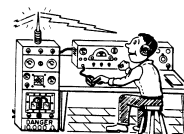


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K4HC, shares his  
thoughts for  
the new year  
on Page 6**



**The Greensboro Amateur Radio Association**

# Feed Line

*Providing Amateur Radio news for the Triad*



**Volume 18, No. 1**

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**January, 2009**

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## **FCC Calls On ARS for Assistance With Digital TV Conversion**

Earlier this month, the ARRL received a request from the FCC asking that ARRL members provide technical educational assistance to their communities concerning the FCC-mandated digital television (DTV) conversion scheduled for February 17, 2009 <<http://www.dtv.gov/>>.

According to ARRL Media and Public Relations Manager Allen Pitts, WIAGP, Amateur Radio clubs across the country are being asked to develop and implement plans to provide information throughout January and February about the DTV conversion in their areas. The FCC is leaving it up to the clubs to decide how to do this, as local groups understand the communities in ways that the FCC does not. Each community is a little different, Pitts said, so plans carried out by the clubs will vary from community to community. Interested groups should contact their ARRL Section Manager.

Pitts stressed that hams should not make "house calls," sell any equipment or do actual installations; the request is only to distribute technical information and FCC materials. He commented: "As we all know, some folks just never get the message until too late. Materials for presentations, education and many other activities are available online <<http://www.dtv.gov/outreach.html>>. Beginning early January, FCC staff will contact Section Managers and leaders of interested clubs and, where possible, arrange to meet to share even more information, audio, visual and printed materials, as well as training aids, with the clubs involved this effort. We know

the time is short, but your aid in this now will be appreciated."

In early January, Pitts said that the FCC will ask Section Managers for the names and contact information of the volunteering groups. The FCC staff will then make contact with the groups, learn their plans and provide them with the media, brochures or other materials groups may need in this effort. FCC regional staff members may even come and visit with larger groups to aid in implementation of the group's plans.

"I really appreciate the willingness of the ARRL to actively participate in helping Americans with the transition to DTV and your helpful suggestions," said George Dillon, FCC Deputy Bureau Chief for Field Operations. "The DTV transition will be an historic moment in the evolution of TV. Broadcast television stations can offer viewers improved picture and sound quality and new programming choices. All-digital broadcasting also will allow us to significantly improve public safety communications and will usher in a new era of advanced wireless services such as the widespread deployment of wireless broadband. Our goal is to engage the amateur community on a cooperative basis to help with the DTV outreach and to educate consumers."

Dillon continued that local Amateur Radio clubs might consider offering technical advice to consumers via telephone to those consumers who may encounter difficulty with the installation and setting up of their converter box. "Any assistance...will greatly help in the

efforts of the FCC to ensure a smooth transition to DTV on February 17, 2009."

Pitts advises interested groups to keep in mind that they are to provide technical educational help only: "At no time should the hams enter someone else's home or install equipment. They should not broker or sell conversion boxes in any way. Clubs can provide such things as a call-in telephone number for technical help, make presentations at meetings, do demonstrations at malls or give talks to other groups -- whatever works in their community."

### **NEXT MEETING January 26**

**The next meeting of the Greensboro Amateur Radio Assoc. will be January 26, at the Golden Corral Steak House, 4404 Landview Dr, Greensboro, NC 27407, off Wendover Ave. near Sam's Club. The program will be presented by Jesse Lindley, N4BFD, on digital operating modes.**

**PowerPole™ Connectors  
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Contact Tom, N4GVK at [n4gvk@bellsouth.net](mailto:n4gvk@bellsouth.net)

# GARA Meeting Minutes



## Regular Meeting Minutes November 24, 2008

The November meeting of the Greensboro Amateur Radio Association was held on 11/24/08 at the Golden Corral near Wendover Ave. and I-40.

Chris, K4HC, asked everyone present to identify themselves. Wayne Herrick has a new call sign K4JO.

Chris thanked everyone for coming. The minutes from last month's meetings were voted on and approved.

Chris said that November is the month when we elect officers to serve on the board of directors for the following year.

Chris counted the members present to determine if we had enough for a quorum, which we did. Chris then went through each board position and noted whether the current officer was willing to serve again and asked if there was anyone who wanted to oppose them.

Jesse Lindly N4BFD was nominated for engineering chairman and Will Ravenell AI4VE was nominated for Vice President. There was no opposition to these candidates. Vashti Forrest KA4DGS made a motion to accept the nominations and

Madeline Bradley KD4SVJ seconded. We took a vote and all nominees were elected.

Your officers for 2009 are:

President Chris Thompson, K4HC; Vice President Will Ravenell, AI4VE; Treasurer Ernie Wall, NC4EW; Secretary Greg Spencer KG4UQV; Financial advisor Al Allred, K4AKQ; Engineering chairman Jesse Lindley, N4BFD; Operations Roy Smith N4BYU; Members at large Clark Doggett, KG4HOM and Dave Touvell, KN4ZO

Allen Bradley KD4IUN gave the soccer report and thanked those who helped out. Bob Davet W8JFQ has put an Eccolink node on the air and gave a brief discussion of Eccolink.

