

GARS MOUTH

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WWW.GARS.NET

Welcome to the Gainesville Amateur Radio Society's Newsletter

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PRESIDENTS CORNER

NOVEMBER 2014

As we proceed steadily into the fall season, some of us are grinding our teeth, and talking back to the radio or television over another trying football season with our Florida Gators. Never fear, take a break, relax and dial up your trusty ham radio rig and make a contact somewhere.

Seriously, as we proceed into the fall the GARS club has several events and activities that are both fun and rewarding. By the time this is published, the annual Veterans Day Fly-In honoring our nations veterans will be history for 2014. The club has participated in this event for a number of years by securing the landing zone, and providing communications with the helicopters that conduct the fly in.

The next event for GARS is the annual "Operation Santa" event that is scheduled for December 13th, 2014. The location for the event is at Santa Fe College, on the grounds closest to NW 39th Avenue. The event starts at 9:00a.m., for set up and assignments, with the public admission at 10:00a.m., with the event concluding at 1:00p.m. We (GARS) need volunteers to participate on the radio frequency speaking to the children as: Santa, Mrs. Claus, and Santa's helpers. Help is also needed as general liaison personnel for information and crowd control. Please contact a club officer or board member to volunteer your services. A signup sheet will also be at the November General Meeting on Wednesday, November 19th.

The annual Christmas Party and Yearly Awards Banquet will be held on **Thursday**, December 18th, 2014 at the Waldo First Baptist Church on State Rte 24 in Waldo, FL.

Yes, I realize that this is not the usual third Wednesday night of the month affair, but Waldo's facilities are always used by the church on Wednesday's. The club will furnish two entrees, and drinks, **the attendees are asked to bring a side dish or desert that will serve four people.**

As we all travel for the Thanksgiving holiday, please be safe, allow plenty of time to arrive at your destination no matter what mode of transportation you choose to use.

73,

Pete Winters W4GHP

GARS President

Editor's Note:

And I'm sure that Pete will probably have a December President's Letter, so here is what I will do, this paper has been reduced to bi monthly due to time restraints but there will be a revised edition also added to the website for the Month of December, this will include the photos of the Christmas dinner and the President's Letter, possibly the new officers and the awards winners.

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Send edits, comments, articles to
garseditor@gmail.com

You might not think it's important, but your input is wanted for this newsletter. Please send articles of interest, links, and buy, sell or trade to garseditor@gmail.com

FAMOUS WORDS

"I am often asked how radio works. Well, you see, wire telegraphy is like a very long cat. You yank his tail in New York and he meows in Los Angeles. Do you understand this? Now, radio is exactly the same, except that there is no cat." _Attributed to Albert Einstein

CLUB HAPPENINGS



So it's that time of year again to not only give thanks because Thanksgiving is coming up this week but also to give thanks for the sacrifices made for us to live on this great earth. I'm a very simple person and I know that my views are different from yours and yours from your neighbors but we all have a commonality is that we are human. Our religious beliefs are different, our cultures are different, we may even be a different race or creed but there is one thing we are not different about is that we cherish life and what it has to offer. There is a lot of discourse in this world and we can only take one day at a time and there is not enough time in the world to do all the things we would like to do, so make the time you have count. Enjoy every moment that you have because you only have today, you do not know what tomorrow will bring because it has not arrived yet.

So in the month of December there are a few things to remember, because you all know we have perfect memories, so what was I doing? Oh right this editorial.

First and foremost don't forget the soldiers that are not going to have Christmas at home because they are protecting the freedoms that we cherish.

Second don't forget your spouses that support you and make your day bright even when it's gray and overcast.

Third don't forget your children (well sometimes that might be a good idea, man those rugrats will drive you crazy sometimes) but don't forget the joy and cheer that they bring you because if it was not for them, you would not see yourself everyday unless you looked in the mirror.

Fourth don't forget the turkey is in the oven, what a mess that would make with the in-laws and outlaws coming over.

