

The Signal Report

A Publication of the Greenwood Amateur Radio Society

VOLUME 14 ISSUE 3

MARCH 2018

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

W4GWD@ARRL.NET

2018 CLUB

OFFICERS

President

David Russ, K4DWR

Vice President

Adam Shirley, WJ4X

Secretary

George Crane, W3RFX

Treasurer

Tedd Davison, AI4WN

Repeater Trustee

Buddy Willis, W4DEW

Activities Manager

Kevan Nason, N4XL

Editor in Chief

Michael Wills, KA4CSM

The W4GWD Repeater Network

147.165+ t107.2

Echolink: 584003

443.900+ t107.2

W4GWM/R

145.420- DV

W4DEW/R

146.910- t123.0

WJ4X/R

442.600+ t107.2 / DV

Infrastructure Update

Analog Repeaters are up.

DMR and D-Star is up.

Fusion is up.

Echolink is down, maybe for an extended time.

APRS iGate is up.

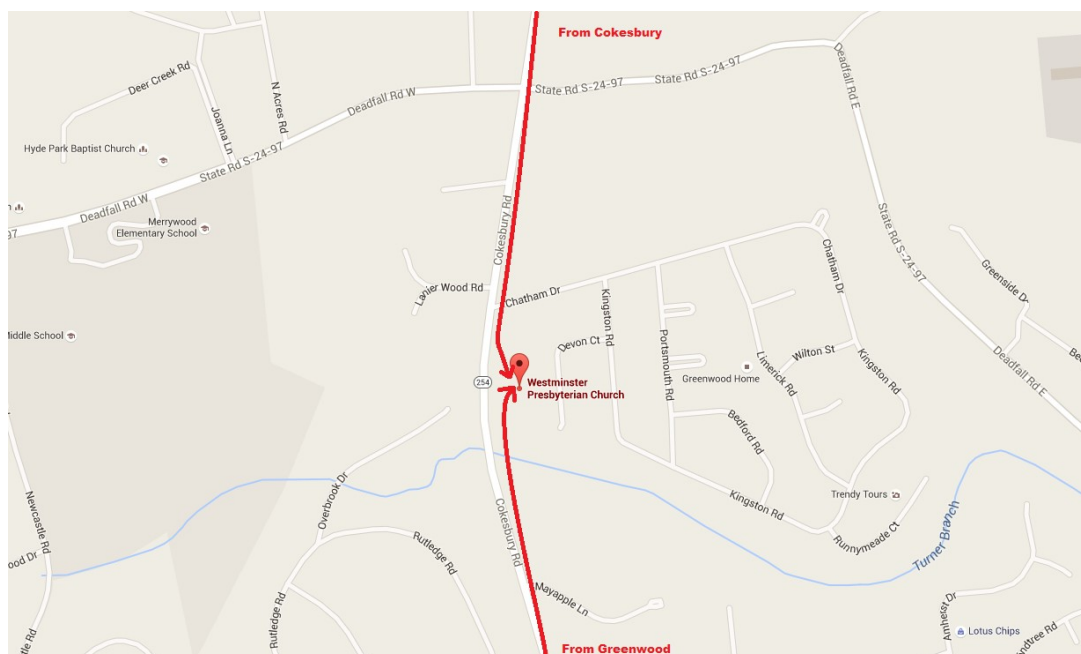
Packet Node is down when up it is connected to the Carolinas Packet System 145.010

Downtown Digi is up and operational

Repeater Linking Project—Linked now (undergoing testing)

March Meeting

Our Club meets at the Westminster Presbyterian Church, located at 2330 Cokesbury Rd, Greenwood, SC. We meet on the 2nd Tuesday of each month which will be the 13th of this month. Meeting starts at 7:30 Sharp.





Like Us on Facebook

facebook.com/
GreenwoodARS

If you have any ideas for books you'd like to see in the GARS Library, Contact Mitch KJ4JGP

Phil's Corner:

Hamisms #362

The new Technician study guide is effective 1 July 2018. It contains 428 questions and will be used through 2022. If you are studying for the exam now be sure you are using the right study guide.