Chris said that the D-Star repeater is working good and that Arch should be getting to work on converting our repeater to D-Star by the next club meeting. Tom Forrest N4GVK asked for newsletter ideas and articles.

Chan White was the winner of Roy Smith's dinner giveaway.

The meeting closed at 8:00PM

Respectfully submitted by secretary Greg Spencer, KG4UQV

## Board Meeting Minutes January 14, 2009

The GARA board of directors held its monthly meeting on January 14, 2009 at the home of Will Ravenell AI4VE. Those present were Will, AI4VE; Chris, K4HC; Al, K4ZKQ; Ernie, NC4EW; Jesse, N4BFD and Greg, KG4UQV. The meeting started at 7:00 PM with Chris wishing everyone a happy New Year. Chris welcomed Jesse and Will to the board.

The problem that we had with the repeater power amplifier board has been repaired and is in operation and the other repeater should be repaired soon.

We discussed D-Star and Chris said that Arch, KT4AT is working on the internet gateway now and will start on our master 2 conversion after that is finished. Arch said to keep using his Icom repeater until ours is done.

Chris said that he and Rick Mainhart WB3EXR are planning to do another training class this year. We are looking at the possibility of doing another open house this year.

Ernie said that the club finished up 2008 in good shape.

Respectfully submitted by secretary Greg Spencer, KG4UQV

## The Greensboro Amateur Radio Association

President Chris Thompson, K4HC

Vice-President Will Ravenell, AI4VE

Treasurer Ernie Wall, NC4EW

Secretary Greg Spencer, KG4UQV

Financial Al Allred, K4ZKQ

Engineering Chairman Jesse Lindley, N4BFD

Operations Roy Smith, N4BYU

Member at Large Clark Doggett, KG4HOM

Member at Large Dave Touvell, KN4ZO

Appointed Positions:

News letter editor and Webmaster:

Tom Forrest, N4GVK

"The Feed Line" is ©2009 by the Greensboro Amateur Radio Association and published monthly. Our address is P.O. Box 7054, Greensboro, NC 27417. The purpose of the newsletter is to provide the club and prospective members information about the club and amateur radio in general. Material and information should reach the editor by the first Friday of the month for the next edition of the newsletter. Opinions expressed in "The Feed Line" do not necessarily represent the views of the officers, directors, editor or members of the Greensboro Amateur Radio Association. Material may be reproduced, provided proper credit is given to GARA.

## QSL.NET Has New Operator

December 31, 2008

After 13 years of providing hams with no cost web space, e-mail forwarding and mailing list services through QSL.net and QTH.net, I have decided to retire. All QSL.net and QTH.net servers and Internet connections at my home QTH are being turned off. Scott KA9FOX has graciously decided to pick up where I left off, and he

is in the process of migrating all services to new hardware. See below for an update on the status of the migration.

I want to thank all of you for all of your support over the years, and I hope that you will support Scott as he takes over the reigns. See you on the air!

**73 - Al Waller, K3TKJ**

*This information was posted on the QSL.net web site*

## Measure That Antenna Carefully Before Installing On Auto Roof

Measure carefully !!! If the antenna is not in the EXACT center the VSWR's will be skewed and (depending on the side) one final or the other will run hotter and possibly fail. Also, the FM deviation will not be linear and (again, depending on the side) there will be more highs or lows in the audio and this could lead to microphone failure.

It is best to cross measure the roof and cut carefully. *Submitted by Nathan, K4NWJ*

# A Battery Tutorial

*Thanks to Batterstuff.com for allowing us to use this article. For more tutorials on batteries and accessories, go to their web site and look on the index page for "Read Our Tutorials" A link will be posted on the GARA web site, on the Tech Forum page.*

The commercial use of the lead acid battery is over 100 years old. The same chemical principal is being used to create energy that our Great, Great, Grandparents may have used.

If you can grasp the basics you will have fewer battery problems and will gain greater battery performance, reliability, and longevity. It is suggested you read the entire tutorial.

A battery is like a piggy bank. If you keep taking out and putting nothing back you soon will have nothing.

Present day chassis battery power requirements are huge. Look at today's vehicle and all the electrical devices that must be supplied. Electronics require a source of reliable power. Poor battery condition can cause expensive electronic component failure. Did you know that the average auto has 11 pounds of wire in the electrical system? Look at RVs and boats with all the electrical gadgets that require power. Remember when a trailer or motor home had a single 12-volt house battery. Today it is standard to have 2 or more house batteries powering inverters up to 4000 watts.