Fifth don't forget there is a Christmas dinner at the Waldo Baptist Church Thursday, December 18th, and if you have forgotten the church is in WALDO (GRIN).

Sixth don't forget to pay respects to those who are not here any longer, whether it's your religion, your relatives, or even your pets that were just as much family as if you had children, even to people that you might not be related to but impacted your life over the years.

Seventh don't forget what you are all involved in, Amateur Radio, dig out that old rig in the closet, get some youths outside off their electronic Facebook devices and go hang a wire in the trees, neutralize your final tubes, check the resonance of the antenna to make sure your "getting out", put an extra 20 in the jar for the light bill next month, and reach out to some folks on the radio bands and just say HELLO, you probably haven't talk to them for awhile and I bet they would love to hear from you, and besides if you have grandchildren I'm sure you could do a CQ to S4NTA and he would put a twinkle in those children's eyes when he response back.

Eighth, don't forget that tradition of a Christmas tree is put up right after Thanksgiving and taken down right before New Year's, you probably ask why, well right after Thanksgiving to give thanks for all the

food you cooked and prepared for hours on end you have the family do the work of hanging the tree, lights, decorations and even go outside and decorate the house and the yard, this brings everyone together since they are already there eating they are ready and able to assist in the festivities of decorating, Oh and you ask why take it down before New Year's, well it depends upon if you intend to have a New Year's party and you don't want to have to pluck pine needles out of your clothes, and besides its good luck to take it down.

Ninth, don't forget to then have some hog jowl, collard greens and black eye peas, it's part of the southern tradition and it's believed to be good luck, you probably asked why pork, well it's been said that in England the first day of the year was hunting for wild boars and they always rooted forward which was a sign of looking for something new or always looking forward so here you go and I'm not throwing a plug out there for anyone but there is always a guy selling fresh collard greens on Hawthorne Road right behind Chunky's restaurant across from Fast Eddy's around the holidays and there is always the farmers market, buy local it keeps the farmers going, **Okay back to the count.**

Tenth, remember to trickle your water because it is gonna get cold for the next few months and you don't want to pay for those pipe repair oh and talking about pipe repairs good luck to those in the running of the rusty pipe, rusty pipes that sounds like a ham radio pop music band.

Eleven, don't forget that you have all winter to think about spring cleaning, but when spring does come you hopefully will have lots of energy to clean that radio shack up, catalog your QSL cards, clean the corrosion off your grounds, tighten your guyed wires, replace your lightning protection, your smoke detector batteries, oil the hinges on the door so in the middle of the night the XYL doesn't yell at you for getting that rare DX at 3 am, and replace the light bulb in the bathroom that you put off all year.

And finally **Twelve**, Don't forget that your dues are due on January 1 for your GARS membership, gotcha, so don't forget to see Susan at the GARS Christmas dinner and drop her some cash, checks, I think she might even take gold if it's in bullion, and two other things Don't forget all your friends at GARS and don't forget to assist in the cleanup of the kitchen and

eating area after the dinner, Shannon and Debbie are great hosts but it takes everyone to do their part to make it a great time. Those are your Twelve Days of reminders, and you thought it was going to be boring, think again.

VE REPORT



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GARS MEETING MINUTES

None to report at the time of the publishing of this paper. Please review at the general meeting.

GARS FINANCES

Your membership dues are due as of January 1, and you will be out of membership is you laps after March 31, so please renew and support your club.

To be able to provide activities such as the club picnic, Christmas dinner, the club "repeaters", food and materials for Field Day, Hamfest, etc. it takes \$\$\$\$. Support GARS by paying your dues, the dues are due January 1 of every year, and so see Susan Tipton at the general meeting before the meeting starts. Even give a little more for the activities that make GARS and active association. A small note that even the donut money at the meetings, supports the GARS, so have a cup and a bit of sugar and spice and some camaraderie and top off that donation cup.