Greenwood Amateur Society Events:

Chat 'N' Chew

Every Friday at 11:30am the members of the Greenwood Amateur Radio society meet at a local restaurant. Please check in to our Thursday radio net weekly, as locations change. Everyone is welcome to have lunch or sip your favorite beverage

Weekly Nets

The Greenwood Amateur Radio Society holds our weekly 2 meter net each Thursday night at 9 p.m. on 147.165 with a plus .6 mhz offset

Our UHF net is on 443.900 with a + 5 mhz offset is held Mondays at 8pm

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 contact Tedd Davison ai4wn@arrl.net

VE Exam Session

The GARS ARRL Volunteer Examiners (VE) Team will have an exam session 7:00pm Tuesday, April 3 at the Westminster Presbyterian Church. The address is 2330 Cokesbury Rd Greenwood SC 29649-9515 We hope to see you there. Please contact Buddy Willis W4DEW w4dew@arrl.net

Congratulations!!

Happy Birthday!

No March Birthdays to report

Happy Anniversary

Andy and Amy Bagwell
March 1

Are you an ARRL Member? Joining ARRL helps protect our rights as Amateur Radio Operators as well as providing education, QSL Bureau, technical advise, and the ARRL VEC. <http://www.arrl.org>





Change of Command

I would like to thank the GARS group for allowing me to serve as your President for the last two years. The experience has been rewarding and fun. The GARS folks are good people and the kind of people anyone would love to have as friends.

There are many opportunities to promote the Amateur Radio hobby and ensure its continuance in the days to come. I encourage everyone to support the club with your time and talents, and to be good operators, to follow the common sense rules for repeater operations, and to only use positive language over the air. Even though I will not be in Greenwood, I will be close by and will attend meetings when I can. I will always be a supporter of the group.

73

Fred Pinson K4RM.

Good morning to all! I'd like to start by thanking Fred, K4RM, for his years of service to our club. I am going to begin my Presidency with saying how impressed I am with the many talented members that we have. We are truly a diverse group of Hams with loads of talent to accomplish great things in amateur radio and in our community. As President I welcome new ideas, comments, and/or suggestions. I am going to include a *President's QSO* in our monthly newsletter as an opportunity to share my thoughts and items of general interest with the membership. I encourage you all to actively participate in all areas of our club. Thanks for your confidence and I look forward to a fun, productive year. Stay tuned. 73 de Dave Russ, K4DWR

On behalf of the Greenwood Amateur Radio Society membership I'd like to thank Fred, K4RM for his dedicated, faithful service while serving as our President for the past two years.

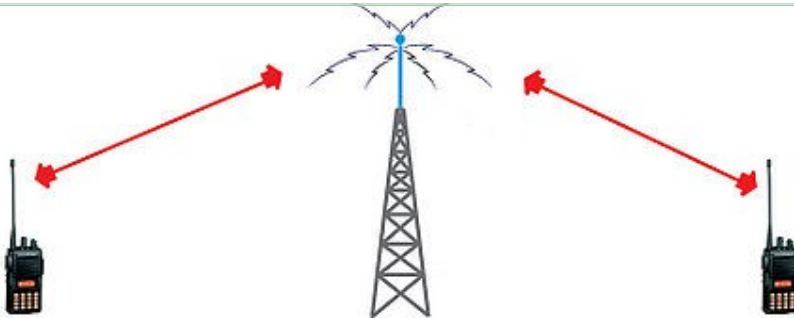
Congratulations and welcome to our new President, David Russ, K4DWR. We look forward to working with him throughout his term in office.

All other club officers have elected to stay on in their current positions. We are grateful for their commitment and the value they add to our club.

Mike, KA4CSM

PAY YOUR DUES

Your dues are important to your radio Club. According to the by-laws of our Club, annual dues are due by April 1 of the year. We appreciate that most members meet the deadline for their annual dues. Members not making the dues deadline will be dropped from the active membership. Reinstatement will require a resubmission of our Club application and an affirmative vote by Club members. We need your attention to this matter in order to maintain our meeting areas, field day activities, Club equipment, Club insurance, ARRL Club affiliation, annual Hamfest, maintenance of our local repeaters and much more. Please support your Club and submit your dues on time. If you need any additional information please contact any of our club officers. Thank you. Tedd, AI4WN



The GARS 2m (147.165) and 70cm (443.900) repeaters were successfully linked on February 21, 2018. Testing is underway to work out any problems and audio levels. During this time you can be on either 2m or 70 cm and both transmit and receive simultaneously on both repeaters. It has been well received by those using them. In the future other repeaters may be added including the Saluda repeater (146.910.) It is to be determined just how long they will stay linked. A big thank you to those involved in making this possible. Richard Donald N4LRD, Buddy Willis W4DEW, Adam Shirley WJ4X, Darrell Manning AF4E, Jeremy Manning KI4CCZ

