

# Lanierland ARC W4ABP Newsletter

October 2005

## President's Corner

Terry Jones, W4TL

Katrina and Rita hit; and now Wilma is on the way to affect the US coast somewhere. Wilma, at one time, was the strongest storm on record in the Atlantic region. It looks as though there is no end in sight for this year's hurricane season. If and when Wilma makes landfall, amateur radio will again be a big player in the relief and rescue effort just as it always has. Amateur radio has been around for a long time and has the reputation for coming through when the chips are down.

When we serve the public in emergencies and disasters we are, in my opinion, "Not Talking The Walk, But Walking The Talk." In FCC Part 97.1 Basis and Purpose Section (a) says: "Recognition and enhancement of the value of the amateur service to the public as a voluntary noncommercial communication service, particularly with respect to providing emergency communications." Why do you suppose that this purpose is placed at the beginning of Part 97? My interpretation is that this is the most important reason that amateur radio exists today. As long as we continue to fill this obligation, amateur radio's continued survival will almost certainly be guaranteed. It's up to each of us, and not just a few, to see that we, as amateurs, keep on fulfilling this Section of Part 97. The FCC makes note of how well we perform in disasters and emergencies. This is amateur radio's "report card," so let's give it our best shot.

I challenge each of you to become an active participant in Public Service Communications, such as ARES and Disaster Relief. If you are already involved, then I challenge you to become more involved and be ready to serve "when the call comes." We need to better prepare ourselves by participating in more training and drills and practice our radio skills so that we can "answer the call." Practicing our skills insures that we will be able to continue to "Walk The Talk" in emergencies and disasters. I guarantee that you will also most assuredly receive a blessing and have a feeling of gratitude by helping others in need through Public Service.

With all this said, I'll say 73' and hope to see each of you at the meeting on Tuesday night.

Terry, W4TL

## Club Meeting Information

The monthly club meeting is the 4<sup>th</sup> Tuesday of the month at the Fire Mountain Restaurant on Browns Bridge Road in Gainesville. We gather at 1800 for dinner. The meeting starts at 1900. **The October meeting will include nominations for the next slate of club officers. The November meeting will be the elections for the 2006 officers. These are important meetings for all members to attend since they set the officers for the next year.**

## Repeater Info

The club has several repeaters located on Wakua Mountain.

146.670 (-) 131.8 Hz  
224.840 (-) open  
444.950 (+) 131.8 Hz

## Upcoming Hamfests

Date	Location
Oct 29	Kingsport, Tn.
Nov. 5-6	Lawrenceville, Ga. Ga. Section Conv.
Nov. 12	Montgomery, Al. Ala. Section Conv.

## VEC Results

contributed by Alfred Westbrook, KT4VP

Congratulations to the following examinees:

Gary Morgan, K4GRM, upgrade to General  
Miguel Filpo, KI4AQM, General Radiotelephone license

# OSCAR Today

(Orbiting Satellite Carrying Amateur Radio)  
Doyle Gantt, KI4KLQ



This month let's talk about antennas for satellite work. It shouldn't be a surprise to anyone that the best rig on the planet is useless without a good antenna. Satellite work is no different. The good thing here is you really don't have to take a second mortgage on your home to finance your sat antenna project. In doing so, you keep the XYL from speaking to you in undesirable (squelch off) tones when she sees the bank statement.

These antenna projects are also attractive to the homebrew enthusiasts. A good vertical antenna will work but the really high gain verticals are optimized for low radiation angles resulting in deep signal strength decay as the bird climbs higher from the horizon. Another negative with a vertical is the closer to the horizon that OSCAR flies, the greater the distance to the observer, the higher the path loss, the greater the transmit and receive gain needed to work the bird. Verticals have worked for me surprisingly well when Oscar's elevation was above 25 degrees. There are many satellite antennas on the market by such companies as ARROW (these guys make a hand held sat antenna great for HT sat work), M2, CUSHCRAFT and many others. For the homebrew enthusiast, check out the homepage of K5OE at <http://homepage.aol.com/k5oe>. Jerry has some interesting home brew solutions for sat work including his version of the Eggbeater and the Texas Potato Masher. I will be trying some of his ideas in the near future.