Average battery life has become shorter as energy requirements have increased. Life span depends on usage; 6 months to 48 months, yet only 30% of all batteries actually reach the 48-month mark.

## A Few Basics

The Lead Acid battery is made up of plates, lead, and lead oxide (various other elements are used to change density, hardness, porosity, etc.) with a 35% sulfuric acid and 65% water solution. This solution is called electrolyte which causes a chemical reaction that produce electrons. When you test a battery with a hydrometer you are measuring the amount of sulfuric acid in the electrolyte. If your reading is low, that means the chemistry that makes electrons is lacking. So where did the sulfur go? It is resting to the battery plates

and when you recharge the battery the sulfur returns to the electrolyte.

1. Safety
2. Battery types, Deep Cycle and Starting
3. Wet Cell, Gel-Cell and Absorbed Glass Mat (AGM)
4. CCA, CA, AH and RC; what's that all about?
5. Battery Maintenance
6. Battery Testing
7. Selecting and Buying a New Battery
8. Battery Life and Performance
9. Battery Charging
10. Battery Do's
11. Battery Don'ts

1. We must think safety when we are working around and with batteries. Remove all jewelry. After all you don't want to melt your watchband while you are wearing the watch. The hydrogen gas that batteries make when charging is very explosive. This is a good time to use those safety goggles that are hanging on the wall. Sulfuric Acid eats up clothing and you may want to select Polyester clothing to wear, as it is naturally acid resistant. I just wear junk clothes, after all Polyester is so out of style. When doing electrical work on vehicles it is best to disconnect the ground cable. Just remember you are messing with corrosive acid, explosive gases and 100's amps of electrical current.

2. Basically there are two types of batteries; starting (cranking), and deep cycle (marine/golf cart). The starting battery (SLI starting lights ignition) is designed to deliver quick bursts of energy (such as starting engines) and have a greater plate count. The plates will also be thinner and have somewhat different material composition. The deep cycle battery has less instant energy but greater long-term energy delivery. Deep cycle batteries have thicker plates and can survive a number of discharge cycles. Starting batteries should not be used for deep cycle applications. The so-called Dual Purpose Battery is only a compromise between the 2 types of batteries.

3. Wet Cell (flooded), Gel Cell, and Absorbed Glass Mat (AGM) are various versions of the lead acid battery. The wet cell comes in 2 styles; serviceable, and maintenance free. Both are filled with electrolyte and I prefer one that I can add water to and check the specific gravity of the electrolyte with a hydrometer.

The Gel Cell and the AGM batteries are specialty batteries that typically cost twice as much as a premium wet cell. However they store very well and do not tend to sulfate or degrade as easily or as easily as wet cell. There is little chance of a hydrogen gas explosion or corrosion when using these batteries; these are the safest lead acid batteries you can use.

Gel Cell and some AGM batteries may require a special charging rate. Personally, careful consideration should be given to the AGM battery technology for applications such as Marine, RV, Solar, Audio, Power Sports and Stand-By Power just to name a few. If you don't use or operate your equipment daily; this can lead premature battery failure; or depend on top-notch battery performance then spend the extra money. Gel Cell batteries still are being sold but the AGM batteries are replacing them in most applications.

There is a little confusion about AGM batteries because different manufactures call them different names; some of the popular ones are sealed regulated valve, dry cell, non spillable, and sealed lead acid batteries. In most cases AGM batteries will give greater life span and greater cycle life than a wet cell battery.

**SPECIAL NOTE:** about Gel Batteries: It is very common for individuals to use the term GEL CELL when referring to sealed, maintenance free batteries, much like one would use Kleenex when referring to facial tissue or "Xerox machine" when referring to a copy machine. Be very careful when specifying a battery charger, many times we are told by customer they are requiring a charger for a Gel Cell battery and in fact the battery is not a Gel Cell.

**AGM:** The Absorbed Glass Matt construction allows the electrolyte to be suspended in close proximity with the plates active material. In theory, this enhances both the discharge and recharge efficiency. Actually, the AGM batteries are a variant of Sealed VRLA batteries. Popular usage high performance engine starting, power sports, deep cycle, solar and storage battery. The AGM batteries we sell are typically good deep cycle batteries and they deliver best life performance if recharged before the battery drops below the 50 percent

Continued on Next Page >



discharge rate. If these AGM batteries are discharged to a rate of 100 percent the cycle life will be 300 plus cycles and this is true of most AGM batteries rated as deep cycle batteries.

**GEL:** The gel cell is similar to the AGM style because the electrolyte is suspended, but different because technically the AGM battery is still considered to be a wet cell. The electrolyte in a GEL cell has a silica additive that causes it to set up or stiffen. The recharge voltages on this type of cell are lower than the other styles of lead acid battery. This is probably the most sensitive cell in terms of adverse reactions to over-voltage charging. Gel Batteries are best used in VERY DEEP cycle application and may last a bit longer in hot weather applications. If the incorrect battery charger is used on a Gel Cell battery poor performance and premature failure is certain.

