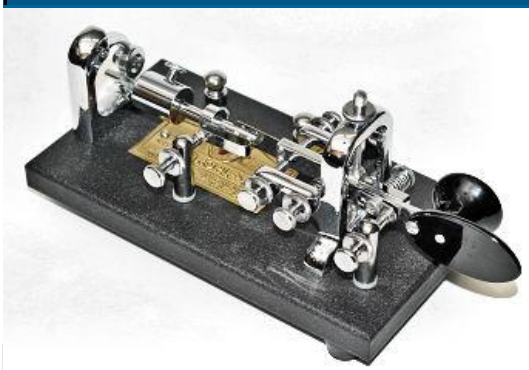
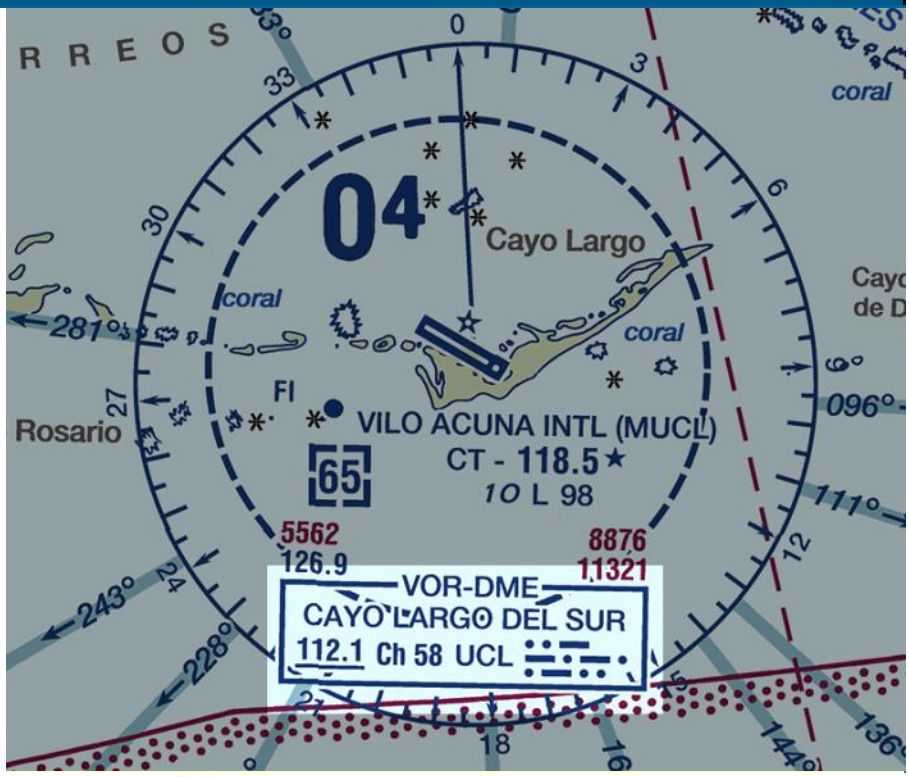
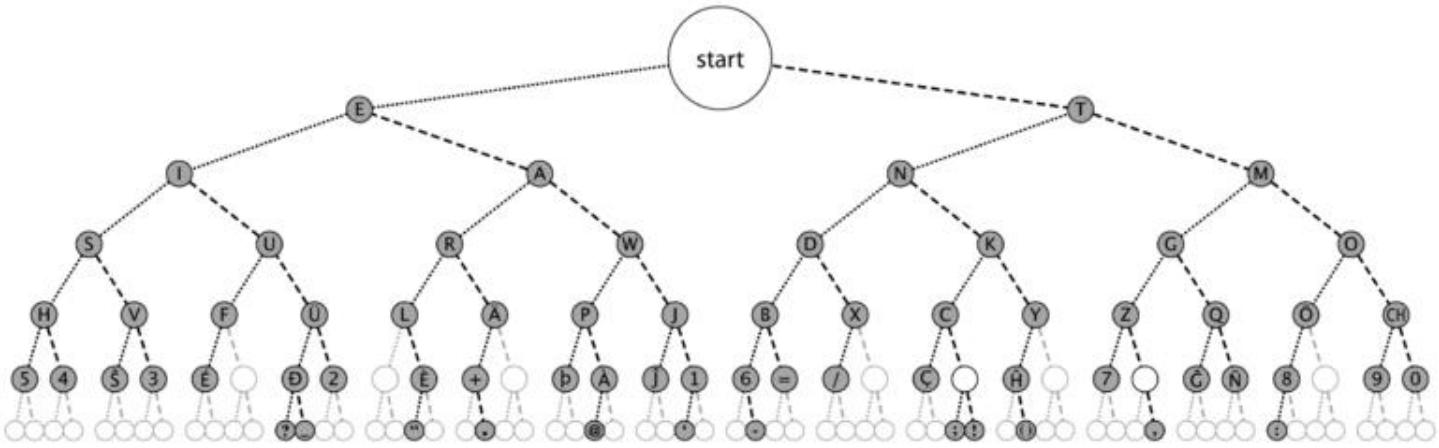
The GARzette

The Official Newsletter of the Gwinnett Amateur Radio Society
September 2019 http://www.gars.org/ Volume 28, Issue 9

GARS Meeting Topic: Morse Code, by Jim Stafford, W4QO







Tuesday, September 10, 2019 7:00 pm at EAA Hangar

Message from the President

Many GARS members are back from another very enjoyable Hamfest in Huntsville. It looks like Huntsville has become one of the three biggest Hamfests in the country with Dayton (Xenia) and Orlando. I always hear very positive comments on the quality and quantity of the Forums in Huntsville. It's no surprise that very talented people are available as presenters on a wide variety of topics with the wealth of talent in the space and electronics industries there.

With that said, it's time to turn our thoughts to the best Hamfest we'll find in the area with the Alford Memorial Radio Club Hamfest at the Gwinnett County Fairgrounds on the first weekend in November. AMRC has put a tremendous amount of effort into attracting new vendors and developing new and interesting Forums.

I hope all many are aware of several GARS members who have been asked to play key roles in the planning and execution of the Hamfest. While the Hamfest remains a primary effort of the Alford Club, GARS members provide great assistance and participation to make the Hamfest a tremendous success.

Many volunteers are required to put on a quality Hamfest and GARS has been happy to assist. This year will be no exception and volunteers will be needed to help with the setup on Friday with marking of the Boneyard, setting up booths, hanging banners and many other tasks. During the Hamfest, volunteers are needed to assist with ticket sales at the front gate, processing tailgaters at the back gate, staffing the VE exam sessions and more. We have an excellent opportunity as GARS members to volunteer to help put on a great Hamfest so close to home. This is the time when two clubs can work together and to serve our fellow Hams.

> "Let's be ready to enjoy another great Hamfest, but also volunteer a bit of time to help with the many activities it takes to make a successful event."

Let's not forget that we will have a large club booth again and stopping by or helping in the booth goes a long way. The GARS booth always attracts a lot of interest and provides a great opportunity to attract new members and reacquaint inactive members to join again. Our popcorn always goes a long way to strike up an eyeball QSO and meet new people.

Let's be ready to enjoy another great Hamfest, but also volunteer a bit of time to help with the many activities it takes to make a successful event. I am confident we'll see the results of the many hours of planning and hard work with new vendors, interesting Forums, activities for Youth and who knows… maybe your next radio will make it's way to your shack.

73,

WB4QDX, Club President

"It is not the class of license the Amateur holds, but the class of the Amateur that holds the license."

