



# Tallahassee Amateur Radio Society JUNE, 2010



The Tallahassee Amateur Radio Society meets at 7:00 p. m. on the first Thursday of every month. Our primary meeting location is the conference room on the upper floor of the Publix on Ocala Road in Tallahassee. Talk-in on the AE4S repeater 146.655 (down .600, tone 94.8), or 146.520 simplex if you require entry into the building

Lot's of preparations for **Field Day Weekend**. We continue making plans for **Field Day**. As well as for the **Elections of the election of officers in the June meeting**. We still need a **Secretary to be nominated**.

If you have a **club laptop** with the **logging program**, please bring to the **meeting**.

**Minutes of the May TARS Membership Meeting**  
**TARS - Tallahassee Amateur Radio Society**  
**Thursday, May 6, 2010**

The TARS May Meeting was held at the Publix on Ocala Rd. on Thursday, May 6, 2010.

CALL to ORDER at 7:00 p.m.

President Dan Moniz KI4HGO welcomed the \_\_\_ members and guests who signed in.

\* *The sheet listing those in attendance is made a part of these minutes.*

#### PROGRAM

Dan introduced Charlie Wooten, NF4A, who gave a fascinating presentation with an insider's view on an intrepid DXpedition to Midway Island in the South Pacific in 2009. Charlie learned of the opportunity while celebrating his anniversary with his wife and had just 24 hours to appear in Hawaii fully equipped and ready to go. He explained why it is so difficult to mount a DXpedition to Midway Island. The atoll is very isolated, and now forms part of the Papahānaumokuākea Marine National Monument, although the US Fish and Wildlife Service has now established a Visitor Service Plan that includes Amateur Radio as an approved activity. The DX group overcame many difficulties with logistical arrangements, including having 2 tons of antennas and equipment pre-shipped to Midway Island by barge from Hawaii, scheduling the event to avoid bird nesting seasons, flagging antennas and all guy wires for bird avoidance, dodging albatross guano that occasionally rained down, the many vagaries of elusive bands, and many others. More information is available on the website: [www.midway2009.com](http://www.midway2009.com). Charlie was given an appreciative ovation for one of the most unusual and memorable presentations of the year.

#### BREAK

Stan K4SBZ was the lucky 50-50 participant, but several other hams managed to take home offerings from the peripatetic Wisconsin cheese genie.

#### OLD BUSINESS

1. TARS trailer. Randy AG4UU gave a very detailed powerpoint presentation on his assigned quest for a TARS communications trailer. After regaling listeners with a twisting tale that led him from Camp Blanding, Florida to a sea of 1500 FEMA trailers in Brooklyn, Mississippi, he gave a detailed description and photos of the club's new and never-used 32-ft Gulfstream 2006 Cavalier. The former FEMA trailer appears well built (all aluminum, 16" on center framing, 10-year guaranteed roof) and spacious. The club owes thanks to the State of Florida for making it possible to transfer this trailer to TARS for use in emergencies and training. Roger AJ4GF is helping with arrangements for the tag. Randy requested only reimbursement for the trip to drive the trailer back to Florida, and a motion to approve such reimbursement was approved by acclamation. Randy received an enthusiastic round of applause for his efforts and the achievement of a long-term TARS plan to replace the aging van.

2. Repeater List. Sal K4YFW, with recognition and thanks to Roberta K4HRM for her help, passed out lists of area repeaters that are available for regular use and during emergencies. This was no small feat, as each repeater was checked multiple times and the list underwent various updates. Sal was thanked for leading this important and time-consuming effort.

#### NEW BUSINESS

1. Sal K4YFW requests assistance over a few evenings with work at the Red Cross. He has been working there to get the communications room ready for use, and says it is 90% complete. Interested volunteers can email or call Sal.

2. Phil N4IPH announced a one-day class for May 29, 2010. Details are in the TARS Newsletter. The question pool for a Technician-level license changes in July 2010, so this is the last chance to test using the 2006 pool. Testing will be the following Tuesday at the next ordinary TARS testing session at St. Francis of Assisi church.

#### FIELD DAY

Mike K4ICY said good progress has been made in initial planning. The location will be J. Lee Vause Park (just north of the intersection of NW Capital Circle and Old Bainbridge Rd.), as in recent years. Richard W1AAO suggested the caretaker might be asked to trim limbs over the road, a bit, so trailers and other large vehicles can enter safely. Mike said some of the modes in use will be phone, CW, satellite, PSK31, DStar, and DRats; and classes are planned for antenna-building and PSK31. Mike circulated sheets so members could sign up for specific times and stations.

