



**THE ARRAY**  
NOVEMBER 2019



**From the President's Shack, Ron Ford, KF5OMH:**

Last month at this time I was wondering if fall weather would ever arrive. Well, it did for a few days then we slid right into winter for a while. Now it looks like we are headed back to fall. As the saying goes, "This is Texas, if you don't like the weather, stick around for a few hours and it will change".

The weather was fantastic on Oct. 19 for our JOTA event though. Although the turnout of youngsters was not what we expected, those of us who participated in the event had a great time. We hosted some fine young people who obviously will make great ham radio operators. Hopefully, they will follow through and get their license and become active in the hobby. A big **THANK YOU** to Mike, W5EVT for coordinating the JOTA event. A lot of time and energy went into publicizing the event and coordinating operators and equipment. Also, thanks to those of you who came out to Conner Pavilion to work with the "hams to be". We were also visited by Steve Lott Smith, the ARRL NTX Section Manager and his wife. Thanks to them for making the trip from east Texas. See Mike's recap of the event elsewhere in the newsletter.

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**Web Site: W5LVC.org**

*Check us out*  
**facebook.com/w5lvc/**

*Lewisville Amateur Radio Association  
Is a 501(c)(3) organization*

## LARA Upcoming Events

### Business Meeting

8:00 AM Saturday  
November 16, 2019  
Lewisville Central Fire Station  
188 North Valley Parkway  
Lewisville, TX

### Weekly Nets

“Information and Help Net”  
Wednesday, 7:00 PM on 145.170  
PL 110.9, -.600 repeater

### Saturday Breakfast (except 3rd Saturday)

Korner Cafe  
921 W. Main St.  
Lewisville, TX 75057

## Association Contact Information

Email: [W5LVC.Club@gmail.com](mailto:W5LVC.Club@gmail.com)

### Mailing Address:

LARA, P.O. Box 292282  
Lewisville, TX 75029

## Welcome New Members

Rene Culross, KE5KAR

Mark Culross, KD5RXT

Bill McNichols, WM1MM

## 2019-2020 Officers

### President

Ron Ford, KF5OMH  
[rfavcon@verizon.net](mailto:rfavcon@verizon.net), 972-742-7839

### Vice President

Roger Carver, AE5EZ  
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**THE ARRAY**



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## EVENTS



### CHRISTMAS PARTY

**When: Saturday, December 14, 2019, 6:30 PM**  
**Where: Korner Café, 921 W. Main St., Lewisville, TX**



The Christmas Party will be held on Saturday December 14, 6:30 PM at the Korner Café and is a family affair. Feel free to bring your spouse, significant other, children and/or siblings.

There will be a gift exchange so we ask that you bring a wrapped gift valued at less than \$20.00 for each person in your family. You will be given a drawing ticket for each gift you bring and the gifts will be placed on a table. When your number is drawn you can choose a gift from the table or steal one that has already been opened. A gift can only be stolen three items at which point it will be frozen with the person holding it. If your gift is stolen you then get to choose another gift from the table or steal from someone else.

There will also be door prize drawings for radio and non-radio related items donated by merchants in the area. Door prizes will not be subject to theft but, if you want to exchange with another winner, feel free to do so.

We will order dinner from the regular menu and each family will be responsible for their own check.

Please RSVP using the link in the email announcements so we can give the staff an accurate count for planning purposes. Please indicate in your response how many people will be in your group.



#### JOTA Participants:

*front left:*

Ben Bowman  
 Ben Olden  
 Garrett Mayes

*back left:*

Steven Smith, ARRL  
 NTX Section Mgr.  
 Mike Reitz, ARRL  
 NTX, ASM

*President Ron Ford, KF5OMH  
from page 1*

**Please note: There will not be a December Officers or Membership meeting. The December calendar would have put the meeting four days prior to Christmas and we thought that was probably not a wise idea. Remember though to attend the Christmas Party on December 14, 6:30 PM at the Korner Café. Please RSVP to the announcements when they come in your email.**

Congratulations to Mike, W5EVT, who was recently appointed to the position of Assistant Section Manager for Radio Scouting in ARRL NTX Section. In this position Mike will be focusing efforts to introduce Amateur Radio to scout troops throughout the 68 county North Texas Section. Congratulations also to Dale, KB5NFT, who was also appointed to the position of Assistant Section Manager for Scouting Jamborees and Philmont Scout Ranch. Although these members will be focusing at the Section and National levels it is a great opportunity for LARA to help introduce youth to this great hobby.