If you own a beam, it can be tilted about 30 degrees up for sat work. However, many satellite operators have reported good results with the horizontal beam configuration. If you choose to tilt your beam, you will have to continuously correct direction as OSCAR moves by. This can be challenging especially with the LEO birds due to their velocities. Dipoles can even be used on the K mode or the K/A mode birds but they will lose gain off the ends. It would be a good idea to have two dipoles at right angles from each other providing good coverage. If you have plenty of extra cash, you can set up an awesome satellite antenna array complete with azimuth/elevation rotators coupled to a computer interface for complete control and

automatic tracking. For me however, I'll keep it as simple as possible mostly due to my desire to live peacefully (reference the squelch comment at the beginning of the article). The one thing I refuse to ignore is the coax and connector quality. Get the very best you can afford then seal the connectors from the weather.

The internet is covered up with information on the subject of Amateur Antennas including ones for satellite work and it's all at your finger tips.

Below is a list of Satellite "modes" and the bands associated with each.

Mode	Uplink	Downlink	Notes
A	2M	10M	
B	70cm	2M	
J	2M	70cm	
JA	2M	70cm	Analog, same as J
JD	2M	70cm	Digital, same as J
JL	2M & 23cm	70cm	Combination J and L
K	15M	10M	
KA	2M & 15M	10M	Combination K and A
KT	15K	10M & 2M	Combination K and T
L	23cm	70cm	
S	70cm	13cm	
T	15M	2M	

So, what are you waiting for? Fire up your rig and try it. Send your thoughts, ideas and satellite work experiences to [KI4KLQ@arrl.net](mailto:KI4KLQ@arrl.net).

Have you updated your Keplerian Elements lately?

73 to all

KI4KLQ, Doyle

## Check List for a Quality Club Mentor Program

Roger Gibson, W4RLG

Mentoring is important to any organization. Ham Radio is no exception. I found this article on the ARRL website and I hope you will find it as helpful as I did. I find it very enjoyable to help someone to become a Ham and watch them grow in the hobby and progress. It's always gratifying to find someone else who enjoys your hobby as much as you do, even if it's a different aspect of the same hobby. Roger de W4RLG

(Editor's note: This article is included as a separate file/page with the newsletter in order to maintain its formatting. If you do not receive it please contact W4RLG or WB4DHC)

## License Exam News

Alfred Westbrook, KT4VP

A new Technician class (Element 2) question pool will become effective July 1, 2006. A new General class (Element 3) question pool will become effective July 1, 2007. A new Extra class (Element 4) question pool will become effective July 1, 2008.

## From the Editor

Robert Copelan, WB4DHC

Next month is the yearly elections. It is also a time to get to know the club officers/directors. In order to get to know the slate of candidates for next year's club officers I hope to have a short bio or statement from each of them in the November newsletter. Keep those contributions coming for the newsletter. If you have an idea for a newsletter article let me know. I'll be happy to help you turn that idea into an article. Only with **your** help can we keep this vital club information tool interesting.

## Contest Information

Alfred Westbrook, KT4VP

The 50 MHz Fall Sprint                      Saturday, October 22, 2005  
 General Rules for ARRL Contests on bands above 50 MHz  
<http://www.arrl.org/contests/announcements/rules-vhf.html>

General Rules for All ARRL Contests  
<http://www.arrl.org/contests/announcements/rules-all.html>

If anyone is keeping paper forms here is the link for the form:  
<http://www.arrl.org/contests/forms/>

For contest software visit.  
<http://www.k1ea.com> or <http://www.n3fjp.com>  
 Meteor Calendar  
<http://comets.amsmeteors.org/meteors/calendar.html>

## Christmas Party

Larry, the club Activities Officer, has advised that the yearly Christmas Breakfast will be on December 3 from 0800 – 1000 at the Golden Corral just off of I-985 exit 4. Mark your calendars so that you can join us!

