



# KEY KLIX

AMATEUR RADIO CLUB OF SAVANNAH

APRIL 2008 VOLUME 5 ISSUE 4

## MARCH 2009 MEETING PICTURES



We had a great turnout for our March meeting! I want to thank everyone for coming out and supporting the club. With nineteen people in attendance, we had a very productive meeting. Please refer to the March meeting minutes for more detailed information.

## THE Other Side OF AN ARCS MEMBER

~SUBMITTED BY BETH ANN BLACKBURN, KI4ZDN

This month's featured member is Robert Owen, KJ4HAL.

Robert has been a "ham" for less than a year, and is a relatively new member of the Amateur Radio Club of Savannah.

Several months ago, Robert was hired-on as a "portable radio electronics technician," at Savannah Communications.

Along with ham radio, Robert enjoys computers, electronics, music, and the Discovery Channel.

Robert's family includes his Father, Mother, and Sister who live in Richmond Hill. His Grandfather, who used to be a ham, lives in California.

Robert has a lovable canine named "Farley."

When it comes to vacations, Robert stated that there is no place like home to relax, take it easy, and operate ham radios.

Robert's favorite foods include: Seafood, Mexican, Italian, and Thai foods

Robert has never attended a Field Day, but he is looking forward to his first one in June.

One of Robert's best childhood memories was camping at Mt. Cheaha, the tallest mountain in Alabama. There were extremely clear skies, beautiful waterfalls, and NO BUGS!!

Robert would like to know if any ARCS members use "Instant Messenger" or Mail Groups.

Once I get more experience in the digital modes, I would like to share that experience with others.

I enjoy helping hams with the hobby, however I don't like heights. (Don't send me up any towers!!!!)

### NEXT ARCS MEETING:

Tuesday, April 14th

♦6: 00pm Pre-Meeting Dinner  
At Barnes Restaurant

♦7: 30pm Meeting At  
Memorial Health  
Hoskin's Building  
Classroom 4 or 5

Barnes Restaurant is located at 5320 Waters Avenue.

Grab a bite to eat and enjoy some camaraderie before the meeting.

A short video program will follow the business portion of the meeting.

### MARCH MEETING MINUTES

ARCS President, Andy Blackburn, called the meeting to order.

The minutes for the February meeting, published in Key Klux, were approved.

The treasury report was given and approved.

A motion was made by Andy, seconded, and passed to hold the 2009 Field Day at the Air National Guard Pavilion.

Lunch will be provided for the set-up crew and attendees are asked to bring a covered dish for the dinner.

Kurt brought up an idea to have a "clean joke" night on the weekly net. Andy also brought up an idea about having a net topic or a question and answer session.

Key Klux writers are also needed.

A 50/50 raffle will be held at the April meeting. Tickets are 1 for \$1 or 3 for \$2.

The business meeting was adjourned and a video on Electrostatic Discharge was shown.

Submitted by Brandy Davis, KI4PZW  
ARCS Secretary

# A TRIP TO THE 2009 CHARLOTTE HAMFEST

~SUBMITTED BY ANDREW AND BETH ANN BLACKBURN



On Saturday, March 14, 2009, around 4:30am, Beth Ann and I began our long trek to Concord, NC, located just north of Charlotte. Four and a half hours later, we arrived at the new location of the Charlotte Hamfest, the Cabarrus Arena & Events Center.

There was a crowd of people as we entered the building. There were a number of commercial exhibits in the front area. We browsed through the latest ham gear at the Kenwood, Yaesu, Ham Radio Outlet, and VIS booths. We stopped at the ARRL and "The Wireman" booths to say "HI!"

Upon entering the "flea market" area, Beth Ann and I saw lots and lots of junk, er, I mean "junk." There were old radios, parts for radios, surplus radios, along with a lot other "cool" electronics stuff. Beth Ann and I also had the opportunity to chat with numerous friends that we have met over the years at this and other hamfests.

The Mecklenburg Amateur Radio Society's first year at this new location was a big success, and they pulled off a first-class event. Next year's event should be even better.

I guess you are wondering what I purchased at the hamfest. There were numerous Girl Scouts doing community service at this event, as well as, selling Girl Scout cookies. So, I purchased several boxes of Girl Scout cookies.



## IT'S TIME TO RENEW YOUR ARCS MEMBERSHIP

If you have not paid your 2009 dues, this is a reminder that dues are due now! Please send in \$30 for an individual membership or \$40 for a family membership.

For those that have already paid their dues for this year, thank you very much for your support!!!