Since there will not be a December issue of the newsletter, I thought I would do a somewhat brief "year in review". LARA has grown a lot this year; our membership currently stands at the highest level it has been since the inception of the club. Here are some of the highlights of the year:

1. The weekly Wednesday evening Information and Help Net has continued throughout the year under the leadership of Jim, WB8YWA. Several times throughout the year we've had some different Net Control Stations that have added a new touch to the net. This is a great opportunity for all of you to get on the air with fellow members and hone your skills. Come join us on the 145.170 repeater at 7:00 PM.
2. Saturday breakfasts continue each Saturday, except the 3<sup>rd</sup>. We are currently gathering at the Korner Café, 921 W. Main in Lewisville. Come out and join us for a fun gathering.
3. Monthly Officers Meetings have been held on the Tuesday prior to the Saturday membership meeting. We gather at the Korner Café at 5:30 PM for Dutch Treat dinner and the meeting. Meetings are open to all members so come join us and provide input to your club leadership.
4. Monthly presentations have been given by LARA members and guest speakers at each of our membership meetings throughout the year. Thanks to Mike, W5EVT and Roger, AE5EZ for coordinating the presentations. If you are not attending the meetings you are missing out on some fantastic presentations.
5. LARA also hosted the following events throughout the year. Many thanks to our energetic Operations Director, Mike, W5EVT, for coordinating all of these events.
  - a. Winter Field Day
  - b. Several Swap Meets
  - c. ARRL (Summer) Field Day
  - d. Western Days Parade and on-air Special Event Station
  - e. Scouting Jamboree-on-the-Air
  - f. Christmas Party (upcoming)
6. Steve, W5JK and his team of Volunteer Examiners hosted quarterly testing sessions throughout the year. There is one more opportunity for you to upgrade this year on Nov. 16 so hit the books and get 'er done.
7. LARA also received a proclamation from the Lewisville City Council declaring the week of June 17-23 Amateur Radio Week in Lewisville. This proclamation coincided with Summer Field Day.
8. In September, Mike, KD0CDQ joined LARA and brought with him a wealth of experience in the Salvation Army Disaster Services, in particular, the SATERN (Salvation Army Team Emergency Radio Network) radio network. Several LARA members have been supporting Mike on his weekly 2M and 80M nets on Tuesday evening. For additional info on SATERN contact Mike.
9. Our focus on youth programs has taken a different direction over the year. Initially, we thought a good direction would be to establish a radio station in one of the local schools. Unfortunately, there was no cooperation in several school districts in the area. Our focus will now change to working with various youth groups such as Scouts, YMCA, etc. Quinn, KI5FLF, has volunteered to be a youth leader in this effort. He is active in AFJROTC at Flower Mound High School along with being a very enthusiastic amateur radio operator. If you have not met Quinn, please do so and offer a hand in his efforts to build youth within LARA. Thanks to Perry, NE5ET, for his attempts at radios in the schools and looking forward to potential science fair efforts.

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*President Ron Ford, KF5OMH  
from page 4*

10. Even though it is not an "official" club activity, several of our members spent countless hours helping new hams and hams new to the Lewisville area get on the air or back on the air. Thanks to those of you who reached out with the hand of friendship to welcome these folks to the hobby and the Lewisville area.

As you can see, there are a lot of ways for you to become active in the club. All you have to do is step forward and volunteer. Maybe you have an idea of something you would like to see the club involved in; bring it forward to the officers and we'll put you to work. Even though our membership numbers are at a high level, the number of **active** members remains at about 25% of the total membership.

Hope to see everyone at this month's association meeting at the Lewisville Central Fire Station on Nov. 16. Frank James, KG5ZNJ, will present the program "Getting started with YAESU C4FM". Hopefully, we will have several guests from our on-going Technician Class who will be having a review session and test following the meeting. Let's have a good turnout and show these folks some of the comradery that we enjoy.