Stan K4SBZ, information officer for the event, told of various ideas raised during the Field Day webinar he attended, with the purpose of increasing the profile of Field Day for the public and attracting public officials. A lively discussion ensued, with Jerry N4JL summing up the prevailing sentiment that TARS' Field Day is primarily an opportunity for hams to get together and practice the hobby. Public officials certainly are invited to join the group for the meal, and that will give them a good chance to meet and greet. Stan asked all to please distribute Field Day notices, and also raised the idea of considering Facebook, Twitter, or other social media in the future to inform the public of Field Day.

#### OFFICERS' REPORTS

The May TREASURER'S REPORT and MINUTES from the April meeting were printed in the Newsletter, and approved.

#### COMMITTEE REPORTS

Testing -

Alan Terrell N4KGT said the next test session will be held, as usual, on the first Tuesday of April. The details are on the TARS website. Alan answered a question about the radios at FSU, saying they are currently dismantled. He also reported that at the Thomasville Amateur Radio Club (TARC) meeting on Saturday, May 2, he thanked TARC for their help with the TOSRV bike tour. He also thanked Kerry AI4CW for handling the major part of Net Control duty during TOSRV when they worked much of the race via a hand-held radio off a mag-mount attached upside-down to the ceiling at the command post. Ham ingenuity does it again!

Nominations -

Dave Barton gave the report for the Nominating Committee, and thanked his fellow members, Chuck AI4KA, and Nick W4EAF, for their efforts. Dave reported that the committee had queried the current officers, and all but Chantal KI4NBU were willing to accept nomination for the upcoming election. Despite queries to other members, no candidate was found for the Secretary position. The slate offered for the June election, therefore, is: Dan KI4HGO for President, Alan W1ABT for Vice-President, and Larry KI4MAJ for Treasurer. Dave said nominations for the Secretary position can be passed along to the committee or raised at the June meeting, when voting will be conducted.

#### ADJOURNMENT

A motion to close the meeting was approved at 9:03 p.m.

Respectfully submitted,

Chantal Blanton, KI4NBU

# TARS Treasurer's Report

May 2010

Beginning balance April 1, 2010

Checking Account:	\$ 471.02
Savings Account:	<u>\$2927.80</u>
Total	\$3398.82

Receipts deposited in checking account: \$41.25

Receipts deposited in savings account: 0.36

Receipts derived from the following:

\$41.25	Member Due
<u>.36</u>	Payment of interest for savings account
\$41.61	Total

Expenditures:

\$ 22.16	Talquin Electric, Bethel Road Tower, 4-8-10 bill
\$ 22.16	Total

Outstanding Expenses:

None

Ending Balance, April 30, 2010

Checking Account:	\$ 490.11
Savings Account:	<u>\$2928.16</u>
Total	\$3418.27

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3 members renewed or joined since last report.

3 individuals  
0 family members  
0 students

Dues for renewing individuals, as well as family members are \$15.00.

Membership fee for new members joining in May is \$10.00..

# Minutes of the April TARS Membership Meeting

## TARS - Tallahassee Amateur Radio Society

### Thursday, April 1, 2010

The TARS April Meeting was held at the Publix on Ocala Rd. on Thursday, April 1, 2010.

#### CALL to ORDER

President Dan Moniz KI4HGO opened the meeting at 7:00 p.m. and welcomed the \_\_\_ members and guests who signed in.

\* *The sheet listing those in attendance is made a part of these minutes.*

#### INTRODUCTION of GUESTS

Dan introduced new Technician, Gary Diehl, KJ4SWE. Stan Zawrotny K4SBZ introduced his wife, Elizabeth, who is studying to take the test for Technician. Stan will be the new PIO (Public Information Officer) for the club. Phil (Chief) Fusilier, KJ4RZI, added that the library now has the ARRL Handbook. It now comes with a disc. Dan asked if everyone received the newsletter by email. A few did not.