GARS financial report will be provided at the general meeting and will not be published in the GARS Mouth



And yes this photo above is a tree of money, something you might not know is that several wooded areas around the UK people would hammer in coins into tree trunks for decades and perhaps centuries. It was said that all the way back to the early 1700s in Scotland where ill people stuck florins into trees with the idea that the tree would take away their sickness. If you don't know what a florin is here is a photo below.



Support GARS by using Amazon Smile



<http://smile.amazon.com/ch/59-2449897>

SO if you shop on Amazon please convert your amazon account to an Amazon Smile account and .5% of ever Smile purchase you make will go towards the GARS finances to support all those events that we do every year like Field Day, picnics, and Christmas parties.

UPCOMING EVENTS

11/29/2014 | [HAMFEST IN THE WOODS](#)

Location: Okeechobee, FL
Type: ARRL Hamfest
Sponsor: Okeechobee Amateur Radio Club
Website: <http://K4OKE.com>

12/06/2014 | [SILVER SPRINGS RADIO CLUB 2014 HAMFEST](#)

Location: Ocala, FL
Type: ARRL Hamfest
Sponsor: Silver Springs Radio Club
Website: <http://k4gso.us>

12/12/2014 | [WEST CENTRAL FLORIDA SECTION CONVENTION \(TAMPA BAY HAMFEST\)](#)

Location: Plant City, FL
Type: ARRL Convention
Sponsor: Florida Gulf Coast Amateur Radio Council
Website: <http://tampabayhamfest.org>

01/03/2015 | [FREEZEFEST](#)

Location: Locust Fork, AL
Type: ARRL Hamfest
Sponsor: Blount County Amateur Radio Club
Website: <http://www.freezefest.com>

01/10/2015 | [TECHFEST 2015](#)

Location: Lawrenceville, GA
Type: ARRL Convention
Sponsor: Gwinnett Amateur Radio Society
Website: <http://www.gars.org>

01/16/2015 | [FORT MYERS ANNUAL HAMFEST](#)

Location: Fort Myers, FL
Type: ARRL Hamfest
Sponsor: Fort Myers Amateur Radio Club
Website: <http://www.fmarc.net>

01/18/2015 | [S.C.A.R.F HAMFEST](#)

Location: Nelsonville, OH
Type: ARRL Hamfest
Sponsor: Sunday Creek Amateur Radio Federation
Website: <http://www.scarfarc.com>

01/23/2015 | [PUERTO RICO STATE CONVENTION](#)

Location: Hatillo, PR
Type: ARRL Convention
Sponsor: Puerto Rico AR League, Caribbean AR Group & Hatillo Municipality
Website: <http://www.arrlpr.org>

To become an Amateur Radio operator, check out this website link. <http://www.arrl.org/what-is-ham-radio>

ARE YOU SIX AND UP?

Did you know?

Frequency shifts not without pain

In November 1945, the FCC began to reorganize the ham bands, and since that time that looks to be one of their favorite activity... They moved first the 56 Mc to 50 Mc, giving birth to the 6-meter band. This allowed TV to use channel 2 without interfering with other services. Without interfering, excepting that using a frequencies range adjacent to broadcast always generates disputes.

In March 1946, the 112 Mc was shifted to 144 Mc, starting the 2-meter band. This change displeased to the tens of thousands radio amateurs who had to adapt (and most replaced) all their equipment and antennas to the new frequencies. It was a good time for ham shops and editors!

Came back from the war, in 1946 radio amateurs began to use the new bands of 6 and 2 meters, and experimented the first Meteor Scatter communications (MS).

