

The Repeater

- / / . / . - . / . / . - - . / . / . - / - / . / . - . //

WX4BCA 147.285 + (131.8)

Amateur Radio Club of Butts County



Jackson, GA



FIELD DAY



George Kutcher
Saturday at 15:29 · 🌐
Couple of pictures from Field Day

< UL: Ken Wallis & Glenn Wyatt.
UR: Win Barnes.
CR: Jeff Phillips.
LR: 'The Hub'
LL: John Lipscomb, David Burnham, Pete Acevedo, Jeff Phillips, Rudy Williams.

> Jackson Progress-Argus 26 June '19.
Photos & article by Michael Davis.

⇩ Mike Crowe and Ken Wallis. Photo by Mark Clark.



Buzz, Mike (hidden), Win, Dan, Melvin, Jeff, Rudy



Nancy Phillips
Editor
573-528-0697
K4NEP@arrl.net

2 - July 2019 Minutes - KK4BKF
3 - What's Wisdom - WX4VBX
4 - Mobile Installation - KN4FRG
6 - Back Acre Report - K3GWW

7 - Field Day Info
8-9 - Net & Survey Reports
11 - Nets
13 - Calendars & Contact Info

JULY 2019
Vol 7, No 7

Amateur Radio Club of Butts County**July 1, 2019****Minutes submitted by D Ragon, Secretary of ARCBC****Meeting Held at Butts County Fairgrounds - Jackson, Georgia****Meeting Began at 1901****Meeting Concluded at 1958**

Attendance at Meeting: Mike Crowe; Dan Darsey; Buzz Kutcher; Melvin Mosier; Darlene Ragon; Whit Smith; Elaine Stachowiak; Ken Wallis.

Office of Homeland Security/CERT: Director Glen Goens Representative not in attendance this evening.

Net Manager's Report: Ken Wallis We have seen a decrease in members checking in to the weekly net; we are averaging 5 voice check ins. Please try to participate in the nets as this gives us a opportunity to test our equipment and practice our skills. Ken is in need of volunteer Net Control Operators for July to December of this year. Buzz volunteered to be Net Control for the month of July, thanks Buzz!

VE Team: Dan Darsey There will be a Technician Ham Cram held on July 20, 2019 at Fire Station #7. Class begins at 0830 with testing around 1600. As of today we have one person registered for the class. Dan shared that he will be assisting North Fulton County Hams with a EEE symposium which will include VE testing on July 10-11, 2019.

Repeater/Technical Committee: Mike Crowe Nothing new to report concerning the Hospital Internet access.

Skywarn Coordinator: Elaine Stachowiak So far our area has been lucky to avoid serious weather conditions. Members still need to monitor weather conditions and respond appropriately.

Hospital Team: Dan Darsey Hospital Net won't be held until July 7, 2019.

Public Health Department Team: Ken Wallis Ken has done all the paperwork and received a vanity call sign for the Health Department station; KW4BHD. Great work Ken! The ICOM 2820H radio is performing great at the Health Department station. **Response team members please make time to come and train on this radio; check to be sure you have the most current updates on Fldigi on your personal laptop as we must use our personal laptops for communication activities at the Health Department.** Be very careful if you need to move the radio at the Health Department while you are transmitting; If you accidentally hit the control buttons the settings will really mess up, just warning. Ken has posted the Health Department Club documents at the i.o groups' message board under Files.

CERT Activities: David Ridgeway Representative not in attendance this evening.

Field Day Committee: Nancy Phillips No report expected this evening.

Membership Chairman: Nancy Phillips No report tonight; Nancy is in Missouri visiting with family.

Public Information Officer: Buzz Kutcher Buzz shared a full page of newspaper coverage on our recent Field Day activities; this was the best article on our Club Field Day so far. We are grateful for the assistance of the local newspaper and radio station for getting the word out about Ham Radio to Butts County.

EC Report: Buzz Kutcher There are 27 ARES members in our Club; we really need to increase participation in ARES.

Treasurers' Report: John Lipscomb Representative not in attendance this evening.

Club Old Business: Ken said the July survey of outlying areas of the county is on hold this month. Ken says he could use a hand with the paperwork aspect of being Net Control; contact Ken to volunteer.

Buzz passed around a schedule for members to report the number of hours they participated/volunteered in pre, during and post Field Day activities.

Nancy passed on the information that she would like time next month at our August meeting for a hot wash on Field Day.

Club New Business: Saturday, September 14, 2019 there will be an all day training session on Winlink theory/practice held at GPSTC. Registration begins at 0745 and classes begin at 0900.

Buzz has contacted the Chamber of Commerce to request a better location for our set up at the Fall Festival in downtown Jackson later this year. Check the Club Facebook page for the dates of the Fall Festival.

Coming Events: None discussed this evening.

Monthly Program: Buzz graciously stepped in at the last minute to provide our Club with a program tonight. The Red Cross representative that was scheduled to speak has been deployed due to flooding conditions in the South. Buzz presented a comprehensive review on the communication mode FT-8. Thank you Buzz for sharing your expertise on FT-8.

Raffle Funds Raised this Meeting: No raffle was held tonight, but donations were accepted for the Repeater Fund.