## Lunch Bunch

Every Friday at 11:30 AM there is a lunch get-together at a local restaurant. The location is announced on the Wednesday night net as well as the Yahoogroups discussion list and the 146.67 repeater.

## Hall Co. Nets

W4ABP repeater  
 146.67 Mhz(-) 131.8 hz

Net	Time
LARC	Wed. 2030R
Hall Co. ARES	Wed. 2000R

## New North Ga. Ham Forum

Woody, KE4ENX, has setup a Forum for North Georgia Amateur Radio topics. Visit it on the Web at:  
[http://s14.invisionfree.com/North\\_GA\\_Ham\\_Radio/](http://s14.invisionfree.com/North_GA_Ham_Radio/)  
 (note: the link is also on the LARC website).  
 Read the articles or, even better, signup and reply or start other topics of interest.

## Finding NVIS Antenna Wire Heights for Differing Wavelengths

Ed Cravey, KF4HPY

This is how to find the length and height for NVIS usage. We will use  $468/F$ =antenna length and  $984/F$ = antenna height as the base formula.

For example: if you are using 3.865 Mhz as the frequency the Total Span of your Dipole Wire will be 121.0867 feet.

Since we are using NVIS Antennas, the wire will use varying heights above the earth to radiate our signals at a high angle toward the F1/F2 layers.

- For a 1/4<sup>th</sup> (.25) Wavelength above earth it is: 63.64812 ft.
- For a 1/5<sup>th</sup> (.20) Wavelength above the earth: 50.9185 ft.
- For a .15 Wavelength above the earth : 38.18888 ft.
- For a 1/8<sup>th</sup> (.125) Wavelength above the earth: 31.82406 ft.
- For a 1/10<sup>th</sup> (.10) Wavelength above the earth: 25.45925 ft.
- For a 1/20<sup>th</sup> (.05) Wavelength above the earth: 12.72962 ft.

NVIS Antennas operate out to a 250 km radius with ease, a 300 mile diameter of coverage with no skip zones even at low power. The normal frequencies for NVIS are 2-12 Mhz using radiation angles greater than 25 (52-87) degrees.

Another example using an operating frequency of 7.260 Mhz:

Total Span of the Dipole Wire: 64.46281 feet.

Heights:

1/4 <sup>th</sup> Wavelength	33.8843 feet
1/5 <sup>th</sup> Wavelength	27.10744 feet
0.15 Wavelength	20.33058 feet
1/8 <sup>th</sup> Wavelength	16.94215 feet
1/10 <sup>th</sup> Wavelength	13.55372 feet
1/20 <sup>th</sup> Wavelength	6.77859 feet

## Where in the World is: Hampstead, Maryland?

Its the hometown of W4RLG!

Here's a brief History..y Tami Palmer

Between 1736 and 1738, Robert Owings was assigned to "cut a new road as Christopher Gist had marked it" south from Connewago (now Hanover, Pennsylvania) to a point about halfway to Fort Garrison in Baltimore County. The village of Spring Garden became a stage-line stop on the new road and later became the town of Hampstead. The first settlers to the area were English immigrants who made their way west from the Port of Philadelphia. They were followed by Scots and Germans.

Hampstead has developed from a sleepy, farming community to a modern town of about 5,600 residents. Community activities center around the town's numerous organizations and its schools—Hampstead Day, the Christmas Village, and school events in August, for examples.

Hampstead is committed to retaining its small-town atmosphere and cherished quality of life even as it implements its innovative Main Street Revitalization Plan. As major elements of the plan, the town has renovated an old bank building on Main Street as the new police station, will continue the restoration of the 1912 train station, and will continue to support the building of a bypass road to alleviate downtown traffic congestion.

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Thanks to **Megaprint** for the free-of-charge printing of the LARC newsletter. Visit them at:

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