**4. CCA, CA, AH and RC** what are these all about? Well these are the standards that most battery companies use to rate the output and capacity of a battery.

Cold cranking amps (CCA) is a measurement of the number of amps a battery can deliver at 0 ° F for 30 seconds and not drop below 7.2 volts. So a high CCA battery rating is good especially in cold weather.

CA is cranking amps measured at 32 degrees F. This rating is also called marine cranking amps (MCA). Hot cranking amps (HCA) is seldom used any longer but is measured at 80 ° F.

Reserve Capacity (RC) is a very important rating. This is the number of minutes a fully charged battery at 80 ° F will discharge 25 amps until the battery drops below 10.5 volts.

An amp hour (AH) is a rating usually found on deep cycle batteries. If a battery is rated at 100 amp hours it should deliver 5 amps for 20 hours, 20 amps for 5 hours, etc.

**5. Battery Maintenance** is an important issue. The battery should be cleaned using a baking soda and water mix; a couple of table spoons to a pint of water. Cable connection needs to be clean and tightened. Many battery problems are caused by dirty and loose connections. A

serviceable battery needs to have the fluid level checked. Use only mineral free water. Distilled water is best. Don't overfill battery cells especially in warmer weather. The natural fluid expansion in hot weather will push excess electrolytes from the battery. To prevent corrosion of cables on top post batteries use a small bead of silicon sealer at the base of the post and place a felt battery washer over it. Coat the washer with high temperature grease or petroleum jelly (Vaseline), then place cable on the post and tighten. Coat the exposed cable end with the grease. Most folks don't know that just the gases from the battery condensing on metal parts cause most corrosion.

**6. Battery Testing** can be done in more than one way. The most popular is measurement of specific gravity and battery voltage. To measure specific gravity buy a temperature compensating hydrometer and measure voltage, use a digital D.C. Voltmeter. A good digital load tester may be a good purchase if you need to test batteries sealed batteries.

You must first have the battery fully charged. The surface charge must be removed before testing. If the battery has been sitting at least several hours (I prefer at least 12 hours) you may begin testing. To remove surface charge the battery must experience a load of 20 amps for 3 plus minutes. Turning on the headlights (high beam) will do the trick. After turning off the lights you are ready to test the battery.

State of Charge	Specific Gravity		
Voltage	12V	6V	
100%	1.265	12.7	6.3
*75%	1.225	12.4	6.2
50%	1.190	12.2	6.1
25%	1.155	12.0	6.0
Discharged	1.120	11.9	6.0

\*Sulfation of Batteries starts when specific gravity falls below 1.225 or voltage measures less than 12.4 (12v Battery) or 6.2 (6 volt battery). Sulfation hardens the battery plates reducing and eventually destroying the ability of the battery to generate Volts and Amps.

Load testing is yet another way of testing a battery. Load test removes amps from a battery much like starting an engine would. A load tester can be purchased at most auto parts stores. Some battery companies label their battery with the amp

load for testing. This number is usually 1/2 of the CCA rating. For instance, a 500CCA battery would load test at 250 amps for 15 seconds. A load test can only be performed if the battery is near or at full charge.

The results of your testing should be as follows:

Hydrometer readings should not vary more than .05 differences between cells.

Digital Voltmeters should read as the voltage is shown in this document. The sealed AGM and Gel-Cell battery voltage (full charged) will be slightly higher in the 12.8 to 12.9 ranges. If you have voltage readings in the 10.5 volts range on a charged battery, that indicates a shorted cell.

If you have a maintenance free wet cell, the only ways to test are voltmeter and load test. Most of the maintenance free batteries have a built in hydrometer that tells you the condition of 1 cell of 6. You may get a good reading from 1 cell but have a problem with other cells in the battery.

When in doubt about battery testing, call the battery manufacturer. Many batteries sold today have a toll free number to call for help.

**7. Selecting a Battery** - When buying a new battery it is suggested you purchase a battery with the greatest reserve capacity or amp hour rating possible. Of course the physical size, cable hook up, and terminal type must be a consideration. You may want to consider a Gel Cell or an Absorbed Glass Mat (AGM) rather than a Wet Cell if the application is in a harsher environment or the battery is not going to receive regular maintenance and charging.

Be sure to purchase the correct type of battery for the job it must do. Remember an engine starting battery and deep cycle batteries are different. Freshness of a new battery is very important. The longer a battery sits and is not re-charged the more damaging sulfation build up there may be on the plates. Most batteries have a date of manufacture code on them. The month is indicated by a letter 'A' being January and a number '4' being 2004. C4 would

Continued on Next Page >

tell us the battery was manufactured in March 2004. Remember the fresher the better. The letter "i" is not used because it can be confused with #1.