**If you wish to mail in your dues, please send it to:**

Amateur Radio Club of Savannah  
PO Box 13342  
Savannah, GA 31416

## Monthly Morse Code

*Have you always wanted  
to learn Morse Code,  
but didn't have the time?*

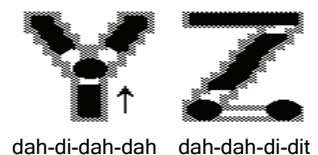
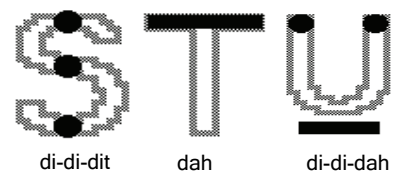
*Do you need to freshen up  
on your once glorious skills?*

*First, test your skills from last month.  
Then, check out A. G. Reinhold's chart  
below and get ready for next month!*

*Now's your time to shine.  
Match the letters to the sounds  
and check your answers below.*

J, K, L, M, N, O, P, Q, and R

- |                   |               |
|-------------------|---------------|
| 1. di-dah-di-dit  | 6. dah-di-dah |
| 2. dah-dah-dah    | 7. dah-dit    |
| 3. di-dah-dah-dah | 8. di-dah-dit |
| 4. di-dah-dah-dit | 9. dah-dah    |
| 5. dah-dah-di-dah |               |



- |      |      |      |      |
|------|------|------|------|
| 1. L | 2. O | 3. J | 4. P |
| 5. Q | 6. K | 7. N | 8. R |
| 9. M |      |      |      |

-. .-.-- -. .-. .-. -. -. -. -. -. .-.-- -. .-. .-. -. -. -. -. -. .-.-- -. .-. .-. -. -. -. -. -. -. -. .-.--

## NEW FUNCTIONALITY FOR A KENWOOD TS-940S

---

### *YOU CAN TEACH AN OLD DOG NEW TRICKS!!*

~SUBMITTED BY PHILLIP NEIDLINGER, KA4KOE

I have been a ham radio operator since 1979, when I was licensed at the tender age of 16. From this tidbit of information, it is evident that I'm not a spring chicken anymore. I've owned and played with a lot of different amateur radios over the years. All of us have our personal preferences. Twenty years ago, Kenwood appeared to be the leader of the Big Three ham radio manufacturers. Icom and Yaesu were playing catch-up. Now times have changed. Kenwood has not produced a major HF amateur radio transceiver in several years of the same caliber of an Icom IC-7800 or Yaesu FTDX-9000. The top-end TS-870S was discontinued. Where is Kenwood's answer to the 7800 or the 9000??? We've been waiting for years. Rumors floating around the internet state that Kenwood may get out of amateur HF entirely in some point due to slim profit margins. It's a sad state of affairs.

Several years ago, I sold my venerable Kenwood TS-830S; an act for which my daughter Sarah still has not forgiven me----"Kenny" was her favorite. I replaced "Kenny" with "Icky", an Icom IC-756PRO. The PRO was indeed icky. The receiver had major issues with 3<sup>rd</sup> order intermodulation products; I would hear international broadcast stations in the middle of 20 and 15 meters. Additionally, the radio seemed cheap, as it was very lightweight and reminded one of a consumer DVD player with its large quantity of plastic trim appointments. One feature that I did like was the PRO's very useful and functional panadapter display. I referred to the display as the "fish-finder." One could check at a glance and determine the conditions of a good slice of the band under scrutiny and see if it was open or not. It also aided in hunting for new stations in competitive operating situations. This gadget was particularly effective in hunting for new grid squares on 6 meters when that band opened up in the spring months.

In the 1980's and early 1990's, Kenwood manufactured the BSP-8 panadapter module for their SM-220 and SM-230 station monitors. The monitors are essentially limited-functionality oscilloscopes. The monitors match the appearance of the top-end radios in Kenwood's product lineup. The monitors that are equipped with the BSP-8 modules are, by some accounts, not particularly responsive or sensitive. But they are COOL to look at!