#### PROGRAM

Field Day: Mike Maynard, K4ICY, will again take the lead on this year's Field Day, the last weekend of June, the 26th and 27<sup>th</sup>. On Field Day, amateur radio operators set up in a park or other public place and operate for 24 hours through the night. Hams get on the air and try to make contacts with other hams throughout the country and some outside the States. Mike described his impression of Field Day: a good chance to get together, good food, a chance to learn things electronic, an opportunity to set up radio communication simulating an emergency situation. Things can happen that are not planned and give us an opportunity to learn how to adapt and cope. The event is still in the planning stage. If no other place pops up very soon, we will be back at Lee Vause Park on Old Bainbridge Road off of Highway 27.

Mike encouraged everyone to participate and emphasized that help will be needed. We will need shelters. Captains for the Get On the Air (GOTA) station, as well as the phone station, UHF and VHF station and the CW station will be needed. Mike plans to have PSK and DStar demonstrations there also. Stan K4SBZ is going to be the PIO for the event. Last year we had coverage with the Tallahassee Democrat and also Channel 6 TV.

If you can help by taking charge of a station or can provide equipment like generators, please email Mike at [K4ICY@ARRL.net](mailto:K4ICY@ARRL.net). A list of needs was passed around as well as a sign-up sheet to operate one of the stations. Alan, W1ABT, added that a backup site might be the St. Francis Church on Old Bainbridge Road. The new Red Cross building site has too many overhead lines.

#### ANNOUNCEMENTS and OPEN DISCUSSION

1. Recent TARS Activities: Dan reviewed the activities of the past month: the Shamrock Scurry, the hospital exercise, the Blue Line 100. Coming up is the 2-day bike tour TOSRV in cooperation with the Thomasville and Albany (Georgia) clubs; the Annual Radio Reunion at Thomasville; and Airfest. Dan expressed appreciation for all those who volunteer for these events. However, we need more people to get involved, especially new hams.

2. Airfest: Richard, W1AAO, noted that the Airfest this year will be in Quincy and will be a Fly In rather than an airfest. It will take place on May 14 and 15. The 14<sup>th</sup>, a Friday night, will just be the cookout that they usually have the night before the event. Saturday, the 15<sup>th</sup>, will be the single day of the Fly In. Insurance and other issues required moving the event to Quincy this year.

3. Hospital Exercises: Alan, W1ABT, said we need a dedicated core of people to volunteer for the hospital exercises. There are radios at TMH and Capital Regional in the Emergency Rooms and also in the triage area of the Emergency Operations Center (EOC) of each hospital, at the Sheriff's EOC at the Leon Co. Jail,

at the Leon County Sheriff's Dispatch Center, and finally at the Red Cross. We need 2 or 3 people at each site. Call or email Alan to volunteer. Telephone is 933-5633. You can email Alan at [W1ABT@ARRL.net](mailto:W1ABT@ARRL.net). Dan said we need to do the hospital exercise each month.

Because of the security issues at the hospital, Randy, AG4UU, stated that establishing a core group of people will be important. TMH is considering giving badges to the individual operators as a security measure, and this idea was well received. At the very least, a list of people coming to help will be needed. We won't be able to have open access to the radios. Dan asked Alan to get with Donna, WQ4M, and get things rolling.

4. Elections in June : The elections take place at the June meeting. The Bylaws require that a slate of nominations for office be presented at the May meeting, although nominations from the floor can also be presented in June. There will be a vacancy for the secretary's position, as Chantal, KI4NBU, is stepping down in June. Dan has asked Dave Barton, AI4GF, to chair the nominating committee again.

#### OFFICERS' REPORTS

#### TREASURER'S REPORT and MINUTES

Larry, KI4MAJ, explained the high Talquin Electric bill for the month of March. Talquin Electric bills us for the minimum amount for 5 months and on the 6<sup>th</sup> does a reading of the meter and charges us for the difference. This is repeated for the second 6 month period. Randy thought we might want to check the wattage and meter readings. He was surprised that much electricity would be needed to operate the Bethel Road repeater. The Minutes and the Treasurer's reports were approved.

#### ADJOURNMENT

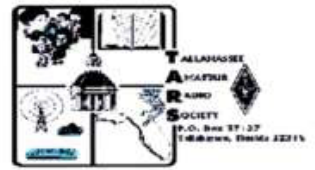
The meeting was adjourned early at 7:47 p.m. Carl, NN5I, invited people to finish the cheese cake he had brought in to the meeting. In true TARS style, hams stepped up to the plate and finished off Carl's cake.