Battery warranties are figured in the favor of battery manufactures. Let's say you buy a 60-month warranty battery and it lives 41 months. The warranty is prorated so when taking the months used against the full retail price of the battery you end up paying about the same money as if you purchased the battery at the sale price. This makes the manufacturer happy. What makes me happy is to exceed the warranty. Let me assure you it can be done.

**8. Battery life and performance** - Average battery life has become shorter as energy requirements have increased. Two phrases I hear most often are "my battery won't take a charge, and my battery won't hold a charge". Only 30% of batteries sold today reach the 48-month mark. In fact 80% of all battery failure is related to sulfation build-up. This build up occurs when the sulfur molecules in the electrolyte (battery acid) become so deeply discharged that they begin to coat the battery's lead plates. Before long the plates become so coated that the battery dies. The causes of sulfation are numerous. Let me list some for you.

- Batteries sit too long between charges. As little as 24 hours in hot weather and several days in cooler weather.
- Battery is stored without some type of energy input.
- "Deep cycling" an engine starting battery. Remember these batteries can't stand deep discharge.
- Undercharging of a battery, to charge a battery (lets say) to 90% of capacity will allow sulfation of the battery using the 10% of battery chemistry not reactivated by the incomplete charging cycle.
- Heat of 100 plus F., increases internal discharge. As temperatures increase so does internal discharge. A new fully charged battery left sitting 24 hours a day at 110 degrees F for 30 days would most likely not start an engine.
- Low electrolyte level - battery plates exposed to air will immediately sulfate.

- Incorrect charging levels and settings. Most cheap battery chargers can do more harm than good. See the section on battery charging.

- Cold weather is also hard on the battery. The chemistry does not make the same amount of energy as a warm battery. A deeply discharged battery can freeze solid in sub zero weather.

- Parasitic drain is a load put on a battery with the key off. More info on parasitic drain will follow in this document.

There are ways to greatly increase battery life and performance. All the products we sell are targeted to improve performance and battery life.

An example: Let's say you have "toys"; an ATV, classic car, antique car, boat, Harley, etc. You most likely don't use these toys 365 days a year as you do your car. Many of these toys are seasonal so they are stored. What happens to the batteries? Most batteries that supply energy to power our toys only last 2 seasons. You must keep these batteries from sulfating or buy new ones. Products are sold to prevent and reverse sulfation. The PulseTech products are patented electronic devices that reverse and prevent of sulfation. Also Battery Equaliser a chemical battery additive has proven itself very effective in improving battery life and performance. Other devices such as Solar Trickle Chargers are a great option for battery maintenance.

Parasitic drain is a load put on a battery with the key off. Most vehicles have clocks, engine management computers, alarm systems, etc. In the case of a boat you may have an automatic bilge pump, radio, GPS, etc. These devices may all be operating without the engine running. You may have parasitic loads caused by a short in the electrical system. If you are always having dead battery problems most likely the parasitic drain is excessive. The constant low or dead battery caused by excessive parasitic energy drain will dramatically shorten battery life. If this is a problem you are having, check out the Priority Start and Marine Priority Start to prevent dead batteries before they happen. This special computer switch will turn off your engine start battery before all the starting energy is drained. This technology will prevent you from deep cycling your

starting battery.

**9. Battery Charging** - Remember you must put back the energy you use immediately. If you don't the battery sulfates and that affects performance and longevity. The alternator is a battery charger. It works well if the battery is not deeply discharged. The alternator tends to overcharge batteries that are very low and the overcharge can damage batteries. In fact an engine starting battery on average has only about 10 deep cycles available when recharged by an alternator. Batteries like to be charged in a certain way, especially when they have been deeply discharged. This type of charging is called 3 step regulated charging. Please note that only special SMART CHARGERS ([www.batterystuff.com/productdisplay.html?id=358&c=84](http://www.batterystuff.com/productdisplay.html?id=358&c=84)) using computer technology can perform 3 step charging techniques. You don't find these types of chargers in parts stores and Wal-Marts. The first step is bulk charging where up to 80% of the battery energy capacity is replaced by the charger at the maximum voltage and current amp rating of the charger. When the battery voltage reaches 14.4 volts this begins the absorption charge step. This is where the voltage is held at a constant 14.4 volts and the current (amps) declines until the battery is 98% charged. Next comes the Float Step. This is a regulated voltage of not more than 13.4 volts and usually less than 1 amp of current. This in time will bring the battery to 100% charged or close to it. The float charge will not boil or heat batteries but will maintain the batteries at 100% readiness and prevent cycling during long term inactivity. Some gel cell and AGM batteries may require special settings or chargers.

## **10. Battery Do's**

- Think Safety First.
- Do read entire tutorial
- Do regular inspection and maintenance especially in hot weather.
- Do recharge batteries immediately after discharge.
- Do buy the highest RC reserve capacity or AH amp hour battery that will fit your configuration.