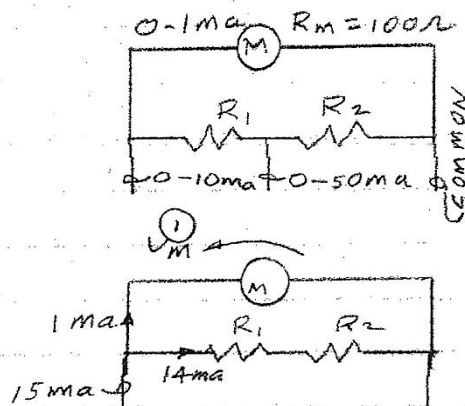
Respectfully submitted, Darlene Ragon, Secretary, Amateur Radio Club of Butts County

Whit's Wisdom

Whit Smith - WA4VBX

METERS

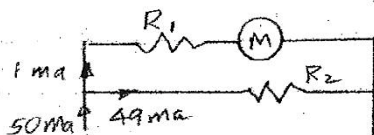
Given: A Meter with a scale of 0-1 ma and an internal Resistance of 100 ohms, calculate R_1 & R_2 for a scale of 0-15 ma and for 0-50 ma.



$$\textcircled{1} V_m = (.001 \text{ AMP}) (100 \Omega) = .1 \text{ V}$$

$$\text{AND } V_m = (.014 \text{ AMP}) (R_1 + R_2) = .1 \text{ V}$$

$$\textcircled{2} R_1 + R_2 = \frac{.1}{.014} = \frac{100}{14} = 7.143$$



$$R_2 (49 \text{ ma}) = (R_1 + 100) (1 \text{ ma})$$

$$49 R_2 = R_1 + 100$$

$$R_1 = 49 R_2 - 100$$

FROM $\textcircled{2}$

$$\textcircled{3} \frac{100}{14} = R_1 + R_2 = 7.143$$

$$\frac{100}{14} = 49 R_2 - 100 + R_2$$

$$\frac{100}{14} + 100 = 50 R_2$$

$$R_2 = 2.143$$

$$\text{FROM } \textcircled{2} \quad 7.143 - 2.143 = R_1 = 5 \Omega$$

USE $I^2 R$ TO CALCULATE
WATTAGE FOR RESISTORS

You're Never Too Old!



Recently, while out-of-state on some R&R time, I visited the Sr. Center, where I used to be on the Board. Got to see several friends whom I had not seen in 4 years. The lady to the left is my 'BFF', Toni. Toni has an inquisitive mind.

She never stops learning and passes-on her wealth of life's lessons learned. Never a dull moment with her.

We introduced Toni to ham radios back when Jeff got his IC-7300. She'd visit out at the farm on evenings when he was free to show her some radio stuff. One night, they latched on to a man in Oregon, where Toni had lived and worked for years. Jeff handed her the mic and she and the contact talked for about 20 mins. She was hooked. She's studying to get her license.

On the day I stopped in at the Sr. Center for lunch, the program-of-the-day was presented by the town's librarian. She had a 'box game' of electronic circuits. You can make 305 functioning circuits with this game! Toni made a circuit that lit up a tiny bulb, one that made a siren scream, and a lazer gun! What a great game! You can learn 305 circuits without blowing-up something or burning yourself.

I foresee a Tech Saturday in the making. _NP



HAM RADIO MOBILE INSTALLATION

_ JEFF PHILLIPS KN4FRG

Have you ever thought about going mobile? That can be a great idea! Installing a ham radio mobile station in your vehicle is often the next step for many hams following the establishment of a home station and/or perhaps as the upgrade from an HT. A ham radio mobile installation greatly expands the utility of amateur radio and increases the opportunity of time to get on the air. But, a ham radio mobile installation also presents some unique and sometimes irritating challenges for the operator to overcome. Just consider it yet another opportunity to learn and to expand your growing ham knowledge!

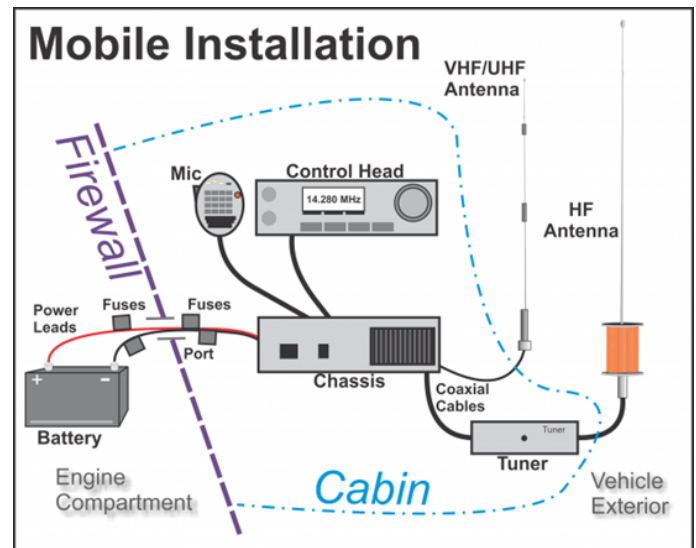
Upfront, a Ham radio installation in your vehicle can present hundreds of feasible different ham radio mobile equipment combinations, installation methods, and techniques for achieving a well performing mobile station in your vehicle. But no matter your individual selection of transceivers, antennas, mounting methods, coaxial cable routing, operating bands, and other factors, some common tenets of mobile installations apply and help to avoid or reduce problems that are inherent in the mobile environment. In this article, I will describe just one of countless possible installations, but I will introduce some of the tenets that can help you succeed with your own mobile station. As a note, for any situation, you the operator must choose what your goals are for you specific installation. Here are a few examples:

- VHF/UHF FM phone for repeater and simplex operations on 2m and 70cm bands.
- HF phone/CW/data for the higher HF bands of 10m to 20m, and also 40m.
- Low cost (a relative thing).
- Low clutter and clean profile in the passenger cab.