In the meantime, I still missed my old Kenwood radio. Sarah missed it even more. I sold the PRO and obtained a TS-940S in fair condition as a replacement approximately four years ago. It had some performance and reliability issues that had to be addressed, but these were corrected in due order by a talented technician in Florida. Now, please keep in mind that the '940S is a seriously heavy-duty radio...a modern boat anchor, if you will. It will break bones if you get careless and drop it on your foot. Part of the reason is that the radio has a built-in 120V AC mains power supply---that's right, you plug it into the wall. Almost every amateur radio today requires the user to supply regulated, purified, and pasteurized 13.8 VDC at some level of current between 20-30 amperes. The high power version of the Kenwood TS-480S requires TWO high amperage DC power supplies!! The second part of this equation is that the TS-940S is rated 100% duty cycle at 100% power output for transmission modes such as RTTY, for up to one hour. How many ham radios on sale today can match this specification, and not go into catastrophic thermal runaway and melt down into a steaming, stinking puddle of bubbling plastic and silicon? Great image, huh??

The TS-940S is not without its share of problems. But remember, any piece of electronics that is 20 years old is likely to have a minor problem or two. If you get a good one with late serial numbers and provide some preventative TLC, they will last a good long time. The TS-940S' receiver performance compares favorably with the current top-of-the-line ham radios being manufactured today. A good one can be obtained for around 500 dollars, but the principle of *caveat emptor* still applies. Plenty of research on your part beforehand is a good idea. Stay away from Ebay, and try to get a used radio from a dealer with at least a 30-day return guarantee if any problems crop up. Of course, you don't HAVE to get a TS-940S. Any radio with an accessible unfiltered IF frequency output port operating below 10 MHz can likely be accommodated. If you access the radio's IF after any "roofing filters," then you are defeating the purpose of the panadapter.

I still, however, missed that pretty fish-finder. I didn't want a cruddy receiver. Been there, done that....I preferred a solid receiver over anything else. I remembered the wisdom from the radio days of yore which stated...."If you can't hear them, you can't work them."

Now, kind reader, let's fast-forward to early 2009. I read an article in QST about Larry Phipps' N8LP Software Defined Panadapter whilst seated on the Throne of Ultimate Power in My Palatial Estate in the Hill Upon Richmond (I live in Richmond Hill, Georgia). The unit was dubbed the **LP-PAN**.

-. .-.-- -. .-. .-. -. -. -. -. -. .-.-- -. .-. .-. -. -. -. -. -. .-.-- -. .-. .-. -. -. -. -. -. -. -. .-.--

## NEW FUNCTIONALITY FOR A KENWOOD TS-940S (CONTINUED)

The basis of operation for the LP-PAN is actually not too complicated. The unit inputs an unfiltered IF (intermediate frequency) signal from the radio (for most Kenwood HF radios, the IF signal is standardized at 8.83 MHz), and down-converts the signal to the range of audio frequencies. The audio signal is then processed and split into a pair of signals consisting of phase and quadrature (I and Q) data. The I and Q signals are routed to the left and right channels of the computer sound card's line-in jack. In effect, the unit functions exactly like a direct-conversion radio receiver. The sound card, in conjunction with a free downloadable software program named **PowerSDR-IF**, displays a good chunk of the band being monitored on your computer monitor in real time, at a scan rate of up to 50 frames per second (FPS), dependent of course, on the horsepower of your computer's CPU and video card scan rate/monitor compatibility. However, if your monitor has a scan rate of 60 Hz, it will likely not be worthwhile to run more than 30 FPS. PowerSDR-IF is a special version of the program used for the Flex 5000 series of Software Defined Radios. See Figure No. 1 below for the screen representation of PowerSDR-IF.



What else is required to make all of this work? Well, LP-PAN and PowerSDR-IF also need to run in conjunction with Ham Radio Deluxe for control of your radio, if you are using anything other than an Elecraft K3. For my Kenwood TS-940S, I also had to purchase a Piexx computer interface board with a serial output so I could control it with my computer. Do not buy the OEM Kenwood computer interfaces, as they have serious reliability issues, and they also tend to be pricey. Not a good deal, if you ask me.

Do not use serial-USB converters unless it is absolutely unavoidable. If your computer motherboard has a legacy serial connector jack, get a header cable and install the port on the back of the computer. I would continually get blue-screen-of-death crashes under Vista when using converters. After installation of the proper serial port on my machine, 99% of my reliability problems cleared up.

You may be able to use your native soundcard in your computer. Keep in mind, however, that the sampling rate of your soundcard will dictate how big a chunk of the band you can see at one time. 48 KHz sampling will allow you to see about 40 KHz. I purchased an EMU-1212M soundcard, with 192 KHz sampling, and I can see 180 KHz, give or take a few hertz, when zoomed fully out. A good 192 KHz soundcard will run between \$75 to \$150 depending on what you get and who you get it from. But, you can make do with a 48 or 96 KHz card in a pinch, if so desired. Larry N8LP has an in-depth discussion of sound card criteria on his website. Proper setup and calibration per the manual is essential, or the user may encounter spurs or other odd signals in the passband. This is a complex item, and unfortunately, you probably will have to read the manual.