In the fall of 1947, the propagation on 6m was wide open from the east coast of the USA to Europe and over the Pacific. Amateur CE1AH broke a record in working J9AA0, in Okinawa, with a distance over 16,800 km (10,500 miles) on 6 meters ! On 2 meters the DX record was over 1045 km (650 miles), on 235 MHz its was 338 km (210 miles), and on 432 MHz it was 299 km (186 miles). Meanwhile, crystal control was

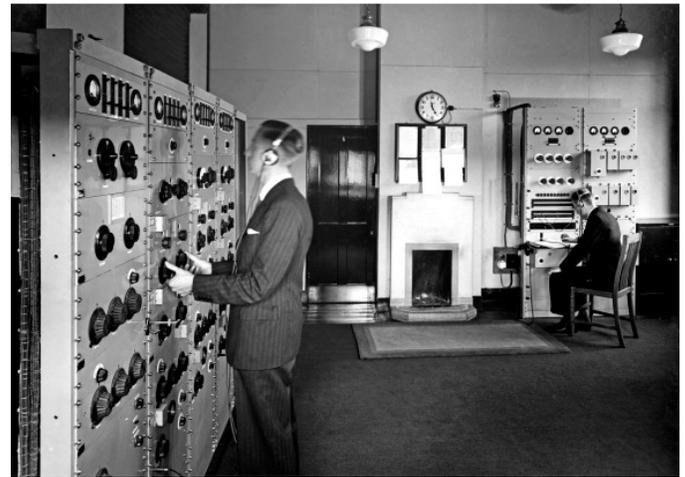
designed into 220 MHz gear in some advanced stations.

Don't forget to visit:

<http://www.cq-vhf.com/>



SHACK OF THE MONTH



BBC Tatsfield Transmitter Station

CLUB HAPPENINGS CONT.

Did you know we have a new Facebook Page?

Like Us on Facebook.

<https://www.facebook.com/GainesvilleAmateurRadioSociety>



LINK'S OF THE MONTH

Interesting link for golden age of radio

<http://www.rsp-italy.it/Electronics/Magazines/QST/index.htm>

<http://www.astrosurf.com/luxorion/qs1-ham-history9.htm>

http://www.qs1.net/va3rj/homebrew_kits.html

Great magnetic loop calculator

http://www.66pacific.com/calculators/small_tx_loop_calc.aspx

<http://www.zerobeat.net/g3ycc/ideas.htm>

<http://theshippingforecast.co.uk/forecasted-round-1/>

TECHNICAL CORNER

I'm not a sponsor of this approach but due to being a diehard Yeasu and Kenwood user but for a new ham that is just starting out this looks like a pretty good deal.

<http://www.banoggle.com/products/btwr-essentials/GSK-HAM-UV5R.aspx?>

Have you visited Youkits Lately?



www.youkits.com

They have some very interesting equipment in kit form.

I love finding homebrew projects and this one is a great site with some. Do you like to make antennas, well check this one out.

<http://www.palosverdes.com/pvarc/projects.htm>

Do you like making stuff, kits, projects and QRP, if your just beginning or even if you have been doing it for years a list of tools and information to construct those projects is always needed. Here is a great article about just this sort of thing.

EQUIPMENT FOR THE BEGINNER TO HOME CONSTRUCTION

One of the things that attracts many people to the QRP facet of amateur radio is the thrill of using homemade equipment and the experimentation that goes along with it. There are a whole host of tools and basic test equipment which are to be found in the seasoned constructor's workshop, but how does the beginner start? What are the basic requirements needed to start work on a few simple projects, kits etc? Below are some thoughts put together to try and suggest what equipment is needed for the beginner to acquire to start off with.

Cheap tools - Forget it. Buy the best quality of tools you can afford. It is a case of Buy Cheap, But Twice with tools. You get a cheap screwdriver, for example, attack a stubborn nut and what happens? The blade of the driver is ruined. If in doubt, consult a fellow amateur radio constructor or anyone who has been in the electronics trade, they will gladly help.

The Care of Tools etc - Take care of your new tools and they will last for years. Use the correct one for the job. If a Phillip's screw is to be tightened, use a Phillips screw driver, not a straight bladed one. Don't use pliers to tighten nuts, use a spanner etc made for the size of nut you are using.