[Author Unknown]

GARS September Meeting and Workshop

Morse Code

by Jim Stafford, W4QO

Tuesday, September 10, 2019 7:00 pm

QRZ.com – What it offers and how to create a memorable profile

by Dave Slotter, W3DJS

Tuesday, September 17, 2019 7:00 pm

Sports Aviation Complex—Hangar 1
690 Airport Road
Lawrenceville, GA 30045
NOTE: Location Entrance to the Hangar has changed! See below link for more details!
Updated entrance Directions to EAA Hangar

INSIDE

GARS Communications

2 Meter Repeaters
147.075(+) MHz Tone 82.5
147.255(+) MHz Tone 107.2

1.25 Meter Repeater
224.580(-) MHz Tone 100.0,
1.6 MHz Offset

70 Cm Repeaters
444.525(+) MHz Tone 82.5
442.100(+) MHz Tone 100
442.325(+) MHz Tone 100

6 Meter Repeater
53.110 (-1 MHz) No Tone
(Offline for Maintenance)

Other Resources:
APRS
144.390 -- 1200 Baud
W4GR

D-STAR
WD4STR
145.060 + (1.4 MHz)
440.550 + (5 MHz)

Don't forget to support our advertisers at the back of the *GARzette*.

Snail Mail Address:
GARS
P.O. Box 492531
Lawrenceville, GA 30049

On the Cover: Images from Morse Code Wikipedia page (https://en.wikipedia.org/wiki/Morse_code)

The *GARzette* is the official monthly newsletter of the Gwinnett Amateur Radio Society, serving its members and other persons interested in the advancement of the Amateur Radio art.

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If possible, bring your articles to the monthly meeting in Microsoft Word or rich text (.rtf) or text or HTML format or by e-mail to editor@gars.org. Artwork can be accepted in most any graphics format and can be submitted via e-mail to the same address. Alternate means of submittal can be arranged when necessary.

In keeping with the Amateur Radio spirit, permission is hereby granted for the reproduction of The *GARzette* articles by other Amateur Radio club newsletters provided that proper credit is given to the individual author and *The GARzette*.

The GARzette is published each month with the assistance of Norm Schklar, WA4ZXV who prints copies for distribution at meetings, etc. and Dave Bruse, W4DTR, who distributes the news letter electronically.

Deadline for submissions is the 28th of each month for inclusion in the following month's issue.

For additional information view our Website at: http://www.gars.org

Newsletter Editor: editor@gars.org Bill Eggers—WB2RIS 470-238-9603

GARS Happenings

20 Years ago in the September 1999 GARzette:


The GARZETTE

The President's Pen

Thanks To All For Their Help

- Barry Zoll, N1TOQ, finishes his series on generators;
- This month's "On The Air" by Karl Phillips, K4GZZ, features Ron Langston, WE5O;
- Charles Parkhurst, KF4KDF, kicks off a new series on what got you interested in ham radio;
- Lowry Rouse, KM4Z, ARRL Gwinnett County Emergency Coordinator (EC), writes about ARES and Y2K involvement with county planning.

You can always browse the GARzette archive at http://www.gars.org/newsletters

73, *Bill*, WB2RIS, GARzette Editor

Don Stewart Appointed Elmer Manager

Don Stewart has been appointed as the new Elmer Manager for GARS and the Elmer program is being restarted. GARS should have a first class mentoring program to bring in and retain new hams. We already have the Ham Cram to help get licensed. The next step is to mentor new Hams through the Elmer Program to encourage active participation and retain them in the club.

What makes a great Elmer? He should be a somewhat experienced Ham with a willingness to help new Hams. Notice I didn't say they had to be a super Ham with knowledge about all areas of Amateur Radio. None of us fit that description. The Elmer should be willing to guide the new Ham in getting the information they need to be successful and to help them to make contact with Hams experienced in areas they are interested in.

To help Elmers provide information to new Hams we will develop a resource Guide for them to use in supporting new Hams. The primary criteria is a willingness to work with a new Ham to get them comfortable with Amateur Radio.

At the September meeting we will be distributing a sign-up form for Elmers and Hams willing to help with specific areas of Amateur Radio. The more that sign up the easier it will for all.

GARS HELP WANTED

- Winter Field Day (WFD) Chairperson -- a volunteer is needed to organize and coordinate next year's Winter Field Day operating event in January, 2020 and beyond. The chairperson will schedule the facility, recruit station captains and volunteers to organize food and antennas. The outgoing Chairperson (Dave, W4DTR) will train you if needed.

- Georgia QSO Party Chairperson - a volunteer is needed to organize and coordinate next year's Georgia QSO Party in April, 2020 and beyond. The chairperson will schedule the facility, recruit station captains and volunteers to organize food and antennas.

- GARzette Editor — Looking for someone to become the next GARzette Editor, starting off as a GARzette Committee member / Assistant Editor. Experience with Microsoft Publisher would be nice, but any experience with Microsoft Office products is helpful. Most of the content is supplied by others, but occasionally you may wish to write content, especially in your area of expertise. If you are interested, please contact Bill Eggers, WB2RIS at editor@gars.org.

Thanks to Don Stewart, KW4AL, for taking over as Elmer Manager!

If you're interested in volunteering for one of these positions, please contact one of the GARS Officers. Supporting GARS activities is an important part of what we do and help from club members is needed.

[PS— Articles to publish in the GARzette, either written by GARS members or published elsewhere, are always welcome. —Ed.]

QRM

It was discovered that the Birthday announcement section did not include spouses of GARS members. That oversight has been discovered and will be fixed going forward, starting with this edition of the GARzette.—Ed

Notes from Huntsville Hamfest Forums

(Thanks to Earl AF4FG for these articles)

What Happened to Solar Cycle 25?

Carl Luetzelschwab, K9LA, presented a forum at the Huntsville Hamfest on solar cycle 24 and solar cycle 25. He is a retired engineer, has participated in DXpeditions and is well known for his expertise on propagation. And since propagation is largely dependent on sun spots he is well qualified to tell us about solar cycles in a way we can understand it.
Most of us know about cycle 24 (and we're glad it's almost gone) but what has happened to cycle 25? The short answer – it's not here yet and the bad news is that it may be a while yet. And more bad news -it probably won't have much of a peak. And the good news – none really

Solar cycles generally follow an 11 year cycle. Cycle 24 began in 2008 (0 sun spots) after a solar minimum (number of months with a smoothed sunspot number of 20 or less) lasting almost 5 years, and it peaked in 2014. Cycle 25 should have already stared – we've been 0 sun spots for a while - but it hasn't yet. In fact, experts are predicting the solar minimum between cycle 24 and cycle 25 will be at least 5 years and may be longer. That means another 2 years until we average a smoothed sun spot number of 20. In contrast, the solar minimum between each of the previous 5 cycles was about 2 years.

More bad news. A long solar minimum strongly suggests the next cycle will be small. That was certainly true of the solar minimum leading to a small cycle 24 which peaked at about 80 sunspots (smoothed sun spot number). By contrast, cycles 22 and 23 peaked at about 120 sun spots in 1980 and 1991 respectively. (You could work Europe using a wet string for an antenna.) The latest predictions are that we might not reach that that number again for another 40 years.

What does all this really mean? Bands above 20 meters will be dead for a while longer with rare, occasional openings. (Sorry technicians, no DX on 10 meters.) 160 through 20 will still work but there will still be more noise than we like. Digital modes will still work even with high noise levels. JT65 hears best but takes several minutes to complete a QSO. FT8 and FT4 are much faster but don't hear as well. And the original digital mode, the ultimate digital mode, CW, will probably work best of all.