- Simplicity and ruggedness.
- Minimal permanent impact or scarring of my precious new or used truck!
- Ease of portability – removal of the transceiver for use in portable ops.

Garage parking, if only for the antenna.

As most Ham radio operators will find that every mobile installation can be a compromise, just like antennas, but a well-planned execution can save you time and frustration.



The picture above is a generic example or block diagram of a mobile station and there can be many variations. The transceiver(s) and related components such as an antenna tuner usually reside within the passenger cabin. A ham radio mobile transceiver may be a single contiguous unit or it may have a detachable control head, allowing the bulk of the radio chassis to reside out of sight, perhaps under a seat or in a stowage compartment. The power leads will be routed into the engine compartment to the vehicle battery, while coaxial cable will be routed out to the antenna attachment locations on the exterior of the vehicle. A mobile station installation will require careful planning

MOBILE cont'd on page 5

MOBILE continued from page 4

and component selection to ensure a well-integrated system that suits your needs and meets your mobile operating goals. The choice of a transceiver.

Besides your budget, your selection of a transceiver will be driven in large part by the bands on which you wish to operate. While variations exist, mobile transceivers tend to follow one of three primary configurations:

1. VHF and/or UHF, FM mode only (and frequently accommodation for digital packet)
2. HF (usually 10m to 160m bands, often with 6m VHF; also may have CW, AM, digital modes)
3. "All mode, all band," which usually means something like 70cm UHF, 2m and 6m VHF, and 10m to 160m HF, including FM, AM, SSB, and CW modes, and accommodation for digital ops.

Most hams like to have VHF and/or UHF FM capability on the road in order to use local area repeaters and simplex. With that assumption, the decision then turns to whether or not you want to have HF mobile, too. If you do want to reach out to greater distances with single sideband using the ionospheric skip provided by HF, the decision tree then branches to one of these two common transceiver arrangements:

1. The all mode, all band transceiver, or
2. Two separate transceivers, one for VHF/UHF FM and one for HF.

The choice between numbers 1 or 2 above depends entirely on the original goals you set for yourself. If your choice is number 1, you will have a few choices for the HAM in the Shack radio across the amateur radio vendors. The Yaesu FT-857D, the ICOM IC-7100, and others are choices that come to mind. There are several models of dual band transceivers for VHF/UHF made by several different manufacturers and you will have to make a choice between cost and features desired. Other key points for consideration are below.

1. VHF and/or UHF, FM mode only (and frequently accommodation for digital packet)
2. HF (usually 10m to 160m bands, often with 6m VHF; also may have CW, AM, digital modes)
3. "All mode, all band," which usually means something like 70cm UHF, 2m and 6m VHF, and 10m to 160m HF, including FM, AM, SSB, and CW modes, and accommodation for digital ops.

At this point, you will need to make a decision. Decide whether you want HF in addition to VHF and/or UHF. If you do, select an 'all mode, all band,' transceiver or separate transceivers. In my case I chose just to install a dual band VHF/UHF mobile radio. Time for the install.

As shown in the block diagram above, I chose the best routing for the power line from the battery to the chassis at my planned mounting location ensuring I chose the appropriate wire to carry the load with additional protection. Usually it is a minimum AWG 14 gauge wire pair (often larger 12 or 10 gauge), with in-line fuses. If you are creating your own power leads be sure to use heavy gauge wire with fuses appropriate to the maximum currents your transmitter will draw. A 100 watt transmitter coupled with 12 AWG wire and 25 amp fuses in both leads is a safe option. Generally, position a pair of fuses close to the battery connection. Many commercially provided leads sold with radios will have fuses closer to the transceiver, so adding a second pair under the hood is a good safety implementation. Most modern automobiles have pre-existing access ports through the firewall into the passenger cabin. These will almost always be plugged with a removable rubber "stopper" or grommet, and they are not always in the most convenient locations under the hood or under the dashboard! You may have to do a little searching, perhaps behind engine components and under carpet or trim, to discover that unimpeded path for your power leads. In my case, my vehicle already had a rubber stopper located at the

MOBILE continued on page 9

NOTES FROM THE BACK ACRE

_ Buzz Kutcher, K3GWK



Georgia ARES monthly report for June, 2019

It was hot at Field Day and hot at the Peachtree Road Race.