As we gather for Thanksgiving later this month, I ask that you not only remember to give thanks for your family and loved ones who will sit at your table of feast but, also give thanks and ask for protection of those who are away from their families serving in the military to protect and defend this great country. Finally, please give thanks for the first responders (Police, Fire, EMS, Medical staff and Dispatchers) who will be away from their families to serve and protect us at home on this holiday of thanksgiving. On behalf of the officers and staff of LARA, I wish you all a very Happy Thanksgiving.

73, Ron KF5OMH

## **2019 62<sup>nd</sup>. B.S.A. Jamboree On The Air**

On Saturday October the 19<sup>th</sup> our club again hosted an annual JOTA event for our area scout youth. A tremendous amount of work goes into the planning, promotion, setup and operation of this event. I would like to thank the 13 club members who gave of their time and efforts to make this a huge success for our youth.

We had 2 HF stations in operation on 20 and 40 meters, and 1 VHF station operating on 2 meters simplex with close by station so as to allow all to make multiple contacts. All made at least 3 contacts. Also we had this year a digital room set up consisting of multiple modes of operation, PSK, RTTY, CW, Fldigi and Echolink. Along with a raspberry pi setup.

We had a total of 17 youth, Boy, Cub, and Girl Scouts. Along with 15 visitors to participate.

Some of the highlights of this event were:

- One scout and mom making contact with his grandfather in Katy Texas.
- One scout making contact with a 92 year old WW11 veteran and scout from Minnesota.
- Two scouts exchanging messages using PSK back and forth on laptops setup.
- One scout interested in raspberry Pi and how it can be used in ham radio.
- Two scouts we signed off on some of their Radio Merit Badge Requirements.

A total of 46 HF and 17 VHF contacts were made along with several DStar and Fldigi.

A special thanks to Steve Lott and wife, our ARRL NTX Section Manager, who came from Paris, Texas to visit our event.

For those of you who were unable to make this event you missed a wonderful time watching these youth make contacts over the airways.

73'  
Mike Reitz  
Operations Director  
ARRL NTX ASM

## YOUTH'S CORNER

### LARA PROMOTES YOUTH

#### LARA-Jr.

This activity would be for youth from 8 to 18 and held from 8 to 8:30 AM on LARA club meeting mornings. The youths explore many subjects in this short period each month including soldering, electronic kit construction, Morse Code, antennas, propagation, digital modes, Echolink, D-STAR, FT-8, FT-4, test equipment, electronic games, robots, Arduino computers, Scouting Merit Badges and more. After the meeting, the youths would join the adults for their Program. Youth would come each month to the LARA-Jr meeting on the third Saturday at 0800 AM. This item and the Youth Incentive Program are on the table for further discussion at the November Officers Meeting on Nov. 12

#### Youth Incentive Program (proposed)

LARA could support activities for our YOUTH members to encourage them in the hobby. LARA could offer free membership to (licensed or unlicensed) YOUTH members under 18. They would have to fill out a membership form and indicate that they wish to apply as a YOUTH member.

If a youth member:

Passes their Technicians License they would get a free LARA T-shirt; passes their General License test they would get a free HT radio; and if they pass their Extra License test, they would get a free straight Morse Code key;

Attend 3 consecutive LARA meetings and get a FREE LARA name badge.

Learns CW and pass the 5 WPM test they would get a FREE electronic keyer kit.

Achieve the Triple Play Award and they would get the plaque free - courtesy of (Call sign).

Work All States and they would get a special plaque from LARA - courtesy of (Call sign).

Other levels can be added -- give us some ideas. Remember LARA PROMOTES YOUTH!

#### ARRL Youth Support

The ARRL sponsors an operating event specifically for kids, called "Kid's Day." For information on Kid's Day, <http://www.arrl.org/kids-day>.

School Club Roundup is also a major ARRL activity each year. For information — <http://www.arrl.org/school-club-roundup>.

Summer school programs provide an excellent opportunity to introduce students to Amateur Radio through the use of Morse code. An added side benefit is that the instruction in how codes are used to transmit information is part of the "educational standards" or benchmarks that are required to be taught in our nation's classrooms. The Boy Scouts have also resurrected the Signaling Merit Badge that includes a requirement to send and receive Morse code. This presents some opportunities for local hams to get involved in their schools.