Use good quality audio and RF cables to patch the signals in and out of your computer and radio. A BNC coaxial cable will also be needed to hook up to the IF input connector on the rear of the LP-PAN unit. The reader is again referred to Larry's website and the Yahoo group for in-depth technical and setup information, which are beyond the scope or intent of this short article.

What can my Kenwood TS-940S do now in conjunction with PowerSDR-IF and Ham Radio Deluxe?

1. I can control my operating frequency, mode, band, and filtering remotely by a simple mouse-click.
2. I can recall an almost unlimited number of stored frequencies, with accompanying mode, and other informational data, again, just by a mouse-click.

-. .-. -- -. .-. .. -.- -. .-. -- -. .-. .. -.- -. .-. -- -. .-. .. -.- -. .-. -- -. .-. .. -.-

## NEW FUNCTIONALITY FOR A KENWOOD TS-940S (CONTINUED)

3. I have access to advanced digital filtering, infinitely adjustable bandpass filters, slope adjustments, etc. I can tweak the DSP filtering, noise blankers, etc., to suit the conditions encountered. I am not stuck with a single time constant that one would encounter, for instance, with a hardwired radio.
4. I can click on any signal displayed on the panadapter, and the TS-940s will tune to it instantly..
5. I have a digital signal strength meter.
6. The I and Q signals can be routed from the computer sound card's line-out jacks to a stereo system, giving a very high quality, almost 3D surround sound effect. It's fantastic!
7. By using the built-in functions of Ham Radio Deluxe, I can click on internet-updated DX Spot data, and be instantly tuned to the station of interest, and then automatically transfer all of the station's QRZ information, time of the contact, etc., into an electronic logbook. Provisions for backup of this data are also available.
8. I get a software defined radio for a fraction of the cost of a Flex 5000a.

Another piece of free SDR software that works with the LP-PAN unit is WinRAD. It works independently of Ham Radio Deluxe or PowerSDR-IF and is essentially standalone.

The best part of all is that all of the supporting software listed herein is free and under continual improvement and updating.

In summary, I only need to look at my Kenwood TS-940S when I turn it on and tune up on a band for the first time. After that, I don't need to look at it again unless I change bands. What can I say? It's cool in the extreme!

Larry Phipps, N8LP, has some other cool ham stuff on his website, including perhaps the most feature-dense power-swr meter for sale anywhere. Check it out too if you're interested.

And no, I am in no way associated, nor have I even met, Larry. I work for, and support the fine soldiers and their families that make up the 3<sup>rd</sup> Infantry Division

73 and Have Fun!

Internet Links:

LP-PAN Information/Ordering: <http://www.telepostinc.com/LP-PAN.html>

PowerSDR-IF Software: <http://www.wu2x.com/sdr.html>

WinRAD: <http://www.windrad.org>

Ham Radio Deluxe: <http://ham-radio-deluxe.com>

Yahoo!: <http://groups.yahoo.com/group/LP-PAN/>

Neidlinger Net: <http://www.neidlinger.us>

Philip Neidlinger, PE  
KA4KOE

-. .-. -- -. .-. .. -.- -. .-. -- -. .-. .. -.- -. .-. -- -. .-. .. -.- -. .-. -- -. .-. .. -.-



## ARES NOTES

~GUY McDONALD, K4GTM, CHATHAM COUNTY ARES EMERGENCY COORDINATOR

### TRAINING ACTIVITIES:

Next periodic Served Agency Station Testing and Familiarization Training will be held on Saturday, April 11<sup>th</sup> at 9:00am. Location to be announced.

### QUARTERLY ARES MEETING:

Quarterly Chatham County ARES Meeting to be held on Monday, April 13<sup>th</sup> at 6:30pm at the Memorial Medical Center Hoskins Building. We will take photos and issue ARES badges. We will have a number of updates and training topics to discuss involving our various Served Agencies.

### CHATHAM COUNTY ARES 2 METER NET:

The Chatham County ARES 2 Meter Net meets each Thursday evening at 8:00pm. We could use more Net Control Operators. If you'd like to give it a whirl, let me know. If we are ever called upon to activate, we could need quite a few operators to support an emergency net as well as our served agencies. Now is the time to practice and prepare. Also, remember that the 1st net of each month is "Emergency Power Net." If you can run on emergency or battery power, please plan to do so.