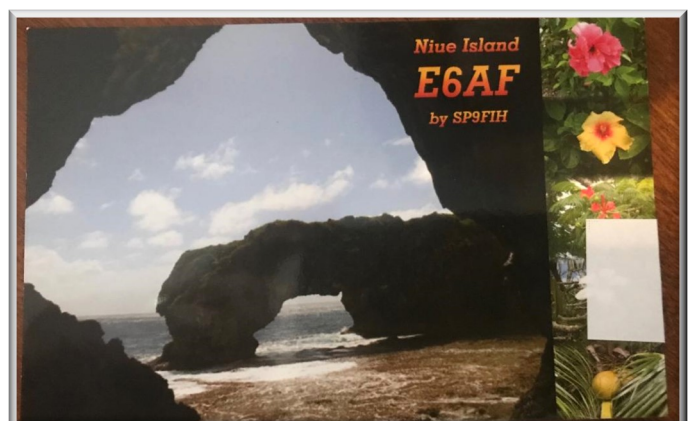
I hope you all have caught Apollo 11 fever. The last few weeks have been a real walk down memory lane for me. I grew up in the age of “The Mercury 7”, the Gemini missions, the Apollo program and, of course the first Moon Landing on July 20, 1969. John Kennedy’s challenging speech regarding ‘putting a man on the moon and returning him safely to earth’ is still a vivid memory. I was in junior high school during the Mercury missions and remember hearing the launch audio over the school’s PA system and, if you were lucky, watching it on a classroom TV set. I remember the Apollo One fire and how devastating that was. Fortunately, NASA and the space program bounced back better and safer and still on course for a moon landing before the end of 1969. Freida and I lived in Salem, Massachusetts in 1969 and watched the moon landing in our landlord’s living room (On a color TV!). Wow! TV from the Moon – in 1969. Fast forward through Skylab (Remember Skylab?) and the Space Shuttles, each with their own tragedies, we come to 2019 and the 50th anniversary of the Apollo 11 mission. I’ve tried to watch every show about the space program; I’ve been reminded of events I’d forgotten and learned about things that few people outside of NASA ever new occurred. As I like to say, “What a long strange trip it’s been...” (Truckin’ by the Grateful Dead)

My daughter and son-in-law visited a couple of weeks ago and while they were in town we attended a “concert” by Dead & Company. Dead & Company are three of the original Grateful Dead members (Weir, Hart and Krueztzmann) with guitarist John Mayer, bassist Otell Burbridge and, on keyboards, Jeff Chrimenti. The parking lot experience

was as I remembered it; a great place to buy boot-leg shirts and cheese sandwiches. The concert was unreal – almost like 24 years ago at RFK Stadium in Washington, DC. Like I said, “What a long strange trip it’s been...”

Nothing new to report regarding the UHF repeater. It is still not connected to the Internet and the worldwide DStar system. It is not because of a lack of trying on our part. Scheduling support from the busy Wellstar IT group continues to be a challenge. David Benoist (AG4ZR), although recovering from serious back surgery, is still very much involved. Getting everyone together is like herding cats. Our UHF machine is dual mode and will repeat either DStar or analog voice; it just can’t be linked to any reflectors. I recommend you have CTCSS ‘Encode and Decode’ activated on your radio so you don’t hear the D-STAR noise. The CTCSS tone is 131.8 Hz.

Lots of good DX on the air right now. I’ve twice worked 1A0C, the ham station of *The Sovereign Military Order of Malta* in Rome, Italy. Like the Vatican, this Catholic enclave, although located in Rome, is a separate DX entity. They are currently on FT8, CW and SSB and are fairly easy to work. I also received a beautiful QSL card from my QSO with Niue Island in the South Pacific.



FIELD DAY

Hi, Everyone,

Most of this will be presented at the next meeting (sorry I missed the July meeting), but I want to let you know how you did. Here are a few of the stats:

2018: QSOs: 899. QSO POINTS: 1397.

2019: QSOs: 1034. QSO POINTS: 1668.

2019's QSO total is a **13%** increase over 2018.

2019's QSO POINT total is a **16%** increase over 2018.

Specifically, for 2019, we had 515 - CW, 400 - Phone, and 119 - Digital contacts.

My deepest gratitude for every effort put forth. A lot more info is forthcoming, once all the bonus points are tallied, etc. Stay tuned. For now, though, please feel free to be as proud of yourselves as I am of you. Thank you, Team!

Total Contacts by Band and Mode:

Band	CW	Phone	Dig	Total	%
80	121	4	6	131	13
40	252	193	85	530	51
20	128	172	27	327	32
15	11	29	0	40	4
10	3	2	1	6	1
Total	515	400	119	1,034	100

Personal point count:

Win W8XC ... 260
 Dennis NT4U ... 255
 Jeff KN4FRG ... 195
 Elaine KW4AQ ... 152
 Glenn KM4GNO ... 63
 Ken KK4HOS ... 59
 John KA3SME ... 17
 Rudy KA8LAD ... 17
 Dan W4DED ... 16

Is your ARRL membership up-to-date?

This is important for our club affiliation with ARRL.

Please update and inform the membership chairman.