Ron Miles, N6PAA, and I introduced Morse code to some younger summer school students in a Sacramento suburb school. The opening activity (the hook) involved the students whispering their names and favorite colors in Ron's ear. Ron, in turn, did the magic of sending that information to me via Morse code and I wrote the message on the classroom board.

The instructional unit spanned 4 hours over 2 class days during which the students performed the following activities:

- constructed their own code practice oscillators (CPOs) from a partial kit
- constructed a Morse code translation sheet
- wrote out their names and other messages in Morse code using their translation sheets
- practiced sending their names and messages on their CPOs
- practiced sending their code to the CWGet computer program to refine their "fists"
- and finally, using different sized and color beads representing "dits" and "dahs," they constructed an arm bracelet with a Morse code message spelled out.

The "final exam" included sending their names with their CPOs to the instructor and the instructor reading the message beaded in their arm bands.

Preparing a Successful Lesson

If you think you might be interested in doing a similar activity in your local school, here are some things to consider:

- Prepare, prepare, prepare. Teaching is not a trivial activity and it doesn't take long to lose control of the class when you are not prepared.
- You are the teacher and it is important to dress and act like a teacher.
- Consider the age of your audience. The attention span of the students depends on their age and a million other things. (Younger doesn't necessarily mean less attention span. Many times the older students are more difficult to keep engaged.) In this case, with the younger audience, soldering of the CPOs was out of the question so the units were pre-soldered and all that was required was to mount the circuit boards on the mounting board. This simple construction allowed the students to say: "look what I made in school today" when they went home. For a more mature student audience, or Scouts, you might consider a full blown "Solder 101" activity with the appropriate logistic planning for such a construction project. The ARRL will be offering a new CPO kit that is ideal for Scouts.

- Not all students learn the same way (called learning modalities); there are visual, auditory, tactile and combination learners. When you are preparing your lesson, try to approach the content from all the modality directions you can. That is why in our learning activity we had the students copy the code translation chart off the board (tactile and visual), we verbalized the chart using the words "dit" and "dah" (verbal), we had them construct their CPOs (tactile), used their CPOs to send code (visual, tactile, auditory) and translate the coded messages into beads for the arm bands (visual, tactile).

- We live in a society that is driven by the television media with commercial breaks at specific intervals. Unfortunately, this translates into how much time a student will stay attentive to one topic or presentation mode during a lesson period, which determines how long a lesson can last. A good instructor will be sensitive to this "cultural" fact and adjust the lesson accordingly by "changing up" during the lesson.

For instance, you might consider frontal instruction (lecture) for a few minutes, switch to seat work (copying off the board), then asking questions for a few minutes. Next, divide the students into small working groups to work on problems and report back their results to the class as a whole by writing on the board. Along these lines you can add other related activities as appropriate. For the youngest audience the changes should be approximately every 5 minutes, for the middle audience you might get away with 10-15 minutes. An adult audience will stay awake for 20-30 minutes. After that you'll start hearing snores.

### ***"Cheaper Beeper"***

The CPO circuit used was the "Cheaper Beeper" designed by **William Gardner, W8WG**. It is one of the most affordable, simple and reliable CPO circuits I have seen. The CPOs were constructed on scrap circuit board material that was cut to include the key as well as an area to mount the components. The mounting base was made out of some scrap plastic. The major expense of the CPO is the speaker (the speaker impedance is critical for the CPO operation) and the 9 V battery. I have found a contemporary 8 ohm speaker that works well is the RadioShack part number 273-092. The "Cheaper Beeper" brings communication to life for a classroom of kids. Morse code is an attractive activity for kids. I think what they like about Morse code is the "secretiveness" of being able to send messages that their parents and teachers can't read. So I hope that you will consider this method of supporting your school while also advancing the Amateur Radio Service. With the proper amount of planning on your part, you will have a rewarding experience watching the "light bulbs" illuminate in the young students the first time they "get it" and are able to send their names in Morse code. If you want additional information, you can contact **Mark Spencer, WA8SME**, [m Spencer@arrl.org](mailto:m Spencer@arrl.org), the ARRL Education & Technology Program Coordinator, at 530-495-9150 (Pacific Time Zone) or at 774 Eastside Rd, Coleville, CA 96107.