## **11. Battery Don'ts**

- Don't forget safety first.
- Don't add new electrolyte (acid).
- Don't use unregulated high output battery chargers to charge batteries.
- Don't place your equipment and toys into

Continued on Next Page >

## From the President's Shack

by Chris Thompson, K4HC  
GARA President

Winter is upon us, and GARA will pick up activities after taking December off. I hope that everyone had a great holiday season, and maybe you even picked up a few odds and ends for the hamshack.

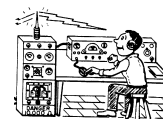
I know it has been a while coming, but after meeting with Arch, KT4AT to get an update on the status of his D-Star projects, the next development goal is for the D-Star Gateway. While we're all anxious to

see this deployed, it won't happen overnight. By late winter or early spring, we should be able to take advantage of this exciting aspect of D-Star operation.

Winter is the traditional time for building, with outside activities limited by the weather and shorter days. Rob Wittner, WG5Q has recently completed building an Elecraft K2, and has promised a short presentation on his experience building this excellent HF rig. Maybe this

will spur some of us to heat up the soldering iron and put a few new accessories in the shack. Besides the sense of accomplishment in completing a project, you'll probably learn a little bit. If you have a thought for a project, share! Perhaps we can organize another group building session to share knowledge and techniques.

As always, keep safe and keep having fun!



## DX NEWS

Six members of the February 2009 KP5 Desecheo DXpedition team <http://www.kp5.us> - met in Puerto Rico the week of December 17-21.

According to team co-leader Bob Allphin, K4UEE, the team visited US Fish and Wildlife Headquarters in Boqueron and met with the Chief Refuge Manager and law enforcement personnel in preparation for the DXpedition, set to start February 12.

Desecheo currently sits at number 7 on DX Magazine's Most Wanted list; the island is the second most-wanted DXCC entity in Asia and third most-wanted in Europe. Desecheo is a small uninhabited island in the Mona Passage, 14 miles off the western coast of Puerto Rico. It is part of the USFWS's national wildlife refuge system administered by the Caribbean National Wildlife Refuge Complex (CNWR)

<http://www.fws.gov/caribbean>

"After an evening with local DXers and members of the Puerto Rico Amateur Radio League for dinner and a night of fellowship, DXpedition team members underwent UXO (unexploded ordnance) training," Allphin said. "On December 19, we accompanied US Fish and Wildlife law enforcement and UXO personnel to Desecheo Island. In the three hours we were there, the campsite and antenna fields

## DXpedition TO Desecheo Gets Ready To Roll

were thoroughly swept for UXO and several areas were found suspicious. These areas were clearly marked, mapped by GPS and declared off limits for the DXpedition."

Allphin said that the USFWS will allow antennas on the ridge above the helicopter pad, providing a clear shot to Europe, North America and Japan. Other antennas will be located on the beach below the helicopter pad. While on Desecheo, the team conducted a test for the 2 meter link to Puerto Rico.

"Logistics and staging of equipment is ongoing and will be complete before the team arrives in Puerto Rico on February 7," Allphin said. "The team will transit to Desecheo on February 12 to begin the two week operation. Eight HF stations, plus 6 meters, will be operational. We have planned an incredible array of antennas. Transportation and logistics have been arranged for a fast deployment and quick appearance on the air. As soon as we land on Desecheo, two stations will be immediately activated. Stations will continue to operate until the final moments of departure on February 26."

Per USFWS rules, only 15 operators will be allowed on the island at one time. "We have arranged with USFWS to allow a shift change about half way through the DXpedition," Allphin told the ARRL. "This has allowed a number of hams on our waiting list an opportunity to participate in this

DXpedition."

DXpedition co-leader Glenn Johnson, W0GJ, said the team will be running CW, SSB and RTTY on 160-6 meters. "We've had tremendous support from DX organizations all over the world and from numerous equipment and antenna manufacturers," he told the ARRL. "We are diligently working on the propagation studies to reach our hard-to-work areas of Asia and Europe.

This plus our planned antennas, we should knock Desecheo off of the Most Wanted List for a long time to come." (from ARRL)

## Battery Tutorial from page 5

storage without some type of device to keep the battery charged.

- Don't disconnect battery cables while the engine is running (your battery acts as a filter).
- Don't put off recharging batteries.
- Don't add tap water as it may contain minerals that will contaminate the electrolyte.
- Don't discharge a battery any deeper than you possibly have to.
- Don't let a battery get hot to the touch and boil violently when charging.
- Don't mix size and types of batteries.



## Engineering Report

by Jesse Lindley, N4BFD  
Engineering Chairman

I thought I would give a quick update about what has been happening with the G.A.R.A. VHF repeater the last few weeks, and what we have been working on, and where it stands now.