### GEORGIA SECTION ARES NET:

The weekly statewide Georgia Section ARES Net is held each Sunday at 5:00pm on 3.975

### ST. PATRICK'S DAY ARES SUPPORT

Our local Chatham County ARES organization had a unique opportunity to support our local served agencies during the recent St. Patrick's Day Parade here in Savannah. Each year Savannah holds the 2nd largest St. Patrick's Day Parade in the country. Our county emergency management agency, CEMA, asked us a few weeks ago if we would provide operators to man the HAM Station at the Emergency Operations Center during the center's activation. We were more than happy to say yes. Our station at CEMA is one that we test and train on regularly here in the county. The first thing we needed to do was to hoist up the horizontal dipole HF antenna that we had stowed since we activated the station last year during the near miss of Hurricane Hanna. Thanks to Mac, KF4LMT, and Doug, KF4EFP, for getting the antenna back up in the air and the station tested the week before the parade.

So with the antenna up and the station tested, we were ready to man our position in the EOC. We were asked to be in place at the HAM station at 0600 the morning of the parade. So of course Steve, K4SDJ, was there at 0530! Steve got the station, callsign N4CEM, up on the air and I initiated an ARES Net on our primary ARES frequency of 146.970. We did our comm checks and I then began taking check-ins from local ARES members. We decided that we would activate a net so that we could be in the best possible position to respond wherever and whenever we may be needed. Last year during St. Patrick's Day post parade festivities, we had a couple of tornados touch down in the area and topple several power line towers which plunged Savannah and several surrounding counties into darkness. We did activate last year but we thought we'd better be more proactive this year. And we were.

Throughout the course of the day we had over 25 operators check into the net and provide information such as their location and availability. We even had three operators on floats in the parade! How about that... "Parade Float Mobile." We also took the opportunity to integrate a few of our other served agencies into the net. Kevin, WDOGFG, activated the Candler Hospital, callsign W3SRC and Carl, KC4UHM, activated the station at Memorial University Medical Center, callsign K4MUM. At about 0900 I activated the HAM Station at the Savannah Red Cross, callsign K3SRC. I got a good comm check with the EOC and continued to run Net Control from that location long enough to move all of our portable operators in and along the parade over to a "tactical net" on another repeater that is closer to downtown and provides much better coverage for the area. This became the primary net for most activity while I continued to monitor and take check-ins on the 146.970 as a "resource net." At 1400 I was notified by K4SDJ at CEMA that the EOC was being deactivated and that we were standing down. What a great opportunity this event gave us to practice some of our procedures and to show our served agencies and the community just how prepared we are to assist in times of emergency or disaster. As the ARES EC for Chatham County, I want to thank the following operators who participated in this activation.

- K4SDJ, W4SWJ, KF4LMT
- KF4EFP, KA4KOE, KF4FAV
- AF4KL, KJ4HAL, KC5VCF
- K4DJD, WDOGFG, N4RVM
- W4REQ, W4WTO, W4JJK
- KA4CID, KD4BWW, K4JAC
- KF4FAW, KF4JBQ, KG4SZS
- KC4MKD, KI4PZW, AJ4MY
- KJ4GT1, K5LBM

-. .-. -- -. .-. .. -- -. .-. -- -. .-. .. -- -. .-. -- -. .-. .. -- -. .-. -- -. .-. .. -- -. .-. --

## NO VHF SWR METER? NO PROBLEM

The following article was published in the February 2009 ARRL Georgia Section Newsletter and was written by **DAN ROMANCHIK, KB6NU**:

I subscribe to a lot of amateur radio mailing lists. One of the most interesting is the HamRadioHelpGroup mailing list <http://groups.yahoo.com/group/HamRadioHelpGroup>. Recently, a ham asked:

Will a CB SWR meter work on a 2 meter ham radio??

**Mark, K5LXP**, replied:

Yes and no. I use a CB SWR meter to check 2M antennas all the time. There is a trick to it however.

