4HDK	Sept 26
Earl Powell	KC4AXY	Sept 27
Elaine Dukes	KA4PLU	Oct 27
David Haynes	AJ4PU	Oct 28
Bonnie Henderson	N4GEZ	Oct 30

Happy Anniversary!

Dan (KK6AA) and Jean (W4KKA) Farmer	Sept 3
Donnie (KC4KZ) and Bonnie (N4GEZ) Henderson	Sept 15

Missing Q signals...
#53460:

QET? - Has anyone called me from another planet?

Reading Between The Lines...

by Jon Titus, Editor EDN Magazine and the RSGB, shared by Dan KK6AA

Reading technical articles can be amusing if you learn how to read between the lines. Here are comparisons of what authors say and what they actually mean:

WHAT THEY SAY.....

- ◆ It didn't operate as was predicted
- ◆ A high transient thermal effect
- ◆ After many experiments, we found a solution
- ◆ A typical sample
- ◆ We ran transient tests
- ◆ Here are the fundamental engineering principles
- ◆ You can solve the equation numerically
- ◆ However, you can't reach the theoretical maximum power output
- ◆ The gain figure is sub-optional
- ◆ We haven't optimized the amplifier's efficiency
- ◆ Performance is extremely good
- ◆ We thank Joe Smith for his comments about our manuscript
- ◆ The authors want to thank Elizabeth Scott for her assistance
- ◆ We can show that
- ◆ It's interesting to compare
- ◆ As a first approximation
- ◆ You can improve this method

WHAT THEY MEAN.....

It burst into flames.
 We burned our fingers on the 2N3055.
 We fiddled with it for a long time and finally got it to work.
 The only time it did more or less what we wanted it to.
 The fuse blew every time we turned it on.
 We lifted this from another article.
 We got eight answers that look vaguely right.
 You'll destroy all the output buffer if you adjust R3 when the power is on.
 It has no gain and the noise figure is 22dBi.
 It's giving 2W out for 10W in and the output transistors are glowing red.
 It worked for three hours and then died.
 Joe Smith completely rewrote the article at the last minute.
 Ms. Scott finally got the circuit to work.

Well, it's not at all clear to us, but we're shaming you into taking it for granted.
 It isn't of the slightest interest, but it fills more space, we get paid more, and we can take a shot at Fred's article published in....
 This value is flagrant guesswork.
 Nothing we tried had a hope of working.

Society News:

Everyone Remember the Homebrew Challenge! If you have an entry, contact Adam, WJ4X, and let us know so you'll be all set up to present it.

Join the Greenwood Amateur Radio Society Radio Direction Finding team! If you're interested in fox hunting, we're trying to get a few people together who'd be interested in learning and having a little fun with RDF It's quite a fun and enjoyable Amateur Radio event!

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.

Please remember our nets on every Thursday night at 9pm. And the Ladies on Tuesday at 8pm. We would love to have everyone that can reach the machine check in so we get a good idea of coverage, as well as meet lots of new folks who'll maybe sit back, stay a while and join us "On the Stump"

Quite a few GARS members attended the Shelby Hamfest, and had a great

time with our friends from up there. (And the ones from down here that went up there!!) A lot of great deals were found, and more equipment imported into the Greenwood area. And yes David, Adam survived.

Until Next Time,
 You're always 5 and 9 with
 The Signal Report
 -Ed.

CQ Test: with Kevan, N4XL

Here's the situation. You just bought a new 100 watt radio at the Shelby Hamfest. So that Tedd (AI4WVN) doesn't get upset if I said it was a Yaesu let's say you brought an Icom IC746 Pro home. You took it out of the box, plugged in your hand microphone, selected 15 meters and then connected the RG58 coax which is feeding a multi-band trapped dipole 20 feet up in the trees. Let's see how fast you are. You've got 30 seconds to name six things you can change about your station that will make your signal louder. Ready? GO! (Theme music from Jeopardy plays in the background.) Times up! Put down your pencils and turn your exam in.

I'm sure everyone said to get an amplifier and a beam antenna. With a bit more thought came to change your feed line to a low loss line and get a tower (raise the antenna height). That's four. Hmm, it is getting a bit tougher now. Oh yeah, Get one of those fancy Heil microphones that are good for DX. Oh, turn on the antenna tuner to reduce my SWR. That's six and I'm done. Here's some more. Put up a second (or third, or fourth) antenna at different heights and choose the one that gives me the strongest signal. Lowering the antenna may help. Turn on the speech processor. Put up a vertical since sometimes changing polarity will give a stronger signal. Put a good ground system (more radials) under that vertical. Elevate that vertical and use elevated radials. Move to a barrier island on the coast. Move to a new QTH with sloping ground in the direction you want to talk to. Put up a Bobtail Curtain, 4 square or other phased antenna. Put the antenna tuner at the feed point of the antenna rather than inside the rig with 100 feet of coax between the two.