What can we do? Upgrade to general if you want to work DX on SSB (or digital) and learn CW.

Higher Sun Spot Numbers In Cycle 25 (It's a sure thing)

The sun spot numbers in cycle 25 may be as high as 120 but don't let that give you false hope. NOAA will adopt a new method of determining sun spot numbers at the bottom of the current cycle. This is expected to occur in December of this year or perhaps as late as mid 2020. So why the new method?

Traditionally, the number of sun spots has been determined by visual counts. In 2011 a workshop began reviewing old data and found that visual counts were often incorrect. It was noticed that the 10.7cm solar flux (don't ask me what this is) is easily measurable and varies in direct proportion with the number of sun spots. This method easier and doesn't depend on human accuracy so on July 1, 2015 the Royal Observatory of Belgium (they are the big guns when it comes to sunspots) began using the 10.7cm solar flux to determine sun spot numbers.

The old method (V1) is still used by NOAA but they will begin using the new method (V2) at the bottom of the cycle. V2 data is approximately 1.4 times V1 data. Thus when sun spot numbers are 0 you won't notice any difference between V1 and V2 but at the peak of cycle 25 (using V2 data) numbers will be higher than numbers reported in cycle 24 (using V1 data).

The actual number of sun spots will probably be lower than those reported at the peak of cycle 24 (80 using V1) but maybe we'll feel better about cycle 25 (120? using V2).

Remember 10 Meters?

Zero sun spots. It's the same thing week after week but we sometimes have openings on 10 meters. Why? According to Carl Luetzelschwab, K9LA and recognized amateur expert on sun spots, other things have a significant affect propagation. Geomagnetic activity and events in the lower atmosphere also affect ionization in the upper atmosphere.

(Continued on page 16)

Replacement Display for Kenwood TM-V7A

By Bob Hensey, K4VBM (Part 2 of 2; See August 2019 GARzette for Part 1)

The final step is to make the cable that connects from the proto board to the radio. The radio data port needs a 6-pin mini-DIN male connector. Those are extremely hard to solder, but I used a piece of standard USB cable and actually managed to get it done without melting and disturbing the layout of the pins or shorting anything. I even got the cover back over everything. I got the cable soldered to the proto board. But when I tried to plug the cable into the radio, it WOULD NOT go into the narrow hole. I sanded down the plastic sleeve cover of the connector, and it still wouldn't go in. This is where many people go insane or end up incarcerated. But not me (at least not yet)!

I ordered 2 different types to male 6-pin mini-DIN cables hoping I can cut in half and use a half to do the job, hoping these narrow-looking molded connectors in the pictures will fit into the recessed radio data port. The cables finally arrive. It plugs easily into the radio – WHEW! I cut one cable in half, and use my multi-meter to figure out what color wire goes to which pin and write it down. I wire the cable end to the proto board, and short the two pins that need that. I plug into the radio, turn it all on, and still NOT talking to the radio. I spend countless hours troubleshooting, and everything circuit-wise is correct. Failure is not an option, but I have my hammer ready in case I can no longer stand the pressure.

After a break, I decide to take the time to read all the documentation that I have again, and found 2 sentences that brought me hope. Please note: A few users have reported that their freshly built external display does not work and only shows "Transceiver: unknown" instead. Please double check and ensure that you have set the right fuses when programming the ATmega 8 because it runs from internal 1 MHz clock source out of the box which leads to wrong serial line speeds with this software. The controller must run from internal oscillator @ 8 MHz to set up correct communications with the transceiver.

Smack forehead – I need to also program the ATmega8 "fuses". How could I have forgotten something that I have never done before yet needs to be done? The "fuses" are just options that you turn on or off to control how the microcontroller acts and operates. Well, how hard can that be (VERY it turns out)?

So, this AVR programming rookie figures out what the values of the low and high byte fuses need to be. I am giddy now, and decide to try a GUI front end to AVRdude, called AVRDUDESS. It has a very confusing GUI, and I end up writing the wrong values to the fuses and now I can no longer talk to the ATmega8 via the programmer. I "bricked" it as they say. You don't learn if you don't make mistakes. Now a good rookie buys more than one component for just this possible bad outcome, and I have done that because I know I will make newbie mistakes.

I go get another fresh ATmega8, and pop it into the programmer. AVRDUDESS is history for me – no more new stuff – stick with what has worked before. Back to the trusty command line AVRdude that has already worked for me. I translate the fuse bytes into hexadecimal values, and run the AVRdude commands to write the fuses after careful reading of the documentation. After writing them, I try to read the fuses, and AGAIN I can no longer talk to the ATmega8 – yes, I bricked the 2nd one!

I put yet another fresh ATmega8 in the programmer. I try the same AVRdude command, with the same result (anyone could have told me that would happen) – yes, I bricked the 3rd one too! Amazing what frustration makes you do!

Time to slow down as I only have 2 more ATmega8 chips left (5 Chinese versions for the price of a single US version – seemed like a good idea at the time). I pore over the output in the AVRdude window and see the default values of both fuses which were read prior to being programming and they looked dissimilar to the values that I had computed as I only needed to change 2 fuses from the supposed defaults for the chip. It is time for some more internet research.

I found the following cool page on the internet: http://eleccelerator.com/fusecalc/fusecalc.php?chip=atmega8 , and silly me had the fuse byte bit order backwards, and this web page allowed me to turn on and off fuses and see what the correct hexadecimal value should be without having to think (at this point, a good thing for me). Turns out the high byte fuses were fine using the defaults, and low byte fuses needed to be set to 0xe4. Here is the magic command that made it happen: **avrdude -c usbasp -p m8 -P usb -U lfuse:w:0xe4:m** Basically, in my mistake using the wrong hex value, I turned off the fuse that allows the chip to be programmed by a serial programmer.

Time to put this newest chip into the socket and see what happens. With every expectation of complete and utter success, I power up everything, and it STILL CANNOT TALK TO THE RADIO. I cannot describe the sadness and frustration. After another break/ cool-down, I go online to the original documentation that I had printed out a while ago and carefully read again. And I found something NEW:

(Continued on page 7)

Replacement Display (Cont'd)

(Continued from page 6)

Update: It seems different batches of ATmega8 controllers have a quite wide variation on internal clock accuracy. At least OM Philippe, F1IQE, had troubles getting to work the communication between the TM-V7 and the display, most likely due to inaccurately generated baud rates using the internal clock. The display finally could be brought up by him using an 8 MHz XTAL and two 22 pF caps on pin 9 and 10 (XTAL1 and XTAL2). The fuses must be set to external XTAL clock source in this case:

Fuses: CKOPT = 1 ; CKSEL3..0 = 1111 ; SUT1..0 = 11 (meaning all unprogrammed).

If you use a cheap programmer providing no external clock to the ATmega8 being programmed you might not be able to read/program the device anymore after changing the fuses to external XTAL clock source. In this case I'd recommend modifying your programmer with an external XTAL (4..8 MHz will do) and two 22 pF caps, enabling you to program devices with either clock sources.

Leave it to me to buy some of these Chinese ATmega8's with the imprecise internal clock and make my life difficult. Well, yes, the price was too good to be true, but I needed extras for mistakes. Time to order some 8 MHz crystals and see if I can finally finish this project (I already had some 22 pF caps). Amazing the junk you accumulate once you start fiddling around with electronics. Well, yes, I could just order an expensive US part hoping its internal clock would be more friendly to me and be done with it, but this has become a true saga and the challenge to make the Chinese chips work has been accepted as a "duel to the death"!