Backup Radio Station Power, the basics , Part 2

Dan Curry
KM4AJ

Backup battery - A few HAM's setup backup battery banks to run their stations when the power fails. Although it may be tempting to use car batteries due to their inexpensive costs, they aren't ideal for this application. First car batteries are designed to discharge their power at high amperes for short duration's of time as a car's starter would draw. This means that they do not do well when discharging lower amperes of power for longer periods of time as would a HAM station. This reduces the usable time of the batteries. Second, car batteries require ventilation as they also expel gases as they are used. This means that they aren't well suited for indoor applications where good ventilation is not always available. The better option would be to go with Sealed Lead Acid (SLA) batteries or Absorbed glass mat (AGM) batteries. These batteries are sealed and do not discharge gases and are also designed for discharging over longer periods of time, so they don't fade as fast. SLA & AGM batteries are rated in Amp Hours, meaning A battery with a capacity of 1 amp-hour should be able to continuously supply a current of 1 amp to a load for exactly 1 hour, or 2 amps for 1/2 hour, or 1/3 amp for 3 hours, etc., before becoming completely discharged. So in order to run a HAM station at 30 amps during full transmit for one hour will require a 30 Amp Hour battery. A normal battery backup system will be sized at about 100 Amp Hours in order to provide enough power to operate during a disaster.

Now that you have your battery you need a way to charge the battery. There are a variety of ways including solar and wind (which I'll get to), but probably the easiest is with a backup battery module. These battery backup modules sell for \$100 or less and connect between your 12v power supply and your battery bank.

Backup Radio Station Power, the basics , Part 2 (Continued)

Dan Curry
KM4AJ

They will charge the battery when the power supply is on and will automatically switch over to battery when the power fails. The battery backup module can be connected to your station's PDU and feed all of your 12 volt radios and accessories including 12 volt lights. One thing to keep in mind is that the battery will put out between 12 volts and 13.4 volts depending on its level of charge. During transmit, the voltage output of the battery will dip as you draw from the battery depending on how much current you are drawing. Radios that are designed to run from cars will normally tolerate this type of voltage variation. Base station rig's including a lot of HF radio's require as more stable voltage in order to operate. My Kenwood TS-440 for example will not transmit properly at 12 volts as it requires a 13.8 volt power source. In order to operate off battery power, I had to get a voltage booster. Voltage boosters, power boosters or DC to DC power converters as they may be called can take a 12 volt power source and convert it to a more stable 13.8 volts. These can be placed in line between the battery backup module and your PDU in order to provide 13.8 volts to your entire station. If you have the space in your shack, these battery backup systems can provide an excellent backup power source.

Solar Power - Given where we live in the southeast, Solar panels tend to work quite well. Instead of using a battery backup module, you may choose to go completely off the grid and charge your battery bank with solar power. If that is the case, then you would feed your solar panels to your battery bank through a solar charge controller. Solar charge controllers do several things. They provide a certain amount of voltage regulation to the battery as the voltage

Backup Radio Station Power, the basics , Part 2 (Continued)

Dan Curry
KM4AJ

from the average 12 volt solar panel varies depending on sun conditions. In addition, the solar charge controller will interrupt the connection to the panel when it becomes dark in order to prevent the solar panel from discharging the batteries at night. The charge controller should be sized to the capacity of the solar panels that you are going to be using. Setting up solar power is another big topic that couldn't be fully explored in this article, but there is a ton of information on the internet.

Generally, solar and wind tend to work together and augment each other. At night then the sun goes down, the wind tends to pick up. Also, during a bad weather event such as a hurricane, sun conditions may not be good, but wind may be available. So if you are using solar power as your backup power source, it may be a good idea to add a wind generator to augment the solar panels. Just be sure to perform the proper research to make sure that your placement is correct and that your charge controller is connected to both sources properly,

Station Accessories - If you are preparing to operate your station during a power out situation, you should also make sure that you have any required station accessories connected to your backup power source. This may also affect how you size your station's backup power system. For example, if the power in your house is out, you may need lights to see or an extra fan to cool your station if the air conditioner is not running. Increasingly we are also becoming very dependent on our computers to operate our stations and provide digital communications, so you may need to be able to run your computer from your backup power

Backup Radio Station Power, the basics , Part 2 (Continued)

Dan Curry
KM4AJ

source. So be sure to include methods to power your accessories as well. Run as many 12 volt accessories as possible if you are using a backup battery in order to avoid having to run power inverters to run your accessories as they will draw additional power.