## TECHNICAL DIRECTOR

*Jim Horton, WB8YWA*

### Information and Tips for adjusting the settings of your ALC (Automatic Level Control) when using SSB and Digital modes.

#### Why is this important?

- A) To stop interference to others.
- B) To stop distortion in your signal so others may copy your signal better.
- C) To improve the duty cycle of your transmitter.

#### SSB vs Digital mode (PSK31 and others).

Note; this assumes you have an ALC meter on your radio.

#### SSB transmit signal

You need to use some form of compression. Note: RF speech compressor increases average RF output power, improving signal strength and readability in a SSB transmitted signal.

- 1) So let us set up your mic and compression settings on your radio.
  - A) Look in your operations manual for detail steps if you have it but by following these steps (which are on my ICOM) should be very close to your radio. Remember you do not want to have a SSB signal that is wider than 3 KHz and by having too much mic gain and ALC not adjusted will cause you to splatter into areas outside your 3 KHz bandwidth.
  - B) Compressor Bandwidths on most modern rigs are;
    - NAR is 2.0 KHz
    - MID is 2.6 KHz
    - WIDE is 2.9 KHz
- 2) First steps for selecting & setting up your Compression.
  - A) Preset these controls.
    - Compressor OFF.
    - Meter set to ALC.
    - Mic Gain mid-range.
    - COMP mid-range or wide if you do not have mid.
    - RF Power Max Output.
- 3) Hook your antenna connection to a dummy load and transmit at your normal voice level and adjust the mic gain control so that the ALC meter reads within the ALC zone, whether or not you speak softly or loudly.
- 4) Turn on the compressor to MID or WIDE (I never use WIDE unless in a pileup for DX.
- 5) Turn meter to COMP reading and adjust compression control so when talking all of your syllables fall within the 10 to 20 dB range.
- 6) Now by switching your meter to ALC and while transmitting you should always see the meter within the brackets of the ALC meter. If not you can adjust by lowering the compression to assure you stay within the brackets.

Note: If your meter does not have a compression range or selection, adjust the compression range to stay within the brackets of the ALC meter. Also if your mic and compression are setup as above there is no need to hook up the ALC to your Linear Amplifier. Most Amps have the ALC set so tight by using it from the rig causes low output of amp. Most times it is hard to get the radio and amp on the same page, so it is best if the radio is set then you will not overdrive the amp and it is not needed.

#### PSK and Digital modes

Note; Digital modes, such as PSK31 are more sensitive to nonlinearity from ALC action than are voice modes.

- 1) Always turn **OFF** your compressor when using digital modes.
- 2) Always have your meter set for ALC and watch it from time to time.
- 3) Always adjust xmit level on your interface so you always stay within the brackets of your ALC meter. If your interface does not allow this adjustment use your mic gain and remember to return it back before SSB transmitting.



**Things to remember:**

- 1) When audio is used for digital transmitting it can be very hard on your transmitter because;
  - A) The RF output is at 100% duty cycle of your transmitter. So treat your output accordingly by lowering your power out. For PSK I have talked around the world with just 20/25 watts.
  - B) If your radio puts out 100 watts I would never go above 40/45 watts output on digital modes.
  - C) Watch the heat generated by your finals. They are very expensive to replace.
- 2) On PSK 31 your signal is only 31 Hz wide. That is where the 31 comes from in the name. In the 3 KHZ bandwidth of SSB 10 stations can communicate in the same area only one can on SSB. So if your ALC is not adjusted correctly when you transmit your digital signal will be wider than the 31 Hz and everyone on the waterfall can see just how wide it is. They will let you know too; if your signal is good they will brag you up by stating that, if you are wide they will let you know even faster.
- 3) When using SSB and wanting to break into a pile up for DX; remember that by having your compression set right will make a huge difference if he or she hears you but at the same time if you do not have it set right and just crank up the mic you will be splattering everyone and not making the contact or others happy.
- 4) If you key your mic and see power out on your watt meter, your mic is too high and needs to be turned down. You should not have back ground noise in your signal.
- 5) A lot of hams love to see meters bounce when they talk and have adjustments too hot.