Respectfully submitted,  
Chantal Blanton, KI4NBU

(with very sincere thanks to Larry KI4MAJ who acted as substitute Secretary and provided wonderfully detailed notes from the meeting.)



# Amateur Radio License Class



For more information or questions.

Call the **Phil Ashler** at **(850) 893-2410**.

The Tallahassee Amateur Radio Society will sponsor an Amateur Radio License Class on **Saturday, May 29th, 2010**. The class will run from **9:00 AM to 4:00 PM** at **St. Francis Episcopal Church**, Fellowship Hall, 3413 Old Bainbridge Road North of I-10 in Tallahassee. This will be a **one day class**..with a short break for lunch.

There is no charge for the class. The ARRL Volunteer Examiner test session will be held the **following Tuesday night at 7:00 PM** (\$15 test fee). **The Technician License Manual (\$24.95)** should to be ordered before the class from the ARRL ([www.arrl.org](http://www.arrl.org)) or from one of the local book stores. ARRL Order Toll-Free 1-888-277-5289. It is suggested that you also download and print a copy of the current Technician Question Pool from the [www.arrl.org](http://www.arrl.org) or [www.ncvec.org](http://www.ncvec.org) **Before you come to class.**

The course will cover the necessary FCC rules & regulations, electronic theory, Operating practice for the FCC **Technician Class Amateur Radio License**.

Saturday May 29th, 2010

# Amateur Radio Field Day

“Hams” go radio-active June 26-27

Thousands of Amateur Radio operators, often called “hams,” will be showing off their wireless capabilities June 26-27. Erecting radio stations in community parks, campgrounds, schools and emergency centers throughout the country, they will hold a “Field Day” to show their emergency communications abilities while having fun talking to friends all over the continent with their radios.

Amateur Radio activity is growing in the United States. In 2009 over 30,000 new people became “hams.” The technical skills of hams also has improved as almost 50% of American Amateur Radio operators have gone beyond the entry level licensing requirements and passed the more difficult testing to earn higher class FCC licenses. There are more than 680,000 Amateur Radio operators in the US, and 2.5 million around the world.

In the past months, the news has had many reports of ham radio operators providing critical communications in emergencies world-wide. During fires, earthquakes, tornados and other crises, Amateur Radio was often the only way by which people could communicate. Amateur Radio operators are often the first to provide critical early information and observations to responders in crisis situations. FEMA, DHS, the National Weather Service, and emergency management offices have Amateur Radio Emergency Services (ARES®) operators in their emergency communications plans. On June 26-27, the public will have a chance to meet and talk with the hams and see for themselves what the Amateur Radio Service is about. Using their digital and satellite capabilities, voice communications, radio and even Web hybrid systems along with historic Morse code, they prove “It’s not your Grandfather’s radio anymore.”

Using only emergency power, ham operators will construct temporary radio stations around the country for the weekend and send messages in many forms without the use of phone systems, internet or other infrastructure that can be compromised in a crisis. More than 35,000 amateur radio operators across the country participated in last year's event.

To learn more about Amateur Radio, go to [www.WeDoThat-Radio.org](http://www.WeDoThat-Radio.org). The public is most cordially invited to come, meet and talk with the hams. See what modern Amateur Radio can do.

In Tallahassee, the Tallahassee Amateur Radio Society(TARS) will be setting up at J Lee Vause Park on Old Bainbridge Road. Contact Stan Zawrotny at [K4SBZ@arrl.net](mailto:K4SBZ@arrl.net) or 850-590-6617 for more information. To find out where the Amateur Radio operators will be set up in other areas, go to [www.ARRL.org/fieldday](http://www.ARRL.org/fieldday).

They can even help you get on the air!





# **FIELD DAY 2010** June 26-27 - Always the fourth full weekend in June!

The ARRL Field Day is the most popular Amateur Radio on-the-air operating event in North America.

On the fourth full weekend in June, tens of thousands of Amateur Radio operators in the US and Canada gather for a demonstration of our service.

Field Day is part educational event, part operating event, part public relations event -- and all about fun!

Hams will come together in outdoor locations, setup shelters, hang antennas, provide meals and run exclusively from generator and battery power; all in an emergency event style environment.

We look forward to your attendance and participation on Saturday, June 26th through Sunday June 27th at a to-be-announced location. When announced, visit the ARRL Field Day Locator for directions.