There are more, but you get the picture – there are a lot of options besides buying an amplifier or getting a beam. Literally hundreds of articles have been written about how to get a stronger signal. Yet people, even experienced hams with decades of experience, continue to ignore simple things that would increase their enjoyment with a minimal of time, money, and energy. Let's look at some of these a bit more. (Don't expect an in depth discussion as I'm trying to whet your appetite and entice you to find something you want to know more about and study it for yourself.)

An amplifier is a given. Going from 100 to 1000 watts is a 10 dB increase. Unless you were already an S9 signal on a fairly quiet band people will notice a difference in your signal. But how much of a difference is it? Yes, often an amplifier makes the difference between a contact or not. But I've noticed over the years that it makes the biggest difference on 80 meter DX, on almost any type of 160 meter contact, or when the bands are crowded. Since most hams talk to mainly local stations on 80, do not fight the QRM on very crowded bands (assuming you are not a DX'er or Contester), and most don't operate 160 meters at all, an amplifier really seems more of a nicety than a necessity.

Still talking about power, most people would tell you that they would rather have a 200 watt radio than a 100 watt radio. Some are even willing to pay an extra couple hundred dollars for it. Going from 100 to 200 watts is a 3 dB increase. That too is usually noticeable. So if people would run 200 watts because they are louder, why won't they run a speech processor? A properly adjusted speech processor will give around a 3-4 dB increase in signal strength at the other end. At the risk of stating the obvious, that's the same as going from 100 watts to 200 watts. Almost every HF radio sold these days has a speech processor built in. Why would you want to spend an extra couple hundred dollars for a 200 watt radio when you already have the same signal enhancing capability inside your own radio? Do you use your processor?

Some say speech processors sound bad and splatter. Improperly adjusted ones do both and are a true annoyance. During the August 2009 North American QSO Party I received a dozen or more unsolicited compliments on my audio and just as many more comments on how loud I sounded. I was running a speech processor – and I had twice the processing selected than I normally run. When I first started contesting I sometimes found it hard to break pile-ups or get answers to my CQ, and checking, would find I had forgotten to turn my processor on. My QSO rate would invariably increase after it was on. Although very subjective, that tells me a properly adjusted processor works and does not sound bad.

The bit about raising, lowering or using multiple antennas at different heights may seem contradictory. We've touched on this before. It is one of the 'secrets' the successful DX'er and Contester have. Depending upon the distance you want to talk, where in the world you're trying to reach (how many 'bounces' occur on land vice the ocean for example), the frequency you're trying to use, and other variables, your radio wave will need to arrive and leave at a particular angle to be its loudest. Since you probably want to talk to different places and you probably talk in both the summer and the winter, you will not have an antenna that is optimized for a particular take off angle. In fact, no single antenna can be perfect for two different contacts. To increase your chances of having an antenna that will give you a good take off angle most of the time you should have as many different antennas at various heights as you can.

CQ Test cont'd:

Sometimes a low or even an on the ground antenna will work better than a high one. My XYL can't understand why I have so many antennas up and still want more. She once said that as long as she had a studio where she could make art she didn't care how many antennas I put up. She seems to have forgotten that comment now that she realized I took her seriously! I have at least two antennas for each band, 10 thru 80 meters (except the WARC bands), and one for 160 meters. One antenna is almost always stronger than the other when switching back and forth. It isn't always the same one. I'm working on loading my tower to give me another 80/160 antenna and have a 'Shorty Forty' to put up and fix on Europe. And yes, the XYL knows this is in the works.

This doesn't make you stronger at the other end, but another benefit to having multiple antennas pops up when you have strong QRM. You can sometimes switch to one that reduces QRM without significantly affecting your ability to copy the desired station. That is the general idea behind using a separate receive antenna like a beverage, EWE, flag, or K9AY loop. They have a negative gain compared to your transmitting antenna so the station you are trying to copy is weaker, but sometimes the station causing the QRM is reduced even more than that giving you a better chance to work the one you want. Some people listen to 80 meters on a 40 meter dipole while still transmitting on their 80 meter antenna. It cuts down on the QRN giving a better signal to noise ratio allowing them to hear stations through the noise easier. It works.

Well, I've used up enough bandwidth for this month. 73's and good DX.

-N4XL

Budget How-To: Quick and Dirty Cable Management

Everyone's always looking for a better way of keeping your cables neat and organized, as they always seem to tangle themselves up even when treated with the best of care.