The Digikey package arrives. I pull the ATmega8 to re-program the low fuses to 0xff so that the new external oscillator will be used instead of the internal clock. I add the oscillator and two 22pF caps to the circuit. See the additional circuit schematic below.

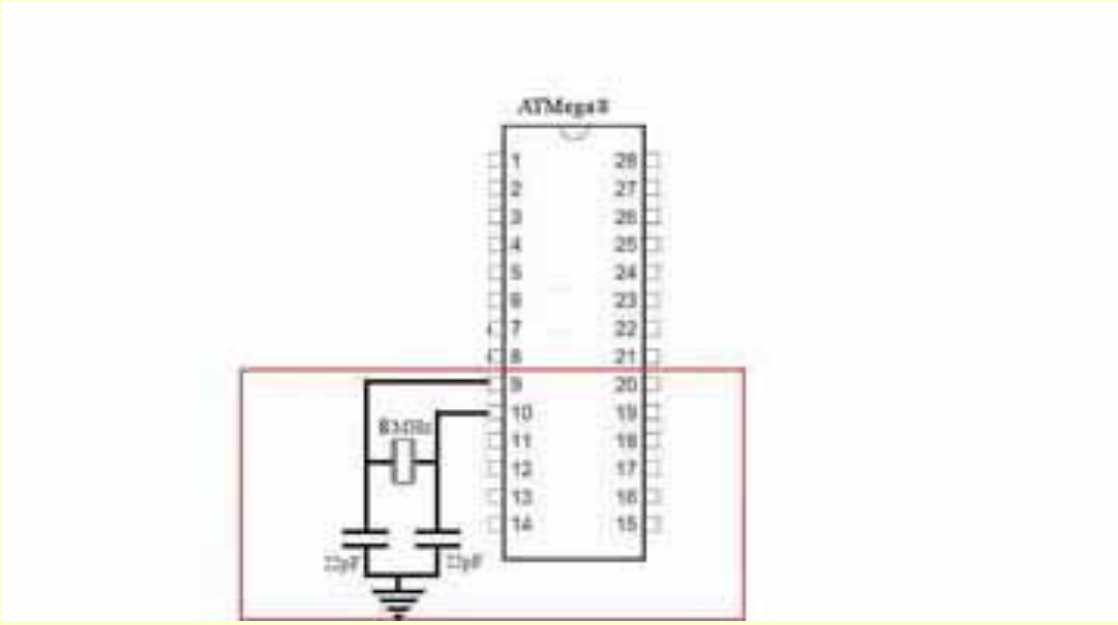

Figure 6 - Oscillator circuit add-on

Here is the magic command that made it happen: **avrdude -c usbasp -p m8 -P usb -U lfuse:w:0xff:m** Time to put the ATmega8 back in the socket and see what happens.

(Continued on page 8)

Replacement Display (Cont'd)

(Continued from page 7)

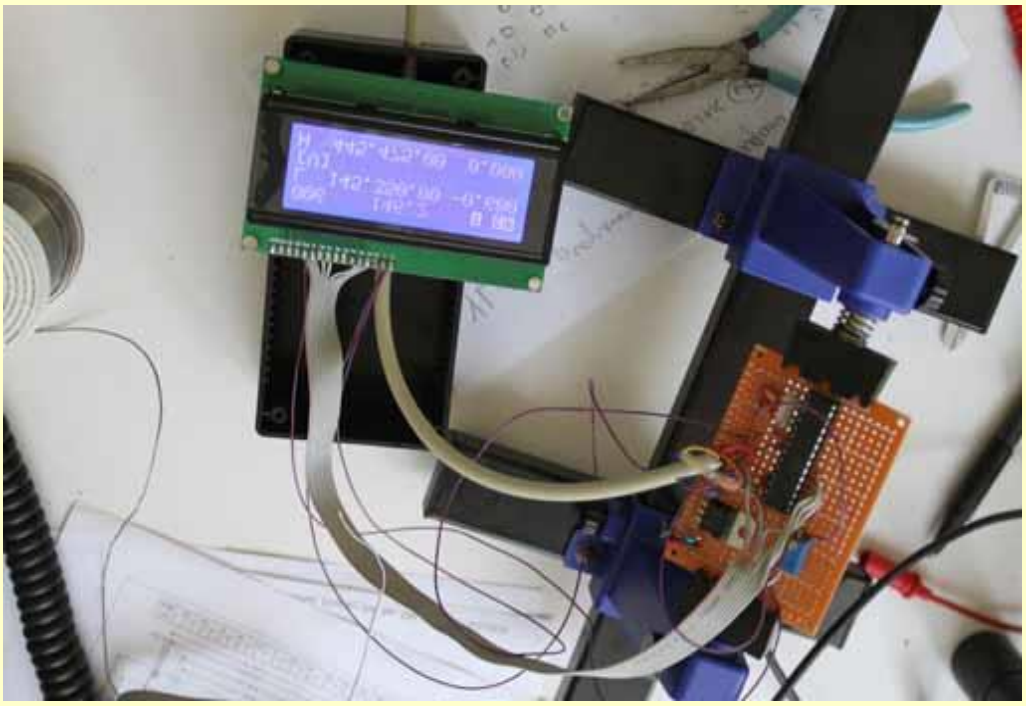

Figure 7 - It's working! (Anakin Skywalker)

The picture says it all! Wish you could have seen the big smile on my face. Time to pack everything into the project box and do something to make my wrong-size hole look better. And might as well hook up the power cable internally in the radio instead of running it to external power as then the display will only come on when the radio is powered up.

First I hot glued the proto board to the bottom of the project box:

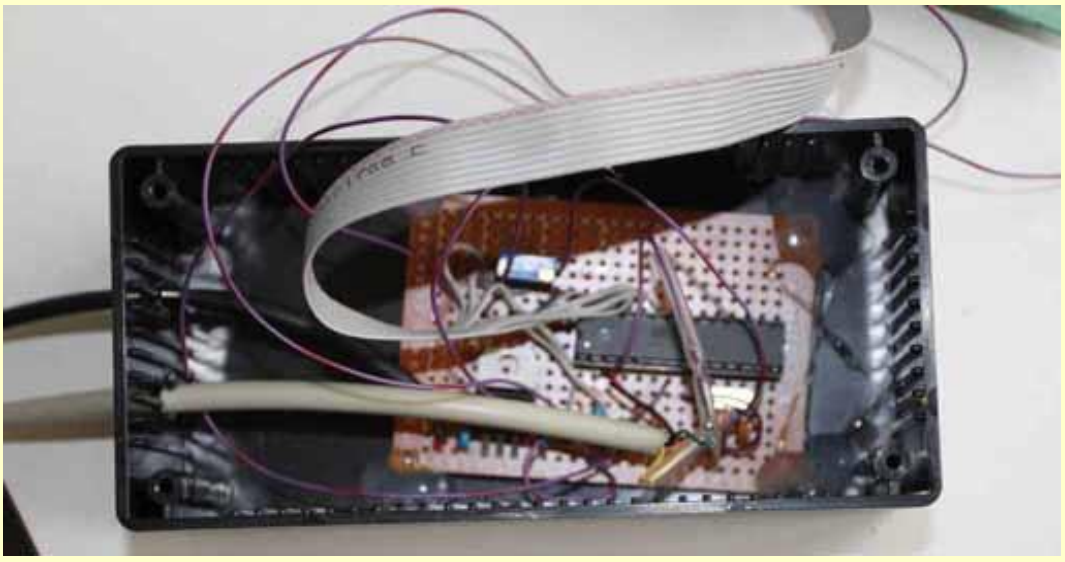

Figure 8 - Proto board in project box

Next stuff all the wires in the box and get the LCD sitting recessed in the top.