<http://www.arrl.org/contests/announcements/fd/locator.php>

Talk in will be on the AE4S repeater, 146.655 MHz (-600 KHz) CTCSS(PL): 94.8 Hz.

This is a wonderful chance to show the non-hams and the community at large our hobby in action. New hams and inexperienced ones alike will have a golden opportunity to be taught by the best "Elmers" around - a chance to try out HF and other exciting modes for themselves. A 24-hour on-air contest with ample operating opportunities will be available to any ham throughout the event. So spend the night!

TARS will host a "class 2A station" with a GOTA station and will run from 8:00 AM EDT Saturday to 5:00 PM Sunday. Contest starts at 2:00 PM Saturday and runs till 2:00 PM Sunday with operator and logging station spots available.

Sandwiches and wraps will feed the hard working setup crew on Saturday with a supper served that evening. A simple breakfast and lunch will be provided Sunday. Snacks and water provided throughout.

A lot of fun is to be had. There's something for everyone – See if one of the following interests you:

**Food & Friends** - Meet your friends and ham acquaintances from long ago... put that call to a face.

**Station Setup** – Install antennas and get radio equipment up and running.

**GOTA Station** - Get On The Air! If you're new to ham radio or haven't been on in a while... here's your chance! Kind assistance is there to guide you.

**Test Session** - Ready to upgrade? Know someone ready to get their ticket?

An ARRL VE administered test session will be held at 11 am on Saturday the 26th.

#### **Educational Sessions**

- Learn how build and install basic dipole antennas! 10-11 AM Saturday

- Learn about digital communications - See fantastic demonstrations of D-STAR and PSK-31 in action.

The future of radio with crystal-clear voice and data is here!

- Get On The Air yourself! - Learn radio operating procedures and techniques first-hand. Get to talk to hams across the country and the world!

**Operate a Station** - Though not an official ARRL contest, there'll be plenty of on-air action, making contacts all over the country, and racking up points for the TARS club too.

- **An HF Phone** (Single Sideband Voice) Station

- **An HF CW** (Morse Code) Station

- **A VHF/UHF** (6 meters and above SSB / FM) Station

- **GOTA** (Get On The Air) Station

- **Digital** Demonstration Station

**WE NEED YOUR HELP!** In the spirit of volunteerism that hams are well known for, TARS is looking for a few good hams to donate their time and equipment toward running a successful Field Day event.

Please look over the items on the provided sign-up list that you may be able to offer. (You do not need to be present for the entire Field Day event.)

We'll see you there! 73!

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Mike Maynard K4ICY, 2010 Field Day Chairman/Coordinator Tallahassee Amateur Radio Society

email: k4icy@arrl.net

phone: 320-1676 or leave message at (Classic Shirts, Inc.) 875-2200 Ext. #32

talk-in: AE4S repeater, 146.655 (-600 KHz) CTCSS(PL): 94.8 Hz

## Tech Test Gets a Little More Technical

By Dan Romanchik, KB6NU

Ever since the FCC dropped the code requirement and the Novice license exam, the Technician Class license has really been misnamed. Being the first license that most hams obtain, it really should have been called the Novice license. The question pool was arguably at the appropriate level for newcomers to amateur radio, being heavy on rules and operating practices, and perhaps a little light on technical topics.

That's about to change. On July 1, 2010, the question pool for the Tech test changes, and this version has noticeably more technical questions than the previous test. You could say that the Tech test is getting, errrr, a little more technical.

For example, the new question pool contains more questions about electronics components and their functions. In addition to that, examinees must also be able to identify the symbols for these components on a schematic diagram. This is a big change from the previous test, which had no diagrams at all. There are also more detailed questions about transistors and how they work.

There are also questions on how to make basic measurements with a multimeter how to troubleshoot basic problems that Technicians are likely to encounter. One question asks, "What two measurements are commonly made using a multimeter"? Answer: voltage and resistance. A follow up question asks, "What is the correct way to connect a voltmeter to a circuit"? Answer: in parallel with the circuit.

To make room for these questions, the committee dropped questions on operating practices and rules and regulations. In general, these are not big losses, but two questions that I was sorry to see go are the questions on the "basis and purpose" of amateur radio. I think these are very important for new amateurs to learn and keep in mind. (If you don't recall them, go to <http://www.arrl.org/part-97-amateur-radio> and review them.)