BACKACRE continued from page 6

(Good news) More of our active members have switched to the "groups.io" email system. (Bad news) There are still quite a few who have not yet made the switch. At the end of August, the Yahoo Group will be shut down. If you have any questions about moving to "groups.io", contact NI2Y or me. Make sure you continue to check the ARES Connect Events Calendar regularly and be sure to sign up for the activities you plan to participate in. In most cases, ARES team members can (should) enter their own hours **immediately** after an event is completed. (<https://arrrl.volunteerhub.com/lp/ga/>) If you don't register and then report your time – you did not participate in the event and those hours of activity are lost. **"If you don't log it, it didn't happen."** Although our events are still being entered in the Georgia ARES database, ARES Connect is how our valuable Ham Hours are reported to the ARRL. The current value of volunteer time is twenty-five dollars and fifteen cents.

Thanks for all you do for Amateur Radio in and around Butts County. That's about it from Jenkinsburg Station.

([Weather Underground ID: KGAJENKI2](#))

73, K3GWK (The Other Buzz)

"When all else fails, ham radio works..."

190603 BCHD Report

We got chk'd into 4 outta 4 Ga Health Dept Nets last month, and the new radio is still workin' GREAT!! One of our 7 BCHD Response Team (RT) operators chk's in every Thurs AM at 0830 to the Ga DPH D-Star Net, so... if you're interested in helpin' us out over there, pls contact Ken, KM4HOS, for more details.

We still need ALL the DPH RT operator's to get on the internet and 'study up' on the IC-2820H radio so we can get everybody chk'd out on it next time they can get by the BCHD on a Thurs morning at net time. We have the 'Nifty' manual and the 'hard copy' manual for the new radio in the logbook, but we still wanna give all the RT operators a 'familiarization' run on it as soon as we can.

Would be beneficial if ALL the RT operators could make sure they have 'up to date' FLDigi and Win-Link Express (w/ UZ7HO's 'Sound Modem' program) on their laptops so we're able to go 'digital' if the Health Dept staff needs us to. We don't have a 'station' laptop at the Health Dept. so we're gonna have to use our own if needed. The 'station' has a Signalink and USB cable to hook up to your laptop, and the Pkt WL freq's are already loaded into the 2820, so all you'd need is your laptop for an 'event', the wkly Ga DPH Net chk-ins DON'T need a laptop.

I just posted the updated 'Butts Co Health Dept Radio Club' documents (mbrs, charter, bylaws, license, etc.) on groups.io & Yahoo pages, under 'files', 'Butts Co Health Dept', if anybody wants to know anything about that club (and also IF you're in it or are a club officer, yuk, yuk)

The new 'Vanity' callsign has been applied for and oughta be here next week.

190603 Net Mgr Report

We held 4 ARCoBC Trng Nets in June, averaging only 5 voice chk-in's per wk, 2+ on MT-63, and 5 WL chk-ins. Purty significant decrease in ALL areas. Sooo.... really dunno wut to say at this point. I might say, move the Net back to Sunday, but I'm not gonna be able to NCS 'em cuz I'm tied up w/ the state ARES nets... can't find any other NCS's to volunteer, as I've been doin' 'em for the last 2 mos... and other than Buzz doin' Feb and Elaine doin' a couple in Apr, I've been doin' 'em since Jan. and all but 3 digital nets since then... so, like I sed, dunno wut to say at this point.

The ARCoBC still needs Net Controllers for our weekly Trng net, for July and the following months. Don't be bashful, this is a TRAINING Net, and myself or sumbud'y else is almost always on the Net that can help you out if needed. The 'Preamble' (script) is posted on Yahoo & groups.io 'files' pages and I can send you my macros for FLDigi and show you how to use 'em.

Lemme know if yer interested.

Don't forget to keep your ARES Connect up to date weekly, daily if possible. Appreciate all y'all's time & effort last month in support of Butts Co. HAM radio.

Thx & 73,

Ken, KM4HOS, Butts Co Net Mgr

Reminder: BE CAREFUL how you handle the radio if you have to move/reposition it WHILE IT'S ON, if you press one of the buttons on the bottom of the front faceplate by mistake, and if yer like me, it could take you HOURS TO UNDO wut you did... trust me, ugghhh.

Thx fer yer support...

Ken, KM4HOS, yer friendly, neighborhood HD rep

BUTTS CO EP SURVEY _Ken Wallis KM4HOS**190603**

brought to you this month by the 'County-wide VHF DX'ers Club', for those of us who like to make contacts waayyy out in the BOONIES of Wild Butts Co (even beyond I-75!!)

Well, now that FD '19 is in the books, I can start puttin' together the 'Survey site' (see last months edition) sheets and the clipboards for Zone 8's 'adventure, and be ready for the last Sat of July, the 27th ... WOOOPS!

Guess hooz gotta be at a wedding in Auburn, AL THAT Sat, ugghhh!! You guessed it, da RATS jez keep gittin' faster!!

Well... 'a thousand GAHZIMAs' (I'm REALLY sorry) y'all, but I 'd be homeless if I missed it, 'maybe we can hammer out those details at the July meeting'. (my exact quote fm last months edition). Do y'all think we could 'Puhleezzz' NOT use da hammers on ME?? We got the Ham Cram on the 20th, but the 1st & 2nd Sat may be OK, perhaps, maybe.... We'll TALK (pls) at da meetin' this comin' Monday.