(Continued on page 9)

Replacement Display (Cont'd)

(Continued from page 8)

Figure 9 - LCD in project box

Next, figure out how to nicely get the power cable into the radio and soldered to the right places. The original instructions recommended using pin 2 of the microphone jack. I couldn't easily find any other nice accessible spot to take power from, so pin 2 from the back of the mic jack it was. I soldered ground to one of the ground springs for the cover.

Figure 10 - Power from MIC jack pin 2

Finally, get everything inside and the covers back on with a zip tie for strain relief.

(Continued on page 10)

Replacement Display (Cont'd)

(Continued from page 9)

Figure 11 - Power cable exit with strain relief

Put the last cover back and, and do a final test (see right):

Figure 12 - My replacement display

Going to find some black silicone and fill in the slits around the LCD display caused by my too big hole. I will also put some Velcro tabs to hold the new display in place (3M Dual Lock TB3550 works really great for that and note you need to let the adhesive cure for 24 hours before you start using it). Now I can say that it was a fun electronics project, and that I learned a whole lot (funny how a Very Bad Memory can forget all the bad parts)! I may use this radio now for chasing satellites!

NOTE: I found out that a HV programmer like the STK500 can recover the "bricked" ATmega8 chips. I verified this with a borrowed Atmel STK500 (now I have 3 more chips to mess up again).

I would like to summarize some key 'learnings' from this project:

1. Don't be afraid to tackle a hard project that has stuff you haven't done before – you will learn many new things in the process – stretch yourself.
2. The internet has a lot of information and can be very helpful – use it wisely, Padawan.
3. Don't give up too easily – the best learning is from making mistakes, learning to troubleshoot them, and finding solutions to then which develops your own creativity.
4. When you get frustrated, put it aside and take a break.
5. It is OK to buy stuff from overseas – just be aware that the quality may not always be what you expect.
6. Fellow hams are a great source of information, ideas, and helpful tips.

I know this article was somewhat long and co-infagulated, but I hope you enjoyed it and maybe learned something useful. I would love to hear about some of your own "projects".

Beginner's Corner

Preparing for the Inevitable

In the years I have belonged to GARS, over eleven years now, we have had a few silent keys (SK), or ham radio operators who have passed away. Some of them have passed suddenly. Yes, we miss them, but we realize that we will all have to go sometime. We have been told that the average age for GARS members is 60 years old. That means some of us (myself included) are much older.
There was a story told in one GARS meeting of a ham radio operator who passed away, leaving a room full of equipment. His wife didn't know what any of it was, and had someone haul it away to the garbage. I am sure her husband on the other side would have been distraught, had he known what happened to his station.

It behooves all of us to take an inventory of our amateur radio equipment. Write or type out a list of what you have and put the inventory list in a place where your spouse, significant other, friend or relative can find it. You could always go to the internet and find out what your equipment is worth today, and include that on your inventory. Be certain to list every piece of equipment you have, not just your transceivers. Don't forget to list your antennas. What about all the coax you have? What are they worth, new or used? Have an antenna tuner? Be sure to include it on your list. How about any coax switches, computer interfaces, power supplies, etc.? they all need to go on your list. Taking pictures of your inventory and labeling them would be a plus for the person designated to dispose of your equipment.

Now, what can happen to your equipment when you do pass? There are several possibilities. First, the equipment can be sold locally or on the internet, and the proceeds can go to a loved one. Second, there may be a loved one, friend, or neighbor who would love to have your equipment but couldn't afford to buy it on their own. They could be the designated recipient. Third, you might want to donate part or all of your station to a school or college. There, students would be able to use your equipment when their club would not otherwise have been able to purchase their own equipment.

Donating your equipment to GARS of Gwinnett ARES might be an option to consider, as well. Both are non-profit organizations, so a tax deduction is possible. GARS collects dues from its members, but ARES does not. Both organizations would benefit financially by either using the equipment or selling it at market value. At any rate, you know your donation will help a worthy cause.

Whom do we designate to dispose of our equipment? I have seen at lease one commercial entity advertise such a service in the pages of one of the amateur radio magazines. Obviously, commercial interests will charge a fee for their service, but they are sure to find loving homes for your things.

A number of local clubs will volunteer to dispose of your equipment at no charge. They will sell the articles at a fair price and return the money to whomever you choose. Check with the club beforehand. I bought an antenna from a Silent Key sale once. It was a good deal for me and for the Silent Key's estate.

However you decide to dispose of your equipment, it is imperative that you make your wishes known, both on your inventory list and to whomever will look after your equipment when you are gone. Have a will? This is the best place to make your wishes known about your equipment. A will is a legally binding document and is the best way to ensure your wishes are carried out.

Yes, the inevitable will happen, but I pray it will not happen to any of us for a long, long time.

73 de *David Harden,* KJ4CMY

Gwinnett ARES Highlights

By Karen Whited, AB4NW

Meetings are held the 4th Tuesday at 7:30 pm at the EOC on Hi Hope Road. If you are interested in emergency communications, contact Hall Collier W4IGE at w4ige@arrl.net.

*ANNUAL UPDATE *

GWINNETT ARES LEADERSHIP

Hall Collier W4IGE
Emergency Coordinator
David Adcock KA4KKF
Assistant Emergency Coordinator for Training
Russell Prevost AB4QQ
Assistant Emergency Coordinator for Membership and Business & Administration
Kyle Albritton W4KDA
Assistant Emergency Coordinator for Communications
Mark Bell N7GRB
Assistant Emergency Coordinator for Public Health
VACANT
Assistant Emergency Coordinator for Recruitment and Retention
Kevin Highsmith KK4WOG
Nets and Skywarn Manager
Karen Whited AB4NW
Public Information Officer

NATIONAL ARES ORGANIZATION

There are 15 ARRL Divisions, and we are in the *Southeastern Division*. Within this Division are seven Sections as follows:

- Alabama
- Georgia
- Northern Florida
- Southern Florida
- West Central Florida
- Puerto Rico
- U.S. Virgin Islands

STATE ARES ORGANIZATION

Within the *Georgia Section*, there are 9 Districts:

1. Northwest
2. Northeast
3. Metro
4. West Central
5. Central
6. East Central
7. Southwest
8. South Central
9. Southeast

LOCAL ARES ORGANIZATION

The *Metro District*, of which Gwinnett ARES is part of, is made up of one ARES group in each of 14 counties, except for Fulton which also contains Atlanta ARES.

Butts	Gwinnett
Cherokee	Henry
Clayton	Newton
Cobb	N Fulton + Atlanta
Coweta	Paulding
DeKalb	Rockdale
Fayette	Spaulding

STATE LEADERSHIP

Within the *Georgia Section*, several of our Gwinnett ARES members hold leadership positions.

Lee Stone KT4LS
Assistant Section Emergency Coordinator for State Operations
Hal Collier W4IGE
1) District Emergency Coordinator for Metro
Larry Whited AB4NX
Assistant District Emergency Coordinator for Metro (1) Public Health (2) Mutual Assistance Team
David Adcock KA4KKF
Assistant District Emergency Coordinator for Metro - Digital Communications

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AUGUST MEETING – August 27

Our speaker was Sherwin Levinson K4SML, Director of the Medical Reserve Corps for the Georgia East Metro Health District, a non-profit corporation. They support the Gwinnett-Newton-Rockdale County Health Departments (GNR). By working closely with GNR, emergency managers, and homeland security, they help communities deal with disasters. No medical experience or training is needed. Sherwin stressed that most of their volunteers are non-medical. For further information contact Sherwin at director@mrcgem.com or visit their website at www.mrcgem.com.