Ensure tools are cleaned after use and stored safely.

The Basic Tool Kit

- A selection of screw drivers
- Small spanners
- Pliers, large and small
- Side cutters
- Magnifying glass - invaluable for the tiny components used and those whose eyesight is less than perfect!
- Selection of small metal files
- Drill and metal bits
- Soldering iron and stand
- Trimming tools - for adjustment of coil ferrites
- Cutting tools

- Helping Hands - small stand with magnifying lens and two adjustable croc clips, ideal for PCBs etc.

One addition, not in the above list is my MOST ESSENTIAL TOOL and that is a pair of surgeon's locking forceps, also known as Spencer Well's forceps or artery forceps. They are ideal for handling small components and can lock onto component wires, etc. Sometimes on sale at car boot sales (garage sales) and radio rallies - GET SOME! I couldn't manage without mine!

Soldering Irons - People vary in their advice for this important tool. There are many to choose from and you can acquire a good selection over the years. Just about all my work is done with an Antex 25 watts iron with about 1/8th inch a tip. I use this for all my work with ICs, transistors etc. Smaller lighter ones (12 watt for example) are useful occasionally, but the above is the type I personally would suggest. Make sure you have at least one spare tip for the iron - I get through about three a year! Whilst on the subject of soldering, use an electronic grade of solder from a known manufacturer and, most important clean the tip of solder and flux after use and at intervals during use. This will prolong the life of the tip. A suitable stand for the iron is a useful addition and can be home made by using a U-shape piece of aluminum with a notch cut out on which to rest the iron. Make sure solder splashes can't reach carpets etc.! Also, use solder in a well-ventilated room and do not breathe in the fumes, which may be harmful.

Drills - I managed for years with a hand drill, which is, of course perfectly controllable, in contrast to some electric ones. However, a modern cordless drill is very useful and speeds can be adjusted by trigger action to suit the various jobs. Drill bits are expensive, but it is particularly true about trying Cheapo brands - don't! A small 12v hand drill is invaluable for drilling PCBs and again the same applies for the miniature bits used for this. Drilling PCBs soon blunts the tips but they can be re-sharpened easily. A small drill stand is almost mandatory here, but you can manage without, as I have done.

Cutting Tools - Various small saws are commonly used, including hacksaws and the junior version. I

also use Stanley knives fitted with a removable saw blade. A pair of tin snips is handy and may be used, apart from metal work, for cutting printed circuit board. Incidentally, PCB can be 'cut' by scoring with a sharp tool, using a straight edge and by applying pressure against a right angle, such as a bench edge, it will break along the scored line. Various small files will be found useful as will a hand reamer for enlarging holes. In days gone by, we used chassis cutters for cutting valve holder holes, and these may still be useful to cut for holes meters, control knobs etc.

Working Surface - It is important to work on a well-lit surface which will not be harmed when drilling and cutting (unlike the dining room table!) and I find that a nylon kitchen chopping board is as friendly as any surface for this purpose.

Dick, G0BPS has these as his most needed tools:

- Fine soldering iron
- Fine solder
- Sidecutters
- Multimeter
- small vice
- solder sucker
- sharp knife
- 14lb hammer

The last item is for when it all goes horribly wrong.

(My local radio club has an award for home construction called the GOLDEN LUMP HAMMER AWARD - for the same reason as Dick's!

Meters - There is a huge selection of multimeters on the market ranging from simple to very exotic ones. The latter measure almost anything from DC, AC (volts, amps, ohms etc), frequency etc - almost any measurement you will need, except your inside leg! Analogue meters are perfectly adequate for most purposes, especially the old AVO range, but digital meters are now very popular and accurate. The addition of a simple RF probe makes any meter doubly useful for measuring RF, indicating oscillators are working (or not) and power measurement. I must add a circuit for one to my web page ...