Ikea [Antonius](#) coat hangers (or another brand) can be used to manage your clutter under your hamshack desk, these are similar to cable management systems costing hundreds of dollars used in industrial equipment.:

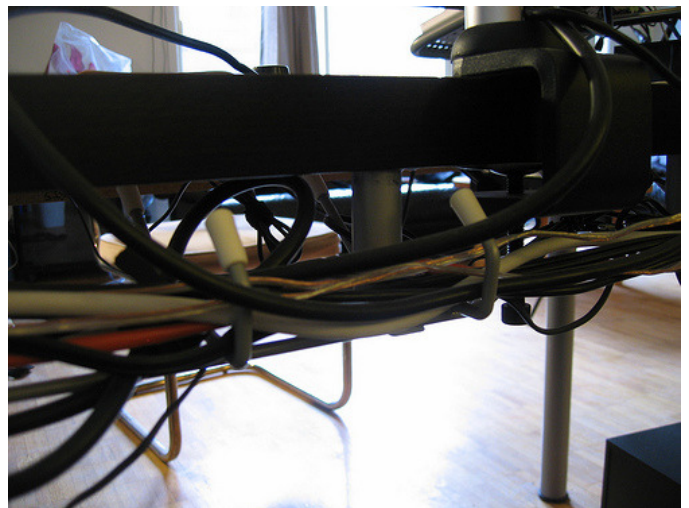
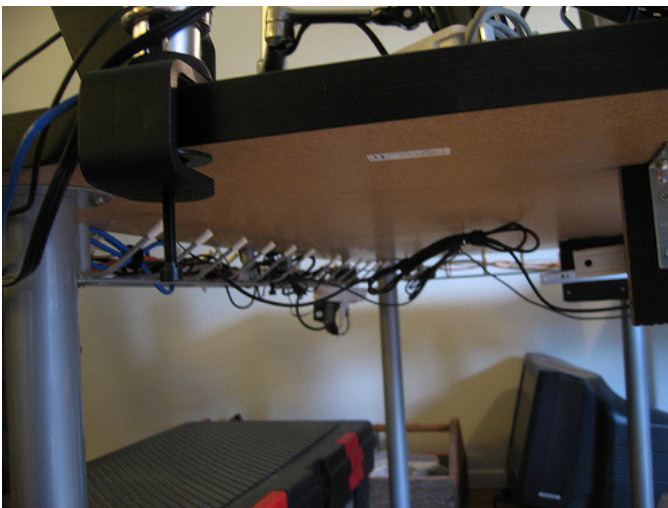


Photo Credit: <http://bitsofmymind.com/>

HAMFESTS and EVENTS:

3 Oct 2009

York County Amateur Radio Society (K4Y TZ)

[http://](http://www.rockhillhamfest.com)

www.rockhillhamfest.com

Talk-In: 147.030 neg (no tone)

Contact:

Sheila Parrish, KG4CDF

2358 J P Dirt Road

Edgemoor, SC 29712

Phone: 803-328-5983

Email: coy@navacore.net

Rock Hill, SC

Faith Assembly of God

2800 Faith Blvd.

10 Oct 2009

Amateur Radio Club of Augusta

<http://w4dv.org>

Talk-In: 145.490

Contact:

Douglas Pugh, KE4JSJ

1806 Birch Drive

North Augusta, SC 29860

Phone: 803-279-6725

Email:

doug9945@yahoo.com

Evans, GA

Evans Middle School

4781 Hereford Farm Road

17 Oct 2009

Al Brock Memorial Hamfest and Tailgate

Northwest Georgia Amateur Radio Club

<http://w4vo.org>

Talk-In: 146.940(-) (PL 88.5)

Contact:

Grover Keith, KA5QFI

PO Box 5002

Rome, GA 30162

Phone: 706-766-1118 or

706-234-7982

Email: gk Keith@comcast.net

Rome, GA

National Guard Armory

340 Wilshire Road NE

7-8 Nov 2009

Georgia Section Convention (Stone Mountain Hamfest and Computer Expo)

Alford Memorial Radio Club

<http://www.totr-radio.org>

Talk-In: 146.76 (PL107.2)

Contact: Randy Bassett,

KR4NQ

PO Box 1282

Stone Mountain, GA 30086-

1282

Phone: 770-978-9181

Fax: 770-978-9181

Email: hamfest@totr-radio.org

Lawrenceville, GA

Gwinnett County Fairgrounds

2405 Sugarloaf Parkway

IF YOU WOULD LIKE YOUR HAMFEST OR EVENT LISTED HERE, PLEASE CONTACT

ADAM, WJ4X@AMSAT.ORG

Packet Cluster:

- ◆ Spread The Word! 147.165 Net Thurs. 9pm
- ◆ Remember to support your local and regional Amateur Radio Clubs. See what Special Interest groups are out there for you!
- ◆ Get your entry in for the Homebrew Challenge!
- ◆ Check out SERA, the SouthEastern Repeater Association. <http://www.sera.org/>

Let us know what you're up to by sending an email to:
WJ4X@amsat.org

Classifieds:

Icom IC-V8000 75 watts on 2 meters. Comes with manual, bracket, and original box. \$125

email: Joe Mimms k4gbh@arrl.net

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

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