Net Managers Corner

Monday Night 2 Meter "Want, Swap, Sell, and Information Net"

GARS NEEDS MEMBERS TO SERVE AS NET CONTROL STATIONS!

GARS is a great Amateur Radio service club and we have the membership and awards to prove it. Our club is a very busy and active club and we use the Monday night net to get the information out to our members. Weekly participation is needed to make our net function well. There is only a small group of very dedicated people that make the net happen each week, and we need more members to volunteer to serve as Net Control Stations (NCS) on a rotating basis.

Out of almost 300 members, there are only SEVEN primary people who serve as NCS for the GARS net every Monday night. In no particular order, they are:

Don - KW4AL	Ray - N4GYN	Bill - KK4AUA
David - KA4KKF	Kevin - KK4WOG	Chuck - KK4TKJ
Russell - AB4QQ		

As GARS Net Manager (Chuck KK4TKJ), I really need 26 people to fill NCS positions. I do plan and post the schedule months in advance. Any conditions will be accommodated that you as a rotating NCS need to place on the scheduling of your duties. If your plans change, I can make adjustments for the schedule to work, and I will make those changes happen as soon as I am notified of a problem. As Net Manager, I also send out reminders each week to let the NCS scheduled know he or she is NCS for the next Monday night net. In short, serving as a rotating NCS is a small duty but a great contribution to the club.

The "Want, Swap, Sell Information Net" begins promptly at 19:30 every Monday night and runs about 45 minutes. As a scheduled NCS, you will request the assistance of a volunteer alternate NCS each time you have Net Control. Your simple duties will be to tune in to the GARS repeater, read the script, take a few notes and forward the information to me for record keeping.

Please lend a hand and contact me at KK4TKJ@arrl.net. Sign up to help support the effort that makes GARS the great club that it is.

73 and see you on the Nets!

Chuck McCord, KK4TKJ

GARS Net Manager

GARS Membership Page

New GARS Members in August

Jackson Chauvin (KN4WBJ)
Matthew Dyals (KN4WBL)
Michael Macleod (KN4VSI)
Richard Morris (KG4BVU)

New Members: 4

Total Members as of August 31, 2019
332

Join GARS members for our weekly breakfast gathering at 7:30 AM most Saturdays

at

Golden Corral
2155 Riverside Parkway
Lawrenceville, GA 30043

(Directions)

The following members are celebrating birthdays in September:

HAPPY BIRTHDAY!!
From All of Us at GARS

Karen Albritton (KI4HPP)
Mary Bachner (KE4MFZ)
Sherryl Bailey (N3MIU)
Jackson Britt (KM4PTV)
Richard Canova (KN4CGJ)
Pierre Decatrel (WB1EZK)
James Drumm (N2FOF)
Jim Farmer (K4BSE)
Roger Gibson (WB4T)
Neal Gilchrist (W4HNG)
Fred Hoefler (W3TLC)
Karen Kaplan
Richard Kitz (KM4SWL)
Alex Kowalchuk (W4KYW)
Cal Ludwick (KM4VDA)
Charles Mcelhannon (KM4QVI)
Jake Paul Pannell (K4XRA)
Manuel Romero (KD4LXR)
Nolka Santiago (KN4OYE)
Donald Stewart (KW4AL)
John Stockinger (KC4RFK)
Richard Waigand (K4KME)
Joseph Wilson (KN4KBH)
Carol Wisenburg
Carter Wood (AG4LK)
Carl Wulfestieg (WZ4CW)

GARS MEMBERSHIP

Your current GARS membership status is shown in the monthly newsletter e-mail towards the bottom of the message.

To become a GARS member, or to renew your GARS membership, please visit our website—http://www.gars.org

To make changes to your GARS membership (moved, new e-mail address, new phone number, etc.), please e-mail the Membership Committee - membership@gars.org

You can **renew or update** your Amateur Radio license information with the FCC at their website for free http://wireless.fcc.gov/uls/index.htm?job=home

To update your ARRL information, please visit their website - http://www.arrl.org

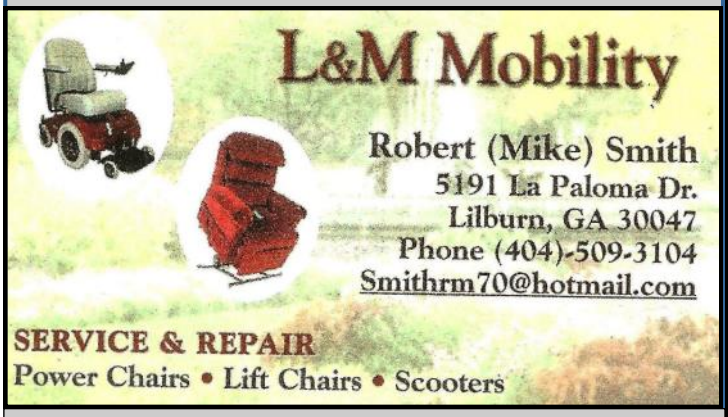
Membership Chair: Karen Albritton, KI4HPP
Committee Members: Dave Bruse, W4DTR, Pam Meridy, WB1AKQ

EXTRA! EXTRA!

Repeater Status

6M	currently down
147.075	Operational in Snellville
147.255	Operational in Snellville
224.580	Operational in Grayson
442.100	Operational at Goshen Springs
442.325	Operational in Buford
444.525	Operational in Snellville

Link remote receivers being added



GARS on Social Media

GARS has moved to Groups.io!

Join GARS on Groups.io:
http://gars.org/groups.io

Visit GARS on Facebook:
http://gars.org/facebook

Follow GARS on Twitter:
http://gars.org/twitter

Join GARS on YouTube:
http://gars.org/youtube

G A R S Volunteers

OFFICERS

John Davis, President	WB4QDX	
Sandy Jackson, Vice President	KJ4DRO	
Joe Biddle, Secretary	AD4PZ	
Pam Meridy, Treasurer	WB1AKQ	
Randy Collins, Program Manager	N4COR	

MANAGERS/COMMITTEE CHAIRS

Karen Albritton, Membership Chair and Public Information Officer	KI4HPP	
Dave Bruse, VE Team & Workshop Leader and Winter Field Day Chair	W4DTR	
David Adcock, Webmaster and Field Day Chair	KA4KKF	
Ralph Pickwick, Apparel Manager and Education Chair	KJ4CNC	
Glen Wendt, TechFest Chair	W3WWT	
Bill Eggers, GARzette Editor	WB2RIS	
Eddie Foust, Repeater Chair	WD4JEM	
Mike Weathers, WAS / DXCC QSL Card Checker and Historian	ND4V	
Chuck McCord, Net Manager	KK4TKJ	
Mike Swiderski, Technical / RFI Advisor	K4HBI	
GA QSO Party Chair	**OPEN**	
Kyle Albritton, Multimedia Chair	W4KDA	
Don Stewart, Elmer Manager	KW4AL	

DIRECTORS AND TRUSTEES

Kyle Albritton, W4KDA		Rick Cobb, N4XYY	
Mike Weathers, ND4V		Bill Cherepy, WB4WTN W4GR Trustee	

GARS MEETING AND WORKSHOP MINUTES

Gwinnett Amateur Radio Society – GENERAL Meeting Minutes
8/13/2019

President John Davis (WB4QDX) Opened the meeting at 7:00pm and Closed the meeting at 9:11pm
EAA Facility, 690 Hanger Rd. Lawrenceville, GA.