Fun breakfast time Saturday mornings, 8:00 am,  
(except third Saturday)

***Come on down!***

Korner Café  
921 W. Main St.  
Lewisville, TX 75057

## **Portable Antennas**

For many amateurs, the words *portable antennas* may conjure visions of antenna assemblies that can be broken down and carried in a backpack, suitcase, golf bag, or what-have-you, for transportation to some out-of-the-way place where they will be used. Or the vision could be of larger arrays that can be disassembled and moved by pickup truck to a Field Day site, and then erected quickly on temporary supports. Portable antennas come in a wide variety of sizes and shapes, and can be used on any amateur frequency.

Strictly speaking, the words “portable antenna” really means *transportable antenna*—one that is moved to some (usually temporary) operating position for use. As such, portable antennas are not placed into service when they are being transported. This puts them in a different class from mobile antennas, which are intended to be used while in motion. Of course this does not mean that mobile antennas cannot be used during portable operation. Rather, true portable antennas are designed to be packed up and moved, usually with quick reassembly being one of the design requisites. Many of these antennas can also be used in more permanent installations.

Any of several schemes can be employed to support an antenna during portable operation. For HF antennas made of wire, probably the most common support is a conveniently located tree at the operating site. Temporary, lightweight masts are also used. An aluminum extension ladder, properly guyed, can serve as a mast for Field Day operation.

***ARRL Antenna Book, 21st Edition***

## **Safety First**

Safety begins with your attitude. If you make it a habit to plan your work carefully and to consider the safety aspects of a project before you begin the work, you will be much safer than “Careless Carl,” who just jumps in, proceeding in a haphazard manner. Learn to have a positive attitude about safety. Think about the dangers involved with a job before you begin the work. Don’t be the one to say, “I didn’t think it could happen to me.” Having a good attitude about safety isn’t enough, however. You must be knowledgeable about common safety guidelines and follow them faithfully. Safety guidelines can’t possibly cover all the situations you might face, but if you approach a task with a measure of “common sense,” you should be able to work safely.

Here are some safety guidelines and protective measures for you and your Amateur Radio station. You should not consider it to be an all-inclusive discussion of safety practices, though. Safety considerations will affect your choice of materials and assembly procedures when building an antenna.

## **Putting up Simple Wire Antennas**

No matter what type of antenna you choose to erect, you should remember a few key points about safety. If you are using a slingshot or bow and arrow to get a line over a tree, make sure you keep everyone away from the “downrange” area. Hitting one of your helpers with a rock or fishing sinker is considered not nice, and could end up causing a serious injury. Make sure the ends of the antenna are high enough to be out of reach of passers-by. Even when you are transmitting with low power there may be enough voltage at the ends of your antenna to give someone nasty “RF burns.” If you have a vertical antenna with its base at ground level, build a wooden safety fence around it at least 4 feet away from it. Do not use metal fence, as this will interfere with the proper operation of the antenna. Be especially certain that your antenna is not close to any power wires. That is the only way you can be sure it won’t come in contact with them! Antenna work often requires that one person climb up on a tower, into a tree or onto the roof of a house. Never work alone! Work slowly, thinking out each move before you make it. The person on the ladder, tower, tree or rooftop should wear a safety belt, and keep it securely anchored. It is helpful (and safe!) to tie strings or lightweight ropes to all tools. If your tools are tied on, you’ll save time getting them back if you drop them, and you’ll greatly reduce the risk of injuring a helper on the ground.

***ARRL Antenna Book, 21st Edition***

### Support LARA with AmazonSmile

AmazonSmile is a simple and automatic way for you to support your favorite charitable organization every time you shop, at no cost to you. When you shop at smile.amazon.com, you'll find the exact same low prices, vast selection and convenient shopping experience as Amazon.com, with the added bonus that Amazon will donate a portion of the purchase price to LARA. To shop at AmazonSmile simply go to [smile.amazon.com](http://smile.amazon.com) from the web browser on your computer or mobile device. You may also want to add a bookmark to smile.amazon.com to make it even easier to return and start your shopping at AmazonSmile. The AmazonSmile Foundation will donate 0.5% of the purchase price from your eligible AmazonSmile purchases. On your first visit to AmazonSmile (smile.amazon.com), you need to select Lewisville Amateur Radio Association as the charitable organization to receive donations from eligible purchases before you begin shopping. AmazonSmile will remember your selection, and then every eligible purchase you make at smile.amazon.com will result in a donation to LARA.