....and remember, when yer bored and want some-thin' to do, jez whoop out the old 2m radio and call one of yer favorite 'County-wide VHF DX'ers' friends, like Jarrod, KN4RXM, (he's da newbie & needs to git picked on a little bit to catch up w/ ME) and tell him you want to score some DX points and need a 'target', (spell dat 'activator'), no guns here please. Then 'splain to Jarrod that you need only 2 or 3 hrs of his time (now's a good time to put on YOU'RE 'body armor') and tell him to head W towards the Butts Co landfill on Ga 16. (I will 'disavow' ANY knowledge of dis conversation at da meetin')

Ken, KM4HOS,
ARCBC Recreational Adventure chairman

Please Move to Groups.io

The Yahoo Group email/calendar system is being abandoned and is being replaced by a similar program called "groups.io".

The two sites are very similar; in groups.io though, the calendar actually works and is already being used to send reminders for Amateur Radio Club of Butts County events and activities.

All of the Yahoo group files and photos are being relocated. If you have not yet registered with groups.io, here are the primary addresses.

POST: BC-ARES@groups.io

SUBSCRIBE: BC-ARES+subscribe@groups.io

UNSUBSCRIBE: BC-ARES+unsubscribe@groups.io

GROUP OWNER: BC-ARES+owner@groups.io

HELP: BC-ARES+help@groups.io.

Einstein was once asked how it felt to be the smartest man alive. Einstein's reply was "I don't know, you'll have to ask Nikola Tesla."

1.) **GENERAL LICENSE COURSE** - Beginning Thursday, **August 1st**, running every Thursday night from 6:30-8:30 PM, thru Sept 19th. This puts class out on Thursday before the VE Session [\$15] on Sat, Sept 21 (0830AM).

2.) **MORSE CODE I COURSE** - Beginning Mon following the VE session in Sept, and running every Monday & Thursday evening, from 7-8 PM, thru Nov 14th. This puts class ending on Thur, before the VE Session [\$15] on Sat, Nov 16 (0830AM).

Nancy 573-528-0697 or K4NEP@arrl.net to sign up.

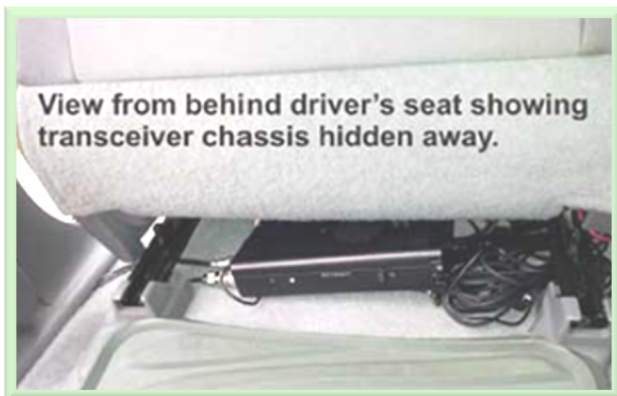
MOBILE continued from page 5

firewall for me to route the line into the cab of the vehicle with just a little drilling.

Important note: Run your transceiver power leads directly to your vehicle battery terminals and avoid any use of existing automobile wiring. The wiring used in most car power outlets is not designed to carry the high currents that a transmitter may draw – especially an HF 100w radio, and they may quickly overheat and start a fire. More likely you will just pop a fuse or two within the fuse bank, but do not risk it. Further, you may pick up all sorts of electrical noise if you try to use your car's wiring. Just say no to automobile wiring! Use a grommet in the firewall port to protect against chafing and electrical shorts over time if not already present.

I used the wiring that came with the radio and added Anderson PowerPoles with additional wiring to extend the power line to my chosen stowage location. Now, where to mount the control head and base unit or chassis?

Many installers usually mount the base unit or chassis of the radio under a seat, within their trunk, or in a stowage compartment.



I chose under the seat at first, but eventually found a convenient stowage location in my truck. The location allows easy access and/or removing the radio as needed. A point to ponder is most radio manufacturers include a mounting bracket (some do not), but if you are planning to separate the control head from chassis, you will need a separation cable. Some manufacturers include the cable, but others do not. So be aware, could be an addi-

tional item(s) to buy. Another point to consider for the right mounting location is the routing of the power lead, separation cable, and coax cable. The location chosen should allow access for these lines without causing any safety issues and all cabling can be hidden and stored properly for the best neat and non-intrusive setup. When separating the control head from the chassis and stowing it, you will probably require an external speaker since most radios place their speaker (another expense) within the base unit. This might also require an extension cable for the speaker to actually reach the radio chassis based upon your mounting location.

Now you have found the best mounting location for the chassis, now where to place the control head. This can be a very hard decision, in newer model cars, there usually is no single great location that the control head will just fit. An alternate method are mounting systems, much like those used for cell phones. They have clip, cup holder, driver seat, windshield, dash, and etc. mounts that can provide a means to secure the control head and the mount itself is either clipped or screwed into position. A good location to start your research is at <https://www.lidomounts.com/hamradiomounts.html>, DX Engineering, or others. Now that you mounted the control head, you can use heavy-duty Velcro to mount the clip for the microphone at a convenient location. Now onto the VHF/UHF antenna.