By the time you read this--or shortly thereafter--the new version of my No-Nonsense, Technician Class License Study Guide should be available. You can download it free of charge from my website, [www.kb6nu.com](http://www.kb6nu.com). Look for the link in the right-hand column. It's currently in the hands of more than two dozen reviewers, who are proofreading it right now.

While it may not be in the initial release, I plan to include a section that contains links to websites that cover topics included in the study guide. That way, students can find more information on a topic, if they choose to do so. If you have any favorite websites that discuss making measurements with voltmeters or how to read schematic diagrams, I'd love to hear from you.

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When not updating his No-Nonsense amateur radio license study guides, you'll find him on 40m, 30m, 20m, and if we ever get any sunspots to stick around, 15m and 10m pounding brass. You may even hear him trying to get the hang of using the bug he bought at Dayton this year. You'll find his blog at [www.kb6nu.com](http://www.kb6nu.com), and you can e-mail website suggestions to [cwgeek@kb6nu.com](mailto:cwgeek@kb6nu.com)

# New Membership or Renewal Form



2010 has arrived and so has TARS membership renewal. Make the form easy on yourself. If you have not changed any information from last year, merely make payment to TARS. Complete the form with your name and indicate your member type and ARRL membership status. For Family status, complete a form for each member.

Name: \_\_\_\_\_ Callsign: \_\_\_\_\_

Address: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ ZIP: \_\_\_\_\_ - \_\_\_\_\_

Member type: Individ. \_\_\_\_\_ Family \_\_\_\_\_ Student \_\_\_\_\_ (check one)

Home Phone ( ) \_\_\_\_\_ - \_\_\_\_\_ Work Phone: ( ) \_\_\_\_\_ - \_\_\_\_\_

Cell Phone ( ) \_\_\_\_\_ - \_\_\_\_\_

E-Mail Address: \_\_\_\_\_

ARRL member (y/n) \_\_\_\_\_ TARS Van trained (y/n) \_\_\_\_\_

Membership dues for the Tallahassee Amateur Radio Society run \$15 annually per individual or family. **Students** (with valid ID) **can join for free!** You need not be a licensed amateur radio operator to join the Society. An interest in radio communications is all that is required. New members pay pro-rata based on the number of months remaining in the calendar year (\$1.25 per month). Renewing members pay \$15 dues; except after July, dues become \$7.50.

Please make your dues check payable to the Tallahassee Amateur Radio Society (or TARS). Bring your check with the additional information to the next monthly meeting of the Society and give it to the Treasurer, or mail your check and information to the Tallahassee Amateur Radio Society, C/O Treasurer, P. O. Box 37127, Tallahassee, FL, 32315.

If you are interested in becoming a member of the American Radio Relay League (ARRL), their dues are \$39 annually. TARS is an ARRL sanctioned organization. Go to <http://www.arrl.org/join.html> for more membership information.

# TARS Officers

President: Dan Moniz - KI4HGO  
Vice President: Alan B. Torledsky - W1ABT  
Secretary: Vacant  
Treasurer: Larry Pushor - KI4MAJ

## TARS Committees:

Repeater Trustee #1: Randy Pierce AG4UU  
Repeater Trustee #2: Vacant  
Newsletter Editor: Dan Moniz KI4HGO  
Historian: Shawn Wilson AG4VE  
Equipment Manager: Steve AD4E  
Education: Phil Ashler N4IPH  
Special Events: Carliane Johnson KG4CJT  
Webmaster: David A. Heupel WE4RA

## Upcoming Events:

**TARS Meetings:** Every first Thursday of the month at 7:00 p.m. EDT at Publix at Ocala Rd.  
Friday Lunch 11:30 a. m. EDT at Golden Coral on No. Monroe St.  
Capital District ARES Net: Every Sunday, 8:00 p. m. Eastern on the AE4S repeater 146.655).  
North Florida ARES Net: Every morning, except Sunday on 3950 KHz at 9:00 a. m. Eastern

## EDITORIAL POLICY

Submitted material received by the editor on or before the 20<sup>th</sup> of the month will appear in the following month's newsletter as space permits. Comments and/or suggestions to improve the newsletter are welcomed. The Printed Circuit is not representative of the views or opinions of the whole organization, and such views and opinions are of the individual author(s). The editor is Dan Moniz KI4HGO. Submissions for The Printed Circuit may be emailed to: [KI4HGO@arrl.net](mailto:KI4HGO@arrl.net)