As many of you noticed the performance of the VHF repeater on the receive side dropped significantly a few days before Christmas. It was hard to get into the machine outside of the Greensboro area with 50 watts, and in town it was hard to get in with a H.T. unless you were "under the repeater" so to speak.

The G.A.R.A club has two VHF machines, if a problem arises with one we can quickly switch over to the second working machine. However, due to the failure of PA of the primary machine over the summer, the backup machine was already in use.

With both machines down, something had to be done quickly, so the week after Christmas with the help of Tom, N4GVK, showing me the ropes we quickly found that we did not have a problem with the duplexer or antenna, and it was decided to have the repeater with the bad P.A. fixed by Arch, KT4AT. Arch replaced the PA board, checked the receiver, and torture tested the PA before getting it back to us. At this point the second repeater with the bad receiver is also being repaired by Arch and should be back for our use by the time The Feed Line is published.

So, once again we will have two VHF machines available for use, so if one should go down again we can quickly get back on the air. In the future I will do my best to make sure that all repairs are started as quickly as possible. I also would like to thank Tom, N4GVK for the onsite job training and Arch, KT4AT for repairing both repeaters and having running in excellent order.

## FOR SALE

**Antenna, Pwr. Supply & Meter**  
Antenna, dual band, power meter and Astron RS-20M power supply for sale. It's the one with two meters on the front. I can't find out how much they cost, so I don't know what to ask for it. Maybe you can help. It has been used very little.



## The W4VEC Testing Schedule for 2009

January	10, 2009
February	14, 2009
March	21, 2009
April	11, 2009
May	9, 2009
June	13, 2009
July	11, 2009
August	8, 2009
September	12, 2009
October	10, 2009
November	14, 2009
December	12, 2009

Location: #3 Centerview Dr, Hickory Building, Greensboro, NC 27407

Time: 9:00 A.M.

Contact: Glenda Nicholson  
Phone: 336-674-3810  
E-mail: [ag4nc@bellsouth.net](mailto:ag4nc@bellsouth.net)

Another item for sale is my Comet UHF/VHF SWR meter. I also won't be needing my dual-band antenna and the heavy-duty steel telescoping mast that it's attached which is for sale at \$100 Call Fred Blackman, W4FB, at 336-841-4338.

## HP Club To Hold Fox Hunt Jan. 31

The High Point ARC will be holding a Fox Hunt, Saturday, January 31. The Hunt will be officiated by Chris Horne, W4CKH. Those interested will meet in the North State parking lot in downtown High Point at 2 pm.

The winner of the Fox Hunt will receive a prize of \$50. Please register by sending an e-mail to [w4ckh@yahoo.com](mailto:w4ckh@yahoo.com).  
*From the HP ARC Newsletter 1/09*

## Sympathy

Our condolences to the following families and friends of these area amateurs.

Long-time Greensboro amateur, **Rusty Hughes, WA4SAD**, became a Silent Key, in December, 2008. Rusty was an avid member of the Thursday Lunch Bunch and a member of the original Greensboro Radio Club.

GARA member **Ann Thompson, KC4YRM**, wife of GARA President **Chris Thompson, K4HC**, lost her brother, Jeffery W. Grimes of Portsmouth, VA, aged 44, on January 8th.

Also on December 31, 2008, GARA member **Mike Best, WD4DUG**, became a Silent Key. Mike was 47. He was found at his home unresponsive. Mike was also very active on the "15" repeater and uploaded the Apple Slices news letter to the WB2JKJ web site for the New York School Ham club.

Sympathy to the **Harold Clapp, KD4TPJ**, family in the loss of Harold's mother Helen Coble Class, on January 10.

## Get Well ...

Get well wishes to **GARA member Charles Lyons, NT1J**, who recently suffered a stroke. Reports received say Charles has been moved to Masonic Rehabilitation and doing well.

Charles' XYL, Anne, sent this email Thursday. "Charles would love to have you visit. Mornings are taken up with therapy but sometime after 11:00 is good for visiting. Lunch is from 12:00 to 1:00 and then Charles can be very tired. I usually arrive at around 9:00 and leave after lunch to give him a rest time. Saturday and Sunday have no therapy scheduled so these are good visiting days."

Also, get well to **GARA member Weldon Fields, W4AJT**, who was hospitalized after shortness of breath and it was discovered he had fluid on his lungs. Last report was Weldon was recovering fine.

We'll keep the club members updated as we get information.

# Area Activities

**FOURTH MONDAY** – at 6:30 PM, the Greensboro Amateur Radio Association have their regular monthly meeting at the Golden Corral, 4404 Landview Dr, Greensboro, NC 27407, off Wendover Ave, near Sam's Club. Please plan to gather at 6:30 PM for dinner. The meeting is scheduled to start at 7:15 PM

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## CLUB NETS:

**SUNDAYS** – weekly at 9 PM, the **GARA News and Information Net**. This net features NewsLine and is on the 145.150, W4GSO repeater. Roy Smith, N4BYU is always looking for net controls. Contact him if you would like to help.