Introductions and Visitors: Visitors were recognized and full Introductions of the **[68]** attendees followed.

Treasurer: Pam Meridy (WB1AKQ) Gave the Club financial report.

Membership Report: Chair Karen Albritton (KI4HPP), Pam (WB1AKQ) reported for Karen that Membership is at **[329]**.

Program Chair: Randy Collins (N4COR) Announced Upcoming Programs:

- **September** – Morse Code by W4QO
- **October** - Show and Tell
- **November** – Doing the Tail Twister and Enjoying Ham Radio Remotely.
- **December** – Holiday Party
- **January 2020** - Power Supplies

GARS Education – Ralph (KJ4CNC)

Ham Cram Technician class Completed with **11 passing and getting their ticket.**

A Special Thanks went to John (WB4QDX) and Ralph (KJ4CNC) for spending two of their Saturdays instructing this Ham Cram.

GARS Workshop - David (W4DTR) outlined the next few workshop sessions coming up:

- August – Mobile Installations
- September – QRZ.com

JOTA – Jamboree On The Air will be **October 19** - Details to come.

Holiday Party – is set for **Saturday December 7.**

TechFest – Glen (W3WWT, Chairman) is set for **January 18, 2020.** Mark your calendar.

OSL Card Checking - Mike (ND4V) can now certify yours.

Break:…….

Program - Hints and Kinks of Antenna Launching by **Kevin Scott (K4GTR)**

Submitted by: **Joe Biddle (AD4PZ), GARS Secretary**

Workshop Meeting Minutes
8/20/2019

Number in Attendance: 20

Workshop Topic: Goin' Mobile: Mobile Radio Installations
Workshop Presenter: Alex Kowalchuk, W4KYW

Brief Summary: PowerPoint presentation on the elements to consider when installing a mobile radio in one's vehicle with a recommendation of vendors to obtain parts if DIY.

Q & A viewing of vehicles in the EAA hanger parking area containing previously installed mobile installations.

Submitted by **Russell Prevost AB4QQ,**
GARS Workshop Committee Member (Workshop Secretary)

(Continued from page 5)

What Happened to 10 Meters?

Ionization of the D and E layers is what allows communication on the higher frequencies. Zero sun spots means less ionization and misery for us. But activity in the geomagnetic field and events on earth in the lower atmosphere can also cause ionization those layers. An earthquake anywhere on earth modifies that ionization usually in the form of a wave. Thus 10 meters may open for 3 - 5 minutes then fade only to come back 3 – 5 minutes later This cycle may last several hours or longer. North Korea conducted an underground nuclear test a few years ago and that had the same effect.

Geomagnetic storms also affect ionization. You can monitor this using the K index which is available on WWV at 18 minutes after the hour (and also on the web at several sites such as the DXHeat spotter site, https://dxheat.com/). The K index indicates how the high latitude ionosphere might be affecting propagation so when the K index is high, check the high bands.

All this is interesting and but it's not worth anything if you don't get on the air. There may be a hundred people listening but if you don't call CQ you'll never know if the band is open or not.

ARRL CONTESTING INFO

From ARRL Contest Calendar
> For more information click the links <

September 2019
14-16 September VHF
21-22 10 GHz & Up - Round 2
21-22 EME - 2.3 GHz & Up

October 2019
19-20 EME - 50 to 1296 MHz
21-25 School Club Roundup

November 2019
2-4 Nov. Sweepstakes - CW
16-17 EME - 50 to 1296 MHz
16-18 Nov. Sweepstakes - Phone

December 2019
6-8 160 Meter
14-15 10 Meter
15 Rookie Roundup–CW

January 2020
1 Straight Key Night
4 Kid's Day
4-5 RTTY Roundup
18-20 January VHF Sweepstakes

February 2020
10-14 School Club Roundup
15-16 International DX – CW

March 2020
7-8 International DX– Phone

April 2020
19 Rookie Roundup – Phone

(no ARRL contests in May)

June 2020
13-15 June VHF
20 Kid's Day
27-28 Field Day

July 2020
11-12 IARU HF World Championship

August 2020
1-2 222 MHz and Up Distance Contest
15-16 10 GHz & Up – Round 1
16 Rookie Roundup – RTTY

For more information:
http://www.arrl.org/contest-calendar

HAMFEST CALENDAR

09/07/2019 | Dalton Amateur Radio Club Swapfest
Location: Dalton, GA
Type: ARRL Hamfest
Sponsor: Dalton Amateur Radio Club
Website: https://www.facebook.com/events/2184520088530488/

09/20/2019 | W4DXCC, DX and Contest Convention
Location: Pigeon Forge, TN
Type: ARRL Convention
Sponsor: The SouthEastern DX and Contesting Organization (SEDCO)
Website: http://www.w4dxcc.com

10/11/2019 | ARRL Florida State Convention, 54th Annual Melbourne Hamfest
Location: Melbourne, FL
Type: ARRL Convention
Sponsor: Platinum Coast Amateur Radio Society
Website: http://pcars.org

10/18/2019 | Delta Division Convention (Hamfest Chattanooga 2019)
Location: East Ridge, TN
Type: ARRL Convention
Sponsor: Chattanooga Amateur Radio Club
Website: http://w4am.net/hamfest-chattanooga-2018/

11/02/2019 | Georgia State Convention, Stone Mountain Hamfest
Location: Lawrenceville, GA
Type: ARRL Convention
Sponsor: W4BOC Alford Memorial Radio Club, Gwinnett Amateur Radio Society
Website: http://stonemountainhamfest.com/

For more information: http://www.arrl.org/hamfests-and-conventions-calendar
When searching by division, remember some states adjacent to GA are in different divisions:
Southeastern: GA, AL, FL Delta: TN Roanoke: NC, SC

GARS Events Calendar for 2019 & 2020

TechFest (www.techfest.info)	**January 18, 2020**
Winter Field Day	**January 25 & 26, 2020**
General HamCram	March 16 & 23
Dog Show Fundraiser	March 28 - 31
Georgia QSO Party	**April 11 & 12, 2020**
North metro area Fox Hunt	April
May Madness	May
Memorial Day Parade	**May 25, 2020**
ARC/KARC Hamfest	**June 6, 2020**
Field Day	**June 27 & 28, 2020**
Tech HamCrams	July, November
JOTA	October 19
Maker Faire	October
Stone Mt. Hamfest	November 2 & 3
Holiday Party	December 7

October GARS Meeting:

Massive Homebrew Show and Tell

By Randy Collins, N4COR

GARS Recurring Calendar

- 2nd Tuesday of the month at 7 pm (except December): Monthly Club Meeting
- 3rd Tuesday of the month at 7 pm (except December): Monthly Workshop
- 2nd Sunday of the Month at 2 pm:
  GARS Ham Exam Session
  Fire Station #24
  2735 Mall of Georgia Blvd
  Buford, GA 30519
- Every Monday at 7:30 pm: GARS Want, Swap, Sell, and Information Net on the GARS 147.075 MHz repeater
- Every Monday at 8:30 pm: ARES Training on the GARS 147.075 MHz repeater
- Most Saturdays at 7:30 am:
  GARS Weekly Breakfast
  Golden Corral Restaurant
  2155 Riverside Parkway,
  Lawrenceville, GA 30043