If all you want to do is check SWR on your 2M antenna, you don't necessarily have to buy a dedicated VHF/UHF SWR meter. What I keep in my tool bag for that is a cheapie \$5 Hamfest special CB SWR meter. They really don't work well on 2M but there's a trick you can do that will net a reasonably accurate SWR reading on 2M with one of these meters. What you do is connect up the meter as usual, key the rig with the switch in the forward power position, set the adjustment for full scale. Now, without touching anything, swap the coax connections so that the rig is connected to the ANT' side of the meter, and the antenna is connected to the 'XCVR' side. The reading you see on the meter will be very close to your real SWR. The closer to 1:1 your SWR is, the more accurate it will be. It would be more convenient to have a real SWR meter or antenna analyzer if you do a lot of testing, but for a quick antenna check after a mobile install or whatever, the \$5 CB meters work OK.

The theory is relatively simple. A basic SWR bridge is comprised of two couplers, each of which consist of a stripline or a pickup loop, and a detector diode. One coupler is used to detect forward power, the other reflected.

At 27 MHz, the precision of the components required isn't too stringent. Just about any diode will work, and minor imperfections in the stripline or pickup coils won't impact the accuracy that much.

But at 2M suddenly minor differences between the striplines, stray capacitance, and type of diode starts to matter. By using just one of the couplers for both the forward and reverse readings any error that exists in that coupler is the same for both readings and thus cancels out. It's unlikely it'll work at 440 however, it's just too much to ask to expect a true 50 ohm network and zero bias or hot carrier diode in a cheap CB meter.

The absolute reading on 2M may still be somewhat inaccurate, especially at high SWR but odds are you don't care about that. All you're interested in is 1:1 or as close to it as you can get, and for that the \$5 meters will be good enough.

When I asked his permission to use this, Mark said, "I don't get the credit, I picked it up from an old-timer years ago." Well, Mark, you might not get the credit for thinking this up, but you certainly get the credit for passing it on. Thanks!

-----

*Come connect with us! Visit the Amateur Radio Club of Savannah's Website:*

<http://www.qsl.net/arcs>

-. .-. -- -. .-. .. -- -. .-. -- -. .-. .. -- -. .-. -- -. .-. .. -- -. .-. -- -. .-. .. -- -. .-. --

**ARCS MARCH 2009 2 METER NET REPORT**  
**146.37 / 97 REPEATER**

**MAR 5 22 CHECK-INS      MAR 12 25 CHECK-INS**  
**MAR 19 11 CHECK-INS      MAR 28 28 CHECK-INS (1 ROUTINE TRAFFIC)**

*Thanks to all of you who checked into the nets! We look forward to hearing from you next Thursday!  
 We are always looking for net control operators. If you would like to become a net operator or a backup operator, please download the ARCS net script at <http://www.qsl.net/arcs>*

**March 2009  
 Net Schedule**

<b>Sun</b>	<b>Mon</b>	<b>Tue</b>	<b>Wed</b>	<b>Thu</b>	<b>Fri</b>	<b>Sat</b>
5pm- Georgia State ARES- 3.975 LSB  9pm- Coastal Amateur Radio Society- 147.330 (CTCSS 203.5)	1pm- GA Traffic Net- 3987.5  9pm- Southeast GA 6-Meter Ragchew- 50.200 USB	1pm- GA Traffic Net- 3987.5  8pm- Statesboro Amateur Radio Society- 147.105+	1pm- GA Traffic Net- 3987.5	1pm- GA Traffic Net- 3987.5  8pm- Chatham County ARES 146.970-  8:45pm- Savannah Simplex Net- 146.520  9pm- Amateur Radio Club of Savannah- 146.970-	1pm- GA Traffic Net- 3987.5	1pm- GA Traffic Net- 3987.5

**ARCS 2009 ELECTED OFFICIALS**

President: Andy Blackburn, WD4AFY, (912) 238-4676, [andy@g-net.net](mailto:andy@g-net.net)  
 Vice President: Douglas Rowland, KF4EFP, (912) 826-7199, [jdrowland@windstream.net](mailto:jdrowland@windstream.net)  
 Secretary: Brandy Davis, KI4PZW, (912) 313-7546, [ki4pzw@yahoo.com](mailto:ki4pzw@yahoo.com)  
 Treasurer: Kayton Smith, W4KTN, (912) 238-3030, [kayton3@comcast.net](mailto:kayton3@comcast.net)  
 Activities Manager: Beth Ann Blackburn, KI4ZDN, (912) 238-4676, [bethann@g-net.net](mailto:bethann@g-net.net)  
 Trustee: Kurt Hoffman, N4CVF, (912) 356-8581, [n4cvf@arri.net](mailto:n4cvf@arri.net)

*Comments, Questions, Ideas, or Submissions??  
 Email the Editor at [ki4pzw@yahoo.com](mailto:ki4pzw@yahoo.com)*