Now you have found the best mounting location for the chassis, now where to place the control head. This can be a very hard decision, in newer model cars, there usually is no single great location that the control head will just fit. An alternate method are mounting systems, much like those used for cell phones. They have clip, cup holder, driver seat, windshield, dash, and etc. mounts that can provide a means to secure the control head and the mount itself is either clipped or screwed into position. A good location to start your research is at <https://www.lidomounts.com/hamradiomounts.html>,

NETS

SUNDAY:

(rev. 190228)

Metro ARES FM Net - 1st Sunday ONLY at 1600L,
WA4ASI repeater, Covington, 146.925-, 88.5 PL
KK4GQ repeater, Fayetteville, 145.210 -, 131.8 PL
KC4AQS repeater, Paulding Co, 145.805 +, 100.0 PL

GA ARES/ARCB BC WL Express Net - Send an ICS-213 (or regular typed msg, if unable 213) to WX4GMA and WX4BCA by 2200Z. [1700L EST winter/1800L EDT summer.] Please use a Winlink RF gateway; Winmor packet, etc, if capable; otherwise, use Telnet.

GA ARES Digital Net - 2100Z [1600 EST winter/1700 EDT summer] 3.583 MHz USB.

GA ARES PSK 'Traffic' Net - send an ICS-213 to WX4GMA NCS, FLDigi, MT-631KS, centered on 2000 MHz.

GA ARES PSK 'check-in' Net - Even numbered months, FLDigi, BPSK-125, centered on 1000Hz, 'text' check-ins only and will run concurrently with the PSK 'Traffic' Net.

GA ARES D-RATS Net - 2130Z [1630 EST/1730 EDT].
Odd months, port: gaares.ratflector.com.

GA Section HF Net - 2200Z [1630 EST/1730 EDT],
3.975 MHz LSB, voice, by callsign prefix.

SE Weather Net - 2100L, D-Rats/D-Star, on
sewx.ratflector.com. D-Star Voice on REF004A.

TUESDAY:

Butts County Emergency Comm Training Net - 1930L,
WX4BCA repeater, 147.285 MHz, + offset,
131.8 PL, begins with voice check-ins, followed
by an NBEMS Digital Net. WL Express msgs
accepted if Not sent the previous Sunday, send
to WX4BCA with name, callsign, location, and
whether you are on mobile or aux power.

THURSDAY:

NCRC/ARES/RACES FM Net - 2000L, WA4ASI repeater,
146.925 - & 444.800 -, 88.5 PL. WL - K4NCR.
May have a 'follow on' Digital Net - MT63-2KL,
centered 1500 Hz, D-Rats on
gaares.ratflector.com.

*** For other training opportunities, see the ARCB BC Group.io website, and/or the GA ARES website for other Nets w/ days, times, freqs, protocols, etc, for your training convenience.***

MOBILE continued from page 9

DX Engineering, or others. Now that you mounted the control head, you can use heavy-duty Velcro to mount the clip for the microphone at a convenient location. Now onto the VHF/UHF antenna.

With any antenna a higher mounting position is generally better for performance. A good rule of thumb to follow is to get as much metal mass under the antenna as possible, given other constraints. Another good tenet is that the antenna's ground side (coaxial shield / mount connection) should be solidly electrically connected to the vehicle metal mass, such as the frame and body. This will help provide a path for return currents to the antenna and enhance its performance. The mounting position of the antenna will depend on your goals for the installation. A mag-mounted antenna on the roof of the vehicle might be the easiest solution, but you may not get the vehicle into the garage. Some tall antennas, though, will allow it to be folded over, reducing its overall height. Many of these antennas are 1/4, 1/2, 5/8, or 7/8th wave, so, depending upon the location of your repeater or available funds chose the one best for you.

There are several mount types for antennas including fender, trunk, hatchback, magnetic mount, homebrew, and etc.



Magnetic Mounts



Permanent Hole Mounts



Trunk Lip Mounts



Fender/Bracket Mounts

Some mounts come with the coax and others do not. The mounts could be PL-259 or NMO (New Motorola). Once you chose your antenna and appropriate mount and installed them, run the coax (choice of appropriate coax if another article in itself)

MOBILE continued on page 11

MOBILE continued from page 11

from the antenna mount to the radio chassis. A good reference to choose the right coax cable is <https://timesmicrowave.com/calculator/>. The site will provide the losses per coax type based upon your required run. As the same with the rubber stopper in the firewall, there are several ports usually located around the cab of the vehicle for you to route the cabling. At this point, you might have to add cable ends to the coax to complete the run and connection. Ask a fellow Ham for help if you do not have the equipment to install the cable ends.

Coaxial Cable Approximate Loss per 100 ft.				
Cable Type	Diameter	20 MHz	100 MHz	400 MHz
RG-174	1/8"	3.7 dB	8.4 dB	17.0 dB
RG-316	3/32"	3.5 dB	8.0 dB	16.2 dB
RG-8X	1/4"	1.6 dB	3.7 dB	7.7 dB
RG-58	1/4"	2.0 dB	4.6 dB	9.4 dB

Source: [Times Microwave Coaxial Cable Calculator](https://timesmicrowave.com/calculator/)

For my installation I chose a mag mount and ran the coax from the mount through my rear door. My goal was ease of removal with no drilling or very limited changes to the vehicle.