### Kroger Rewards

If you shop at Kroger and are a member of their Rewards Program you can also support LARA by selecting Lewisville Amateur Radio Association as your charitable organization of choice. Simply sign in to your account and select us and Kroger will donate 0.5% of your eligible purchases to LARA.

### Matching Funds

Many employers will match hours that employees spend supporting a non-profit with donations to that non-profit. If your employer has such a program LARA may qualify to receive these types of funds as we are an approved 501 (C)(3) organization. So, you're retired? Some companies even support a program of this nature for their retirees. Check with your current, or former, employer to see if they have a program of this nature. If 501 (C)(3) details are needed contact the club treasurer.

### **BATTERIES PLUS BULBS**

1093 W. MAIN ST., SUITE #222  
LEWISVILLE, TX 75067  
972-219-7333 M-F 8-8, SUN 10-5

### ***Your Destination for Batteries, Light Bulbs, Lighting Fixtures & Repairs.***

Here is a Club benefit that very few of us take advantage. We get 10% discount on all purchases at the **Batteries Plus Bulbs** location in Lewisville, right across the street from the fire station.

They have batteries for cars & trucks, cell phones, SLA, motorcycles, boat/marine, and golf carts. They also have Alkaline batteries and do cell phone repair. As well as key fob replacements, lighting & fixtures and chargers.





**TREASURER'S REPORT**  
Clark Highsmith, K5LGX



*Greetings members and friends of LARA,*

Hello friends and members of LARA. I hope everyone is enjoying the cooler weather we have been blessed with in recent weeks. November is here and Thanksgiving and Christmas will soon follow. I was glad to see that many of our members supported the Boy Scouts at our event last month. Mike Reitz, W5EVT, did an excellent job coordinating the event. Some of our monthly expenses went to purchase items to support the event. In addition, we paid the \$200 insurance fee to ARRL. The insurance covers the club's liability for our events. We had several new members join, thus adding to our monthly income via dues. I would encourage members to participate in the ARRL SSB Sweepstakes on the weekend of November 16-18th. The bands will be populated with easy-to-reach stations who want to make a contact with you.

LARA Treasurer  
Clark Highsmith, K5LGX

**LARA Treasurer's Report--October 31, 2019**

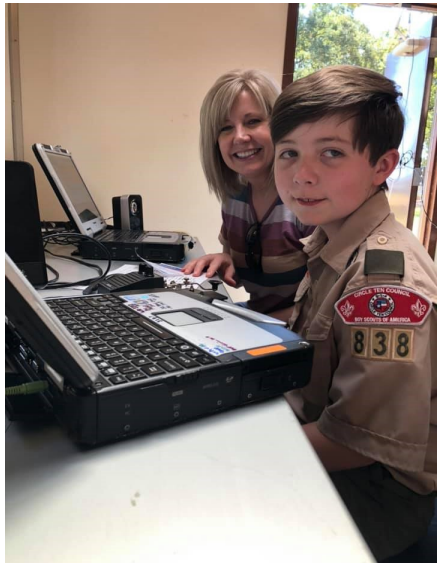
Checking Account

Beginning Balance		\$2,822.58
Income		
Dues	\$57.50	
Donations	\$2.00	
Miscellaneous	\$2.00	
Total Income	\$61.50	
Expenses		
Events	\$142.94	
Miscellaneous	\$200.00	
Total Expenses	\$342.94	
Ending Balance		\$2,541.14
Petty Cash (Included in balance)		\$0.00
Club Assets		
For Sale	\$0.00	
Stock (Not for Sale)	\$2,519.28	
Loaner Equipment	\$375.00	
	\$2,894.28	
<b>NET VALUE</b>		<b>\$5,435.42</b>