**THURSDAYS** – The **Guilford County ARES Net** meets on the 145.150 repeater (100 Hz. tone) at 9 PM.

**TUESDAYS** – at 8 PM, the **2 Meter SSB Net** meets on 144.225 Mhz. USB. Chris Thompson, K4HC is the net control station. (Not operational present time)

**WEDNESDAYS** – The **Guilford Amateur Society** holds their weekly net on the 145.250, W4GG repeater with an 88.5 Hz. tone. Jim Hightower, W4JLH is the net control.

**TUESDAYS** – at 8:30 PM The **Triad SkyWarn Net** meets on the 147.225, K4ITL repeater, no tone required.

## OTHER ACTIVITIES :

**FIRST MONDAY** – The **Guilford County A.R.E.S.** monthly meeting is held at 1002 Meadowood St. off W. Wendover Ave, in the EMS building, beginning at 7 PM.

**THIRD MONDAY** – at 6:15 PM The **Guilford Amateur Society** holds their monthly meeting at Tex & Shirley's Restaurant in Fiendly Shopping Center. Eat at 6:15 PM and the business meeting begins at 7 PM.

**THURSDAY** – at 11:15 AM, Greensboro Hams get together for lunch. Thursday lunch group is meeting at the K&W Cafeteria, 300 Forum VI Mall at Friendly Shopping Center. Talk-in is on the 145. 150, W4GSO repeater with a 100 Hz. tone.

**EVERY FRIDAY** – at 8 PM (approximately) Greensboro Hams get together for coffee at Guilford College (summer location till Daylight Savings time changes)

**Technical Forum Sundays at 7:30 - 145.15 repeater**

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Greensboro Amateur Radio Association

P.O. Box 7054

Greensboro, NC 27417



Web:  
[www.w4gso.org](http://www.w4gso.org)

**FIRST CLASS MAIL**

*The Official Publication of GARA*





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Greensboro, NC 27417  
[www.w4gso.org](http://www.w4gso.org)

## MEMBERSHIP APPLICATION - RENEWAL / NEW - 2009

**\$24 per year**

(\$2 per month)

Please fill out the following information and mail the address above or hand deliver to the GARA treasurer. Your membership is appreciated!

Call: \_\_\_\_\_ Renewal? Yes ( ) No ( )

Name: \_\_\_\_\_ Spouse: \_\_\_\_\_

Address: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_

E-mail Address: \_\_\_\_\_

(\*please provide an e-mail address to which the Feed Line will be e-mailed and we can contact you)

Phone number: \_\_\_\_\_

(please advise if this is unlisted and it will not be published on the club roster)

Note: Family memberships are available for persons living under the same roof or if a family member is a school student living away from home - no extra charge.

Is this a family membership? Yes ( ) No ( )

If, Yes, family member name: \_\_\_\_\_

Call: \_\_\_\_\_

# ***Ham Radio at Its Best Join GARA for 2009 Ham Radio for the Triad***

**We are a diverse group of Amateur Radio operators providing public service for the Triad area.**



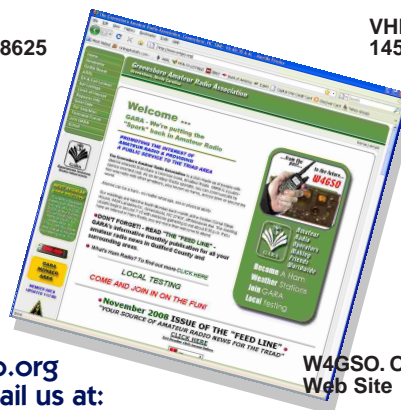
GARA repeaters are active and "buzzin" with all kinds of information. You're invited to join in. You got a question? - There's probably someone on the repeater with an answer!  
These are open to everyone !

- **We are once again are planning a great 2009 for Amateur Radio in the Triad area.**
- **GARA is the ONLY club supported digital D-Star repeater in North Carolina, additionally, EchoLink is now operational on the 145.15 VHF repeater**
- Get in on the fun! Come visit a meeting - Fourth Monday of each month. If you decide to join, membership is only \$24 per year. Our yearly membership period begins January 1.
- Your membership supports two top-notch repeaters, a first-class information filled Triad area monthly news letter, and a top-notch weekly updated web site along with special member features.
- Radio broken? You have access to a loaner radio free of charge whenever your radio needs to go to the shop!

**If you are a renewing member, we appreciate your continued support! If you are a new Ham and searching for an active Amateur Radio Club GARA Has is it !**



D-Star UHF  
Machine 442.8625



VHF Machine  
145.150 Mhz.



Visit us on the web at: [www.w4gso.org](http://www.w4gso.org)  
If you have any questions, please e-mail us at:  
[info@w4gso.org](mailto:info@w4gso.org)

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