Frequency meters are useful and now quite reasonably priced, but you can manage without initially - or know someone who has one. Another reason for joining the local club. Generally speaking though, I try not to lend out my tools, they sometimes fail to find their way home! GDO's (grid or gate dip oscillators) are also very useful for checking tuned circuits and can be used as signal generators.

Receivers - Not really a tools maybe, but with a reasonable receiver, general coverage with SSB & CW capabilities will be found very handy, in fact essential for the constructor.

Here is Dave G0DJA's list of essentials for beginners:

- 25W Soldering Iron and Stand (avoids burning the table and carpets)
- Solder sucker
- Pair of sidecutters
- 1 small and 1 large pair of pliers
- Set of small screwdrivers, or one body with a set of different heads
- 1 larger plain screwdriver
- 1 larger crosshead screwdriver
- PCB Drill and set of bits
- Junior hacksaw
- and a good toolbox to put them all in!

For test equipment, I would have an analogue multimeter rather than a digital. So many times what you want to do is look for peak or null readings and that can be difficult on a DMM. An analogue unit is great to use with a diode detector which, in my opinion, is the other essential piece of test equipment for building QRP gear. The next would be a frequency counter, although a good general coverage receiver is the next best thing.

I haven't used my GDO for a while now, although I do use it as an absorption wavemeter "from time to time" HI! I use an MFJ Antenna Analyzer with a small add on probe for getting tuned circuits to resonate, I find it a lot easier to use than the GDO and it has a fairly accurate read out when compared with the reading shown on a frequency counter.

Here are some thoughts from **Stephen, G0XAR:**

Absolutely the best tool in my limited armory is an old Weller Temperature Controlled soldering iron which my brother rescued out of a skip. It works well and I can solder everything from PCBs through to PL259s with ease. Second place goes to a 3 quid PlasPlugs wire stripper which I recently got from B&Q. It will strip and cut coax as well as mains cable and solid core telephone wire. Third place goes to a 4" Jaw bench vise which I swapped for a bar of chocolate.

Test equipment: The first RX I built was a Sudden for 20 Meters. I could not get it to work. To de-bug it I needed a signal source. I purchased a kit from HOWES for an XTAL Calibrator. It was easy to make and went together first time. As well as providing a signal source it is a useful calibration aid. I used the calibrator to peak the coils on the Sudden and bingo it worked.

Obviously one needs a **multi-meter**. There was a huge box of seconds at Longleat, ex BT Digital jobs for 3 quid each. All the ones I tried seemed to work. Cosmetically they looked a bit rough.

Continuity Tester can also double as a code practice oscillator.

THANKS TO THE ABOVE CONSTRUCTORS FOR THEIR HELP IN COMPILING THIS PAGE.

Frank, G3YCC

So a few years ago I was asked to read the Ham Radio The Night Before Christmas story, so this year I figured I would also publish it. I will read it also if I'm asked, but now you have a copy to follow along.

"THE NIGHT BEFORE CHRISTMAS", HAM RADIO-STYLE

'Twas the night before Christmas, when all
through the town,
The snowstorm was raging, the phone lines
were down;
The wind it did howl, the tree limbs did
crack,
I hope that St. Nick isn't forced to turn back.
The wife making cookies, the kids making
noise,
While away in the shack, by my rig I was
poised.
The finals were glowing, the mike gain was
set,
I was chasing DX to see what I could get.
The bands were all empty, the frequencies
clear,
Except one lone station that sounded quite
near.
He was calling CQ and my interest did
pique,
When he ended transmission with the words,
"Old St. Nick".
I answered back quickly, I used great
dispatch,
If this were St. Nicholas, good God, what a
catch!
We exchanged information, it was really
quite graphic, Then he came back and said,
"I've emergency traffic!"
His reindeer were tired, his elves in a grump,
If he didn't land soon, then his sleigh he
would dump.
I thought very carefully, I thought very hard,
Then I gave him directions to my snow
covered yard.
As he flew past my window, his hair like a
mane,
He reined in his chargers and called them by
name:
"Whoa, Anode! Whoa, Cathode! Whoa, Zener!
Whoa, Diode!
Stop, Heater! Stop, Grid leak! Stop, Bias!
Stop, Triode!
You're flying too low! you're flying too fast!
Look out, you dumb reindeer, his antenna