## AREA REPEATERS

<u>FREQ</u>	<u>SHIFT</u>	<u>PL</u>	<u>CALL</u>	<u>NAME</u>	<u>ALLSTAR</u>
144.9100	none	none	W5NGU-4	DCARA DIGIPEATER DENTON	
144.9900	none	none	KC5GOI	DCARA DIGIPEATER ROSSTON	
144.9900	none	none	KD5EOC-10	DCARA WL GATEWAY	
145.1700	-0.600	110.9	W5FKN	DCARA DENTON COUNTY EOC	
145.2100	-0.600	110.9	N5MJQ	METROCREST ARA CARROLLTON	
145.4000	-0.600	110.9	NETARC	GRAPEVINE	
145.4900	-0.600	85.4	WD5U	ROSSTON TOWER	41089
146.6200	0.600	110.9	N5ERS	GRAPEVINE	
146.7800	0.600	131.8	WQ5A	WISE COUNTY SKYWARN	
146.9200	-0.600	110.9	W5NGU	DCARA DENTON	41087
146.9400	-0.600	110.9	K5FTW	FT. WORTH SKYWARN	
147.3800	0.600	110.9	K5LRK	LAARK THE COLONY	47668
147.4500	-1.000	none	W5NGU-C	DCARA EOC D*STAR "C"	
147.4900	-1.000	none	KE5YAP-C	DCARA ROSSTON D*STAR "C"	
147.9700	none	none	K5YX-10	WINLINK GATEWAY	
224.0000	-1.600	110.9	K5LRK	LAARK THE COLONY	
224.2000	-1.600	110.9	KE5GDB	DCARA DENTON	43409
224.9200	-1.600	110.9	AF5RS	AF5RS	43784
440.6625	5.000	none	N5LS	DMR MARC CC1	
440.6875	5.000	none	W5NGU	ROSSTON DMR MARC CC1	
440.7125	5.000	none	KE5YAP-B	DCARA ROSSTON D*STAR "B"	
441.3250	5.000	88.5	W5NGU	PORTABLE DCARA REPEATER	
442.1750	5.000	110.9	NETARC	SOUTHLAKE	
442.6000	5.000	131.8	WQ5A	WISE COUNTY SKYWARN	
442.6500	5.000	110.9	N5MJQ	METROCREST ARA CARROLLTON	
442.7500	5.000	110.9	KA5R	TROPHY CLUB	
442.9250	5.000	none	W5NGU-B	DCARA EOC D*STAR "B"	
443.2250	5.000	110.9	N5ERS	DECATUR	
443.3000	5.000	110.9	K5LRK	LAARK C4FM ONLY	
443.5250	5.000	118.8	WA5LIE	DCARA DENTON	
443.7375	5.000	141.3	N6LXX	ROSSTON TOWER	
443.8250	5.000	103.5	KC5BY	COPPELL HIGH SCHOOL	40666, 50187
443.8750	5.000	110.9	NETARC	DFW AIRPORT	
444.0500	5.000	110.9	W5NGU	DCARA DENTON COUNTY EOC	
444.2250	5.000	110.9	K5CFD	COPPELL	
444.5125	5.000	123.0	KE5UT	CELINA	
444.7000	5.000	110.9	NETARC	SOUTHLAKE	
444.8500	5.000	110.9	N5ERS	GRAPEVINE	
927.0500	-25.000	110.9	W5FKN	DECATUR	
927.4125	-25.000	432.0	N5LS	DENTON	
927.6125	-25.000	110.9	W5NGU	DCARA DENTON COUNTY EOC	
927.6625	25.000	none	N5LS	DMR MARC CC1	
1253.6000	none	none	W5NGU-G	DCARA EOC D*STAR "G"	
1259.2000	none	none	KE5YAP-G	DCARA ROSSTON D*STAR "G"	
1293.2000	-20.000	none	KE5YAP-A	DCARA ROSSTON D*STAR "A"	
1293.4000	-20.000	none	W5NGU-A	DCARA EOC D*STAR "A"	

# GALLERY





**JAMBOREE  
-ON-THE-  
AIR**  
OCTOBER 18-20, 2019