Important note: Before feeding the cables into the cabin ports use a razor knife to carefully slice out center portions of the rubber plugs to create grommets that would protect the cables from chafing and prevent water intrusion into the cab. Thread the cables through the new grommet several feet and then fed the cable into the port. This way the grommet fully surrounds the cable and pops into the port once the extent of the cable is fed through. Of course, your vehicle will have its own idiosyncrasies of ports, panels, and opportunities, but you can tidy up the cabin by hiding cables in almost all modern automobiles with only the slightest planning, investigation, and effort.

At this point finalize all connections and try the system out. With the right choices and combinations you are now hitting the repeaters while mobile and/or making long distance contacts if you added the HF capability. This article was

by no means a complete how to article, but hopefully it provided a little feedback on the steps to install your Ham radio into your vehicle of choice. A mobile system takes time and requires some serious thought and of course choices. From choosing the right radio to the appropriate coax that will fit your budget there will always be compromise. The best way to attack the installation is with thorough research and planning based upon your set goals. Remember to take your time and afterwards enjoy the conversation. ♦

_ JP

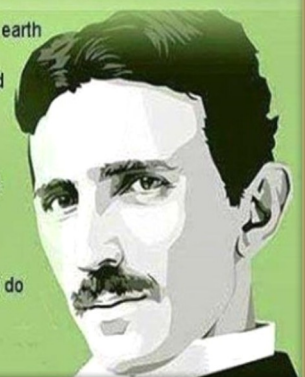
The Next Time You Use Any Navigation Device Or Software Like Google Maps. Thank Dr. Gladys West, The Inventor Of GPS Technology



Nikola Tesla describing a cell phone back in 1926...

"When wireless is perfectly applied the whole earth will be converted into a huge brain, which in fact it is, all things being particles of a real and rhythmic whole. We shall be able to communicate with one another instantly, irrespective of distance. Not only this, but through television and telephony we shall see and hear one another as perfectly as though we were face to face, despite intervening distances of thousands of miles, and the instruments through which we shall be able to do all of this, will fit in our vest pockets."

Nikola Tesla 1926



CALENDAR

AUGUST 2019

1, 8, 15, 22, 29 - GENERAL course, FS #7, 1830-2030, 144 Colwell Rd (continues in Sept)
5 - Group Dinner - Brickery (2nd/Mimosa), 1700
5 - Monthly Meeting - 7PM, Jackson FGs
17 - Hungry Hams - Lunch Box - 0700
17 - Tech Saturday, 0830, FS #7, 144 Colwell Rd

SEPTEMBER 2019

2 - Monthly Meeting - 7PM, Jackson FGs
5, 12, 19 - GENERAL course, FS #7, 1830-2030
21 - Hungry Hams - Huddle House (I-75/16) - 0730
21 - VE Session - 0830, FS #7, 144 Colwell Rd
23, 26, 30 - Morse Code I, 1900-2000, FS #7

OCTOBER 2019

3, 10, 14, 17, 21, 24, 28, 31 - Morse Code I, 1900-2000, 144 Colwell Rd
7 - Group Dinner - Brickery (2nd/Mimosa), 1700
7 - Monthly Meeting - 7PM, Jackson FGs
19 - Hungry Hams - Huddle House (I-75/16) - 0730
19 - Tech Saturday - 0830, FS #7, 144 Colwell Rd

NOVEMBER 2019

4 - Group Dinner - Brickery (2nd/Mimosa), 1700
4 - Monthly Meeting - 7M, Jackson FGs
16 - Hungry Hams - Huddle House (I-75/16) - 0730
16 - VE Session - 0830, FS #7, 144 Colwell Rd

DECEMBER 2019

6 - 9th Anniv Family Christmas Dinner - Buckner's 1168 Bucksnot Rd (I-75/16), 1830
21 - Hungry Hams - Huddle House (I-75/16) - 0730
21 - Tech Saturday - 0830, FS #7, 144 Colwell Rd
25 - Merry Christmas!

CONTACT INFO

PRESIDENT - Elaine Stachowiak

KW4AQ, ubudogems@hotmail.com

VICE PRESIDENT, MEMBERSHIP - Nancy Phillips
& EDITOR K4NEP, k4nep@arrl.net

SECRETARY - Darlene Ragon

KK4BKF, lragon@aol.com

TREASURER - John Lipscomb, IV

KA3SME, john.lipscomb@delta.com

PUBLIC INFORMATION OFFICER - Buzz Kutcher

K3GWK, k3gwk@arrl.net

AEC for REPORTING - Buzz Kutcher

K3GWK - k3gwk@arrl.net

AEC & VE TEAM ADMINISTRATOR - Dan Darsey

W4DED, w4ded@arrl.net

AEC & CERT LIAISON - David Ridgeway

KK4SUO, dpridgeway@bellsouth.net

AEC & SHERIFF LIAISON - Mark Clark

NI2Y, NI2Y@arrl.net

AEC & TECHNICAL ADVISOR - Mike Crowe

AJ4GU, aj4gu@bellsouth.net

AEC - David Burnham

AK4EM, burnham1078@gmail.com

SKYWARN COORDINATOR - Elaine Stachowiak

KW4AQ, ubudogems@hotmail.com

Tuesday Net NCS for July
Buzz