GARS CALENDAR OF EVENTS FOR SEPTEMBER 2019

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
1	2 GARS 2m Net **HAPPY LABOR DAY**	3	4	5	6	7 7:30 - 9:30 am Breakfast at Golden Corral Riverside Drive
8 **GARS VE Team Testing Session Starts at 2:00 pm**	9 7:30 - 8:00 pm GARS 2m Net	10 5:00 - 6:30 pm Dinner 7:00 - 9:00 pm GARS Meeting	11	12	13	14 7:30 - 9:30 am Breakfast at Golden Corral Riverside Drive
15	16 7:30 - 8:00 pm GARS 2m Net	17 5:00 - 6:30 pm Dinner 7:00 - 9:00 pm GARS Workshop	18	19	20	21 7:30 - 9:30 am Breakfast at Golden Corral Riverside Drive
22	23 7:30 - 8:00 pm GARS 2m Net	24	25	26	27	28 7:30 - 9:30 am Breakfast at Golden Corral Riverside Drive
29	30 7:30 - 8:00 pm GARS 2m Net	31	October 1	October 2	October 3	October 4 7:30 - 9:30 am Breakfast at Golden Corral Riverside Drive

Metro Testing Sessions

GARS publishes Metro Atlanta VE exam schedules as a service and is not responsible for errors or changes. Call and confirm schedules before going. All sessions are walk-in. Take copies of current license and certificate of completed elements with you to all sessions. Find additional sessions online at http://www.arrl-ga.org.

First Sunday, ODD Months
2 pm (Jan, Mar, May, Jul, Sep, & Nov)
VEC: WCARS
Braselton Public Utility Building
4986 Highway 53, Braselton, GA
Contact: Roger Gibson, WB4T
(770) 271-4210 or (770) 712-9560
w4rlg@bellsouth.net

First Sunday, EVEN Months
2 pm (Feb, Apr, Jun, Aug, Oct, Dec)
VEC: WCARS
Hall County EOC
470 Crescent Dr. Gainesville, Ga.
Contact: Perry Roper, KO4RD
(770) 536-3056

Second Saturday
10:00 AM
Alpharetta North Park, Adult Activities Center
13450 Cogburn Rd, Alpharetta, GA 30004
Contact: Ian Kahn, KM4IK
E-mail: km4ik.ian@gmail.com

Third Saturday, ODD Months
VEC: ARRL
9:30 am (Appointments required, no walk-ins)
Stone Mountain Masonic Lodge
840 VFW Drive
Stone Mountain, GA 30083
Contact: Frank Haynes, KV4SP
Email: fhaynes@vatmom.net
(678) 467-3712

Second Sunday
VEC: W5YI
2 pm
Fire Station #24
Mall of Georgia Boulevard
Buford, GA 30519
Contact: Dave Bruse, W4DTR
E-mail: exams@gars.org

First Sunday, EVEN Months
VEC: WCARS and W5YI
2 pm @ Barrow Co. Emerg. Serv. Bldg
66 McElroy Street
Winder, GA 30680
Contact: Mike Wolcott, W4WYI
(404) 281-6581
E-mail: W4WYI@ARRL.net

(*cont. next column*)

Ham Exam Results

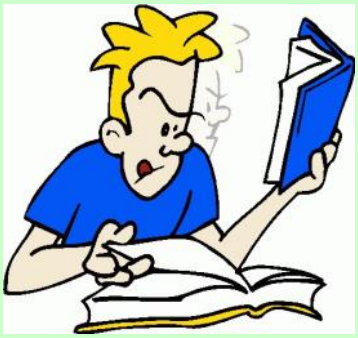
August Results

We had another good session on August 11. One applicant passed the Technician exam. Thanks to the VE's which helped make this possible.

73, *Chuck,* KK4TKJ (Co-CVE)

GARS VE Team Leaders
E-mail: exams@gars.org

GARS VE Website:
http://gars.org/exams



Fourth Tuesday
ARRL VEC
7 pm @ United Way Service Center
6279 Fairburn Rd., Douglasville
Contact: Jessie Clower, KB4WFK
(770) 942-6466

Fourth Sunday
2:30 pm Georgia Tech
VanLeer Elec. Building
Rm. W218, 777 Atlantic Dr.
For more information go to
www.w4aql.com and click on "Test Sessions"

Metro Club Meetings

First Tuesday
Kennehoochee ARC
Downtown Marietta
Fire Station #1, Training Room
112 Haynes Street
Marietta, Georgia 30060
Meeting begins at 7:00pm
Talk In 146.880(-)

First Thursday
Atlanta Radio Club
Georgia Red Cross HQ
1955 Monroe Dr., Atlanta
Meeting is at 7:30pm
Talk In -146.820(-)

N.E. Georgia ARC
Commerce Public Library
1344 South Broad Street, Commerce
Meeting is at 6:30pm
Talk In - 147.225(+), PL 123.0

Second Monday
Georgia Tech ARC
Room W218
Van Leer Electrical Engineering Bldg.
Georgia Tech Campus
Meeting at 7:00pm

Second Thursday
Alford Memorial Radio Club
Annistown Road Baptist Church
Annistown Rd & Spain Rd
Stone Mountain
Dinner at 6:00pm, Meeting at 7:30pm
Talk In - 146.760(-)

Second Saturday
North GA QRP Club
Board Room of The Shepherd Center
2020 Peachtree Rd, NW, Atlanta
at 10:00 AM

Third Tuesday
North Fulton Amateur Radio League
Alpharetta Recreation & Parks Dept
Alpharetta Adult Activity Center
13450 Cogburn Road
Alpharetta, GA 30004
meeting at 7:30pm
Talk In - 145.47(-)

For more information, go to:
http://www.gars.org/

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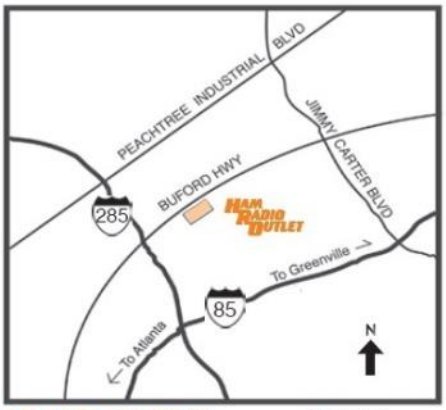

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1 mile north of I-285
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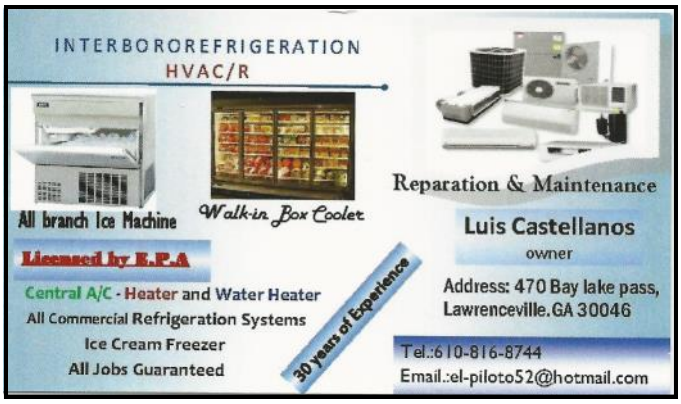
(800) 444-7927
24 Hour FAX (770) 263-9548
Email: atlanta@hamradio.com

Manager:
Mark KJ4VO
Assistant Mgr:
James KK4WNX

David AI4XL
Denise
Ken KI4BQS
Ray WN5FB
Koz KD3GC

Toll Free Numbers:

Northeast	(800) 644-4476
West	(800) 854-6046
Southeast	(800) 444-7927
Mountain	(800) 444-9476
Mid-Atlantic	(800) 444-4799
New England	(800) 444-0047



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Not intended