mast!"
So into the backyard the reindeer did drop,
St. Nick, the elves, and the sleigh went
kerplop!
Then at the back door, I heard this loud
knocking,
"Open up in there, or I won't fill your
stocking!"
As I turned off the light and was leaving the
shack,
Into the house Saint Nicholas came from the
back--
His two-meter rig held to his hip with a
strap,
"Hams do it in the shack" on the front of his
cap.
The sack that he carried made his aged brow
furrow,
And he handed me a card that read,
"QSL Via Bureau".
His clothes were all sooty, from his shoes to
his vest;
I felt like a novice taking his test.
His fingers were calloused and from what I
could tell,
This came from a straight key that I'll bet he
used well.
I offered him coffee, I offered him smokes,
I tried easing the tension by telling ham
jokes.
Then he nodded his head and raised up his
thumb,
He smiled like an Elmer, did I ever feel
dumb.
He grabbed up his sack and went straight for
the tree,
And placed in it a large present for me.
When he finished his work, he stood up, took
a bow,
Then out the back door to his team he did
plow.
But I heard him exclaim as he flew o'er the
land,
"Beware the FCC, friend, we were both out of
band!"

Merry Christmas from my house to yours

TRADE IT OR SHE WILL TRADE YOU

If you have anything that you would like to sell, trade, donate or give away, email garseditor@gmail.com and we will put the item in here. Please understand that this will be restricted to only Amateur Radio related items only, no property, vehicles or other large items that would have radio attached, just use common sense.

Listing Post by KE4PWE:

The time comes when you have to relocate or have to clean out that shack for many reasons and while equipment always is able to be resold or repurposed, there are always parts and projects that are in boxes and even books for radio and electronics that you have to throw away or leave behind. I want all your broken radios, parts, projects and books. Don't throw them away, throw them at me, well not literally but you know what I mean. Email me or call.

Ke4pwe@gmail.com or 352-672-5674. Restoration of radios from 1930s to 1970s is my favorite thing to do, and I hate seeing stuff throw away if it can be repurposed or reused to fix these classic radios again.

Thanks to the members that have donated to my museum of sorts, hopefully next year or the year after I will have a place to show off the wonders of real radio, and yes real radios glow in the dark.

CREDITS

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REMINDERS

Christmas Dinner and Awards December 18 at Waldo Baptist Church in Waldo, look for the vehicles with all the antennas. Heading north from Gainesville it is the first church on the left coming into Waldo. Bring an appetite and a smile and we will see you there.



Happy Thanksgiving and Merry Christmas and Happy Holidays from all of the GARS staff.

At the end of the newspaper I try to find something old and interesting to finish the paper out with. We have to remember where we came from in radio and look above to see where we are going.



This is 2LO The BBC first transmitter consisting of a 100 watt transmitter.

Imagine this glowing in the dark.

Thank you all for reading and see you next time.

This GARS Newsletter was brought to you in part by Carnation Condensed Milk, George Burns, and Gracie Allen.

Producers: Neutralized Triode

Editors: Phil KE4PWE and Lilly No Call Just Yet

Stage Hands: Cap Resistor

Mike Grip: "D" One O'Four

Set and Lighting Manager: Tom Foolery

Script and Controller: Frequent Followers Consortium

No Bits and Bytes were abused in the writing of this Newsletter and all zero's and one's are able to be recycled under the Clean Air Act. Hope you enjoyed it and we will see you next month. 73 and 88