Contesting advantages – In addition to providing benefits during emergency situations, having a backup power source can also aid in certain contesting situations. Some contests allow for bonus points and fewer restrictions if you are running on backup power. During Field Day if you operate from your house you fall into Class D Home Stations. This means that you are operating from your licensed station location and using commercial power. Since class D stations may not log contacts with each other, you cannot receive points for making contacts with other class D stations so you are limited to who you may contact. If you are running on emergency power from your home you fall into class E, which means that you are using emergency power and may log contacts with any other station including home class D stations. In addition, there are bonuses for stations running from alternate power sources such as solar, wind, methane or water. This gives you 100 bonus points for field day groups making a minimum of five QSO's without using power from commercial mains or petroleum driven generators. There is also a power multiplier for QRP stations if using an alternate power source which gives you a multiplier of 5. To receive these bonuses, only the transmitter and receiver need to operate on the emergency or alternate power source. So you can be competitive during field day from the comfort of your own home.

Backup Radio Station Power, the basics , Part 2 (Continued)

Dan Curry
KM4AJ

Hopefully this article has given you some ideas of ways you can setup or improve your backup power source. This is not meant to be an exhaustive look at backup power, just a quick overview of what's out there. Hopefully you've found some of this information helpful and have some ideas to continue to work on our favorite hobby, Amateur Radio



For those of you who travel to the Myrtle Beach area, Gordon Mooneyham, W4EGM, reports that the Grand Strand Amateur Radio Club has activated a new repeater on 441.775 mhz (+ offset, 85.4 PL transmit only.) This repeater is located in the city of Myrtle Beach and provides excellent coverage for the Myrtle Beach area. In the near future, the club will be installing a VHF repeater at the same site. Right now the equipment is analog, but there are plans to upgrade to Dynamic Mixed Mode repeaters as funding allows.

Those of you in attendance at our February Club meeting were enlightened by Kevan Nason, N4XL, on his presentation on EMP and MCE's. Adam Shirley, WJ4X, provided the following link with information on faraday cages and EMP misconceptions; <HTTP://youtube/GYLn7wgGxPo>

HAMFESTS and EVENTS:

2018 RARSFEST

Raleigh NC Hamfest

March 31, 2018

www.rars.org/rarsfest/

Blue Ridge Amateur Radio Society

Upstate South Carolina Hamfest

May 5, 2018

<http://brars.cc>

Charlotte Hamfest

March 9 & 10 2018

<http://charlottehamfest.org>

Anderson Radio Club

St. Patrick's Day Picnic and Foxhunt

Darwin Wright Park, Shelter 2

March 17, 2018 beginning at 12 pm

with the Foxhunt beginning at 1 pm.

Bring a food dish to share with others & bring your own drinks. Wear green

and receive "Pot of Gold" chocolates

Please RSVP to Les Shattuck, K4NK

by 3-14 at K4NK@charter.net

Dayton Hamvention

May 18-20, 2018

120 Fairground Rd.

Xenia, Ohio 45385

www.hamvention.org

ARRL International DX Contest, March 4, Phone, www.arrl.org/arrl-dx

Novice Rig Roundup, March 10, CW, novicerigroundup.com

CQ Worldwide WPX Contest, March 25, SSB, www.cqwpix.com

Greenwood Amateur Radio Society Hamfest

Piedmont Tech

January 12, 2019

- * The American Radio Relay league protects our rights as Amateur Operators <http://www.arrl.org>
- * Support for SERA supports proper coordination! <http://www.sera.org>
- * Remember your local and regional interest clubs!
- * Southeast DX Club <http://.sedxc.org>
- * Spread The Word! 147.165 2m Net Thurs. 9pm
- * Callsign info <http://www.ae7q.com>
- * Track us on APRS: <http://aprs.fi>
- * South Carolina DX Association <http://scdxa.org/>
- * Swamp Fox Contest Group <http://swampfoxcontestgroup.com>

Classifieds:

Yaesu vx170, modified with charger and manual, works great, \$100.00
Robert Gillian, KN4IXE, 864-314-9593

Price reduced

Hy-Gain TH7DX 10-15-20 M beam. Verified SWR 1.5 to 2.5 on all bands at 13' off ground. New plastic parts i.e. end caps and trap covers. Retail \$900, asking **\$300.00** Teddy AE4TJ myemail122060@yahoo.com

Very large black power supply, belonged to my Dad. Unmarked as to type, model, watts etc. Best offer. Stephen Lyda, KA4PQA, stephenlyda@yahoo.com

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

Hope you have enjoyed reading our newsletter. Please contact me with any ideas/suggestions etc. Submit articles, please include where you got it, for possible inclusion in future editions to me at Mike31406@gmail.com.

Mike